Disclaimer

The following report(s) provides findings from an FDA-initiated query using Sentinel. While Sentinel queries may be undertaken to assess potential medical product safety risks, they may also be initiated for various other reasons. Some examples include determining a rate or count of an identified health outcome of interest, examining medical product use, exploring the feasibility of future, more detailed analyses within Sentinel, and seeking to better understand Sentinel capabilities.

Data obtained through Sentinel are intended to complement other types of evidence such as preclinical studies, clinical trials, postmarket studies, and adverse event reports, all of which are used by FDA to inform regulatory decisions regarding medical product safety. The information contained in this report is provided as part of FDA's commitment to place knowledge acquired from Sentinel in the public domain as soon as possible. Any public health actions taken by FDA regarding products involved in Sentinel queries will continue to be communicated through existing channels.

FDA wants to emphasize that the fact that FDA has initiated a query involving a medical product and is reporting findings related to that query does not mean that FDA is suggesting health care practitioners should change their prescribing practices for the medical product or that patients taking the medical product should stop using it. Patients who have questions about the use of an identified medical product should contact their health care practitioners.

The following report contains a description of the request, request specifications, and results from the modular program run(s).

If you are using a web page screen reader and are unable to access this document, please contact the Sentinel Operations Center for assistance at info@sentinelsystem.org.

Sentinel

Overview for Request: cder_mpl2p_wp039

Request ID: cder_mpl2p_wp039_nsdp_v01

Request Description: In this report we investigated the comparative risk of thromboembolic stroke, intracranial hemorrhage, gastrointestinal bleeding, and extracranial bleeding outcomes associated with use of rivaroxaban and dabigatran in individuals under 65 years of age with non-valvular atrial fibrillation in the Sentinel Distributed Database (SDD).

Sentinel Routine Querying Module: Cohort Identification and Descriptive Analysis (CIDA) module, version 11.3.0, with Propensity Score Analysis module and custom programming.

Data Source: We distributed this request to five Data Partners on November 15, 2022. The study period included data from October 19, 2010 to February 28, 2022. See Appendix A for a list of the latest dates of available data for each DP included in this report.

Study Design: We identified cohorts of incident rivaroxaban and dabigatran users among health plan members who were under 65 years of age with atrial fibrillation. We evaluated the occurrence of thromboembolic stroke (stroke), intracranial hemorrhage (ICH), major extracranial bleeding (MEB), and gastrointestinal bleeding (GIB) outcomes among these cohorts. We then conducted a Propensity Score Analysis (PSA) comparing the two treatments using both propensity score matching and inverse probability of treatment weighting (IPTW) to adjust for confounding. This study used a retrospective new-user cohort design. This is a Type 2 analysis using the Propensity Score Analysis module in the Query Request Package (QRP) documentation.

Exposures: We defined the exposures of interest as new use of standard dose rivaroxaban (20 mg once daily) or dabigatran (150 mg twice daily). The exposure drugs were defined using National Drug Codes (NDCs). Please see Appendix B for a list of generic and brand name drugs.

Outcomes: We defined the following outcomes of interest:

1. We defined stroke and ICH using International Classification of Diseases, Ninth and Tenth Revisions, Clinical Modification (ICD-9-CM and ICD-10-CM) diagnosis codes flagged as a primary diagnosis in an inpatient encounter.

2. We defined MEB based on a validated algorithm[1] as:

a) one ICD-9-CM or ICD-10-CM diagnosis code from “Major Extracranial Bleeding - List 1” (Appendix C) as primary diagnosis from an inpatient encounter AND no code from “Major Extracranial Bleeding - List 3”

OR

b) one ICD-9-CM or ICD-10-CM diagnosis code from “Major Extracranial Bleeding - List 2” (Appendix C) as primary diagnosis from inpatient encounter AND one ICD-9-CM or ICD-10-CM diagnosis code from “Major Extracranial Bleeding - List 1” as secondary or unspecified diagnosis from inpatient encounter on the same day AND no code from “Major Extracranial Bleeding - List 3”).

3. We defined GIB based on a validated algorithm[1] as:

a) one ICD-9-CM or ICD-10-CM diagnosis code from “Gastrointestinal Bleeding - List 1” (Appendix C) as primary diagnosis from inpatient encounter

OR

b) one ICD-9-CM or ICD-10-CM diagnosis code from “Gastrointestinal Bleeding - List 2” (Appendix C) as primary diagnosis from inpatient encounter AND one ICD-9-CM or ICD-10-CM diagnosis code from “Gastrointestinal Bleeding - List 1” as secondary or unspecified diagnosis from inpatient encounter on the same day.

For a list of ICD-9-CM and ICD-10-CM diagnosis codes used to define the outcomes, please see Appendix C.

Overview for Request: cder_mpl2p_wp039

Cohort Eligibility Criteria: We required patients included in the cohorts to be enrolled in health plans with both medical and drug coverage for at least 183 days prior to the index exposure, during which gaps in coverage of up to 45 days were allowed and treated as continuous enrollment. Cohorts were further restricted to patients under 65 years of age. New use was defined as no use of dabigatran or rivaroxaban at the specified index doses in the 183 days period preceding the index dispensing. We included patients with evidence of atrial fibrillation in the 183 days preceding or on the index date. We excluded patients from the cohort if they had evidence of use of alternative doses of rivaroxaban or dabigatran or if they had any use of apixaban, edoxaban, or warfarin at any dose in the 183 days prior to or on the index date. We also excluded patients from the cohort if they had evidence of dialysis, kidney replacement, deep vein thrombosis, pulmonary embolism, joint replacement, mitral stenosis, valve replacement or valve repair in the 183 days prior to and including the index date. Dialysis was only assessed in outpatient care settings. Additionally, we excluded patients from the analysis if they had evidence of an institutional stay encounter on their index date. Inclusion and exclusion criteria were defined using NDCs, ICD-9-CM, ICD-10-CM, International Classification of Diseases, Tenth Revision, Procedure Coding System (ICD-10-PCS) and Current Procedural Terminology, Fourth Edition (CPT-4) codes. Please see Appendix B for a list of generic and brand drugs. For a list of diagnosis and procedure codes used to define cohort eligibility, please see Appendix E.

Follow-up: We determined follow-up time based on the length of the exposure episodes. Specifically, we created exposure episodes using outpatient pharmacy dispensing data. We bridged together exposure episodes less than three days apart and added three days at the end of each exposure episode to create continuous treatment episodes. Overlapping days supply of two dispensings were stockpiled up to 33% of the first dispensings days supply. We censored all exposure episodes upon dispensing of the comparator drug, alternative dose of the index drug, warfarin or edoxaban dispensing, kidney transplant, dialysis, institutional stay encounter, major extracranial bleed, gastrointestinal bleed, intracranial hemorrhage, or ischemic stroke. Follow-up began on the day after exposure initiation and continued until the first occurrence of any of the following: 1) outcome occurrence; 2) requester-defined censoring criteria; 3) disenrollment; 4) recorded death; 5) end of exposure episode; 6) end of query period; or 7) end of available data. Only the first valid exposure episode that occurred during the study period was included per patient. Censoring criteria were defined using NDC, ICD-9-CM, ICD-10-CM, ICD-10-PCS and CPT-4 codes. Please see Appendix F for a list of generic and brand names of drugs and Appendix C for a list of diagnosis and procedure codes used to define censoring criteria in this request.

Baseline Covariates: Please see Appendix G for a list of generic and brand names of drugs, and Appendix H for a list of ICD-9-CM and ICD-10-CM diagnosis codes used to define baseline characteristics in this request. Please see Appendix I for evaluation windows used to define characteristics.

Propensity Score Estimation: We fit a logistic regression model to estimate the propensity score (PS) based on the potential confounders outlined in Appendix I. We used the PS for both 1:1 PS matching, as well as two forms of IPTW. Specifically, after PS estimation and exclusion (i.e., trimming) of patients in non-overlapping regions of the PS distributions, the we used the PS to create a stabilized average treatment effect (ATES) and average treatment effect in the treated (ATT) weight for each patient.

For both weighting schemes, we initially applied three candidate weight truncation percentile thresholds to deal with potential extreme inverse probability of treatment weights: 0% (no truncation), 1%, and 2.5%. Truncation was operationalized symmetrically, in that weights smaller than the weight at the specified percentile of the weight distribution were re-assigned the value of the weight at the specified percentile of the weight distribution, while weights larger than the weight at the (100 - specified percentile) of the weight distribution were re-assigned the value of the weight at the (100 - specified percentile) of the weight distribution. After review of the distribution of IPT weights for the three truncation thresholds that was blinded to effect estimates, we selected the 2.5% truncation threshold for both ATES and ATT weights, and applied it to all analyses, as this threshold best avoided extreme weights.

Overview for Request: cder_mpl2p_wp039

Subgroup analyses for effect estimation included prior antiplatelet use in 183 days, age categories (21-49, 50-64), sex, CHADSVASC score (0, 1, 2, 3, 4, 5+), and HASBLED score (0, 1, 2, 3+) categories. The CHADSVASC score predicts risk of stroke in patients with atrial fibrillation, while the HASBLED score predicts bleeding risk in patients taking anticoagulants.[2,3] For IPTW analyses, subgroups were formed out of the post-trimming overall population to ensure only those patients contributing to the overall analysis contributed to a subgroup analysis. For matched analyses, subgroups were formed out of the pre-matched population.
See Appendices J and K for the specifications or parameters used in this request.

Limitations: As with all observational studies, this evaluation was limited in its ability to control for all sources of potential bias. Algorithms used to define exposures, outcomes, inclusion and exclusion criteria, and covariates are imperfect and may be misclassified. Therefore, data should be interpreted with this limitation in mind.

Notes: Please contact the Sentinel Operations Center (info@sentinelsystem.org) for questions and to provide comments/suggestions for future enhancements to this document. For more information on Sentinel's routine querying modules, please refer to the documentation (https://dev.sentinelsystem.org/projects/SENTINEL/repos/sentinel-routine-querying-tooldocumentation/browse).

[1]Cunningham A, Stein CM, Chung CP, Daugherty JR, Smalley WE, Ray WA, 2010. An automated database case definition for serious bleeding related to oral anticoagulant use. Pharmcoepidemiol Drug Saf, 20(6), pp560-6.

[2]CHA2DS2-VASc: Lip, G.Y., Nieuwlaat, R., Pisters, R., Lane, D.A. and Crijns, H.J., 2010. Refining clinical risk stratification for predicting stroke and thromboembolism in atrial fibrillation using a novel risk factor-based approach: the euro heart survey on atrial fibrillation. Chest, 137(2), pp.263-272.

[3]HAS-BLED: Pisters, R., Lane, D.A., Nieuwlaat, R., De Vos, C.B., Crijns, H.J. and Lip, G.Y., 2010. A novel user-friendly score (HAS-BLED) to assess 1-year risk of major bleeding in patients with atrial fibrillation: the Euro Heart Survey. Chest, 138(5), pp.1093-1100.

Sentinel

Table of Contents

Glossary (CIDA)	List of Terms to Define the Cohort Identification and Descriptive Analysis (CIDA) Found in this Report
Glossary (PSA)	List of Terms to Define the Propensity Score Analysis (PSA) Found in this Report
Table 1a	Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022
Table 1b	Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect, Stabilized (ATES), Truncation: 2.5%), in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022
Table 1c	Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Sex: Female
Table 1d	Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect, Stabilized (ATES), Truncation: 2.5%), in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Sex: Female
Table 1e	Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Sex: Male
Table 1f	Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect, Stabilized (ATES), Truncation: 2.5%), in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Sex: Male
Table 1g	Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Age Group: 21-49 years
Table 1h	Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect, Stabilized (ATES), Truncation: 2.5%), in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Age Group: 21-49 years
Table 1i	Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Age Group: 50-64 years
Table 1j	Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect, Stabilized (ATES), Truncation: 2.5%), in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Age Group: 50-64 years
Table 1k	Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 0
Table 1l	Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect, Stabilized (ATES), Truncation: 2.5%), in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 0
Table 1m	Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 1
Table 1n	Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect, Stabilized (ATES), Truncation: 2.5%), in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 1

Sentinel

Table of Contents

Table 1o Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 2

Table 1p Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect, Stabilized (ATES), Truncation: 2.5%), in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 2

Table 1q Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 3

Table 1r Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect, Stabilized (ATES), Truncation: 2.5%), in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 3

Table 1s Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 4

Table 1t Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect, Stabilized (ATES), Truncation: 2.5%), in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 4

Table 1u Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 5+

Table 1v Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect, Stabilized (ATES), Truncation: 2.5%), in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 5+

Table 1w Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 0

Table 1x Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect, Stabilized (ATES), Truncation: 2.5%), in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 0

Table 1y Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 1

Table 1z Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect, Stabilized (ATES), Truncation: 2.5%), in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 1

Table 1aa Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 2

Table 1ab Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect, Stabilized (ATES), Truncation: 2.5%), in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 2

Table 1ac Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 3+

Table 1ad Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect, Stabilized (ATES), Truncation: 2.5%), in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 3+

Sentinel

Table of Contents

Table 1ae	Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect in the Treated (ATT), Truncation: 2.5%), in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022
Table 1af	Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Sex: Female
Table 1ag	Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect in the Treated (ATT), Truncation: 2.5%), in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Sex: Female
Table 1ah	Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Sex: Male
Table 1ai	Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect in the Treated (ATT), Truncation: 2.5%), in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Sex: Male
Table 1aj	Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Age Group: 21-49 years
Table 1ak	Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect in the Treated (ATT), Truncation: 2.5%), in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Age Group: 21-49 years
Table 1al	Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Age Group: 50-64 years
Table 1am	Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect in the Treated (ATT), Truncation: 2.5%), in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Age Group: 50-64 years
Table 1an	Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 0
Table 1ao	Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect in the Treated (ATT), Truncation: 2.5%), in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 0
Table 1ap	Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 1
Table 1aq	Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect in the Treated (ATT), Truncation: 2.5%), in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 1
Table 1ar	Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 2
Table 1as	Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect in the Treated (ATT), Truncation: 2.5%), in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 2
Table 1at	Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 3
Table 1au	Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect in the Treated (ATT), Truncation: 2.5%), in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 3
Table 1av	Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 4

Sentinel

Table of Contents

Table 1aw	Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect in the Treated (ATT), Truncation: 2.5%), in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 4
Table 1ax	Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 5+
Table 1ay	Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect in the Treated (ATT), Truncation: 2.5%), in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 5+
Table 1az	Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 0
Table 1ba	Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect in the Treated (ATT), Truncation: 2.5%), in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 0
Table 1bb	Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 1
Table 1bc	Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect in the Treated (ATT), Truncation: 2.5%), in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 1
Table 1bd	Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 2
Table 1be	Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect in the Treated (ATT), Truncation: 2.5%), in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 2
Table 1bf	Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 3+
Table 1bg	Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect in the Treated (ATT), Truncation: 2.5%), in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 3+
Table 1bh	Aggregated Adjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched (Fixed Ratio 1:1, Caliper: 0.05), in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022
Table 1bi	Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Sex: Female
Table 1bj	Aggregated Adjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched (Fixed Ratio 1:1, Caliper: 0.05), in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Sex: Female
Table 1bk	Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Sex: Male
Table 1bl	Aggregated Adjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched (Fixed Ratio 1:1, Caliper: 0.05), in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Sex: Male
Table 1bm	Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Age Group: 21-49 years
Table 1bn	Aggregated Adjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched (Fixed Ratio 1:1, Caliper: 0.05), in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Age Group: 21-49 years
Table 1bo	Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Age Group: 50-64 years

Sentinel

Table of Contents

Table 1bp	Aggregated Adjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched (Fixed Ratio 1:1, Caliper: 0.05), in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Age Group: 50-64 years
Table 1bq	Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 0
Table 1br	Aggregated Adjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched (Fixed Ratio 1:1, Caliper: 0.05), in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 0
Table 1bs	Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 1
Table 1bt	Aggregated Adjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched (Fixed Ratio 1:1, Caliper: 0.05), in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 1
Table 1bu	Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 2
Table 1bv	Aggregated Adjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched (Fixed Ratio 1:1, Caliper: 0.05), in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 2
Table 1bw	Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 3
Table 1bx	Aggregated Adjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched (Fixed Ratio 1:1, Caliper: 0.05), in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 3
Table 1by	Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 4
Table 1bz	Aggregated Adjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched (Fixed Ratio 1:1, Caliper: 0.05), in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 4
Table 1ca	Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 5+
Table 1cb	Aggregated Adjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched (Fixed Ratio 1:1, Caliper: 0.05), in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 5+
Table 1cc	Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 0
Table 1cd	Aggregated Adjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched (Fixed Ratio 1:1, Caliper: 0.05), in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 0
Table 1ce	Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 1
Table 1cf	Aggregated Adjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched (Fixed Ratio 1:1, Caliper: 0.05), in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 1
Table 1cg	Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 2
Table 1ch	Aggregated Adjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched (Fixed Ratio 1:1, Caliper: 0.05), in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 2
Table 1ci	Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 3+
Table 1cj	Aggregated Adjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched (Fixed Ratio 1:1, Caliper: 0.05), in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 3+

Sentinel

Table of Contents

Table 2a Effect Estimates for Stroke, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type

Table 2b Effect Estimates for Stroke, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and Age Group

Table 2c Effect Estimates for Stroke, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and CHADSVASC

Table 2d Effect Estimates for Stroke, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and HASBLED

Table 2e Effect Estimates for Stroke, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and Sex

Table 3a Effect Estimates for Major Extracranial Bleeding, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type

Table 3b Effect Estimates for Major Extracranial Bleeding, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and Age Group

Table 3c Effect Estimates for Major Extracranial Bleeding, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and CHADSVASC

Table 3d Effect Estimates for Major Extracranial Bleeding, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and HASBLED

Table 3e Effect Estimates for Major Extracranial Bleeding, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and Sex

Table 4a Effect Estimates for Gastrointestinal Hemorrhage, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type

Table 4b Effect Estimates for Gastrointestinal Hemorrhage, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and Age Group

Table 4c Effect Estimates for Gastrointestinal Hemorrhage, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and CHADSVASC

Table 4d Effect Estimates for Gastrointestinal Hemorrhage, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and HASBLED

Table 4e Effect Estimates for Gastrointestinal Hemorrhage, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and Sex

Table 5a Effect Estimates for Intracranial Hemorrhage, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type

Table 5b Effect Estimates for Intracranial Hemorrhage, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and Age Group

Table 5c Effect Estimates for Intracranial Hemorrhage, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and CHADSVASC

Table 5d Effect Estimates for Intracranial Hemorrhage, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and HASBLED

Table 5e Effect Estimates for Intracranial Hemorrhage, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and Sex

Sentinel

Table of Contents

Table 6a Effect Estimates for Stroke, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type

Table 6b Effect Estimates for Stroke, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and Age Group

Table 6c Effect Estimates for Stroke, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and CHADSVASC

Table 6d Effect Estimates for Stroke, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and HASBLED

Table 6e Effect Estimates for Stroke, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and Sex

Table 7a Effect Estimates for Major Extracranial Bleeding, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type

Table 7b Effect Estimates for Major Extracranial Bleeding, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and Age Group

Table 7c Effect Estimates for Major Extracranial Bleeding, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and CHADSVASC

Table 7d Effect Estimates for Major Extracranial Bleeding, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and HASBLED

Table 7e Effect Estimates for Major Extracranial Bleeding, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and Sex

Table 8a Effect Estimates for Gastrointestinal Hemorrhage, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type

Table 8b Effect Estimates for Gastrointestinal Hemorrhage, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and Age Group

Table 8c Effect Estimates for Gastrointestinal Hemorrhage, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and CHADSVASC

Table 8d Effect Estimates for Gastrointestinal Hemorrhage, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and HASBLED

Table 8e Effect Estimates for Gastrointestinal Hemorrhage, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and Sex

Table 9a Effect Estimates for Intracranial Hemorrhage, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type

Table 9b Effect Estimates for Intracranial Hemorrhage, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and Age Group

Table 9c Effect Estimates for Intracranial Hemorrhage, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and CHADSVASC

Table 9d Effect Estimates for Intracranial Hemorrhage, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and HASBLED

Table 9e Effect Estimates for Intracranial Hemorrhage, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and Sex

Sentinel

Table of Contents

Table 10a	Effect Estimates for Stroke, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type
Table 10b	Effect Estimates for Stroke, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and Age Group
Table 10c	Effect Estimates for Stroke, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and CHADSVASC
Table 10d	Effect Estimates for Stroke, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and HASBLED
Table 10e	Effect Estimates for Stroke, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and Sex
Table 11a	Effect Estimates for Major Extracranial Bleeding, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type
Table 11b	Effect Estimates for Major Extracranial Bleeding, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and Age Group
Table 11c	Effect Estimates for Major Extracranial Bleeding, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and CHADSVASC
Table 11d	Effect Estimates for Major Extracranial Bleeding, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and HASBLED
Table 11e	Effect Estimates for Major Extracranial Bleeding, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and Sex
Table 12a	Effect Estimates for Gastrointestinal Hemorrhage, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type
Table 12b	Effect Estimates for Gastrointestinal Hemorrhage, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and Age Group
Table 12c	Effect Estimates for Gastrointestinal Hemorrhage, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and CHADSVASC
Table 12d	Effect Estimates for Gastrointestinal Hemorrhage, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and HASBLED
Table 12e	Effect Estimates for Gastrointestinal Hemorrhage, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and Sex
Table 13a	Effect Estimates for Intracranial Hemorrhage, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type
Table 13b	Effect Estimates for Intracranial Hemorrhage, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and Age Group
Table 13c	Effect Estimates for Intracranial Hemorrhage, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and CHADSVASC
Table 13d	Effect Estimates for Intracranial Hemorrhage, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and HASBLED
Table 13e	Effect Estimates for Intracranial Hemorrhage, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and Sex

Sentinel

Table of Contents

Table 14	Summary of Patient Level Cohort Attrition in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022
Figure 1a	Histograms Depicting Propensity Score Distributions Before and After Adjustment, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022
Figure 1b	Histograms Depicting Propensity Score Distributions Before and After Adjustment, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Sex: Female
Figure 1c	Histograms Depicting Propensity Score Distributions Before and After Adjustment, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Sex: Male
Figure 1d	Histograms Depicting Propensity Score Distributions Before and After Adjustment, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Age Group: 21-49 years
Figure 1e	Histograms Depicting Propensity Score Distributions Before and After Adjustment, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Age Group: 50-64 years
Figure 1f	Histograms Depicting Propensity Score Distributions Before and After Adjustment, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 0
Figure 1g	Histograms Depicting Propensity Score Distributions Before and After Adjustment, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 1
Figure 1h	Histograms Depicting Propensity Score Distributions Before and After Adjustment, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 2
Figure 1i	Histograms Depicting Propensity Score Distributions Before and After Adjustment, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 3
Figure 1j	Histograms Depicting Propensity Score Distributions Before and After Adjustment, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 4
Figure 1k	Histograms Depicting Propensity Score Distributions Before and After Adjustment, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 5+
Figure 1l	Histograms Depicting Propensity Score Distributions Before and After Adjustment, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 0
Figure 1m	Histograms Depicting Propensity Score Distributions Before and After Adjustment, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 1
Figure 1n	Histograms Depicting Propensity Score Distributions Before and After Adjustment, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 2
Figure 1o	Histograms Depicting Propensity Score Distributions Before and After Adjustment, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 3+
Figure 2a	Histograms Depicting Propensity Score Distributions Before and After Adjustment, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022
Figure 2b	Histograms Depicting Propensity Score Distributions Before and After Adjustment, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Sex: Female
Figure 2c	Histograms Depicting Propensity Score Distributions Before and After Adjustment, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Sex: Male
Figure 2d	Histograms Depicting Propensity Score Distributions Before and After Adjustment, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Age Group: 21-49 years

cder_mpl2p_wp039

Table of Contents

Figure 2e Histograms Depicting Propensity Score Distributions Before and After Adjustment, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Age Group: 50-64 years

Figure 2f Histograms Depicting Propensity Score Distributions Before and After Adjustment, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 0

Figure 2g Histograms Depicting Propensity Score Distributions Before and After Adjustment, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 1

Figure 2h Histograms Depicting Propensity Score Distributions Before and After Adjustment, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 2

Figure 2i Histograms Depicting Propensity Score Distributions Before and After Adjustment, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 3

Figure 2j Histograms Depicting Propensity Score Distributions Before and After Adjustment, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 4

Figure 2k Histograms Depicting Propensity Score Distributions Before and After Adjustment, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 5+

Figure 2l Histograms Depicting Propensity Score Distributions Before and After Adjustment, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 0

Figure 2m Histograms Depicting Propensity Score Distributions Before and After Adjustment, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 1

Figure 2n Histograms Depicting Propensity Score Distributions Before and After Adjustment, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 2

Figure 2o Histograms Depicting Propensity Score Distributions Before and After Adjustment, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 3+

Figure 3a Histograms Depicting Propensity Score Distributions Before and After Adjustment, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022

Figure 3b Histograms Depicting Propensity Score Distributions Before and After Adjustment, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Sex: Female

Figure 3c Histograms Depicting Propensity Score Distributions Before and After Adjustment, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Sex: Male

Figure 3d Histograms Depicting Propensity Score Distributions Before and After Adjustment, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Age Group: 21-49 years

Figure 3e Histograms Depicting Propensity Score Distributions Before and After Adjustment, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Age Group: 50-64 years

Figure 3f Histograms Depicting Propensity Score Distributions Before and After Adjustment, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 0

Figure 3g Histograms Depicting Propensity Score Distributions Before and After Adjustment, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 1

Figure 3h Histograms Depicting Propensity Score Distributions Before and After Adjustment, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 2

Figure 3i Histograms Depicting Propensity Score Distributions Before and After Adjustment, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 3

Sentinel

Table of Contents

Figure 3j Histograms Depicting Propensity Score Distributions Before and After Adjustment, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 4

Figure 3k Histograms Depicting Propensity Score Distributions Before and After Adjustment, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 5+

Figure 3l Histograms Depicting Propensity Score Distributions Before and After Adjustment, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 0

Figure 3m Histograms Depicting Propensity Score Distributions Before and After Adjustment, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 1

Figure 3n Histograms Depicting Propensity Score Distributions Before and After Adjustment, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 2

Figure 3o Histograms Depicting Propensity Score Distributions Before and After Adjustment, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 3+

Figure 4a Forest Plot of Hazard Ratios (HR) and 95% Confidence Intervals (CI) for Stroke, IPTW ATES & ATT, Site-Adjusted Analyses in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022

Figure 4b Forest Plot of Hazard Ratios (HR) and 95% Confidence Intervals (CI) for Major Extracranial Bleeding, IPTW ATES & ATT, Site-Adjusted Analyses in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022

Figure 4c Forest Plot of Hazard Ratios (HR) and 95% Confidence Intervals (CI) for Gastrointestinal Hemorrhage, IPTW ATES & ATT, Site-Adjusted Analyses in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022

Figure 4d Forest Plot of Hazard Ratios (HR) and 95% Confidence Intervals (CI) for Intracranial Hemorrhage, IPTW ATES & ATT, Site-Adjusted Analyses in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022

Figure 4e Forest Plot of Hazard Ratios (HR) and 95% Confidence Intervals (CI) for Stroke, Propensity Score Matched, Site-Adjusted Analyses in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022

Figure 4f Forest Plot of Hazard Ratios (HR) and 95% Confidence Intervals (CI) for Major Extracranial Bleeding, Propensity Score Matched, Site-Adjusted Analyses in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022

Figure 4g Forest Plot of Hazard Ratios (HR) and 95% Confidence Intervals (CI) for Gastrointestinal Hemorrhage, Propensity Score Matched, Site-Adjusted Analyses in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022

Figure 4h Forest Plot of Hazard Ratios (HR) and 95% Confidence Intervals (CI) for Intracranial Hemorrhage, Propensity Score Matched, Site-Adjusted Analyses in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022

Figure 4i Forest Plot of Hazard Ratios (HR) and 95% Confidence Intervals (CI) for Stroke, Propensity Score Matched, Conditional Analyses in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022

Figure 4j Forest Plot of Hazard Ratios (HR) and 95% Confidence Intervals (CI) for Major Extracranial Bleeding, Propensity Score Matched, Conditional Analyses in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022

Figure 4k Forest Plot of Hazard Ratios (HR) and 95% Confidence Intervals (CI) for Gastrointestinal Hemorrhage, Propensity Score Matched, Conditional Analyses in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022

Figure 4l Forest Plot of Hazard Ratios (HR) and 95% Confidence Intervals (CI) for Intracranial Hemorrhage, Propensity Score Matched, Conditional Analyses in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022

Figure 4m Forest Plot of Hazard Ratios (HR) and 95% Confidence Intervals (CI) for Stroke, Propensity Score Matched, Unconditional Analyses in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022

Sentinel

Table of Contents

Figure 4n	Forest Plot of Hazard Ratios (HR) and 95% Confidence Intervals (CI) for Major Extracranial Bleeding, Propensity Score Matched, Propensity Score Matched, Unconditional Analyses in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022
Figure 4o	Forest Plot of Hazard Ratios (HR) and 95% Confidence Intervals (CI) for Gastrointestinal Hemorrhage, Propensity Score Matched, Propensity Score Matched, Unconditional Analyses in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022
Figure 4p	Forest Plot of Hazard Ratios (HR) and 95% Confidence Intervals (CI) for Intracranial Hemorrhage, Propensity Score Matched, Propensity Score Matched, Unconditional Analyses in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022
Figure 4q	Forest Plot of Hazard Ratios (HR) and 95% Confidence Intervals (CI) for Stroke, TruncWeight = 2.5, ATES Weights, Inverse Probability of Treatment Weighted Analyses in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022
Figure 4r	Forest Plot of Hazard Ratios (HR) and 95% Confidence Intervals (CI) for Major Extracranial Bleeding, TruncWeight = 2.5, ATES Weights, Inverse Probability of Treatment Weighted Analyses in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022
Figure 4s	Forest Plot of Hazard Ratios (HR) and 95% Confidence Intervals (CI) for Gastrointestinal Hemorrhage, TruncWeight = 2.5, ATES Weights, Inverse Probability of Treatment Weighted Analyses in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022
Figure 4t	Forest Plot of Hazard Ratios (HR) and 95% Confidence Intervals (CI) for Intracranial Hemorrhage, TruncWeight = 2.5, ATES Weights, Inverse Probability of Treatment Weighted Analyses in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022
Figure 4u	Forest Plot of Hazard Ratios (HR) and 95% Confidence Intervals (CI) for Stroke, TruncWeight = 2.5, ATT Weights, Inverse Probability of Treatment Weighted Analyses in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022
Figure 4v	Forest Plot of Hazard Ratios (HR) and 95% Confidence Intervals (CI) for Major Extracranial Bleeding, TruncWeight = 2.5, ATT Weights, Inverse Probability of Treatment Weighted Analyses in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022
Figure 4w	Forest Plot of Hazard Ratios (HR) and 95% Confidence Intervals (CI) for Gastrointestinal Hemorrhage, TruncWeight = 2.5, ATT Weights, Inverse Probability of Treatment Weighted Analyses in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022
Figure 4x	Forest Plot of Hazard Ratios (HR) and 95% Confidence Intervals (CI) for Intracranial Hemorrhage, TruncWeight = 2.5, ATT Weights, Inverse Probability of Treatment Weighted Analyses in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022
Appendix A	Dates of Available Data for Each Data Partner (DP) as of Request Distribution Date (November 15, 2022)
Appendix B	List of Generic and Brand Names of Drugs Used to Define Exposures in this Request
Appendix C	List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request
Appendix D	List of Generic and Brand Names of Drugs Used to Define Inclusion and Exclusion Criteria in this Request
Appendix E	List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Inclusion and Exclusion Criteria in this Request
Appendix F	List of Generic and Brand Names of Drugs Used to Define Censoring Criteria in this Request
Appendix G	List of Generic and Brand Names of Drugs Used to Define Baseline Characteristics in this Request

Sentinel

Table of Contents

Appendix H	List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request
Appendix I	Evaluation Windows Used to Define Baseline Characteristics/Covariates in this Request
Appendix J	Specifications Defining Parameters in this Request
Appendix K	Specifications for Propensity Score (PS) Models in this Request

Sentinel

Glossary of Terms for Analyses Using
Cohort Identification and Descriptive Analysis (CIDA) Module*

Amount Supplied - number of units (pills, tablets, vials) dispensed. Net amount per NDC per dispensing.

Blackout Period - number of days at the beginning of a treatment episode that events are to be ignored. If an event occurs during the blackout period, the episode is excluded.

Care Setting - type of medical encounter or facility where the exposure, event, or condition code was recorded. Possible care settings include: Inpatient Hospital Stay (IP), Non-Acute Institutional Stay (IS), Emergency Department (ED), Ambulatory Visit (AV), and Other Ambulatory Visit (OA). For laboratory results, possible care settings include: Emergency Department (E), Home (H), Inpatient (I), Outpatient (O), or Unknown or Missing (U). The Care Setting, along with the Principal Diagnosis Indicator (PDX), forms the Care Setting/PDX parameter.

Ambulatory Visit (AV) - includes visits at outpatient clinics, same-day surgeries, urgent care visits, and other same-day ambulatory hospital encounters, but excludes emergency department encounters.

Emergency Department (ED) - includes ED encounters that become inpatient stays (in which case inpatient stays would be a separate encounter). Excludes urgent care visits.

Inpatient Hospital Stay (IP) - includes all inpatient stays, same-day hospital discharges, hospital transfers, and acute hospital care where the discharge is after the admission date.

Non-Acute Institutional Stay (IS) - includes hospice, skilled nursing facility (SNF), rehab center, nursing home, residential, overnight non-hospital dialysis and other non-hospital stays.

Other Ambulatory Visit (OA) - includes other non overnight AV encounters such as hospice visits, home health visits, skilled nursing facility visits, other non-hospital visits, as well as telemedicine, telephone and email consultations.

Charlson/Elixhauser Combined Comorbidity Score - calculated based on comorbidities observed during a requester-defined window around the exposure episode start date (e.g., in the 183 days prior to index).

Code Days - the minimum number of times the diagnosis must be found during the evaluation period in order to fulfill the algorithm to identify the corresponding patient characteristic.

Cohort Definition (drug/exposure) - indicates how the cohort will be defined: 01: Cohort includes only the first valid treatment episode during the query period; 02: Cohort includes all valid treatment episodes during the query period; 03: Cohort includes all valid treatment episodes during the query period until an event occurs.

Computed Start Marketing Date - represents the first observed dispensing date among all valid users within a GROUP (scenario) within each Data Partner site.

Days Supplied - number of days supplied for all dispensings in qualifying treatment episodes.

Eligible Members - number of members eligible for an incident treatment episode (defined by the drug/exposure and event washout periods) with drug and medical coverage during the query period.

Enrollment Gap - number of days allowed between two consecutive enrollment periods without breaking a “continuously enrolled” sequence.

Episodes - treatment episodes; length of episode is determined by days supplied in one dispensing or consecutive dispensings bridged by the episode gap.

Episode Gap - number of days allowed between two (or more) consecutive exposures (dispensings/procedures) to be considered the same treatment episode.

Event Deduplication - specifies how events are counted by the Modular Program (MP) algorithm: 0: Counts all occurrences of a health outcome of interest (HOI) during an exposure episode; 1: de-duplicates occurrences of the same HOI code and code type on the same day; 2: de-duplicates occurrences of the same HOI group on the same day (e.g., de-duplicates at the group level).

Exposure Episode Length - number of days after exposure initiation that is considered "exposed time."

Exposure Extension Period - number of days post treatment period in which the outcomes/events are counted for a treatment episode. Extensions are added after any episode gaps have been bridged.

Sentinel

Glossary of Terms for Analyses Using
Cohort Identification and Descriptive Analysis (CIDA) Module*

Lookback Period - number of days wherein a member is required to have evidence of pre-existing condition (diagnosis/procedure/drug dispensing).

Maximum Episode Duration - truncates exposure episodes after a requester-specified number of exposed days. Applied after any gaps are bridged and extension days added to the length of the exposure episode.

Member-Years - sum of all days of enrollment with medical and drug coverage in the query period preceded by an exposure washout period all divided by 365.25.

Minimum Days Supplied - specifies a minimum number of days in length of the days supplied for the episode to be considered.

Minimum Episode Duration - specifies a minimum number of days in length of the episode for it to be considered. Applied after any gaps are bridged and extension days added to the length of the exposure episode.

Monitoring Period - used to define time periods of interest for both sequential analysis and simple cohort characterization requests.

Principal Diagnosis (PDX) - diagnosis or condition established to be chiefly responsible for admission of the patient to the hospital. 'P' = principal diagnosis, 'S' = secondary diagnosis, 'X' = unspecified diagnosis, '.' = blank. Along with the Care Setting values, forms the Caresetting/PDX parameter.

Query Period - period in which the modular program looks for exposures and outcomes of interest.

Switch Evaluation Step Value - value used to differentiate evaluation step. Each switch pattern can support up to 2 evaluation steps (0 = switch pattern evaluation start; 1 = first evaluation; 2 = second evaluation).

Switch Gap Inclusion Indicator - indicator for whether gaps in treatment episodes that are included in a switch episode will be counted as part of the switch episode duration.

Switch Pattern Cohort Inclusion Date - indicates which date to use for inclusion into the switch pattern cohort of interest as well as optionally as the index date of the treatment episode initiating the switch pattern. Valid options are the product approval date, product marketing date, other requester defined date, or computed start marketing date.

Switch Pattern Cohort Inclusion Strategy - indicates how the switch pattern cohort inclusion date will be used: 01: used only as a switch cohort entry date. First treatment episode dispensing date is used as index for computing time to first switch; 02: used as switch cohort entry date and as initial switch step index date for computing time to first switch.

Treatment Episode Truncation Indicator - indicates whether the exposure episode will be truncated at the occurrence of a requester-specified code.

Washout Period (drug/exposure) - number of days a user is required to have no evidence of prior exposure (drug dispensing/procedure) and continuous drug and medical coverage prior to an incident treatment episode.

Washout Period (event/outcome) - number of days a user is required to have no evidence of a prior event (procedure/diagnosis) and continuous drug and medical coverage prior to an incident treatment episode.

Years at Risk - number of days supplied plus any episode gaps and exposure extension periods all divided by 365.25.

*all terms may not be used in this report

Sentinel

Glossary of Terms for Analyses Using
Propensity Score Analysis (PSA) Module*

Covariate - requester defined binary variable to include in the propensity score estimation model (e.g., diabetes, heart failure, etc.) during requester-defined lookback period. Requester may also choose to add any of the following categorical, continuous, or count metrics to the propensity score estimation model:

1. Age (continuous)
2. Sex
3. Time period (i.e., monitoring period for sequential analyses)
4. Year of exposure
5. Comorbidity score
6. Medical utilization – number of inpatient stays
7. Medical utilization – number of institutional stays
8. Medical utilization – number of emergency department visits
9. Medical utilization – number of outpatient visits
10. Health care utilization – number of other ambulatory encounters (e.g., telemedicine, email consults)
11. Drug utilization – number of dispensings
12. Drug utilization – number of unique generics dispensed
13. Drug Utilization – number of unique drug classes dispensed

Covariate Evaluation Window - specified number of days relative to index date to evaluate the occurrence of covariates of interest. Note: members are required to have continuous enrollment during the covariate evaluation window, regardless of the value included in the "Continuous enrollment before exposure" field.

Individual Level Data Return - program may return individual-level, de-identified datasets to the Sentinel Operations Center (SOC). While the datasets contain a single row per patient for each specified analysis, patient identifiers such as a patient ID are not included in the output. Individual-level datasets are returned to the SOC, aggregated, and used to calculate effect estimates via Cox (proportional hazards) regression.

Mahalanobis Distance - provides a measure of balance across all variables while accounting for their correlation.

Matching Caliper - maximum allowed difference in propensity scores between treatment and control patients. Requester may select any caliper (e.g., 0.01, 0.025, and 0.05).

Matching Ratio - patients in exposed and comparator groups are nearest neighbor matched by a 1:1 or 1:n (up to 10) matching ratio.

Matched Conditional and Unconditional Analysis - in a conditional matched analysis, a Cox model, stratified by Data Partner site and matched set, is run on the matched population. This can be done for both the both 1:1 and 1:n matched cohorts. In an unconditional analysis, a Cox model, stratified by Data Partner site only, is run on the matched population. This can be done for the 1:1 matched cohort only.

Propensity Score Stratification - option to stratify propensity scores based on requester-defined percentiles in the unmatched population. In a stratified analysis, a Cox model, stratified by Data Partner site, is run on the stratified population. Note that all patients identified in exposure and comparator cohorts are used in the analysis.

Sentinel

Glossary of Terms for Analyses Using
Propensity Score Analysis (PSA) Module*

PSM Tool - performs effect estimation by comparing exposure propensity-score matched parallel new user cohorts. Propensity score estimation and matching are conducted within each Sentinel Data Partner site via distributed programming code; data are returned to the SOC, aggregated, and used to calculate effect estimates.

Risk-set Level Data Return - alternative to the patient-level data return approach. In this approach, the PSM tool will produce de-identified, risk-set level datasets instead of or in addition to individual-level output. Whereas each observation in the patient-level datasets represents one patient in the cohort, each observation in the risk set dataset represents one event. Risk sets are created at the Data Partner site, returned to the SOC, aggregated, and used to calculate effect estimates via case-centered logistic regression.

Subgroup Analysis - may be conducted using any requester-defined covariates. Subgroup analyses may be performed in the unmatched and the matched population.

Zero Cell Correction - indicator for whether to screen variables with a zero correction added to each cell in the confounder/outcome 2x2 table. Recommended when the number of exposed outcomes is fewer than 150.

*all terms may not be used in this report

Sentinel

Table 1a. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Unique patients	57,399	100.0%	20,188	100.0%	N/A	N/A
Demographic Characteristics						
Age (years)	56.2	7.4	56.2	7.3	0.026	0.004
Age						
21-49 years	9,776	17.0%	3,499	17.3%	-0.300	-0.008
50-64 years	47,623	83.0%	16,689	82.7%	0.300	0.008
Sex						
Female	14,711	25.6%	4,699	23.3%	2.353	0.055
Male	42,688	74.4%	15,489	76.7%	-2.353	-0.055
Race[2]						
American Indian or Alaska Native	49	0.1%	22	0.1%	-0.024	-0.008
Asian	169	0.3%	65	0.3%	-0.028	-0.005
Black or African American	1,329	2.3%	284	1.4%	0.909	0.067
Native Hawaiian or Other Pacific Islander	57	0.1%	13	0.1%	0.035	0.012
Unknown	46,970	81.8%	16,715	82.8%	-0.966	-0.025
White	8,825	15.4%	3,089	15.3%	0.074	0.002
Hispanic origin						
Yes	373	0.6%	112	0.6%	0.095	0.012
No	4,775	8.3%	1,255	6.2%	2.102	0.081
Unknown	52,251	91.0%	18,821	93.2%	-2.197	-0.082
Year						
2010	0	0.0%	482	2.4%	NaN	NaN
2011	49	0.1%	6,847	33.9%	-33.831	-1.009
2012	2,727	4.8%	4,650	23.0%	-18.283	-0.548
2013	5,765	10.0%	2,393	11.9%	-1.810	-0.058
2014	7,298	12.7%	1,503	7.4%	5.269	0.176
2015	6,654	11.6%	1,042	5.2%	6.431	0.234
2016	6,425	11.2%	1,271	6.3%	4.898	0.174
2017	6,646	11.6%	856	4.2%	7.338	0.274
2018	6,321	11.0%	557	2.8%	8.253	0.330
2019	5,551	9.7%	304	1.5%	8.165	0.361
2020	4,613	8.0%	171	0.8%	7.190	0.354
2021	4,962	8.6%	107	0.5%	8.115	0.395

Sentinel

Table 1a. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
2022	388	0.7%	5	0.0%	0.651	0.110
CHADSVASC						
mean, std	1.6	1.2	1.5	1.1	0.112	0.097
0	10,615	18.5%	4,137	20.5%	-1.999	-0.050
1	20,124	35.1%	7,308	36.2%	-1.140	-0.024
2	15,095	26.3%	5,427	26.9%	-0.584	-0.013
3	7,559	13.2%	2,267	11.2%	1.940	0.059
4	3,094	5.4%	800	4.0%	1.428	0.068
>= 5	912	1.6%	249	1.2%	0.355	0.030
HASBLED						
mean, std	0.9	0.7	0.9	0.7	0.059	0.083
0	15,309	26.7%	5,818	28.8%	-2.148	-0.048
1	32,231	56.2%	11,466	56.8%	-0.644	-0.013
2	8,030	14.0%	2,435	12.1%	1.928	0.057
>= 3	1,829	3.2%	469	2.3%	0.863	0.053
Health Characteristics						
Diabetes	14,995	26.1%	5,062	25.1%	1.050	0.024
Hypercholesterolemia	14,766	25.7%	5,376	26.6%	-0.904	-0.021
Hypertension	40,370	70.3%	13,727	68.0%	2.336	0.051
Kidney failure (chronic)	2,663	4.6%	751	3.7%	0.919	0.046
Kidney failure (acute)	2,763	4.8%	664	3.3%	1.525	0.077
Obesity	19,008	33.1%	4,557	22.6%	10.543	0.237
Peptic ulcer disease	139	0.2%	51	0.3%	-0.010	-0.002
Nicotine dependency	13,241	23.1%	3,307	16.4%	6.687	0.169
Hospitalized acute myocardial infarction (past 0-30 days)	899	1.6%	226	1.1%	0.447	0.039
Hospitalized acute myocardial infarction (past 31-183 days)	454	0.8%	100	0.5%	0.296	0.037
Coronary revascularization	3,846	6.7%	1,284	6.4%	0.340	0.014
Hospitalized heart failure	7,296	12.7%	2,232	11.1%	1.655	0.051
Outpatient heart failure	7,471	13.0%	2,389	11.8%	1.182	0.036
Other ischemic heart disease	14,426	25.1%	5,075	25.1%	-0.006	-0.000
Hospitalized stroke (past 0-30 days)	556	1.0%	230	1.1%	-0.171	-0.017

Sentinel

Table 1a. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Hospitalized stroke (past 31-183 days)	285	0.5%	107	0.5%	-0.033	-0.005
Transient ischemic attack	1,664	2.9%	656	3.2%	-0.350	-0.020
Other medical conditions (falls, fractures, syncope, walker use)	14,343	25.0%	5,079	25.2%	-0.170	-0.004
Cardioversion	9,301	16.2%	3,419	16.9%	-0.732	-0.020
Cardioablation	2,655	4.6%	1,304	6.5%	-1.834	-0.080
Hospitalized for bleeding	173	0.3%	76	0.4%	-0.075	-0.013
Medical Product Use						
Estrogen replacement	1,137	2.0%	419	2.1%	-0.095	-0.007
H2-antagonist	1,354	2.4%	375	1.9%	0.501	0.035
Non-steroidal anti-inflammatory drugs (NSAIDs)	8,986	15.7%	3,009	14.9%	0.750	0.021
Proton pump inhibitors	10,881	19.0%	3,522	17.4%	1.511	0.039
Selective serotonin reuptake inhibitor (SSRI)	6,476	11.3%	2,085	10.3%	0.955	0.031
Insulin	3,561	6.2%	1,168	5.8%	0.418	0.018
Metformin (Biguanide)	9,291	16.2%	2,879	14.3%	1.926	0.054
Sulfonylureas	3,450	6.0%	1,320	6.5%	-0.528	-0.022
Other diabetes medications	4,105	7.2%	1,332	6.6%	0.554	0.022
Angiotensin converting enzyme inhibitor (ACEI)/Angiotensin II receptor blocker (ARB)	27,920	48.6%	9,575	47.4%	1.213	0.024
Antiarrhythmics	16,607	28.9%	7,198	35.7%	-6.722	-0.144
Anti-coagulant (injectable)	6,063	10.6%	1,479	7.3%	3.237	0.114
Anti-platelets	5,670	9.9%	1,607	8.0%	1.918	0.067
Beta-blockers	38,744	67.5%	13,649	67.6%	-0.110	-0.002
Calcium channel blockers	17,174	29.9%	6,405	31.7%	-1.806	-0.039
Digoxin	3,906	6.8%	2,178	10.8%	-3.984	-0.141
Diuretics (loop)	9,154	15.9%	2,984	14.8%	1.167	0.032
Diuretics (potassium sparing)	4,078	7.1%	1,340	6.6%	0.467	0.018
Diuretics (thiazide)	5,299	9.2%	1,711	8.5%	0.757	0.027
Nitrates	2,554	4.4%	871	4.3%	0.135	0.007
Statins	23,729	41.3%	8,231	40.8%	0.569	0.012
Fibrates	2,236	3.9%	1,009	5.0%	-1.102	-0.054
Amiodarone	5,085	8.9%	1,790	8.9%	-0.008	-0.000
Dronedarone	1,737	3.0%	1,467	7.3%	-4.241	-0.193

Sentinel

Table 1a. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Health Service Utilization Intensity Metrics						
No emergency department (ED) encounters (past 0-30 days)	40,153	70.0%	14,818	73.4%	-3.446	-0.077
No ED encounters (past 31-183 days)	46,767	81.5%	17,018	84.3%	-2.821	-0.075
At least 1 ED encounter (past 0-30 days)	17,246	30.0%	5,370	26.6%	3.446	0.077
At least 2 ED encounters (past 0-30 days)	3,694	6.4%	977	4.8%	1.596	0.069
At least 1 ED encounter (past 31-183 days)	10,632	18.5%	3,170	15.7%	2.821	0.075
At least 2 ED encounters (past 31-183 days)	3,360	5.9%	873	4.3%	1.529	0.070

[1]Value represents standard deviation where no % follows the value.

[2]Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

Sentinel

Table 1b. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect, Stabilized (ATES), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
Weighted patients	57,127	N/A	19,679	N/A	N/A	N/A
Demographic Characteristics						
Age (years)	56.3	7.4	56.2	7.4	0.068	0.009
Age						
21-49 years	9,684	17.0%	3,446	17.5%	-0.559	-0.015
50-64 years	47,443	83.0%	16,233	82.5%	0.559	0.015
Sex						
Female	14,310	25.0%	4,821	24.5%	0.551	0.013
Male	42,817	75.0%	14,858	75.5%	-0.551	-0.013
Race[3]						
American Indian or Alaska Native	48	0.1%	22	0.1%	-0.025	-0.008
Asian	172	0.3%	55	0.3%	0.021	0.004
Black or African American	1,261	2.2%	303	1.5%	0.669	0.051
Native Hawaiian or Other Pacific Islander	57	0.1%	16	0.1%	0.020	0.007
Unknown	46,878	82.1%	16,288	82.8%	-0.713	-0.026
White	8,711	15.2%	2,995	15.2%	0.027	0.001
Hispanic origin						
Yes	367	0.6%	111	0.6%	0.080	0.010
No	4,617	8.1%	1,280	6.5%	1.579	0.096
Unknown	52,144	91.3%	18,289	92.9%	-1.659	-0.093
Year						
2010	0	0.0%	430	2.2%	NaN	NaN
2011	56	0.1%	6,251	31.8%	-31.668	-0.961
2012	2,961	5.2%	4,391	22.3%	-17.132	-0.514
2013	6,074	10.6%	2,326	11.8%	-1.188	-0.038
2014	7,547	13.2%	1,519	7.7%	5.490	0.180
2015	6,747	11.8%	1,075	5.5%	6.346	0.227
2016	6,369	11.1%	1,396	7.1%	4.056	0.141
2017	6,486	11.4%	955	4.9%	6.499	0.240
2018	6,106	10.7%	642	3.3%	7.425	0.295
2019	5,315	9.3%	355	1.8%	7.499	0.332
2020	4,398	7.7%	200	1.0%	6.680	0.332

Sentinel

Table 1b. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect, Stabilized (ATES), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
2021	4,696	8.2%	131	0.7%	7.554	0.373
2022	374	0.7%	6	0.0%	0.624	0.107
CHADSVASC						
mean, std	1.5	1.2	1.5	1.1	0.038	0.033
0	10,824	18.9%	3,860	19.6%	-0.670	-0.017
1	20,207	35.4%	7,040	35.8%	-0.406	-0.008
2	15,147	26.5%	5,235	26.6%	-0.087	-0.002
3	7,242	12.7%	2,379	12.1%	0.587	0.018
4	2,862	5.0%	894	4.5%	0.467	0.022
>= 5	847	1.5%	270	1.4%	0.108	0.009
HASBLED						
mean, std	0.9	0.7	0.9	0.7	0.017	0.024
0	15,520	27.2%	5,499	27.9%	-0.778	-0.017
1	32,202	56.4%	11,078	56.3%	0.077	0.002
2	7,716	13.5%	2,557	13.0%	0.514	0.015
>= 3	1,689	3.0%	545	2.8%	0.187	0.011
Health Characteristics						
Diabetes	14,772	25.9%	4,945	25.1%	0.729	0.017
Hypercholesterolemia	14,807	25.9%	5,084	25.8%	0.086	0.002
Hypertension	39,861	69.8%	13,587	69.0%	0.733	0.016
Kidney failure (chronic)	2,519	4.4%	827	4.2%	0.206	0.010
Kidney failure (acute)	2,511	4.4%	775	3.9%	0.456	0.023
Obesity	17,334	30.3%	5,598	28.4%	1.895	0.042
Peptic ulcer disease	139	0.2%	45	0.2%	0.014	0.003
Nicotine dependency	12,144	21.3%	3,854	19.6%	1.672	0.042
Hospitalized acute myocardial infarction (past 0-30 days)	834	1.5%	259	1.3%	0.142	0.012
Hospitalized acute myocardial infarction (past 31-183 days)	395	0.7%	115	0.6%	0.107	0.013
Coronary revascularization	3,767	6.6%	1,259	6.4%	0.194	0.008
Hospitalized heart failure	7,013	12.3%	2,297	11.7%	0.604	0.019
Outpatient heart failure	7,263	12.7%	2,399	12.2%	0.524	0.016

Sentinel

Table 1b. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect, Stabilized (ATES), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
Other ischemic heart disease	14,367	25.1%	4,911	25.0%	0.195	0.005
Hospitalized stroke (past 0-30 days)	581	1.0%	216	1.1%	-0.081	-0.008
Hospitalized stroke (past 31-183 days)	292	0.5%	104	0.5%	-0.019	-0.003
Transient ischemic attack	1,710	3.0%	611	3.1%	-0.113	-0.007
Other medical conditions (falls, fractures, syncope, walker use)	14,295	25.0%	4,925	25.0%	-0.003	-0.000
Cardioversion	9,359	16.4%	3,255	16.5%	-0.156	-0.004
Cardioablation	2,897	5.1%	1,027	5.2%	-0.150	-0.007
Hospitalized for bleeding	181	0.3%	64	0.3%	-0.006	-0.001
Medical Product Use						
Estrogen replacement	1,142	2.0%	393	2.0%	0.005	0.000
H2-antagonist	1,289	2.3%	383	1.9%	0.311	0.022
Non-steroidal anti-inflammatory drugs (NSAIDs)	8,840	15.5%	3,004	15.3%	0.208	0.006
Proton pump inhibitors	10,614	18.6%	3,574	18.2%	0.415	0.011
Selective serotonin reuptake inhibitor (SSRI)	6,320	11.1%	2,109	10.7%	0.348	0.011
Insulin	3,498	6.1%	1,159	5.9%	0.232	0.010
Metformin (Biguanide)	8,942	15.7%	2,932	14.9%	0.755	0.021
Sulfonylureas	3,518	6.2%	1,198	6.1%	0.070	0.003
Other diabetes medications	3,994	7.0%	1,326	6.7%	0.251	0.010
Angiotensin converting enzyme inhibitor (ACEI)/Angiotensin II receptor blocker (ARB)	27,630	48.4%	9,399	47.8%	0.601	0.012
Antiarrhythmics	17,489	30.6%	6,231	31.7%	-1.048	-0.023
Anti-coagulant (injectable)	5,596	9.8%	1,677	8.5%	1.274	0.045
Anti-platelets	5,342	9.4%	1,733	8.8%	0.546	0.019
Beta-blockers	38,596	67.6%	13,263	67.4%	0.166	0.004
Calcium channel blockers	17,373	30.4%	6,035	30.7%	-0.257	-0.006
Digoxin	4,483	7.8%	1,628	8.3%	-0.427	-0.016
Diuretics (loop)	8,968	15.7%	2,960	15.0%	0.654	0.018
Diuretics (potassium sparing)	3,990	7.0%	1,323	6.7%	0.262	0.010
Diuretics (thiazide)	5,158	9.0%	1,724	8.8%	0.268	0.009
Nitrates	2,529	4.4%	834	4.2%	0.188	0.009
Statins	23,532	41.2%	7,993	40.6%	0.573	0.012

Sentinel

Table 1b. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect, Stabilized (ATES), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
Fibrates	2,388	4.2%	850	4.3%	-0.141	-0.007
Amiodarone	5,082	8.9%	1,754	8.9%	-0.014	-0.001
Dronedarone	2,285	4.0%	937	4.8%	-0.761	-0.037
Health Service Utilization Intensity Metrics						
No emergency department (ED) encounters (past 0-	40,682	71.2%	13,952	70.9%	0.315	0.007
No ED encounters (past 31-183 days)	47,017	82.3%	16,326	83.0%	-0.659	-0.018
At least 1 ED encounter (past 0-30 days)	16,445	28.8%	5,727	29.1%	-0.315	-0.007
At least 2 ED encounters (past 0-30 days)	3,351	5.9%	1,131	5.7%	0.117	0.005
At least 1 ED encounter (past 31-183 days)	10,110	17.7%	3,353	17.0%	0.659	0.018
At least 2 ED encounters (past 31-183 days)	3,069	5.4%	988	5.0%	0.350	0.016

[1]Weighted patient characteristics tables facilitate the assessment of covariate balance after inverse probability weighting and should not be interpreted as a description of the unweighted population. Treated patients are weighted by the proportion of treated patients in the trimmed population divided by the inverse of their propensity score (PS). Reference patients are weighted by 1 minus the proportion of treated patients in the trimmed population divided by 1 minus their PS.

[2]Value represents standard deviation where no % follows the value.

[3]Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

Sentinel

Table 1c. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Sex: Female

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Unique patients	14,631	100.0%	4,696	100.0%	N/A	N/A
Demographic Characteristics						
Age (years)	57.2	6.8	57.4	6.6	-0.193	-0.029
Age						
21-49 years	1,927	13.2%	589	12.5%	0.628	0.019
50-64 years	12,704	86.8%	4,107	87.5%	-0.628	-0.019
Sex						
Female	14,631	100.0%	4,696	100.0%	0.000	NaN
Male	0	0.0%	0	0.0%	NaN	NaN
Race[2]						
American Indian or Alaska Native	11	0.1%	5	0.1%	-0.031	-0.010
Asian	44	0.3%	16	0.3%	-0.040	-0.007
Black or African American	514	3.5%	112	2.4%	1.128	0.067
Native Hawaiian or Other Pacific Islander	14	0.1%	3	0.1%	0.032	0.011
Unknown	11,641	79.6%	3,789	80.7%	-1.122	-0.028
White	2,407	16.5%	771	16.4%	0.033	0.001
Hispanic origin						
Yes	87	0.6%	26	0.6%	0.041	0.005
No	1,582	10.8%	408	8.7%	2.124	0.072
Unknown	12,962	88.6%	4,262	90.8%	-2.165	-0.071
Year						
2010	0	0.0%	90	1.9%	NaN	NaN
2011	8	0.1%	1,543	32.9%	-32.803	-0.986
2012	640	4.4%	1,033	22.0%	-17.623	-0.539
2013	1,371	9.4%	529	11.3%	-1.894	-0.062
2014	1,811	12.4%	348	7.4%	4.967	0.167
2015	1,669	11.4%	261	5.6%	5.849	0.211
2016	1,612	11.0%	341	7.3%	3.756	0.131
2017	1,776	12.1%	247	5.3%	6.879	0.246
2018	1,709	11.7%	140	3.0%	8.699	0.339
2019	1,448	9.9%	82	1.7%	8.151	0.353
2020	1,192	8.1%	51	1.1%	7.061	0.341

Sentinel

Table 1c. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Sex: Female

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
2021	1,307	8.9%	29	0.6%	8.316	0.398
2022	88	0.6%	2	0.0%	0.559	0.099
CHADSVASC						
mean, std	2.3	1.1	2.3	1.1	0.037	0.035
0	0	0.0%	0	0.0%	NaN	NaN
1	3,428	23.4%	1,096	23.3%	0.091	0.002
2	5,843	39.9%	1,913	40.7%	-0.801	-0.016
3	3,145	21.5%	1,082	23.0%	-1.545	-0.037
4	1,581	10.8%	422	9.0%	1.819	0.061
>= 5	634	4.3%	183	3.9%	0.436	0.022
HASBLED						
mean, std	1.0	0.7	0.9	0.7	0.016	0.022
0	3,705	25.3%	1,203	25.6%	-0.295	-0.007
1	8,303	56.7%	2,690	57.3%	-0.533	-0.011
2	2,156	14.7%	672	14.3%	0.426	0.012
>= 3	467	3.2%	131	2.8%	0.402	0.024
Health Characteristics						
Diabetes	4,018	27.5%	1,266	27.0%	0.503	0.011
Hypercholesterolemia	3,492	23.9%	1,140	24.3%	-0.409	-0.010
Hypertension	10,415	71.2%	3,307	70.4%	0.763	0.017
Kidney failure (chronic)	641	4.4%	196	4.2%	0.207	0.010
Kidney failure (acute)	606	4.1%	145	3.1%	1.054	0.056
Obesity	5,592	38.2%	1,315	28.0%	10.218	0.218
Peptic ulcer disease	43	0.3%	19	0.4%	-0.111	-0.019
Nicotine dependency	3,132	21.4%	754	16.1%	5.350	0.137
Hospitalized acute myocardial infarction (past 0-30 days)	203	1.4%	50	1.1%	0.323	0.029
Hospitalized acute myocardial infarction (past 31-183 days)	82	0.6%	23	0.5%	0.071	0.010
Coronary revascularization	580	4.0%	161	3.4%	0.536	0.028
Hospitalized heart failure	1,767	12.1%	536	11.4%	0.663	0.021
Outpatient heart failure	1,786	12.2%	520	11.1%	1.134	0.035

Sentinel

Table 1c. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Sex: Female

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Other ischemic heart disease	2,982	20.4%	926	19.7%	0.662	0.017
Hospitalized stroke (past 0-30 days)	143	1.0%	68	1.4%	-0.471	-0.043
Hospitalized stroke (past 31-183 days)	87	0.6%	36	0.8%	-0.172	-0.021
Transient ischemic attack	522	3.6%	202	4.3%	-0.734	-0.038
Other medical conditions (falls, fractures, syncope, walker use)	3,555	24.3%	1,192	25.4%	-1.086	-0.025
Cardioversion	1,784	12.2%	625	13.3%	-1.116	-0.033
Cardioablation	673	4.6%	290	6.2%	-1.576	-0.070
Hospitalized for bleeding	40	0.3%	26	0.6%	-0.280	-0.044
Medical Product Use						
Estrogen replacement	1,126	7.7%	416	8.9%	-1.163	-0.042
H2-antagonist	489	3.3%	124	2.6%	0.702	0.041
Non-steroidal anti-inflammatory drugs (NSAIDs)	2,748	18.8%	853	18.2%	0.618	0.016
Proton pump inhibitors	3,442	23.5%	1,059	22.6%	0.974	0.023
Selective serotonin reuptake inhibitor (SSRI)	2,784	19.0%	851	18.1%	0.906	0.023
Insulin	1,028	7.0%	317	6.8%	0.276	0.011
Metformin (Biguanide)	2,432	16.6%	698	14.9%	1.759	0.048
Sulfonylureas	827	5.7%	286	6.1%	-0.438	-0.019
Other diabetes medications	1,079	7.4%	347	7.4%	-0.015	-0.001
Angiotensin converting enzyme inhibitor (ACEI)/Angiotensin II receptor blocker (ARB)	6,483	44.3%	2,106	44.8%	-0.537	-0.011
Antiarrhythmics	4,404	30.1%	1,791	38.1%	-8.038	-0.170
Anti-coagulant (injectable)	1,622	11.1%	342	7.3%	3.803	0.132
Anti-platelets	1,183	8.1%	297	6.3%	1.761	0.068
Beta-blockers	9,959	68.1%	3,159	67.3%	0.798	0.017
Calcium channel blockers	4,538	31.0%	1,685	35.9%	-4.865	-0.103
Digoxin	947	6.5%	507	10.8%	-4.324	-0.154
Diuretics (loop)	2,585	17.7%	834	17.8%	-0.092	-0.002
Diuretics (potassium sparing)	1,180	8.1%	368	7.8%	0.229	0.008
Diuretics (thiazide)	1,682	11.5%	504	10.7%	0.764	0.024
Nitrates	595	4.1%	187	4.0%	0.085	0.004
Statins	5,281	36.1%	1,670	35.6%	0.532	0.011

Sentinel

Table 1c. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Sex: Female

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Fibrates	384	2.6%	166	3.5%	-0.910	-0.053
Amiodarone	1,040	7.1%	351	7.5%	-0.366	-0.014
Dronedarone	475	3.2%	370	7.9%	-4.633	-0.203
Health Service Utilization Intensity Metrics						
No emergency department (ED) encounters (past 0-	9,817	67.1%	3,276	69.8%	-2.664	-0.057
No ED encounters (past 31-183 days)	11,227	76.7%	3,752	79.9%	-3.163	-0.077
At least 1 ED encounter (past 0-30 days)	4,814	32.9%	1,420	30.2%	2.664	0.057
At least 2 ED encounters (past 0-30 days)	1,077	7.4%	260	5.5%	1.824	0.074
At least 1 ED encounter (past 31-183 days)	3,404	23.3%	944	20.1%	3.163	0.077
At least 2 ED encounters (past 31-183 days)	1,147	7.8%	283	6.0%	1.813	0.071

[1]Value represents standard deviation where no % follows the value.

[2]Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

Sentinel

Table 1d. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect, Stabilized (ATES), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Sex: Female

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
Weighted patients	14,522	N/A	4,533	N/A	N/A	N/A
Demographic Characteristics						
Age (years)	57.3	6.8	57.3	6.7	0.012	0.002
Age						
21-49 years	1,883	13.0%	602	13.3%	-0.311	-0.009
50-64 years	12,639	87.0%	3,931	86.7%	0.311	0.009
Sex						
Female	14,522	100.0%	4,533	100.0%	0.000	NaN
Male	0	0.0%	0	0.0%	NaN	NaN
Race[3]						
American Indian or Alaska Native	11	0.1%	5	0.1%	-0.034	-0.011
Asian	44	0.3%	14	0.3%	-0.016	-0.003
Black or African American	489	3.4%	116	2.5%	0.817	0.051
Native Hawaiian or Other Pacific Islander	13	0.1%	3	0.1%	0.018	0.007
Unknown	11,612	80.0%	3,668	80.9%	-0.972	-0.036
White	2,354	16.2%	726	16.0%	0.186	0.007
Hispanic origin						
Yes	88	0.6%	25	0.5%	0.063	0.008
No	1,517	10.4%	394	8.7%	1.753	0.105
Unknown	12,917	88.9%	4,114	90.8%	-1.816	-0.101
Year						
2010	0	0.0%	76	1.7%	NaN	NaN
2011	8	0.1%	1,386	30.6%	-30.513	-0.938
2012	696	4.8%	945	20.8%	-16.058	-0.496
2013	1,447	10.0%	517	11.4%	-1.438	-0.047
2014	1,876	12.9%	348	7.7%	5.230	0.173
2015	1,681	11.6%	268	5.9%	5.660	0.202
2016	1,610	11.1%	368	8.1%	2.966	0.101
2017	1,724	11.9%	278	6.1%	5.734	0.201
2018	1,657	11.4%	156	3.4%	7.968	0.307
2019	1,381	9.5%	92	2.0%	7.471	0.325

Sentinel

Table 1d. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect, Stabilized (ATES), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Sex: Female

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
2020	1,128	7.8%	61	1.3%	6.431	0.313
2021	1,228	8.5%	35	0.8%	7.685	0.373
2022	86	0.6%	2	0.0%	0.551	0.098
CHADSVASC						
mean, std	2.3	1.1	2.3	1.1	0.028	0.026
0	0	0.0%	0	0.0%	NaN	NaN
1	3,398	23.4%	1,075	23.7%	-0.310	-0.007
2	5,839	40.2%	1,851	40.8%	-0.622	-0.013
3	3,183	21.9%	989	21.8%	0.098	0.002
4	1,496	10.3%	439	9.7%	0.607	0.020
>= 5	607	4.2%	179	3.9%	0.227	0.012
HASBLED						
mean, std	1.0	0.7	0.9	0.7	0.013	0.017
0	3,688	25.4%	1,173	25.9%	-0.488	-0.011
1	8,257	56.9%	2,580	56.9%	-0.053	-0.001
2	2,128	14.7%	649	14.3%	0.337	0.010
>= 3	449	3.1%	131	2.9%	0.204	0.012
Health Characteristics						
Diabetes	3,966	27.3%	1,205	26.6%	0.720	0.016
Hypercholesterolemia	3,462	23.8%	1,067	23.5%	0.304	0.007
Hypertension	10,308	71.0%	3,192	70.4%	0.550	0.012
Kidney failure (chronic)	632	4.4%	189	4.2%	0.182	0.009
Kidney failure (acute)	558	3.8%	156	3.4%	0.402	0.022
Obesity	5,174	35.6%	1,524	33.6%	2.007	0.042
Peptic ulcer disease	46	0.3%	14	0.3%	0.008	0.001
Nicotine dependency	2,906	20.0%	839	18.5%	1.495	0.038
Hospitalized acute myocardial infarction (past 0-30 days)	191	1.3%	53	1.2%	0.145	0.013
Hospitalized acute myocardial infarction (past 31-183 days)	76	0.5%	22	0.5%	0.034	0.005
Coronary revascularization	554	3.8%	164	3.6%	0.199	0.011

Sentinel

Table 1d. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect, Stabilized (ATES), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Sex: Female

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
Hospitalized heart failure	1,716	11.8%	515	11.4%	0.462	0.015
Outpatient heart failure	1,729	11.9%	519	11.4%	0.456	0.014
Other ischemic heart disease	2,936	20.2%	903	19.9%	0.302	0.008
Hospitalized stroke (past 0-30 days)	156	1.1%	53	1.2%	-0.094	-0.009
Hospitalized stroke (past 31-183 days)	93	0.6%	30	0.7%	-0.031	-0.004
Transient ischemic attack	545	3.8%	177	3.9%	-0.163	-0.008
Other medical conditions (falls, fractures, syncope, walker use)	3,576	24.6%	1,117	24.6%	-0.013	-0.000
Cardioversion	1,813	12.5%	573	12.6%	-0.149	-0.005
Cardioablation	729	5.0%	232	5.1%	-0.102	-0.005
Hospitalized for bleeding	47	0.3%	18	0.4%	-0.074	-0.012
Medical Product Use						
Estrogen replacement	1,157	8.0%	370	8.2%	-0.202	-0.007
H2-antagonist	462	3.2%	124	2.7%	0.434	0.026
Non-steroidal anti-inflammatory drugs (NSAIDs)	2,703	18.6%	829	18.3%	0.321	0.008
Proton pump inhibitors	3,384	23.3%	1,043	23.0%	0.285	0.007
Selective serotonin reuptake inhibitor (SSRI)	2,727	18.8%	818	18.0%	0.730	0.019
Insulin	1,014	7.0%	303	6.7%	0.308	0.012
Metformin (Biguanide)	2,354	16.2%	699	15.4%	0.796	0.022
Sulfonylureas	837	5.8%	260	5.7%	0.014	0.001
Other diabetes medications	1,071	7.4%	325	7.2%	0.201	0.008
Angiotensin converting enzyme inhibitor (ACEI)/Angiotensin II receptor blocker (ARB)	6,459	44.5%	2,004	44.2%	0.268	0.005
Antiarrhythmics	4,634	31.9%	1,487	32.8%	-0.906	-0.019
Anti-coagulant (injectable)	1,466	10.1%	394	8.7%	1.401	0.049
Anti-platelets	1,112	7.7%	322	7.1%	0.554	0.021
Beta-blockers	9,870	68.0%	3,073	67.8%	0.164	0.004
Calcium channel blockers	4,675	32.2%	1,478	32.6%	-0.423	-0.009
Digoxin	1,091	7.5%	360	7.9%	-0.426	-0.016
Diuretics (loop)	2,573	17.7%	782	17.3%	0.463	0.012
Diuretics (potassium sparing)	1,155	8.0%	347	7.7%	0.290	0.011
Diuretics (thiazide)	1,639	11.3%	494	10.9%	0.393	0.013

Sentinel

Table 1d. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect, Stabilized (ATES), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Sex: Female

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
Nitrates	584	4.0%	174	3.8%	0.170	0.009
Statins	5,228	36.0%	1,612	35.6%	0.444	0.009
Fibrates	409	2.8%	130	2.9%	-0.048	-0.003
Amiodarone	1,041	7.2%	325	7.2%	-0.016	-0.001
Dronedarone	611	4.2%	224	4.9%	-0.735	-0.035
Health Service Utilization Intensity Metrics						
No emergency department (ED) encounters (past 0-	9,901	68.2%	3,073	67.8%	0.385	0.009
No ED encounters (past 31-183 days)	11,280	77.7%	3,560	78.6%	-0.876	-0.021
At least 1 ED encounter (past 0-30 days)	4,621	31.8%	1,460	32.2%	-0.385	-0.009
At least 2 ED encounters (past 0-30 days)	971	6.7%	294	6.5%	0.197	0.008
At least 1 ED encounter (past 31-183 days)	3,242	22.3%	972	21.4%	0.876	0.021
At least 2 ED encounters (past 31-183 days)	1,047	7.2%	301	6.6%	0.561	0.022

[1]Weighted patient characteristics tables facilitate the assessment of covariate balance after inverse probability weighting and should not be interpreted as a description of the unweighted population. Treated patients are weighted by the proportion of treated patients in the trimmed population divided by the inverse of their propensity score (PS). Reference patients are weighted by 1 minus the proportion of treated patients in the trimmed population divided by 1 minus their PS.

[2]Value represents standard deviation where no % follows the value.

[3]Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

Sentinel

Table 1e. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Sex: Male

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Unique patients	42,597	100.0%	15,484	100.0%	N/A	N/A
Demographic Characteristics						
Age (years)	55.9	7.6	55.8	7.5	0.046	0.006
Age						
21-49 years	7,830	18.4%	2,907	18.8%	-0.393	-0.010
50-64 years	34,767	81.6%	12,577	81.2%	0.393	0.010
Sex						
Female	0	0.0%	0	0.0%	NaN	NaN
Male	42,597	100.0%	15,484	100.0%	0.000	NaN
Race[2]						
American Indian or Alaska Native	37	0.1%	17	0.1%	-0.023	-0.007
Asian	125	0.3%	49	0.3%	-0.023	-0.004
Black or African American	796	1.9%	171	1.1%	0.764	0.063
Native Hawaiian or Other Pacific Islander	43	0.1%	10	0.1%	0.036	0.013
Unknown	35,254	82.8%	12,920	83.4%	-0.679	-0.018
White	6,342	14.9%	2,317	15.0%	-0.075	-0.002
Hispanic origin						
Yes	283	0.7%	86	0.6%	0.109	0.014
No	3,117	7.3%	845	5.5%	1.860	0.076
Unknown	39,197	92.0%	14,553	94.0%	-1.969	-0.077
Year						
2010	0	0.0%	392	2.5%	NaN	NaN
2011	41	0.1%	5,300	34.2%	-34.133	-1.015
2012	2,087	4.9%	3,615	23.3%	-18.447	-0.549
2013	4,393	10.3%	1,863	12.0%	-1.719	-0.055
2014	5,482	12.9%	1,155	7.5%	5.410	0.180
2015	4,971	11.7%	781	5.0%	6.626	0.241
2016	4,796	11.3%	930	6.0%	5.253	0.188
2017	4,851	11.4%	609	3.9%	7.455	0.283
2018	4,582	10.8%	416	2.7%	8.070	0.327
2019	4,071	9.6%	222	1.4%	8.123	0.362
2020	3,398	8.0%	120	0.8%	7.202	0.358

Sentinel

Table 1e. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Sex: Male

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
2021	3,627	8.5%	78	0.5%	8.011	0.393
2022	298	0.7%	3	0.0%	0.680	0.114
CHADSVASC						
mean, std	1.3	1.1	1.2	1.0	0.096	0.092
0	10,614	24.9%	4,136	26.7%	-1.794	-0.041
1	16,692	39.2%	6,212	40.1%	-0.933	-0.019
2	9,231	21.7%	3,509	22.7%	-0.992	-0.024
3	4,345	10.2%	1,184	7.6%	2.554	0.090
4	1,464	3.4%	377	2.4%	1.002	0.059
>= 5	251	0.6%	66	0.4%	0.163	0.023
HASBLED						
mean, std	0.9	0.7	0.9	0.7	0.068	0.095
0	11,599	27.2%	4,614	29.8%	-2.569	-0.057
1	23,867	56.0%	8,770	56.6%	-0.609	-0.012
2	5,808	13.6%	1,762	11.4%	2.255	0.068
>= 3	1,323	3.1%	338	2.2%	0.923	0.058
Health Characteristics						
Diabetes	10,873	25.5%	3,794	24.5%	1.023	0.024
Hypercholesterolemia	11,208	26.3%	4,232	27.3%	-1.020	-0.023
Hypertension	29,789	69.9%	10,417	67.3%	2.656	0.057
Kidney failure (chronic)	1,981	4.7%	555	3.6%	1.066	0.054
Kidney failure (acute)	2,104	4.9%	519	3.4%	1.587	0.080
Obesity	13,260	31.1%	3,241	20.9%	10.198	0.234
Peptic ulcer disease	94	0.2%	31	0.2%	0.020	0.004
Nicotine dependency	9,961	23.4%	2,550	16.5%	6.916	0.174
Hospitalized acute myocardial infarction (past 0-30 days)	693	1.6%	176	1.1%	0.490	0.042
Hospitalized acute myocardial infarction (past 31-183 days)	349	0.8%	77	0.5%	0.322	0.040
Coronary revascularization	3,226	7.6%	1,122	7.2%	0.327	0.012
Hospitalized heart failure	5,444	12.8%	1,694	10.9%	1.840	0.057
Outpatient heart failure	5,610	13.2%	1,866	12.1%	1.119	0.034

Sentinel

Table 1e. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Sex: Male

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Other ischemic heart disease	11,364	26.7%	4,145	26.8%	-0.092	-0.002
Hospitalized stroke (past 0-30 days)	408	1.0%	162	1.0%	-0.088	-0.009
Hospitalized stroke (past 31-183 days)	197	0.5%	71	0.5%	0.004	0.001
Transient ischemic attack	1,132	2.7%	452	2.9%	-0.262	-0.016
Other medical conditions (falls, fractures, syncope, walker use)	10,726	25.2%	3,883	25.1%	0.103	0.002
Cardioversion	7,501	17.6%	2,790	18.0%	-0.409	-0.011
Cardioablation	1,982	4.7%	1,008	6.5%	-1.857	-0.081
Hospitalized for bleeding	132	0.3%	49	0.3%	-0.007	-0.001
Medical Product Use						
Estrogen replacement	6	0.0%	2	0.0%	0.001	0.001
H2-antagonist	843	2.0%	251	1.6%	0.358	0.027
Non-steroidal anti-inflammatory drugs (NSAIDs)	6,191	14.5%	2,156	13.9%	0.610	0.017
Proton pump inhibitors	7,358	17.3%	2,461	15.9%	1.380	0.037
Selective serotonin reuptake inhibitor (SSRI)	3,654	8.6%	1,232	8.0%	0.621	0.023
Insulin	2,500	5.9%	851	5.5%	0.373	0.016
Metformin (Biguanide)	6,780	15.9%	2,181	14.1%	1.831	0.051
Sulfonylureas	2,613	6.1%	1,033	6.7%	-0.537	-0.022
Other diabetes medications	2,997	7.0%	985	6.4%	0.674	0.027
Angiotensin converting enzyme inhibitor (ACEI)/Angiotensin II receptor blocker (ARB)	21,320	50.1%	7,466	48.2%	1.833	0.037
Antiarrhythmics	12,183	28.6%	5,401	34.9%	-6.281	-0.135
Anti-coagulant (injectable)	4,349	10.2%	1,134	7.3%	2.886	0.102
Anti-platelets	4,427	10.4%	1,309	8.5%	1.939	0.066
Beta-blockers	28,655	67.3%	10,485	67.7%	-0.445	-0.010
Calcium channel blockers	12,593	29.6%	4,719	30.5%	-0.914	-0.020
Digoxin	2,959	6.9%	1,666	10.8%	-3.813	-0.135
Diuretics (loop)	6,508	15.3%	2,148	13.9%	1.406	0.040
Diuretics (potassium sparing)	2,871	6.7%	971	6.3%	0.469	0.019
Diuretics (thiazide)	3,578	8.4%	1,207	7.8%	0.605	0.022
Nitrates	1,937	4.5%	682	4.4%	0.143	0.007
Statins	18,335	43.0%	6,556	42.3%	0.702	0.014

Sentinel

Table 1e. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Sex: Male

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Fibrates	1,850	4.3%	843	5.4%	-1.101	-0.051
Amiodarone	4,029	9.5%	1,439	9.3%	0.165	0.006
Dronedarone	1,262	3.0%	1,092	7.1%	-4.090	-0.188
Health Service Utilization Intensity Metrics						
No emergency department (ED) encounters (past 0-	30,289	71.1%	11,537	74.5%	-3.403	-0.077
No ED encounters (past 31-183 days)	35,482	83.3%	13,263	85.7%	-2.359	-0.065
At least 1 ED encounter (past 0-30 days)	12,308	28.9%	3,947	25.5%	3.403	0.077
At least 2 ED encounters (past 0-30 days)	2,532	5.9%	717	4.6%	1.313	0.059
At least 1 ED encounter (past 31-183 days)	7,115	16.7%	2,221	14.3%	2.359	0.065
At least 2 ED encounters (past 31-183 days)	2,121	5.0%	587	3.8%	1.188	0.058

[1]Value represents standard deviation where no % follows the value.

[2]Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

Sentinel

Table 1f. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect, Stabilized (ATES), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Sex: Male

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
Weighted patients	42,463	N/A	15,062	N/A	N/A	N/A
Demographic Characteristics						
Age (years)	55.9	7.6	55.8	7.5	0.082	0.011
Age						
21-49 years	7,767	18.3%	2,847	18.9%	-0.610	-0.016
50-64 years	34,696	81.7%	12,215	81.1%	0.610	0.016
Sex						
Female	0	0.0%	0	0.0%	NaN	NaN
Male	42,463	100.0%	15,062	100.0%	0.000	NaN
Race[3]						
American Indian or Alaska Native	37	0.1%	16	0.1%	-0.021	-0.007
Asian	129	0.3%	41	0.3%	0.028	0.005
Black or African American	753	1.8%	180	1.2%	0.579	0.049
Native Hawaiian or Other Pacific Islander	43	0.1%	12	0.1%	0.019	0.006
Unknown	35,206	82.9%	12,571	83.5%	-0.550	-0.020
White	6,295	14.8%	2,241	14.9%	-0.055	-0.002
Hispanic origin						
Yes	279	0.7%	87	0.6%	0.081	0.010
No	3,029	7.1%	860	5.7%	1.422	0.088
Unknown	39,155	92.2%	14,115	93.7%	-1.504	-0.085
Year						
2010	0	0.0%	354	2.4%	NaN	NaN
2011	47	0.1%	4,845	32.2%	-32.060	-0.970
2012	2,262	5.3%	3,425	22.7%	-17.415	-0.518
2013	4,626	10.9%	1,809	12.0%	-1.113	-0.035
2014	5,668	13.3%	1,158	7.7%	5.661	0.185
2015	5,057	11.9%	803	5.3%	6.577	0.236
2016	4,753	11.2%	1,017	6.8%	4.442	0.156
2017	4,728	11.1%	673	4.5%	6.665	0.251
2018	4,431	10.4%	481	3.2%	7.242	0.291
2019	3,909	9.2%	259	1.7%	7.486	0.334
2020	3,243	7.6%	139	0.9%	6.712	0.337

Sentinel

Table 1f. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect, Stabilized (ATES), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Sex: Male

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
2021	3,451	8.1%	94	0.6%	7.506	0.374
2022	288	0.7%	4	0.0%	0.651	0.111
CHADSVASC						
mean, std	1.3	1.1	1.2	1.0	0.035	0.033
0	10,743	25.3%	3,925	26.1%	-0.759	-0.017
1	16,747	39.4%	5,994	39.8%	-0.355	-0.007
2	9,328	22.0%	3,312	22.0%	-0.023	-0.001
3	4,062	9.6%	1,327	8.8%	0.754	0.026
4	1,352	3.2%	429	2.8%	0.337	0.020
>= 5	231	0.5%	75	0.5%	0.046	0.006
HASBLED						
mean, std	0.9	0.7	0.9	0.7	0.021	0.029
0	11,817	27.8%	4,327	28.7%	-0.900	-0.020
1	23,867	56.2%	8,461	56.2%	0.035	0.001
2	5,557	13.1%	1,876	12.5%	0.631	0.019
>= 3	1,222	2.9%	398	2.6%	0.234	0.014
Health Characteristics						
Diabetes	10,746	25.3%	3,698	24.6%	0.753	0.018
Hypercholesterolemia	11,292	26.6%	4,006	26.6%	-0.007	-0.000
Hypertension	29,428	69.3%	10,311	68.5%	0.844	0.018
Kidney failure (chronic)	1,865	4.4%	619	4.1%	0.285	0.014
Kidney failure (acute)	1,919	4.5%	610	4.1%	0.466	0.023
Obesity	12,098	28.5%	4,013	26.6%	1.845	0.041
Peptic ulcer disease	90	0.2%	29	0.2%	0.018	0.004
Nicotine dependency	9,162	21.6%	2,977	19.8%	1.814	0.045
Hospitalized acute myocardial infarction (past 0-30 days)	631	1.5%	204	1.4%	0.135	0.011
Hospitalized acute myocardial infarction (past 31-183 days)	314	0.7%	91	0.6%	0.133	0.016
Coronary revascularization	3,181	7.5%	1,095	7.3%	0.219	0.008
Hospitalized heart failure	5,239	12.3%	1,764	11.7%	0.628	0.019
Outpatient heart failure	5,497	12.9%	1,877	12.5%	0.482	0.015

Sentinel

Table 1f. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect, Stabilized (ATES), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Sex: Male

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
Other ischemic heart disease	11,355	26.7%	3,990	26.5%	0.254	0.006
Hospitalized stroke (past 0-30 days)	415	1.0%	154	1.0%	-0.044	-0.004
Hospitalized stroke (past 31-183 days)	196	0.5%	72	0.5%	-0.019	-0.003
Transient ischemic attack	1,160	2.7%	424	2.8%	-0.083	-0.005
Other medical conditions (falls, fractures, syncope, walker use)	10,680	25.2%	3,773	25.0%	0.102	0.002
Cardioversion	7,515	17.7%	2,677	17.8%	-0.072	-0.002
Cardioablation	2,166	5.1%	790	5.2%	-0.144	-0.006
Hospitalized for bleeding	131	0.3%	44	0.3%	0.017	0.003
Medical Product Use						
Estrogen replacement	1	0.0%	1	0.0%	-0.001	-0.002
H2-antagonist	817	1.9%	252	1.7%	0.253	0.019
Non-steroidal anti-inflammatory drugs (NSAIDs)	6,116	14.4%	2,141	14.2%	0.191	0.005
Proton pump inhibitors	7,197	16.9%	2,484	16.5%	0.455	0.012
Selective serotonin reuptake inhibitor (SSRI)	3,588	8.5%	1,245	8.3%	0.183	0.007
Insulin	2,464	5.8%	846	5.6%	0.185	0.008
Metformin (Biguanide)	6,558	15.4%	2,212	14.7%	0.755	0.021
Sulfonylureas	2,669	6.3%	935	6.2%	0.078	0.003
Other diabetes medications	2,912	6.9%	989	6.6%	0.291	0.012
Angiotensin converting enzyme inhibitor (ACEI)/Angiotensin II receptor blocker (ARB)	21,073	49.6%	7,357	48.8%	0.781	0.016
Antiarrhythmics	12,815	30.2%	4,703	31.2%	-1.045	-0.023
Anti-coagulant (injectable)	4,078	9.6%	1,260	8.4%	1.238	0.044
Anti-platelets	4,197	9.9%	1,402	9.3%	0.576	0.020
Beta-blockers	28,637	67.4%	10,126	67.2%	0.212	0.005
Calcium channel blockers	12,656	29.8%	4,502	29.9%	-0.086	-0.002
Digoxin	3,376	8.0%	1,260	8.4%	-0.415	-0.015
Diuretics (loop)	6,359	15.0%	2,157	14.3%	0.657	0.019
Diuretics (potassium sparing)	2,818	6.6%	966	6.4%	0.222	0.009
Diuretics (thiazide)	3,507	8.3%	1,211	8.0%	0.215	0.008
Nitrates	1,917	4.5%	651	4.3%	0.193	0.009
Statins	18,203	42.9%	6,356	42.2%	0.669	0.014

Sentinel

Table 1f. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect, Stabilized (ATES), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Sex: Male

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
Fibrates	1,967	4.6%	722	4.8%	-0.165	-0.008
Amiodarone	4,017	9.5%	1,419	9.4%	0.035	0.001
Dronedarone	1,662	3.9%	704	4.7%	-0.756	-0.037
Health Service Utilization Intensity Metrics						
No emergency department (ED) encounters (past	30,713	72.3%	10,853	72.1%	0.276	0.006
No ED encounters (past 31-183 days)	35,649	84.0%	12,732	84.5%	-0.577	-0.016
At least 1 ED encounter (past 0-30 days)	11,750	27.7%	4,209	27.9%	-0.276	-0.006
At least 2 ED encounters (past 0-30 days)	2,342	5.5%	819	5.4%	0.081	0.004
At least 1 ED encounter (past 31-183 days)	6,814	16.0%	2,330	15.5%	0.577	0.016
At least 2 ED encounters (past 31-183 days)	1,980	4.7%	664	4.4%	0.256	0.012

[1]Weighted patient characteristics tables facilitate the assessment of covariate balance after inverse probability weighting and should not be interpreted as a description of the unweighted population. Treated patients are weighted by the proportion of treated patients in the trimmed population divided by the inverse of their propensity score (PS). Reference patients are weighted by 1 minus the proportion of treated patients in the trimmed population divided by 1 minus their PS.

[2]Value represents standard deviation where no % follows the value.

[3]Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

Sentinel

Table 1g. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Age Group: 21-49 years

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Unique patients	9,757	100.0%	3,496	100.0%	N/A	N/A
Demographic Characteristics						
Age (years)	43.0	6.2	43.5	6.0	-0.461	-0.076
Age						
21-49 years	9,757	100.0%	3,496	100.0%	0.000	NaN
50-64 years	0	0.0%	0	0.0%	NaN	NaN
Sex						
Female	1,927	19.7%	589	16.8%	2.902	0.075
Male	7,830	80.3%	2,907	83.2%	-2.902	-0.075
Race[2]						
American Indian or Alaska Native	7	0.1%	3	0.1%	-0.014	-0.005
Asian	41	0.4%	17	0.5%	-0.066	-0.010
Black or African American	224	2.3%	45	1.3%	1.009	0.076
Native Hawaiian or Other Pacific Islander	7	0.1%	0	0.0%	NaN	NaN
Unknown	8,498	87.1%	3,057	87.4%	-0.346	-0.010
White	980	10.0%	374	10.7%	-0.654	-0.021
Hispanic origin						
Yes	114	1.2%	25	0.7%	0.453	0.047
No	392	4.0%	93	2.7%	1.357	0.076
Unknown	9,251	94.8%	3,378	96.6%	-1.811	-0.090
Year						
2010	0	0.0%	79	2.3%	NaN	NaN
2011	6	0.1%	1,232	35.2%	-35.179	-1.040
2012	479	4.9%	865	24.7%	-19.833	-0.581
2013	983	10.1%	424	12.1%	-2.053	-0.065
2014	1,205	12.4%	247	7.1%	5.285	0.179
2015	1,194	12.2%	150	4.3%	7.947	0.292
2016	1,104	11.3%	195	5.6%	5.737	0.207
2017	1,102	11.3%	123	3.5%	7.776	0.300
2018	1,066	10.9%	81	2.3%	8.609	0.352
2019	940	9.6%	55	1.6%	8.061	0.356
2020	795	8.1%	35	1.0%	7.147	0.347
2021	825	8.5%	10	0.3%	8.169	0.408

Sentinel

Table 1g. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Age Group: 21-49 years

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
2022	58	0.6%	0	0.0%	NaN	NaN
CHADSVASC						
mean, std	1.2	1.1	1.1	1.0	0.125	0.119
0	3,021	31.0%	1,157	33.1%	-2.133	-0.046
1	3,521	36.1%	1,336	38.2%	-2.128	-0.044
2	1,973	20.2%	691	19.8%	0.456	0.011
3	858	8.8%	236	6.8%	2.043	0.076
4	311	3.2%	64	1.8%	1.357	0.087
>= 5	73	0.7%	12	0.3%	0.405	0.055
HASBLED						
mean, std	0.7	0.7	0.7	0.7	0.059	0.082
0	3,957	40.6%	1,501	42.9%	-2.379	-0.048
1	4,506	46.2%	1,625	46.5%	-0.299	-0.006
2	1,091	11.2%	323	9.2%	1.943	0.064
>= 3	203	2.1%	47	1.3%	0.736	0.057
Health Characteristics						
Diabetes	1,682	17.2%	549	15.7%	1.535	0.041
Hypercholesterolemia	1,533	15.7%	595	17.0%	-1.308	-0.035
Hypertension	5,380	55.1%	1,834	52.5%	2.680	0.054
Kidney failure (chronic)	266	2.7%	75	2.1%	0.581	0.038
Kidney failure (acute)	426	4.4%	80	2.3%	2.078	0.116
Obesity	3,483	35.7%	904	25.9%	9.839	0.214
Peptic ulcer disease	13	0.1%	5	0.1%	-0.010	-0.003
Nicotine dependency	2,287	23.4%	616	17.6%	5.819	0.144
Hospitalized acute myocardial infarction (past 0-30 days)	118	1.2%	20	0.6%	0.637	0.068
Hospitalized acute myocardial infarction (past 31-183 days)	54	0.6%	10	0.3%	0.267	0.041
Coronary revascularization	260	2.7%	100	2.9%	-0.196	-0.012
Hospitalized heart failure	1,127	11.6%	358	10.2%	1.310	0.042
Outpatient heart failure	1,000	10.2%	352	10.1%	0.180	0.006
Other ischemic heart disease	1,400	14.3%	537	15.4%	-1.012	-0.028
Hospitalized stroke (past 0-30 days)	73	0.7%	17	0.5%	0.262	0.033

Sentinel

Table 1g. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Age Group: 21-49 years

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Hospitalized stroke (past 31-183 days)	43	0.4%	19	0.5%	-0.103	-0.015
Transient ischemic attack	215	2.2%	63	1.8%	0.401	0.029
Other medical conditions (falls, fractures, syncope, walker use)	2,792	28.6%	1,024	29.3%	-0.675	-0.015
Cardioversion	2,106	21.6%	800	22.9%	-1.299	-0.031
Cardioablation	703	7.2%	371	10.6%	-3.407	-0.120
Hospitalized for bleeding	23	0.2%	5	0.1%	0.093	0.021
Medical Product Use						
Estrogen replacement	65	0.7%	19	0.5%	0.123	0.016
H2-antagonist	173	1.8%	45	1.3%	0.486	0.040
Non-steroidal anti-inflammatory drugs (NSAIDs)	1,361	13.9%	447	12.8%	1.163	0.034
Proton pump inhibitors	1,565	16.0%	487	13.9%	2.110	0.059
Selective serotonin reuptake inhibitor (SSRI)	993	10.2%	336	9.6%	0.566	0.019
Insulin	378	3.9%	114	3.3%	0.613	0.033
Metformin (Biguanide)	1,041	10.7%	308	8.8%	1.859	0.063
Sulfonylureas	324	3.3%	131	3.7%	-0.426	-0.023
Other diabetes medications	430	4.4%	114	3.3%	1.146	0.060
Angiotensin converting enzyme inhibitor (ACEI)/Angiotensin II receptor blocker (ARB)	3,533	36.2%	1,208	34.6%	1.656	0.035
Antiarrhythmics	3,042	31.2%	1,303	37.3%	-6.094	-0.129
Anti-coagulant (injectable)	1,238	12.7%	332	9.5%	3.192	0.102
Anti-platelets	576	5.9%	132	3.8%	2.128	0.099
Beta-blockers	6,248	64.0%	2,268	64.9%	-0.838	-0.018
Calcium channel blockers	2,591	26.6%	978	28.0%	-1.420	-0.032
Digoxin	592	6.1%	339	9.7%	-3.629	-0.135
Diuretics (loop)	1,160	11.9%	391	11.2%	0.705	0.022
Diuretics (potassium sparing)	592	6.1%	186	5.3%	0.747	0.032
Diuretics (thiazide)	607	6.2%	186	5.3%	0.901	0.039
Nitrates	209	2.1%	87	2.5%	-0.347	-0.023
Statins	2,160	22.1%	792	22.7%	-0.517	-0.012
Fibrates	259	2.7%	102	2.9%	-0.263	-0.016
Amiodarone	749	7.7%	270	7.7%	-0.047	-0.002
Dronedarone	307	3.1%	257	7.4%	-4.205	-0.189

Sentinel

Table 1g. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Age Group: 21-49 years

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Health Service Utilization Intensity Metrics						
No emergency department (ED) encounters	6,089	62.4%	2,284	65.3%	-2.925	-0.061
No ED encounters (past 31-183 days)	7,643	78.3%	2,833	81.0%	-2.702	-0.067
At least 1 ED encounter (past 0-30 days)	3,668	37.6%	1,212	34.7%	2.925	0.061
At least 2 ED encounters (past 0-30 days)	736	7.5%	210	6.0%	1.536	0.061
At least 1 ED encounter (past 31-183 days)	2,114	21.7%	663	19.0%	2.702	0.067
At least 2 ED encounters (past 31-183 days)	668	6.8%	186	5.3%	1.526	0.064

[1]Value represents standard deviation where no % follows the value.

[2]Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

Sentinel

Table 1h. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect, Stabilized (ATES), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Age Group: 21-49 years

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
Weighted patients	9,571	N/A	3,360	N/A	N/A	N/A
Demographic Characteristics						
Age (years)	43.1	6.1	43.2	6.1	-0.074	-0.012
Age						
21-49 years	9,571	100.0%	3,360	100.0%	0.000	NaN
50-64 years	0	0.0%	0	0.0%	NaN	NaN
Sex						
Female	1,792	18.7%	613	18.2%	0.477	0.012
Male	7,780	81.3%	2,747	81.8%	-0.477	-0.012
Race[3]						
American Indian or Alaska Native	8	0.1%	4	0.1%	-0.031	-0.010
Asian	43	0.4%	14	0.4%	0.036	0.005
Black or African American	184	1.9%	42	1.3%	0.657	0.054
Native Hawaiian or Other Pacific Islander	7	0.1%	0	0.0%	NaN	NaN
Unknown	8,387	87.6%	2,945	87.6%	-0.015	-0.001
White	944	9.9%	355	10.6%	-0.717	-0.029
Hispanic origin						
Yes	112	1.2%	24	0.7%	0.460	0.049
No	311	3.3%	91	2.7%	0.552	0.042
Unknown	9,148	95.6%	3,245	96.6%	-1.012	-0.063
Year						
2010	0	0.0%	68	2.0%	NaN	NaN
2011	6	0.1%	1,115	33.2%	-33.135	-0.994
2012	516	5.4%	797	23.7%	-18.320	-0.539
2013	1,039	10.9%	418	12.4%	-1.584	-0.049
2014	1,233	12.9%	253	7.5%	5.367	0.178
2015	1,208	12.6%	148	4.4%	8.215	0.298
2016	1,070	11.2%	220	6.5%	4.636	0.164
2017	1,058	11.1%	136	4.0%	7.021	0.268
2018	1,000	10.4%	94	2.8%	7.660	0.312
2019	875	9.1%	62	1.9%	7.284	0.324

Sentinel

Table 1h. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect, Stabilized (ATES), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Age Group: 21-49 years

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
2020	736	7.7%	39	1.2%	6.539	0.322
2021	776	8.1%	11	0.3%	7.772	0.395
2022	55	0.6%	0	0.0%	NaN	NaN
CHADSVASC						
mean, std	1.1	1.1	1.1	1.0	0.026	0.025
0	3,048	31.8%	1,090	32.4%	-0.590	-0.013
1	3,534	36.9%	1,247	37.1%	-0.179	-0.004
2	1,925	20.1%	673	20.0%	0.085	0.002
3	775	8.1%	264	7.9%	0.242	0.009
4	246	2.6%	73	2.2%	0.389	0.026
>= 5	43	0.4%	13	0.4%	0.052	0.008
HASBLED						
mean, std	0.7	0.7	0.7	0.7	0.013	0.018
0	3,969	41.5%	1,406	41.9%	-0.397	-0.008
1	4,444	46.4%	1,569	46.7%	-0.260	-0.005
2	996	10.4%	333	9.9%	0.503	0.017
>= 3	163	1.7%	52	1.5%	0.155	0.012
Health Characteristics						
Diabetes	1,566	16.4%	530	15.8%	0.592	0.016
Hypercholesterolemia	1,519	15.9%	532	15.8%	0.038	0.001
Hypertension	5,183	54.2%	1,811	53.9%	0.239	0.005
Kidney failure (chronic)	229	2.4%	79	2.3%	0.049	0.003
Kidney failure (acute)	335	3.5%	100	3.0%	0.517	0.029
Obesity	3,142	32.8%	1,056	31.4%	1.396	0.030
Peptic ulcer disease	10	0.1%	4	0.1%	-0.001	-0.000
Nicotine dependency	2,054	21.5%	670	19.9%	1.519	0.038
Hospitalized acute myocardial infarction (past 0-30 days)	89	0.9%	23	0.7%	0.238	0.026
Hospitalized acute myocardial infarction (past 31-183 days)	37	0.4%	13	0.4%	0.014	0.002
Coronary revascularization	242	2.5%	85	2.5%	-0.003	-0.000
Hospitalized heart failure	1,042	10.9%	353	10.5%	0.372	0.012

Sentinel

Table 1h. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect, Stabilized (ATES), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Age Group: 21-49 years

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
Outpatient heart failure	948	9.9%	329	9.8%	0.125	0.004
Other ischemic heart disease	1,369	14.3%	487	14.5%	-0.209	-0.006
Hospitalized stroke (past 0-30 days)	57	0.6%	16	0.5%	0.120	0.017
Hospitalized stroke (past 31-183 days)	43	0.5%	16	0.5%	-0.023	-0.003
Transient ischemic attack	192	2.0%	70	2.1%	-0.077	-0.005
Other medical conditions (falls, fractures, syncope, walker use)	2,755	28.8%	968	28.8%	-0.022	-0.000
Cardioversion	2,119	22.1%	753	22.4%	-0.273	-0.007
Cardioablation	762	8.0%	270	8.0%	-0.078	-0.003
Hospitalized for bleeding	15	0.2%	5	0.1%	0.004	0.001
Medical Product Use						
Estrogen replacement	59	0.6%	20	0.6%	0.018	0.002
H2-antagonist	144	1.5%	43	1.3%	0.239	0.021
Non-steroidal anti-inflammatory drugs (NSAIDs)	1,284	13.4%	441	13.1%	0.301	0.009
Proton pump inhibitors	1,457	15.2%	496	14.8%	0.475	0.013
Selective serotonin reuptake inhibitor (SSRI)	948	9.9%	325	9.7%	0.234	0.008
Insulin	336	3.5%	116	3.4%	0.072	0.004
Metformin (Biguanide)	952	9.9%	324	9.6%	0.299	0.010
Sulfonylureas	316	3.3%	108	3.2%	0.071	0.004
Other diabetes medications	387	4.0%	131	3.9%	0.142	0.007
Angiotensin converting enzyme inhibitor (ACEI)/Angiotensin II receptor blocker (ARB)	3,403	35.5%	1,179	35.1%	0.450	0.009
Antiarrhythmics	3,127	32.7%	1,126	33.5%	-0.837	-0.018
Anti-coagulant (injectable)	1,132	11.8%	360	10.7%	1.123	0.037
Anti-platelets	481	5.0%	149	4.4%	0.602	0.028
Beta-blockers	6,142	64.2%	2,158	64.2%	-0.064	-0.001
Calcium channel blockers	2,568	26.8%	898	26.7%	0.114	0.003
Digoxin	672	7.0%	254	7.6%	-0.541	-0.021
Diuretics (loop)	1,090	11.4%	371	11.0%	0.343	0.011
Diuretics (potassium sparing)	545	5.7%	184	5.5%	0.217	0.009
Diuretics (thiazide)	563	5.9%	190	5.6%	0.237	0.010
Nitrates	207	2.2%	79	2.3%	-0.177	-0.012

Sentinel

Table 1h. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect, Stabilized (ATES), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Age Group: 21-49 years

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
Statins	2,092	21.9%	721	21.5%	0.407	0.010
Fibrates	264	2.8%	95	2.8%	-0.085	-0.005
Amiodarone	732	7.6%	260	7.7%	-0.102	-0.004
Dronedarone	395	4.1%	155	4.6%	-0.496	-0.024
Health Service Utilization Intensity Metrics						
No emergency department (ED) encounters (past 0-	6,087	63.6%	2,113	62.9%	0.703	0.015
No ED encounters (past 31-183 days)	7,629	79.7%	2,702	80.4%	-0.716	-0.018
At least 1 ED encounter (past 0-30 days)	3,485	36.4%	1,247	37.1%	-0.703	-0.015
At least 2 ED encounters (past 0-30 days)	668	7.0%	230	6.9%	0.121	0.005
At least 1 ED encounter (past 31-183 days)	1,942	20.3%	658	19.6%	0.716	0.018
At least 2 ED encounters (past 31-183 days)	586	6.1%	198	5.9%	0.222	0.009

[1]Weighted patient characteristics tables facilitate the assessment of covariate balance after inverse probability weighting and should not be interpreted as a description of the unweighted population. Treated patients are weighted by the proportion of treated patients in the trimmed population divided by the inverse of their propensity score (PS). Reference patients are weighted by 1 minus the proportion of treated patients in the trimmed population divided by 1 minus their PS.

[2]Value represents standard deviation where no % follows the value.

[3]Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

Sentinel

Table 1i. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Age Group: 50-64 years

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Unique patients	47,471	100.0%	16,684	100.0%	N/A	N/A
Demographic Characteristics						
Age (years)	59.0	4.0	58.9	4.1	0.069	0.017
Age						
21-49 years	0	0.0%	0	0.0%	NaN	NaN
50-64 years	47,471	100.0%	16,684	100.0%	0.000	NaN
Sex						
Female	12,704	26.8%	4,107	24.6%	2.145	0.049
Male	34,767	73.2%	12,577	75.4%	-2.145	-0.049
Race[2]						
American Indian or Alaska Native	41	0.1%	19	0.1%	-0.028	-0.009
Asian	128	0.3%	48	0.3%	-0.018	-0.003
Black or African American	1,086	2.3%	238	1.4%	0.861	0.064
Native Hawaiian or Other Pacific Islander	50	0.1%	13	0.1%	0.027	0.009
Unknown	38,397	80.9%	13,652	81.8%	-0.942	-0.024
White	7,769	16.4%	2,714	16.3%	0.099	0.003
Hispanic origin						
Yes	256	0.5%	87	0.5%	0.018	0.002
No	4,307	9.1%	1,160	7.0%	2.120	0.078
Unknown	42,908	90.4%	15,437	92.5%	-2.138	-0.077
Year						
2010	0	0.0%	403	2.4%	NaN	NaN
2011	43	0.1%	5,611	33.6%	-33.540	-1.002
2012	2,248	4.7%	3,783	22.7%	-17.939	-0.540
2013	4,781	10.1%	1,968	11.8%	-1.724	-0.055
2014	6,088	12.8%	1,256	7.5%	5.297	0.176
2015	5,446	11.5%	892	5.3%	6.126	0.222
2016	5,304	11.2%	1,076	6.4%	4.724	0.167
2017	5,525	11.6%	733	4.4%	7.245	0.269
2018	5,225	11.0%	475	2.8%	8.160	0.326
2019	4,579	9.6%	249	1.5%	8.153	0.361
2020	3,795	8.0%	136	0.8%	7.179	0.355

Sentinel

Table 1i. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Age Group: 50-64 years

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
2021	4,109	8.7%	97	0.6%	8.074	0.392
2022	328	0.7%	5	0.0%	0.661	0.110
CHADSVASC						
mean, std	1.6	1.2	1.5	1.1	0.101	0.088
0	7,593	16.0%	2,979	17.9%	-1.860	-0.050
1	16,599	35.0%	5,972	35.8%	-0.828	-0.017
2	13,101	27.6%	4,731	28.4%	-0.759	-0.017
3	6,632	14.0%	2,030	12.2%	1.803	0.054
4	2,734	5.8%	735	4.4%	1.354	0.062
>= 5	812	1.7%	237	1.4%	0.290	0.023
HASBLED						
mean, std	1.0	0.7	0.9	0.7	0.055	0.078
0	11,347	23.9%	4,316	25.9%	-1.966	-0.045
1	27,664	58.3%	9,835	58.9%	-0.673	-0.014
2	6,873	14.5%	2,111	12.7%	1.825	0.053
>= 3	1,587	3.3%	422	2.5%	0.814	0.048
Health Characteristics						
Diabetes	13,209	27.8%	4,511	27.0%	0.788	0.018
Hypercholesterolemia	13,167	27.7%	4,777	28.6%	-0.895	-0.020
Hypertension	34,824	73.4%	11,890	71.3%	2.093	0.047
Kidney failure (chronic)	2,356	5.0%	676	4.1%	0.911	0.044
Kidney failure (acute)	2,284	4.8%	584	3.5%	1.311	0.066
Obesity	15,369	32.4%	3,652	21.9%	10.486	0.237
Peptic ulcer disease	124	0.3%	45	0.3%	-0.009	-0.002
Nicotine dependency	10,806	22.8%	2,688	16.1%	6.652	0.169
Hospitalized acute myocardial infarction (past 0-30 days)	778	1.6%	206	1.2%	0.404	0.034
Hospitalized acute myocardial infarction (past 31-183 days)	377	0.8%	90	0.5%	0.255	0.031
Coronary revascularization	3,546	7.5%	1,183	7.1%	0.379	0.015
Hospitalized heart failure	6,084	12.8%	1,872	11.2%	1.596	0.049
Outpatient heart failure	6,396	13.5%	2,034	12.2%	1.282	0.038
Other ischemic heart disease	12,946	27.3%	4,534	27.2%	0.096	0.002

Sentinel

Table 1i. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Age Group: 50-64 years

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Hospitalized stroke (past 0-30 days)	478	1.0%	213	1.3%	-0.270	-0.025
Hospitalized stroke (past 31-183 days)	241	0.5%	88	0.5%	-0.020	-0.003
Transient ischemic attack	1,439	3.0%	591	3.5%	-0.511	-0.029
Other medical conditions (falls, fractures, syncope, walker use)	11,489	24.2%	4,051	24.3%	-0.079	-0.002
Cardioversion	7,179	15.1%	2,615	15.7%	-0.551	-0.015
Cardioablation	1,952	4.1%	927	5.6%	-1.444	-0.067
Hospitalized for bleeding	149	0.3%	70	0.4%	-0.106	-0.017
Medical Product Use						
Estrogen replacement	1,067	2.2%	399	2.4%	-0.144	-0.010
H2-antagonist	1,159	2.4%	330	2.0%	0.464	0.032
Non-steroidal anti-inflammatory drugs (NSAIDs)	7,578	16.0%	2,562	15.4%	0.607	0.017
Proton pump inhibitors	9,235	19.5%	3,033	18.2%	1.275	0.033
Selective serotonin reuptake inhibitor (SSRI)	5,445	11.5%	1,747	10.5%	0.999	0.032
Insulin	3,150	6.6%	1,054	6.3%	0.318	0.013
Metformin (Biguanide)	8,171	17.2%	2,571	15.4%	1.803	0.049
Sulfonylureas	3,116	6.6%	1,188	7.1%	-0.557	-0.022
Other diabetes medications	3,646	7.7%	1,218	7.3%	0.380	0.014
Angiotensin converting enzyme inhibitor (ACEI)/Angiotensin II receptor blocker (ARB)	24,270	51.1%	8,364	50.1%	0.994	0.020
Antiarrhythmics	13,545	28.5%	5,889	35.3%	-6.764	-0.145
Anti-coagulant (injectable)	4,733	10.0%	1,144	6.9%	3.113	0.112
Anti-platelets	5,034	10.6%	1,474	8.8%	1.770	0.060
Beta-blockers	32,366	68.2%	11,376	68.2%	-0.005	-0.000
Calcium channel blockers	14,540	30.6%	5,426	32.5%	-1.893	-0.041
Digoxin	3,314	7.0%	1,834	11.0%	-4.011	-0.141
Diuretics (loop)	7,933	16.7%	2,591	15.5%	1.181	0.032
Diuretics (potassium sparing)	3,459	7.3%	1,153	6.9%	0.376	0.015
Diuretics (thiazide)	4,653	9.8%	1,525	9.1%	0.661	0.023
Nitrates	2,323	4.9%	782	4.7%	0.206	0.010
Statins	21,456	45.2%	7,434	44.6%	0.640	0.013
Fibrates	1,975	4.2%	907	5.4%	-1.276	-0.060
Amiodarone	4,320	9.1%	1,520	9.1%	-0.010	-0.000

Sentinel

Table 1i. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Age Group: 50-64 years

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Dronedarone	1,430	3.0%	1,205	7.2%	-4.210	-0.192
Health Service Utilization Intensity Metrics						
No emergency department (ED) encounters (past 0-	34,017	71.7%	12,529	75.1%	-3.437	-0.078
No ED encounters (past 31-183 days)	39,066	82.3%	14,182	85.0%	-2.709	-0.073
At least 1 ED encounter (past 0-30 days)	13,454	28.3%	4,155	24.9%	3.437	0.078
At least 2 ED encounters (past 0-30 days)	2,873	6.1%	767	4.6%	1.455	0.065
At least 1 ED encounter (past 31-183 days)	8,405	17.7%	2,502	15.0%	2.709	0.073
At least 2 ED encounters (past 31-183 days)	2,600	5.5%	684	4.1%	1.377	0.065

[1]Value represents standard deviation where no % follows the value.

[2]Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

Sentinel

Table 1j. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect, Stabilized (ATES), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Age Group: 50-64 years

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
Weighted patients	47,312	N/A	16,268	N/A	N/A	N/A
Demographic Characteristics						
Age (years)	59.0	4.0	58.9	4.1	0.046	0.011
Age						
21-49 years	0	0.0%	0	0.0%	NaN	NaN
50-64 years	47,312	100.0%	16,268	100.0%	0.000	NaN
Sex						
Female	12,420	26.3%	4,180	25.7%	0.556	0.013
Male	34,891	73.7%	12,088	74.3%	-0.556	-0.013
Race[3]						
American Indian or Alaska Native	41	0.1%	18	0.1%	-0.021	-0.007
Asian	129	0.3%	41	0.3%	0.023	0.005
Black or African American	1,026	2.2%	255	1.6%	0.598	0.046
Native Hawaiian or Other Pacific Islander	50	0.1%	16	0.1%	0.011	0.003
Unknown	38,360	81.1%	13,317	81.9%	-0.777	-0.029
White	7,705	16.3%	2,623	16.1%	0.165	0.006
Hispanic origin						
Yes	254	0.5%	85	0.5%	0.014	0.002
No	4,194	8.9%	1,178	7.2%	1.625	0.098
Unknown	42,864	90.6%	15,006	92.2%	-1.639	-0.092
Year						
2010	0	0.0%	360	2.2%	NaN	NaN
2011	49	0.1%	5,118	31.5%	-31.357	-0.954
2012	2,442	5.2%	3,579	22.0%	-16.838	-0.508
2013	5,037	10.6%	1,905	11.7%	-1.061	-0.034
2014	6,294	13.3%	1,261	7.8%	5.549	0.182
2015	5,528	11.7%	923	5.7%	6.010	0.215
2016	5,272	11.1%	1,175	7.2%	3.922	0.136
2017	5,393	11.4%	823	5.1%	6.339	0.232
2018	5,058	10.7%	551	3.4%	7.307	0.289
2019	4,397	9.3%	288	1.8%	7.522	0.334
2020	3,625	7.7%	162	1.0%	6.667	0.332

Sentinel

Table 1j. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect, Stabilized (ATES), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Age Group: 50-64 years

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
2021	3,898	8.2%	118	0.7%	7.512	0.370
2022	318	0.7%	6	0.0%	0.637	0.108
CHADSVASC						
mean, std	1.6	1.2	1.6	1.1	0.036	0.031
0	7,763	16.4%	2,765	17.0%	-0.591	-0.016
1	16,629	35.1%	5,788	35.6%	-0.434	-0.009
2	13,167	27.8%	4,549	28.0%	-0.134	-0.003
3	6,413	13.6%	2,104	12.9%	0.620	0.018
4	2,566	5.4%	810	5.0%	0.445	0.020
>= 5	774	1.6%	251	1.5%	0.094	0.008
HASBLED						
mean, std	1.0	0.7	0.9	0.7	0.016	0.023
0	11,517	24.3%	4,080	25.1%	-0.733	-0.017
1	27,660	58.5%	9,497	58.4%	0.087	0.002
2	6,644	14.0%	2,205	13.6%	0.486	0.014
>= 3	1,490	3.2%	486	3.0%	0.160	0.009
Health Characteristics						
Diabetes	13,097	27.7%	4,395	27.0%	0.667	0.015
Hypercholesterolemia	13,225	28.0%	4,538	27.9%	0.058	0.001
Hypertension	34,475	72.9%	11,739	72.2%	0.709	0.016
Kidney failure (chronic)	2,246	4.7%	740	4.5%	0.200	0.010
Kidney failure (acute)	2,109	4.5%	663	4.1%	0.382	0.019
Obesity	14,053	29.7%	4,513	27.7%	1.961	0.044
Peptic ulcer disease	125	0.3%	41	0.3%	0.015	0.003
Nicotine dependency	9,957	21.0%	3,161	19.4%	1.616	0.041
Hospitalized acute myocardial infarction (past 0-30 days)	728	1.5%	231	1.4%	0.120	0.010
Hospitalized acute myocardial infarction (past 31-183 days)	346	0.7%	102	0.6%	0.106	0.013
Coronary revascularization	3,490	7.4%	1,169	7.2%	0.189	0.007
Hospitalized heart failure	5,872	12.4%	1,932	11.9%	0.533	0.016
Outpatient heart failure	6,234	13.2%	2,060	12.7%	0.515	0.016

Sentinel

Table 1j. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect, Stabilized (ATES), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Age Group: 50-64 years

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
Other ischemic heart disease	12,911	27.3%	4,409	27.1%	0.188	0.004
Hospitalized stroke (past 0-30 days)	512	1.1%	194	1.2%	-0.110	-0.010
Hospitalized stroke (past 31-183 days)	240	0.5%	86	0.5%	-0.019	-0.003
Transient ischemic attack	1,504	3.2%	538	3.3%	-0.126	-0.007
Other medical conditions (falls, fractures, syncope, walker use)	11,475	24.3%	3,932	24.2%	0.086	0.002
Cardioversion	7,216	15.3%	2,491	15.3%	-0.060	-0.002
Cardioablation	2,113	4.5%	750	4.6%	-0.144	-0.007
Hospitalized for bleeding	161	0.3%	58	0.4%	-0.016	-0.003
Medical Product Use						
Estrogen replacement	1,080	2.3%	370	2.3%	0.006	0.000
H2-antagonist	1,121	2.4%	334	2.1%	0.314	0.021
Non-steroidal anti-inflammatory drugs (NSAIDs)	7,494	15.8%	2,542	15.6%	0.214	0.006
Proton pump inhibitors	9,080	19.2%	3,066	18.8%	0.343	0.009
Selective serotonin reuptake inhibitor (SSRI)	5,330	11.3%	1,773	10.9%	0.370	0.012
Insulin	3,122	6.6%	1,040	6.4%	0.205	0.008
Metformin (Biguanide)	7,932	16.8%	2,600	16.0%	0.781	0.021
Sulfonylureas	3,180	6.7%	1,085	6.7%	0.052	0.002
Other diabetes medications	3,585	7.6%	1,192	7.3%	0.252	0.010
Angiotensin converting enzyme inhibitor (ACEI)/Angiotensin II receptor blocker (ARB)	24,090	50.9%	8,201	50.4%	0.505	0.010
Antiarrhythmics	14,285	30.2%	5,079	31.2%	-1.028	-0.022
Anti-coagulant (injectable)	4,396	9.3%	1,306	8.0%	1.265	0.046
Anti-platelets	4,811	10.2%	1,574	9.7%	0.496	0.017
Beta-blockers	32,280	68.2%	11,075	68.1%	0.149	0.003
Calcium channel blockers	14,737	31.1%	5,114	31.4%	-0.285	-0.006
Digoxin	3,790	8.0%	1,372	8.4%	-0.422	-0.015
Diuretics (loop)	7,786	16.5%	2,573	15.8%	0.640	0.018
Diuretics (potassium sparing)	3,399	7.2%	1,135	7.0%	0.205	0.008
Diuretics (thiazide)	4,565	9.6%	1,535	9.4%	0.212	0.007
Nitrates	2,296	4.9%	756	4.6%	0.205	0.010
Statins	21,310	45.0%	7,247	44.5%	0.494	0.010

Sentinel

Table 1j. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect, Stabilized (ATES), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Age Group: 50-64 years

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
Fibrates	2,117	4.5%	752	4.6%	-0.152	-0.007
Amiodarone	4,316	9.1%	1,486	9.1%	-0.012	-0.000
Dronedarone	1,885	4.0%	773	4.8%	-0.770	-0.038
Health Service Utilization Intensity Metrics						
No emergency department (ED) encounters (past 0-	34,477	72.9%	11,822	72.7%	0.204	0.005
No ED encounters (past 31-183 days)	39,280	83.0%	13,604	83.6%	-0.599	-0.016
At least 1 ED encounter (past 0-30 days)	12,835	27.1%	4,446	27.3%	-0.204	-0.005
At least 2 ED encounters (past 0-30 days)	2,642	5.6%	888	5.5%	0.124	0.006
At least 1 ED encounter (past 31-183 days)	8,032	17.0%	2,664	16.4%	0.599	0.016
At least 2 ED encounters (past 31-183 days)	2,413	5.1%	781	4.8%	0.302	0.014

[1]Weighted patient characteristics tables facilitate the assessment of covariate balance after inverse probability weighting and should not be interpreted as a description of the unweighted population. Treated patients are weighted by the proportion of treated patients in the trimmed population divided by the inverse of their propensity score (PS). Reference patients are weighted by 1 minus the proportion of treated patients in the trimmed population divided by 1 minus their PS.

[2]Value represents standard deviation where no % follows the value.

[3]Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

Sentinel

Table 1k. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 0

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Unique patients	10,614	100.0%	4,136	100.0%	N/A	N/A
Demographic Characteristics						
Age (years)	53.4	9.1	53.5	8.7	-0.089	-0.010
Age						
21-49 years	3,021	28.5%	1,157	28.0%	0.489	0.011
50-64 years	7,593	71.5%	2,979	72.0%	-0.489	-0.011
Sex						
Female	0	0.0%	0	0.0%	NaN	NaN
Male	10,614	100.0%	4,136	100.0%	0.000	NaN
Race[2]						
American Indian or Alaska Native	10	0.1%	3	0.1%	0.022	0.008
Asian	31	0.3%	15	0.4%	-0.071	-0.012
Black or African American	64	0.6%	13	0.3%	0.289	0.043
Native Hawaiian or Other Pacific Islander	3	0.0%	2	0.0%	-0.020	-0.010
Unknown	9,207	86.7%	3,576	86.5%	0.284	0.008
White	1,299	12.2%	527	12.7%	-0.503	-0.015
Hispanic origin						
Yes	57	0.5%	17	0.4%	0.126	0.018
No	245	2.3%	78	1.9%	0.422	0.029
Unknown	10,312	97.2%	4,041	97.7%	-0.548	-0.035
Year						
2010	0	0.0%	113	2.7%	NaN	NaN
2011	11	0.1%	1,515	36.6%	-36.526	-1.070
2012	560	5.3%	1,025	24.8%	-19.506	-0.567
2013	1,196	11.3%	542	13.1%	-1.836	-0.056
2014	1,359	12.8%	255	6.2%	6.638	0.228
2015	1,316	12.4%	179	4.3%	8.071	0.295
2016	1,175	11.1%	197	4.8%	6.307	0.235
2017	1,139	10.7%	119	2.9%	7.854	0.316
2018	1,142	10.8%	98	2.4%	8.390	0.344
2019	972	9.2%	49	1.2%	7.973	0.366
2020	818	7.7%	29	0.7%	7.006	0.355

Sentinel

Table 1k. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 0

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
2021	843	7.9%	14	0.3%	7.604	0.389
2022	83	0.8%	1	0.0%	0.758	0.120
CHADSVASC						
mean, std	0.0	NaN	0.0	NaN	NaN	NaN
0	10,614	100.0%	4,136	100.0%	0.000	NaN
1	0	0.0%	0	0.0%	NaN	NaN
2	0	0.0%	0	0.0%	NaN	NaN
3	0	0.0%	0	0.0%	NaN	NaN
4	0	0.0%	0	0.0%	NaN	NaN
>= 5	0	0.0%	0	0.0%	NaN	NaN
HASBLED						
mean, std	0.1	0.3	0.1	0.3	0.011	0.036
0	9,679	91.2%	3,807	92.0%	-0.855	-0.031
1	856	8.1%	307	7.4%	0.642	0.024
2	74	0.7%	22	0.5%	0.165	0.021
>= 3	5	0.0%	0	0.0%	NaN	NaN
Health Characteristics						
Diabetes	27	0.3%	9	0.2%	0.037	0.008
Hypercholesterolemia	1,435	13.5%	601	14.5%	-1.011	-0.029
Hypertension	256	2.4%	57	1.4%	1.034	0.076
Kidney failure (chronic)	78	0.7%	24	0.6%	0.155	0.019
Kidney failure (acute)	107	1.0%	31	0.7%	0.259	0.028
Obesity	1,529	14.4%	346	8.4%	6.040	0.191
Peptic ulcer disease	11	0.1%	4	0.1%	0.007	0.002
Nicotine dependency	1,592	15.0%	469	11.3%	3.660	0.108
Hospitalized acute myocardial infarction (past 0-30 days)	0	0.0%	0	0.0%	NaN	NaN
Hospitalized acute myocardial infarction (past 31-183 days)	0	0.0%	0	0.0%	NaN	NaN
Coronary revascularization	161	1.5%	66	1.6%	-0.079	-0.006
Hospitalized heart failure	0	0.0%	0	0.0%	NaN	NaN
Outpatient heart failure	426	4.0%	199	4.8%	-0.798	-0.039
Other ischemic heart disease	1,116	10.5%	481	11.6%	-1.115	-0.036

Sentinel

Table 1k. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 0

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Hospitalized stroke (past 0-30 days)	0	0.0%	0	0.0%	NaN	NaN
Hospitalized stroke (past 31-183 days)	0	0.0%	0	0.0%	NaN	NaN
Transient ischemic attack	5	0.0%	0	0.0%	NaN	NaN
Other medical conditions (falls, fractures, syncope, walker use)	2,291	21.6%	892	21.6%	0.018	0.000
Cardioversion	1,738	16.4%	687	16.6%	-0.236	-0.006
Cardioablation	629	5.9%	371	9.0%	-3.044	-0.116
Hospitalized for bleeding	14	0.1%	8	0.2%	-0.062	-0.015
Medical Product Use						
Estrogen replacement	1	0.0%	0	0.0%	NaN	NaN
H2-antagonist	98	0.9%	28	0.7%	0.246	0.028
Non-steroidal anti-inflammatory drugs (NSAIDs)	1,131	10.7%	479	11.6%	-0.926	-0.029
Proton pump inhibitors	1,317	12.4%	467	11.3%	1.117	0.035
Selective serotonin reuptake inhibitor (SSRI)	628	5.9%	241	5.8%	0.090	0.004
Insulin	10	0.1%	4	0.1%	-0.002	-0.001
Metformin (Biguanide)	112	1.1%	33	0.8%	0.257	0.027
Sulfonylureas	22	0.2%	7	0.2%	0.038	0.009
Other diabetes medications	37	0.3%	12	0.3%	0.058	0.010
Angiotensin converting enzyme inhibitor (ACEI)/Angiotensin II receptor blocker (ARB)	1,063	10.0%	536	13.0%	-2.944	-0.092
Antiarrhythmics	3,124	29.4%	1,484	35.9%	-6.447	-0.138
Anti-coagulant (injectable)	1,027	9.7%	290	7.0%	2.664	0.096
Anti-platelets	424	4.0%	121	2.9%	1.069	0.059
Beta-blockers	5,694	53.6%	2,333	56.4%	-2.761	-0.056
Calcium channel blockers	2,009	18.9%	830	20.1%	-1.140	-0.029
Digoxin	422	4.0%	330	8.0%	-4.003	-0.169
Diuretics (loop)	393	3.7%	172	4.2%	-0.456	-0.023
Diuretics (potassium sparing)	170	1.6%	93	2.2%	-0.647	-0.047
Diuretics (thiazide)	112	1.1%	66	1.6%	-0.541	-0.047
Nitrates	95	0.9%	33	0.8%	0.097	0.011
Statins	2,190	20.6%	955	23.1%	-2.457	-0.059
Fibrates	158	1.5%	63	1.5%	-0.035	-0.003
Amiodarone	501	4.7%	232	5.6%	-0.889	-0.040

Sentinel

Table 1k. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 0

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Dronedarone	361	3.4%	313	7.6%	-4.167	-0.184
Health Service Utilization Intensity Metrics						
No emergency department (ED) encounters (past 0-	7,782	73.3%	3,289	79.5%	-6.203	-0.147
No ED encounters (past 31-183 days)	9,443	89.0%	3,727	90.1%	-1.144	-0.037
At least 1 ED encounter (past 0-30 days)	2,832	26.7%	847	20.5%	6.203	0.147
At least 2 ED encounters (past 0-30 days)	420	4.0%	115	2.8%	1.177	0.065
At least 1 ED encounter (past 31-183 days)	1,171	11.0%	409	9.9%	1.144	0.037
At least 2 ED encounters (past 31-183 days)	270	2.5%	86	2.1%	0.465	0.031

[1]Value represents standard deviation where no % follows the value.

[2]Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

Sentinel

Table 1l. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect, Stabilized (ATES), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 0

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
Weighted patients	10,412	N/A	4,012	N/A	N/A	N/A
Demographic Characteristics						
Age (years)	53.4	9.1	53.4	8.7	0.018	0.002
Age						
21-49 years	2,947	28.3%	1,141	28.4%	-0.127	-0.003
50-64 years	7,465	71.7%	2,871	71.6%	0.127	0.003
Sex						
Female	0	0.0%	0	0.0%	NaN	NaN
Male	10,412	100.0%	4,012	100.0%	0.000	NaN
Race[3]						
American Indian or Alaska Native	11	0.1%	3	0.1%	0.029	0.010
Asian	33	0.3%	12	0.3%	0.013	0.002
Black or African American	56	0.5%	14	0.3%	0.194	0.030
Native Hawaiian or Other Pacific Islander	2	0.0%	2	0.1%	-0.042	-0.021
Unknown	9,088	87.3%	3,478	86.7%	0.596	0.024
White	1,222	11.7%	503	12.5%	-0.789	-0.032
Hispanic origin						
Yes	57	0.5%	15	0.4%	0.161	0.024
No	181	1.7%	74	1.8%	-0.111	-0.009
Unknown	10,175	97.7%	3,922	97.8%	-0.050	-0.004
Year						
2010	0	0.0%	104	2.6%	NaN	NaN
2011	12	0.1%	1,395	34.8%	-34.650	-1.027
2012	593	5.7%	977	24.4%	-18.658	-0.541
2013	1,233	11.8%	546	13.6%	-1.759	-0.053
2014	1,375	13.2%	256	6.4%	6.831	0.231
2015	1,302	12.5%	183	4.6%	7.950	0.288
2016	1,147	11.0%	215	5.4%	5.655	0.207
2017	1,098	10.5%	130	3.2%	7.301	0.291
2018	1,099	10.6%	107	2.7%	7.901	0.322
2019	906	8.7%	52	1.3%	7.420	0.346
2020	767	7.4%	32	0.8%	6.559	0.336

Sentinel

Table 1l. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect, Stabilized (ATES), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 0

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
2021	800	7.7%	15	0.4%	7.321	0.379
2022	79	0.8%	2	0.0%	0.722	0.115
CHADSVASC						
mean, std	0.0	NaN	0.0	NaN	0.000	NaN
0	10,412	100.0%	4,012	100.0%	0.000	NaN
1	0	0.0%	0	0.0%	NaN	NaN
2	0	0.0%	0	0.0%	NaN	NaN
3	0	0.0%	0	0.0%	NaN	NaN
4	0	0.0%	0	0.0%	NaN	NaN
>= 5	0	0.0%	0	0.0%	NaN	NaN
HASBLED						
mean, std	0.1	0.3	0.1	0.3	0.004	0.013
0	9,544	91.7%	3,691	92.0%	-0.352	-0.013
1	804	7.7%	297	7.4%	0.313	0.012
2	64	0.6%	23	0.6%	0.039	0.005
>= 3	0	0.0%	0	0.0%	NaN	NaN
Health Characteristics						
Diabetes	20	0.2%	7	0.2%	0.013	0.003
Hypercholesterolemia	1,440	13.8%	561	14.0%	-0.145	-0.004
Hypertension	190	1.8%	67	1.7%	0.149	0.011
Kidney failure (chronic)	68	0.7%	24	0.6%	0.063	0.008
Kidney failure (acute)	93	0.9%	33	0.8%	0.063	0.007
Obesity	1,303	12.5%	458	11.4%	1.100	0.034
Peptic ulcer disease	4	0.0%	2	0.0%	0.001	0.001
Nicotine dependency	1,422	13.7%	512	12.8%	0.888	0.026
Hospitalized acute myocardial infarction (past 0-30 days)	0	0.0%	0	0.0%	NaN	NaN
Hospitalized acute myocardial infarction (past 31-183 days)	0	0.0%	0	0.0%	NaN	NaN
Coronary revascularization	156	1.5%	59	1.5%	0.039	0.003
Hospitalized heart failure	0	0.0%	0	0.0%	NaN	NaN
Outpatient heart failure	436	4.2%	175	4.4%	-0.184	-0.009

Sentinel

Table 1l. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect, Stabilized (ATES), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 0

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
Other ischemic heart disease	1,102	10.6%	429	10.7%	-0.115	-0.004
Hospitalized stroke (past 0-30 days)	0	0.0%	0	0.0%	NaN	NaN
Hospitalized stroke (past 31-183 days)	0	0.0%	0	0.0%	NaN	NaN
Transient ischemic attack	0	0.0%	0	0.0%	NaN	NaN
Other medical conditions (falls, fractures, syncope, walker use)	2,234	21.5%	855	21.3%	0.132	0.003
Cardioversion	1,711	16.4%	661	16.5%	-0.036	-0.001
Cardioablation	686	6.6%	271	6.8%	-0.178	-0.007
Hospitalized for bleeding	13	0.1%	5	0.1%	-0.008	-0.002
Medical Product Use						
Estrogen replacement	0	0.0%	0	0.0%	NaN	NaN
H2-antagonist	74	0.7%	29	0.7%	-0.003	-0.000
Non-steroidal anti-inflammatory drugs (NSAIDs)	1,129	10.8%	442	11.0%	-0.185	-0.006
Proton pump inhibitors	1,244	11.9%	476	11.9%	0.095	0.003
Selective serotonin reuptake inhibitor (SSRI)	599	5.8%	229	5.7%	0.055	0.002
Insulin	4	0.0%	1	0.0%	0.006	0.003
Metformin (Biguanide)	90	0.9%	33	0.8%	0.035	0.004
Sulfonylureas	18	0.2%	5	0.1%	0.036	0.009
Other diabetes medications	21	0.2%	9	0.2%	-0.024	-0.005
Angiotensin converting enzyme inhibitor (ACEI)/Angiotensin II receptor blocker (ARB)	1,104	10.6%	437	10.9%	-0.295	-0.010
Antiarrhythmics	3,245	31.2%	1,286	32.1%	-0.897	-0.019
Anti-coagulant (injectable)	917	8.8%	317	7.9%	0.914	0.034
Anti-platelets	369	3.5%	124	3.1%	0.441	0.025
Beta-blockers	5,663	54.4%	2,190	54.6%	-0.203	-0.004
Calcium channel blockers	1,989	19.1%	768	19.1%	-0.038	-0.001
Digoxin	521	5.0%	222	5.5%	-0.530	-0.024
Diuretics (loop)	388	3.7%	151	3.8%	-0.042	-0.002
Diuretics (potassium sparing)	182	1.7%	73	1.8%	-0.065	-0.005
Diuretics (thiazide)	115	1.1%	47	1.2%	-0.064	-0.006
Nitrates	81	0.8%	30	0.7%	0.029	0.003
Statins	2,201	21.1%	851	21.2%	-0.074	-0.002

Sentinel

Table 1l. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect, Stabilized (ATES), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 0

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
Fibrates	158	1.5%	61	1.5%	-0.008	-0.001
Amiodarone	513	4.9%	203	5.1%	-0.144	-0.007
Dronedarone	459	4.4%	194	4.8%	-0.429	-0.020
Health Service Utilization Intensity Metrics						
No emergency department (ED) encounters (past 0-	7,844	75.3%	3,040	75.8%	-0.439	-0.010
No ED encounters (past 31-183 days)	9,331	89.6%	3,605	89.9%	-0.253	-0.008
At least 1 ED encounter (past 0-30 days)	2,568	24.7%	972	24.2%	0.439	0.010
At least 2 ED encounters (past 0-30 days)	368	3.5%	131	3.3%	0.269	0.015
At least 1 ED encounter (past 31-183 days)	1,082	10.4%	407	10.1%	0.253	0.008
At least 2 ED encounters (past 31-183 days)	232	2.2%	88	2.2%	0.046	0.003

[1]Weighted patient characteristics tables facilitate the assessment of covariate balance after inverse probability weighting and should not be interpreted as a description of the unweighted population. Treated patients are weighted by the proportion of treated patients in the trimmed population divided by the inverse of their propensity score (PS). Reference patients are weighted by 1 minus the proportion of treated patients in the trimmed population divided by 1 minus their PS.

[2]Value represents standard deviation where no % follows the value.

[3]Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

Sentinel

Table 1m. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 1

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Unique patients	20,120	100.0%	7,308	100.0%	N/A	N/A
Demographic Characteristics						
Age (years)	56.1	7.4	56.0	7.4	0.155	0.021
Age						
21-49 years	3,521	17.5%	1,336	18.3%	-0.781	-0.020
50-64 years	16,599	82.5%	5,972	81.7%	0.781	0.020
Sex						
Female	3,428	17.0%	1,096	15.0%	2.041	0.056
Male	16,692	83.0%	6,212	85.0%	-2.041	-0.056
Race[2]						
American Indian or Alaska Native	12	0.1%	10	0.1%	-0.077	-0.025
Asian	50	0.2%	24	0.3%	-0.080	-0.015
Black or African American	217	1.1%	59	0.8%	0.271	0.028
Native Hawaiian or Other Pacific Islander	10	0.0%	6	0.1%	-0.032	-0.013
Unknown	17,161	85.3%	6,178	84.5%	0.756	0.021
White	2,670	13.3%	1,031	14.1%	-0.837	-0.024
Hispanic origin						
Yes	118	0.6%	28	0.4%	0.203	0.029
No	941	4.7%	277	3.8%	0.887	0.044
Unknown	19,061	94.7%	7,003	95.8%	-1.090	-0.051
Year						
2010	0	0.0%	181	2.5%	NaN	NaN
2011	17	0.1%	2,526	34.6%	-34.480	-1.023
2012	1,053	5.2%	1,708	23.4%	-18.138	-0.536
2013	2,043	10.2%	861	11.8%	-1.628	-0.052
2014	2,632	13.1%	576	7.9%	5.200	0.170
2015	2,310	11.5%	382	5.2%	6.254	0.227
2016	2,243	11.1%	442	6.0%	5.100	0.183
2017	2,331	11.6%	287	3.9%	7.658	0.289
2018	2,181	10.8%	178	2.4%	8.404	0.343
2019	1,918	9.5%	100	1.4%	8.164	0.366
2020	1,555	7.7%	41	0.6%	7.168	0.366
2021	1,702	8.5%	25	0.3%	8.117	0.404

Sentinel

Table 1m. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 1

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
2022	135	0.7%	1	0.0%	0.657	0.113
CHADSVASC						
mean, std	1.0	0.0	1.0	0.0	0.000	NaN
0	0	0.0%	0	0.0%	NaN	NaN
1	20,120	100.0%	7,308	100.0%	0.000	NaN
2	0	0.0%	0	0.0%	NaN	NaN
3	0	0.0%	0	0.0%	NaN	NaN
4	0	0.0%	0	0.0%	NaN	NaN
>= 5	0	0.0%	0	0.0%	NaN	NaN
HASBLED						
mean, std	0.9	0.6	0.9	0.6	0.019	0.031
0	4,460	22.2%	1,604	21.9%	0.218	0.005
1	13,287	66.0%	4,958	67.8%	-1.805	-0.038
2	2,043	10.2%	659	9.0%	1.137	0.039
>= 3	330	1.6%	87	1.2%	0.450	0.038
Health Characteristics						
Diabetes	746	3.7%	322	4.4%	-0.698	-0.035
Hypercholesterolemia	4,890	24.3%	1,858	25.4%	-1.120	-0.026
Hypertension	15,026	74.7%	5,480	75.0%	-0.304	-0.007
Kidney failure (chronic)	494	2.5%	142	1.9%	0.512	0.035
Kidney failure (acute)	472	2.3%	118	1.6%	0.731	0.053
Obesity	5,659	28.1%	1,343	18.4%	9.749	0.232
Peptic ulcer disease	30	0.1%	16	0.2%	-0.070	-0.016
Nicotine dependency	4,207	20.9%	1,119	15.3%	5.598	0.146
Hospitalized acute myocardial infarction (past 0-30 days)	37	0.2%	8	0.1%	0.074	0.019
Hospitalized acute myocardial infarction (past 31-183 days)	19	0.1%	4	0.1%	0.040	0.015
Coronary revascularization	911	4.5%	346	4.7%	-0.207	-0.010
Hospitalized heart failure	653	3.2%	266	3.6%	-0.394	-0.022
Outpatient heart failure	1,375	6.8%	564	7.7%	-0.884	-0.034
Other ischemic heart disease	4,210	20.9%	1,568	21.5%	-0.531	-0.013
Hospitalized stroke (past 0-30 days)	0	0.0%	0	0.0%	NaN	NaN

Sentinel

Table 1m. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 1

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Hospitalized stroke (past 31-183 days)	0	0.0%	0	0.0%	NaN	NaN
Transient ischemic attack	10	0.0%	5	0.1%	-0.019	-0.008
Other medical conditions (falls, fractures, syncope, walker use)	4,633	23.0%	1,756	24.0%	-1.002	-0.024
Cardioversion	3,345	16.6%	1,322	18.1%	-1.465	-0.039
Cardioablation	1,066	5.3%	506	6.9%	-1.626	-0.068
Hospitalized for bleeding	43	0.2%	22	0.3%	-0.087	-0.017
Medical Product Use						
Estrogen replacement	346	1.7%	146	2.0%	-0.278	-0.021
H2-antagonist	325	1.6%	110	1.5%	0.110	0.009
Non-steroidal anti-inflammatory drugs (NSAIDs)	2,935	14.6%	1,034	14.1%	0.439	0.013
Proton pump inhibitors	3,520	17.5%	1,171	16.0%	1.471	0.039
Selective serotonin reuptake inhibitor (SSRI)	1,864	9.3%	619	8.5%	0.794	0.028
Insulin	113	0.6%	61	0.8%	-0.273	-0.033
Metformin (Biguanide)	678	3.4%	258	3.5%	-0.161	-0.009
Sulfonylureas	150	0.7%	71	1.0%	-0.226	-0.024
Other diabetes medications	217	1.1%	77	1.1%	0.025	0.002
Angiotensin converting enzyme inhibitor (ACEI)/Angiotensin II receptor blocker (ARB)	9,526	47.3%	3,413	46.7%	0.644	0.013
Antiarrhythmics	5,930	29.5%	2,685	36.7%	-7.267	-0.155
Anti-coagulant (injectable)	2,032	10.1%	509	7.0%	3.134	0.112
Anti-platelets	1,444	7.2%	431	5.9%	1.279	0.052
Beta-blockers	13,457	66.9%	4,925	67.4%	-0.508	-0.011
Calcium channel blockers	6,133	30.5%	2,296	31.4%	-0.936	-0.020
Digoxin	1,166	5.8%	679	9.3%	-3.496	-0.133
Diuretics (loop)	1,792	8.9%	662	9.1%	-0.152	-0.005
Diuretics (potassium sparing)	916	4.6%	343	4.7%	-0.141	-0.007
Diuretics (thiazide)	1,683	8.4%	539	7.4%	0.989	0.037
Nitrates	583	2.9%	206	2.8%	0.079	0.005
Statins	7,247	36.0%	2,726	37.3%	-1.283	-0.027
Fibrates	640	3.2%	296	4.1%	-0.869	-0.047
Amiodarone	1,482	7.4%	541	7.4%	-0.037	-0.001
Dronedarone	711	3.5%	599	8.2%	-4.663	-0.199

Sentinel

Table 1m. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 1

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Health Service Utilization Intensity Metrics						
No emergency department (ED) encounters (past 0-	15,003	74.6%	5,638	77.1%	-2.581	-0.060
No ED encounters (past 31-183 days)	17,088	84.9%	6,343	86.8%	-1.865	-0.054
At least 1 ED encounter (past 0-30 days)	5,117	25.4%	1,670	22.9%	2.581	0.060
At least 2 ED encounters (past 0-30 days)	968	4.8%	281	3.8%	0.966	0.047
At least 1 ED encounter (past 31-183 days)	3,032	15.1%	965	13.2%	1.865	0.054
At least 2 ED encounters (past 31-183 days)	770	3.8%	237	3.2%	0.584	0.032

[1]Value represents standard deviation where no % follows the value.

[2]Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

Sentinel

Table 1n. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect, Stabilized (ATES), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 1

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
Weighted patients	19,990	N/A	7,110	N/A	N/A	N/A
Demographic Characteristics						
Age (years)	56.1	7.5	56.0	7.3	0.065	0.009
Age						
21-49 years	3,495	17.5%	1,281	18.0%	-0.530	-0.014
50-64 years	16,495	82.5%	5,829	82.0%	0.530	0.014
Sex						
Female	3,291	16.5%	1,149	16.2%	0.301	0.008
Male	16,699	83.5%	5,960	83.8%	-0.301	-0.008
Race[3]						
American Indian or Alaska Native	12	0.1%	10	0.1%	-0.081	-0.026
Asian	51	0.3%	22	0.3%	-0.056	-0.010
Black or African American	200	1.0%	62	0.9%	0.126	0.013
Native Hawaiian or Other Pacific Islander	10	0.1%	8	0.1%	-0.060	-0.021
Unknown	17,114	85.6%	6,016	84.6%	0.990	0.038
White	2,604	13.0%	991	13.9%	-0.920	-0.035
Hispanic origin						
Yes	115	0.6%	27	0.4%	0.203	0.030
No	867	4.3%	281	3.9%	0.389	0.026
Unknown	19,008	95.1%	6,802	95.7%	-0.592	-0.036
Year						
2010	0	0.0%	161	2.3%	NaN	NaN
2011	20	0.1%	2,330	32.8%	-32.669	-0.983
2012	1,137	5.7%	1,628	22.9%	-17.212	-0.508
2013	2,140	10.7%	822	11.6%	-0.856	-0.027
2014	2,705	13.5%	592	8.3%	5.212	0.168
2015	2,332	11.7%	396	5.6%	6.097	0.219
2016	2,221	11.1%	478	6.7%	4.390	0.155
2017	2,262	11.3%	317	4.5%	6.850	0.256
2018	2,096	10.5%	202	2.8%	7.648	0.310
2019	1,835	9.2%	111	1.6%	7.623	0.343
2020	1,484	7.4%	44	0.6%	6.805	0.352

Sentinel

Table 1n. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect, Stabilized (ATES), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 1

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
2021	1,627	8.1%	28	0.4%	7.748	0.391
2022	131	0.7%	2	0.0%	0.634	0.110
CHADSVASC						
mean, std	1.0	0.0	1.0	0.0	0.000	NaN
0	0	0.0%	0	0.0%	NaN	NaN
1	19,990	100.0%	7,110	100.0%	0.000	NaN
2	0	0.0%	0	0.0%	NaN	NaN
3	0	0.0%	0	0.0%	NaN	NaN
4	0	0.0%	0	0.0%	NaN	NaN
>= 5	0	0.0%	0	0.0%	NaN	NaN
HASBLED						
mean, std	0.9	0.6	0.9	0.6	0.004	0.007
0	4,410	22.1%	1,563	22.0%	0.083	0.002
1	13,305	66.6%	4,762	67.0%	-0.423	-0.009
2	1,971	9.9%	685	9.6%	0.230	0.008
>= 3	304	1.5%	100	1.4%	0.110	0.009
Health Characteristics						
Diabetes	773	3.9%	283	4.0%	-0.112	-0.006
Hypercholesterolemia	4,920	24.6%	1,759	24.7%	-0.128	-0.003
Hypertension	14,957	74.8%	5,337	75.1%	-0.241	-0.006
Kidney failure (chronic)	457	2.3%	153	2.2%	0.136	0.009
Kidney failure (acute)	422	2.1%	137	1.9%	0.186	0.013
Obesity	5,090	25.5%	1,700	23.9%	1.556	0.036
Peptic ulcer disease	31	0.2%	11	0.2%	0.006	0.001
Nicotine dependency	3,848	19.3%	1,276	17.9%	1.302	0.034
Hospitalized acute myocardial infarction (past 0-30 days)	29	0.1%	9	0.1%	0.015	0.004
Hospitalized acute myocardial infarction (past 31-183 days)	15	0.1%	3	0.0%	0.030	0.012
Coronary revascularization	910	4.6%	325	4.6%	-0.016	-0.001
Hospitalized heart failure	668	3.3%	237	3.3%	0.006	0.000
Outpatient heart failure	1,408	7.0%	518	7.3%	-0.240	-0.009

Sentinel

Table 1n. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect, Stabilized (ATES), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 1

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
Other ischemic heart disease	4,205	21.0%	1,500	21.1%	-0.072	-0.002
Hospitalized stroke (past 0-30 days)	0	0.0%	0	0.0%	NaN	NaN
Hospitalized stroke (past 31-183 days)	0	0.0%	0	0.0%	NaN	NaN
Transient ischemic attack	8	0.0%	4	0.1%	-0.016	-0.007
Other medical conditions (falls, fractures, syncope, walker use)	4,636	23.2%	1,654	23.3%	-0.069	-0.002
Cardioversion	3,396	17.0%	1,217	17.1%	-0.123	-0.003
Cardioablation	1,141	5.7%	415	5.8%	-0.126	-0.005
Hospitalized for bleeding	45	0.2%	17	0.2%	-0.009	-0.002
Medical Product Use						
Estrogen replacement	355	1.8%	128	1.8%	-0.030	-0.002
H2-antagonist	317	1.6%	101	1.4%	0.169	0.014
Non-steroidal anti-inflammatory drugs (NSAIDs)	2,889	14.5%	1,020	14.3%	0.110	0.003
Proton pump inhibitors	3,403	17.0%	1,179	16.6%	0.438	0.012
Selective serotonin reuptake inhibitor (SSRI)	1,799	9.0%	618	8.7%	0.300	0.011
Insulin	126	0.6%	46	0.6%	-0.019	-0.002
Metformin (Biguanide)	676	3.4%	237	3.3%	0.045	0.002
Sulfonylureas	159	0.8%	60	0.8%	-0.051	-0.006
Other diabetes medications	209	1.0%	73	1.0%	0.013	0.001
Angiotensin converting enzyme inhibitor (ACEI)/Angiotensin II receptor blocker (ARB)	9,431	47.2%	3,337	46.9%	0.243	0.005
Antiarrhythmics	6,259	31.3%	2,301	32.4%	-1.050	-0.023
Anti-coagulant (injectable)	1,871	9.4%	580	8.2%	1.193	0.043
Anti-platelets	1,361	6.8%	459	6.5%	0.356	0.014
Beta-blockers	13,402	67.0%	4,768	67.1%	-0.028	-0.001
Calcium channel blockers	6,139	30.7%	2,200	30.9%	-0.235	-0.005
Digoxin	1,341	6.7%	502	7.1%	-0.352	-0.014
Diuretics (loop)	1,789	8.9%	635	8.9%	0.015	0.001
Diuretics (potassium sparing)	913	4.6%	322	4.5%	0.038	0.002
Diuretics (thiazide)	1,619	8.1%	561	7.9%	0.213	0.008
Nitrates	573	2.9%	198	2.8%	0.083	0.005
Statins	7,260	36.3%	2,580	36.3%	0.024	0.001

Sentinel

Table 1n. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect, Stabilized (ATES), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 1

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
Fibrates	679	3.4%	248	3.5%	-0.092	-0.005
Amiodarone	1,479	7.4%	533	7.5%	-0.102	-0.004
Dronedarone	931	4.7%	386	5.4%	-0.777	-0.036
Health Service Utilization Intensity Metrics						
No emergency department (ED) encounters (past 0-	15,139	75.7%	5,356	75.3%	0.396	0.009
No ED encounters (past 31-183 days)	17,127	85.7%	6,115	86.0%	-0.339	-0.010
At least 1 ED encounter (past 0-30 days)	4,851	24.3%	1,753	24.7%	-0.396	-0.009
At least 2 ED encounters (past 0-30 days)	872	4.4%	319	4.5%	-0.131	-0.006
At least 1 ED encounter (past 31-183 days)	2,864	14.3%	994	14.0%	0.339	0.010
At least 2 ED encounters (past 31-183 days)	703	3.5%	251	3.5%	-0.015	-0.001

[1]Weighted patient characteristics tables facilitate the assessment of covariate balance after inverse probability weighting and should not be interpreted as a description of the unweighted population. Treated patients are weighted by the proportion of treated patients in the trimmed population divided by the inverse of their propensity score (PS). Reference patients are weighted by 1 minus the proportion of treated patients in the trimmed population divided by 1 minus their PS.

[2]Value represents standard deviation where no % follows the value.

[3]Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

Sentinel

Table 1o. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 2

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Unique patients	15,074	100.0%	5,422	100.0%	N/A	N/A
Demographic Characteristics						
Age (years)	57.2	6.5	57.5	6.2	-0.263	-0.041
Age						
21-49 years	1,973	13.1%	691	12.7%	0.344	0.010
50-64 years	13,101	86.9%	4,731	87.3%	-0.344	-0.010
Sex						
Female	5,843	38.8%	1,913	35.3%	3.480	0.072
Male	9,231	61.2%	3,509	64.7%	-3.480	-0.072
Race[2]						
American Indian or Alaska Native	15	0.1%	6	0.1%	-0.011	-0.003
Asian	50	0.3%	14	0.3%	0.073	0.014
Black or African American	375	2.5%	91	1.7%	0.809	0.057
Native Hawaiian or Other Pacific Islander	19	0.1%	2	0.0%	0.089	0.031
Unknown	12,244	81.2%	4,420	81.5%	-0.294	-0.008
White	2,371	15.7%	889	16.4%	-0.667	-0.018
Hispanic origin						
Yes	86	0.6%	38	0.7%	-0.130	-0.016
No	1,364	9.0%	421	7.8%	1.284	0.046
Unknown	13,624	90.4%	4,963	91.5%	-1.154	-0.040
Year						
2010	0	0.0%	123	2.3%	NaN	NaN
2011	15	0.1%	1,836	33.9%	-33.763	-1.007
2012	731	4.8%	1,221	22.5%	-17.670	-0.532
2013	1,616	10.7%	617	11.4%	-0.659	-0.021
2014	2,071	13.7%	444	8.2%	5.550	0.178
2015	1,835	12.2%	272	5.0%	7.157	0.257
2016	1,648	10.9%	341	6.3%	4.644	0.166
2017	1,657	11.0%	254	4.7%	6.308	0.236
2018	1,561	10.4%	153	2.8%	7.534	0.307
2019	1,435	9.5%	82	1.5%	8.007	0.356
2020	1,169	7.8%	43	0.8%	6.962	0.349
2021	1,243	8.2%	35	0.6%	7.600	0.375

Sentinel

Table 1o. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 2

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
2022	93	0.6%	1	0.0%	0.599	0.107
CHADSVASC						
mean, std	2.0	0.0	2.0	0.0	0.000	NaN
0	0	0.0%	0	0.0%	NaN	NaN
1	0	0.0%	0	0.0%	NaN	NaN
2	15,074	100.0%	5,422	100.0%	0.000	NaN
3	0	0.0%	0	0.0%	NaN	NaN
4	0	0.0%	0	0.0%	NaN	NaN
>= 5	0	0.0%	0	0.0%	NaN	NaN
HASBLED						
mean, std	1.2	0.6	1.1	0.6	0.042	0.073
0	899	6.0%	333	6.1%	-0.178	-0.007
1	11,019	73.1%	4,123	76.0%	-2.943	-0.068
2	2,655	17.6%	833	15.4%	2.250	0.061
>= 3	501	3.3%	133	2.5%	0.871	0.052
Health Characteristics						
Diabetes	5,578	37.0%	2,379	43.9%	-6.873	-0.140
Hypercholesterolemia	4,354	28.9%	1,718	31.7%	-2.802	-0.061
Hypertension	13,901	92.2%	4,995	92.1%	0.094	0.003
Kidney failure (chronic)	769	5.1%	235	4.3%	0.767	0.036
Kidney failure (acute)	782	5.2%	207	3.8%	1.370	0.066
Obesity	5,929	39.3%	1,574	29.0%	10.303	0.219
Peptic ulcer disease	47	0.3%	15	0.3%	0.035	0.006
Nicotine dependency	3,717	24.7%	951	17.5%	7.119	0.175
Hospitalized acute myocardial infarction (past 0-30 days)	222	1.5%	61	1.1%	0.348	0.031
Hospitalized acute myocardial infarction (past 31-183 days)	75	0.5%	22	0.4%	0.092	0.014
Coronary revascularization	1,122	7.4%	388	7.2%	0.287	0.011
Hospitalized heart failure	2,505	16.6%	784	14.5%	2.158	0.060
Outpatient heart failure	2,338	15.5%	776	14.3%	1.198	0.034
Other ischemic heart disease	4,290	28.5%	1,645	30.3%	-1.880	-0.041
Hospitalized stroke (past 0-30 days)	41	0.3%	25	0.5%	-0.189	-0.031

Sentinel

Table 1o. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 2

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Hospitalized stroke (past 31-183 days)	23	0.2%	6	0.1%	0.042	0.012
Transient ischemic attack	199	1.3%	89	1.6%	-0.321	-0.027
Other medical conditions (falls, fractures, syncope, walker use)	3,831	25.4%	1,389	25.6%	-0.203	-0.005
Cardioversion	2,506	16.6%	902	16.6%	-0.011	-0.000
Cardioablation	591	3.9%	280	5.2%	-1.243	-0.060
Hospitalized for bleeding	44	0.3%	13	0.2%	0.052	0.010
Medical Product Use						
Estrogen replacement	469	3.1%	163	3.0%	0.105	0.006
H2-antagonist	417	2.8%	112	2.1%	0.701	0.046
Non-steroidal anti-inflammatory drugs (NSAIDs)	2,620	17.4%	921	17.0%	0.395	0.010
Proton pump inhibitors	3,021	20.0%	1,078	19.9%	0.159	0.004
Selective serotonin reuptake inhibitor (SSRI)	1,969	13.1%	651	12.0%	1.056	0.032
Insulin	920	6.1%	441	8.1%	-2.030	-0.079
Metformin (Biguanide)	3,439	22.8%	1,353	25.0%	-2.140	-0.050
Sulfonylureas	1,240	8.2%	633	11.7%	-3.449	-0.115
Other diabetes medications	1,446	9.6%	629	11.6%	-2.008	-0.065
Angiotensin converting enzyme inhibitor (ACEI)/Angiotensin II receptor blocker (ARB)	9,215	61.1%	3,333	61.5%	-0.340	-0.007
Antiarrhythmics	4,311	28.6%	1,857	34.2%	-5.650	-0.122
Anti-coagulant (injectable)	1,545	10.2%	386	7.1%	3.130	0.111
Anti-platelets	1,591	10.6%	479	8.8%	1.720	0.058
Beta-blockers	10,924	72.5%	3,890	71.7%	0.724	0.016
Calcium channel blockers	5,022	33.3%	1,974	36.4%	-3.092	-0.065
Digoxin	1,243	8.2%	675	12.4%	-4.203	-0.138
Diuretics (loop)	3,023	20.1%	1,038	19.1%	0.910	0.023
Diuretics (potassium sparing)	1,442	9.6%	472	8.7%	0.861	0.030
Diuretics (thiazide)	1,855	12.3%	644	11.9%	0.428	0.013
Nitrates	757	5.0%	284	5.2%	-0.216	-0.010
Statins	6,950	46.1%	2,600	48.0%	-1.847	-0.037
Fibrates	719	4.8%	369	6.8%	-2.036	-0.087
Amiodarone	1,516	10.1%	554	10.2%	-0.161	-0.005
Dronedarone	438	2.9%	377	7.0%	-4.047	-0.188

Sentinel

Table 1o. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 2

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Health Service Utilization Intensity Metrics						
No emergency department (ED) encounters (past 0-	10,360	68.7%	3,822	70.5%	-1.763	-0.038
No ED encounters (past 31-183 days)	12,122	80.4%	4,518	83.3%	-2.911	-0.076
At least 1 ED encounter (past 0-30 days)	4,714	31.3%	1,600	29.5%	1.763	0.038
At least 2 ED encounters (past 0-30 days)	1,023	6.8%	291	5.4%	1.419	0.059
At least 1 ED encounter (past 31-183 days)	2,952	19.6%	904	16.7%	2.911	0.076
At least 2 ED encounters (past 31-183 days)	847	5.6%	229	4.2%	1.395	0.065

[1]Value represents standard deviation where no % follows the value.

[2]Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

Sentinel

Table 1p. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect, Stabilized (ATES), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 2

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
Weighted patients	14,950	N/A	5,282	N/A	N/A	N/A
Demographic Characteristics						
Age (years)	57.3	6.5	57.3	6.4	0.015	0.002
Age						
21-49 years	1,900	12.7%	712	13.5%	-0.767	-0.023
50-64 years	13,049	87.3%	4,570	86.5%	0.767	0.023
Sex						
Female	5,672	37.9%	1,991	37.7%	0.235	0.005
Male	9,278	62.1%	3,290	62.3%	-0.235	-0.005
Race[3]						
American Indian or Alaska Native	15	0.1%	6	0.1%	-0.021	-0.006
Asian	50	0.3%	12	0.2%	0.105	0.020
Black or African American	362	2.4%	92	1.7%	0.672	0.049
Native Hawaiian or Other Pacific Islander	21	0.1%	3	0.1%	0.077	0.024
Unknown	12,169	81.4%	4,319	81.8%	-0.370	-0.014
White	2,334	15.6%	849	16.1%	-0.463	-0.017
Hispanic origin						
Yes	87	0.6%	39	0.7%	-0.162	-0.020
No	1,326	8.9%	412	7.8%	1.064	0.065
Unknown	13,536	90.5%	4,830	91.4%	-0.902	-0.051
Year						
2010	0	0.0%	110	2.1%	NaN	NaN
2011	17	0.1%	1,682	31.8%	-31.728	-0.962
2012	797	5.3%	1,137	21.5%	-16.194	-0.490
2013	1,701	11.4%	607	11.5%	-0.111	-0.003
2014	2,139	14.3%	446	8.5%	5.856	0.185
2015	1,849	12.4%	270	5.1%	7.258	0.259
2016	1,621	10.8%	370	7.0%	3.836	0.135
2017	1,607	10.7%	285	5.4%	5.352	0.198
2018	1,493	10.0%	180	3.4%	6.569	0.265
2019	1,359	9.1%	101	1.9%	7.171	0.319
2020	1,101	7.4%	49	0.9%	6.444	0.328

Sentinel

Table 1p. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect, Stabilized (ATES), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 2

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
2021	1,178	7.9%	43	0.8%	7.057	0.352
2022	89	0.6%	1	0.0%	0.575	0.104
CHADSVASC						
mean, std	2.0	0.0	2.0	0.0	0.000	NaN
0	0	0.0%	0	0.0%	NaN	NaN
1	0	0.0%	0	0.0%	NaN	NaN
2	14,950	100.0%	5,282	100.0%	0.000	NaN
3	0	0.0%	0	0.0%	NaN	NaN
4	0	0.0%	0	0.0%	NaN	NaN
>= 5	0	0.0%	0	0.0%	NaN	NaN
HASBLED						
mean, std	1.2	0.6	1.2	0.6	0.008	0.014
0	902	6.0%	326	6.2%	-0.147	-0.006
1	11,062	74.0%	3,932	74.4%	-0.452	-0.010
2	2,527	16.9%	869	16.5%	0.453	0.012
>= 3	459	3.1%	154	2.9%	0.146	0.009
Health Characteristics						
Diabetes	5,805	38.8%	2,110	40.0%	-1.122	-0.023
Hypercholesterolemia	4,418	29.6%	1,582	30.0%	-0.404	-0.009
Hypertension	13,787	92.2%	4,867	92.2%	0.069	0.003
Kidney failure (chronic)	735	4.9%	257	4.9%	0.048	0.002
Kidney failure (acute)	707	4.7%	228	4.3%	0.414	0.020
Obesity	5,463	36.5%	1,863	35.3%	1.278	0.027
Peptic ulcer disease	45	0.3%	15	0.3%	0.015	0.003
Nicotine dependency	3,381	22.6%	1,112	21.1%	1.561	0.038
Hospitalized acute myocardial infarction (past 0-30 days)	201	1.3%	65	1.2%	0.115	0.010
Hospitalized acute myocardial infarction (past 31-183 days)	70	0.5%	24	0.5%	0.007	0.001
Coronary revascularization	1,092	7.3%	374	7.1%	0.227	0.009
Hospitalized heart failure	2,393	16.0%	808	15.3%	0.710	0.020
Outpatient heart failure	2,259	15.1%	775	14.7%	0.434	0.012

Sentinel

Table 1p. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect, Stabilized (ATES), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 2

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
Other ischemic heart disease	4,315	28.9%	1,535	29.1%	-0.204	-0.005
Hospitalized stroke (past 0-30 days)	46	0.3%	17	0.3%	-0.010	-0.002
Hospitalized stroke (past 31-183 days)	18	0.1%	6	0.1%	-0.003	-0.001
Transient ischemic attack	205	1.4%	74	1.4%	-0.019	-0.002
Other medical conditions (falls, fractures, syncope, walker use)	3,811	25.5%	1,351	25.6%	-0.091	-0.002
Cardioversion	2,489	16.7%	881	16.7%	-0.038	-0.001
Cardioablation	636	4.3%	228	4.3%	-0.056	-0.003
Hospitalized for bleeding	39	0.3%	12	0.2%	0.027	0.005
Medical Product Use						
Estrogen replacement	461	3.1%	161	3.0%	0.042	0.002
H2-antagonist	388	2.6%	117	2.2%	0.385	0.025
Non-steroidal anti-inflammatory drugs (NSAIDs)	2,583	17.3%	909	17.2%	0.072	0.002
Proton pump inhibitors	2,992	20.0%	1,061	20.1%	-0.063	-0.002
Selective serotonin reuptake inhibitor (SSRI)	1,911	12.8%	652	12.3%	0.438	0.013
Insulin	993	6.6%	369	7.0%	-0.335	-0.013
Metformin (Biguanide)	3,489	23.3%	1,249	23.7%	-0.316	-0.007
Sulfonylureas	1,362	9.1%	508	9.6%	-0.508	-0.017
Other diabetes medications	1,505	10.1%	549	10.4%	-0.322	-0.011
Angiotensin converting enzyme inhibitor (ACEI)/Angiotensin II receptor blocker (ARB)	9,144	61.2%	3,224	61.0%	0.119	0.002
Antiarrhythmics	4,490	30.0%	1,634	30.9%	-0.901	-0.020
Anti-coagulant (injectable)	1,417	9.5%	438	8.3%	1.187	0.042
Anti-platelets	1,496	10.0%	515	9.8%	0.253	0.008
Beta-blockers	10,805	72.3%	3,813	72.2%	0.082	0.002
Calcium channel blockers	5,099	34.1%	1,838	34.8%	-0.692	-0.015
Digoxin	1,392	9.3%	517	9.8%	-0.481	-0.016
Diuretics (loop)	2,953	19.8%	1,018	19.3%	0.490	0.012
Diuretics (potassium sparing)	1,390	9.3%	478	9.0%	0.250	0.009
Diuretics (thiazide)	1,818	12.2%	634	12.0%	0.156	0.005
Nitrates	757	5.1%	264	5.0%	0.068	0.003
Statins	6,963	46.6%	2,465	46.7%	-0.095	-0.002

Sentinel

Table 1p. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect, Stabilized (ATES), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 2

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
Fibrates	789	5.3%	295	5.6%	-0.304	-0.013
Amiodarone	1,516	10.1%	539	10.2%	-0.067	-0.002
Dronedarone	571	3.8%	234	4.4%	-0.617	-0.031
Health Service Utilization Intensity Metrics						
No emergency department (ED) encounters	10,433	69.8%	3,642	69.0%	0.836	0.019
No ED encounters (past 31-183 days)	12,170	81.4%	4,327	81.9%	-0.512	-0.013
At least 1 ED encounter (past 0-30 days)	4,517	30.2%	1,640	31.0%	-0.836	-0.019
At least 2 ED encounters (past 0-30 days)	923	6.2%	328	6.2%	-0.039	-0.002
At least 1 ED encounter (past 31-183 days)	2,780	18.6%	955	18.1%	0.512	0.013
At least 2 ED encounters (past 31-183 days)	760	5.1%	255	4.8%	0.247	0.012

[1]Weighted patient characteristics tables facilitate the assessment of covariate balance after inverse probability weighting and should not be interpreted as a description of the unweighted population. Treated patients are weighted by the proportion of treated patients in the trimmed population divided by the inverse of their propensity score (PS). Reference patients are weighted by 1 minus the proportion of treated patients in the trimmed population divided by 1 minus their PS.

[2]Value represents standard deviation where no % follows the value.

[3]Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

Sentinel

Table 1q. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 3

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Unique patients	7,490	100.0%	2,266	100.0%	N/A	N/A
Demographic Characteristics						
Age (years)	57.6	6.1	57.8	6.2	-0.200	-0.033
Age						
21-49 years	858	11.5%	236	10.4%	1.040	0.033
50-64 years	6,632	88.5%	2,030	89.6%	-1.040	-0.033
Sex						
Female	3,145	42.0%	1,082	47.7%	-5.760	-0.116
Male	4,345	58.0%	1,184	52.3%	5.760	0.116
Race[2]						
American Indian or Alaska Native	6	0.1%	3	0.1%	-0.052	-0.016
Asian	23	0.3%	6	0.3%	0.042	0.008
Black or African American	365	4.9%	72	3.2%	1.696	0.086
Native Hawaiian or Other Pacific Islander	13	0.2%	0	0.0%	NaN	NaN
Unknown	5,611	74.9%	1,776	78.4%	-3.463	-0.082
White	1,472	19.7%	409	18.0%	1.603	0.041
Hispanic origin						
Yes	69	0.9%	18	0.8%	0.127	0.014
No	1,197	16.0%	270	11.9%	4.066	0.118
Unknown	6,224	83.1%	1,978	87.3%	-4.193	-0.118
Year						
2010	0	0.0%	47	2.1%	NaN	NaN
2011	5	0.1%	698	30.8%	-30.736	-0.940
2012	286	3.8%	496	21.9%	-18.070	-0.561
2013	660	8.8%	253	11.2%	-2.353	-0.079
2014	878	11.7%	170	7.5%	4.220	0.144
2015	847	11.3%	147	6.5%	4.821	0.170
2016	856	11.4%	187	8.3%	3.176	0.107
2017	951	12.7%	110	4.9%	7.843	0.280
2018	879	11.7%	58	2.6%	9.176	0.362
2019	761	10.2%	45	2.0%	8.174	0.347
2020	619	8.3%	35	1.5%	6.720	0.315
2021	701	9.4%	19	0.8%	8.521	0.395

Sentinel

Table 1q. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 3

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
2022	47	0.6%	1	0.0%	0.583	0.101
CHADSVASC						
mean, std	3.0	0.0	3.0	0.0	0.000	NaN
0	0	0.0%	0	0.0%	NaN	NaN
1	0	0.0%	0	0.0%	NaN	NaN
2	0	0.0%	0	0.0%	NaN	NaN
3	7,490	100.0%	2,266	100.0%	0.000	NaN
4	0	0.0%	0	0.0%	NaN	NaN
>= 5	0	0.0%	0	0.0%	NaN	NaN
HASBLED						
mean, std	1.3	0.7	1.3	0.6	0.033	0.052
0	234	3.1%	62	2.7%	0.388	0.023
1	4,915	65.6%	1,550	68.4%	-2.782	-0.059
2	1,887	25.2%	539	23.8%	1.407	0.033
>= 3	454	6.1%	115	5.1%	0.986	0.043
Health Characteristics						
Diabetes	5,274	70.4%	1,549	68.4%	2.056	0.045
Hypercholesterolemia	2,540	33.9%	807	35.6%	-1.702	-0.036
Hypertension	7,158	95.6%	2,166	95.6%	-0.020	-0.001
Kidney failure (chronic)	682	9.1%	192	8.5%	0.632	0.022
Kidney failure (acute)	701	9.4%	174	7.7%	1.680	0.060
Obesity	3,567	47.6%	844	37.2%	10.377	0.211
Peptic ulcer disease	31	0.4%	7	0.3%	0.105	0.017
Nicotine dependency	2,159	28.8%	498	22.0%	6.848	0.158
Hospitalized acute myocardial infarction (past 0-30 days)	332	4.4%	78	3.4%	0.990	0.051
Hospitalized acute myocardial infarction (past 31-183 days)	166	2.2%	36	1.6%	0.628	0.046
Coronary revascularization	868	11.6%	281	12.4%	-0.812	-0.025
Hospitalized heart failure	2,087	27.9%	703	31.0%	-3.160	-0.069
Outpatient heart failure	1,716	22.9%	501	22.1%	0.801	0.019
Other ischemic heart disease	2,794	37.3%	855	37.7%	-0.429	-0.009
Hospitalized stroke (past 0-30 days)	193	2.6%	81	3.6%	-0.998	-0.058

Sentinel

Table 1q. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 3

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Hospitalized stroke (past 31-183 days)	82	1.1%	33	1.5%	-0.362	-0.032
Transient ischemic attack	582	7.8%	234	10.3%	-2.556	-0.089
Other medical conditions (falls, fractures, syncope, walker use)	2,094	28.0%	688	30.4%	-2.405	-0.053
Cardioversion	1,113	14.9%	377	16.6%	-1.777	-0.049
Cardioablation	216	2.9%	105	4.6%	-1.750	-0.092
Hospitalized for bleeding	41	0.5%	15	0.7%	-0.115	-0.015
Medical Product Use						
Estrogen replacement	215	2.9%	69	3.0%	-0.175	-0.010
H2-antagonist	277	3.7%	72	3.2%	0.521	0.029
Non-steroidal anti-inflammatory drugs (NSAIDs)	1,471	19.6%	385	17.0%	2.649	0.069
Proton pump inhibitors	1,807	24.1%	509	22.5%	1.663	0.039
Selective serotonin reuptake inhibitor (SSRI)	1,188	15.9%	385	17.0%	-1.129	-0.030
Insulin	1,305	17.4%	386	17.0%	0.389	0.010
Metformin (Biguanide)	3,159	42.2%	833	36.8%	5.415	0.111
Sulfonylureas	1,225	16.4%	395	17.4%	-1.076	-0.029
Other diabetes medications	1,472	19.7%	417	18.4%	1.250	0.032
Angiotensin converting enzyme inhibitor (ACEI)/Angiotensin II receptor blocker (ARB)	5,150	68.8%	1,563	69.0%	-0.218	-0.005
Antiarrhythmics	2,119	28.3%	799	35.3%	-6.969	-0.150
Anti-coagulant (injectable)	851	11.4%	179	7.9%	3.462	0.118
Anti-platelets	1,188	15.9%	327	14.4%	1.430	0.040
Beta-blockers	5,554	74.2%	1,697	74.9%	-0.737	-0.017
Calcium channel blockers	2,618	35.0%	896	39.5%	-4.588	-0.095
Digoxin	683	9.1%	331	14.6%	-5.488	-0.170
Diuretics (loop)	2,218	29.6%	696	30.7%	-1.102	-0.024
Diuretics (potassium sparing)	872	11.6%	268	11.8%	-0.185	-0.006
Diuretics (thiazide)	1,009	13.5%	313	13.8%	-0.342	-0.010
Nitrates	613	8.2%	207	9.1%	-0.951	-0.034
Statins	4,505	60.1%	1,268	56.0%	4.189	0.085
Fibrates	483	6.4%	188	8.3%	-1.848	-0.071
Amiodarone	927	12.4%	300	13.2%	-0.863	-0.026
Dronedarone	177	2.4%	125	5.5%	-3.153	-0.163

Sentinel

Table 1q. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 3

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Health Service Utilization Intensity Metrics						
No emergency department (ED) encounters (past 0-	4,754	63.5%	1,467	64.7%	-1.268	-0.026
No ED encounters (past 31-183 days)	5,621	75.0%	1,759	77.6%	-2.579	-0.061
At least 1 ED encounter (past 0-30 days)	2,736	36.5%	799	35.3%	1.268	0.026
At least 2 ED encounters (past 0-30 days)	659	8.8%	167	7.4%	1.429	0.052
At least 1 ED encounter (past 31-183 days)	1,869	25.0%	507	22.4%	2.579	0.061
At least 2 ED encounters (past 31-183 days)	700	9.3%	171	7.5%	1.799	0.065

[1]Value represents standard deviation where no % follows the value.

[2]Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

Sentinel

Table 1r. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect, Stabilized (ATES), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 3

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
Weighted patients	7,320	N/A	2,153	N/A	N/A	N/A
Demographic Characteristics						
Age (years)	57.8	6.0	57.7	6.4	0.092	0.015
Age						
21-49 years	808	11.0%	244	11.3%	-0.272	-0.009
50-64 years	6,512	89.0%	1,910	88.7%	0.272	0.009
Sex						
Female	3,188	43.5%	962	44.7%	-1.150	-0.023
Male	4,133	56.5%	1,191	55.3%	1.150	0.023
Race[3]						
American Indian or Alaska Native	6	0.1%	5	0.2%	-0.133	-0.035
Asian	23	0.3%	4	0.2%	0.127	0.026
Black or African American	344	4.7%	80	3.7%	0.985	0.052
Native Hawaiian or Other Pacific Islander	12	0.2%	0	0.0%	NaN	NaN
Unknown	5,533	75.6%	1,696	78.8%	-3.182	-0.119
White	1,402	19.2%	369	17.1%	2.043	0.071
Hispanic origin						
Yes	65	0.9%	16	0.7%	0.157	0.018
No	1,115	15.2%	247	11.5%	3.776	0.221
Unknown	6,140	83.9%	1,891	87.8%	-3.933	-0.212
Year						
2010	0	0.0%	37	1.7%	NaN	NaN
2011	6	0.1%	605	28.1%	-28.030	-0.882
2012	314	4.3%	446	20.7%	-16.398	-0.513
2013	707	9.7%	221	10.3%	-0.605	-0.020
2014	912	12.5%	162	7.5%	4.930	0.165
2015	870	11.9%	151	7.0%	4.849	0.166
2016	835	11.4%	209	9.7%	1.719	0.056
2017	896	12.2%	125	5.8%	6.443	0.226
2018	817	11.2%	73	3.4%	7.796	0.304
2019	714	9.8%	49	2.3%	7.462	0.318
2020	569	7.8%	46	2.2%	5.625	0.262

Sentinel

Table 1r. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect, Stabilized (ATES), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 3

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
2021	636	8.7%	28	1.3%	7.400	0.345
2022	43	0.6%	1	0.1%	0.527	0.092
CHADSVASC						
mean, std	3.0	0.0	3.0	0.0	-0.000	-1.119
0	0	0.0%	0	0.0%	NaN	NaN
1	0	0.0%	0	0.0%	NaN	NaN
2	0	0.0%	0	0.0%	NaN	NaN
3	7,320	100.0%	2,153	100.0%	0.000	NaN
4	0	0.0%	0	0.0%	NaN	NaN
>= 5	0	0.0%	0	0.0%	NaN	NaN
HASBLED						
mean, std	1.3	0.6	1.3	0.6	0.012	0.020
0	203	2.8%	62	2.9%	-0.093	-0.006
1	4,894	66.8%	1,450	67.3%	-0.498	-0.011
2	1,805	24.7%	523	24.3%	0.367	0.009
>= 3	419	5.7%	118	5.5%	0.223	0.010
Health Characteristics						
Diabetes	5,128	70.0%	1,485	69.0%	1.094	0.024
Hypercholesterolemia	2,512	34.3%	731	34.0%	0.360	0.008
Hypertension	7,011	95.8%	2,055	95.4%	0.333	0.016
Kidney failure (chronic)	657	9.0%	182	8.5%	0.507	0.018
Kidney failure (acute)	648	8.9%	190	8.8%	0.039	0.001
Obesity	3,294	45.0%	933	43.3%	1.669	0.034
Peptic ulcer disease	20	0.3%	6	0.3%	-0.003	-0.001
Nicotine dependency	1,973	26.9%	564	26.2%	0.766	0.018
Hospitalized acute myocardial infarction (past 0-30 days)	305	4.2%	86	4.0%	0.157	0.008
Hospitalized acute myocardial infarction (past 31-183 days)	145	2.0%	38	1.7%	0.235	0.017
Coronary revascularization	861	11.8%	244	11.3%	0.419	0.013
Hospitalized heart failure	2,099	28.7%	620	28.8%	-0.099	-0.002
Outpatient heart failure	1,672	22.8%	474	22.0%	0.819	0.020

Sentinel

Table 1r. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect, Stabilized (ATES), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 3

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
Other ischemic heart disease	2,752	37.6%	812	37.7%	-0.140	-0.003
Hospitalized stroke (past 0-30 days)	201	2.7%	67	3.1%	-0.355	-0.021
Hospitalized stroke (past 31-183 days)	79	1.1%	26	1.2%	-0.121	-0.011
Transient ischemic attack	607	8.3%	199	9.2%	-0.932	-0.033
Other medical conditions (falls, fractures, syncope, walker use)	2,095	28.6%	614	28.5%	0.111	0.002
Cardioversion	1,129	15.4%	341	15.8%	-0.427	-0.012
Cardioablation	240	3.3%	73	3.4%	-0.109	-0.006
Hospitalized for bleeding	38	0.5%	11	0.5%	0.033	0.005
Medical Product Use						
Estrogen replacement	213	2.9%	63	2.9%	-0.001	-0.000
H2-antagonist	262	3.6%	69	3.2%	0.386	0.022
Non-steroidal anti-inflammatory drugs (NSAIDs)	1,376	18.8%	390	18.1%	0.691	0.018
Proton pump inhibitors	1,734	23.7%	504	23.4%	0.299	0.007
Selective serotonin reuptake inhibitor (SSRI)	1,180	16.1%	340	15.8%	0.318	0.009
Insulin	1,265	17.3%	360	16.7%	0.535	0.014
Metformin (Biguanide)	2,988	40.8%	852	39.6%	1.253	0.026
Sulfonylureas	1,217	16.6%	353	16.4%	0.238	0.006
Other diabetes medications	1,415	19.3%	401	18.6%	0.716	0.018
Angiotensin converting enzyme inhibitor (ACEI)/Angiotensin II receptor blocker (ARB)	5,061	69.1%	1,483	68.8%	0.290	0.006
Antiarrhythmics	2,198	30.0%	672	31.2%	-1.165	-0.025
Anti-coagulant (injectable)	773	10.6%	191	8.9%	1.682	0.058
Anti-platelets	1,123	15.3%	313	14.5%	0.803	0.023
Beta-blockers	5,457	74.5%	1,599	74.3%	0.274	0.006
Calcium channel blockers	2,650	36.2%	791	36.7%	-0.519	-0.011
Digoxin	772	10.5%	243	11.3%	-0.741	-0.024
Diuretics (loop)	2,202	30.1%	636	29.5%	0.561	0.012
Diuretics (potassium sparing)	851	11.6%	243	11.3%	0.340	0.011
Diuretics (thiazide)	997	13.6%	288	13.4%	0.245	0.007
Nitrates	611	8.3%	167	7.7%	0.612	0.023
Statins	4,315	58.9%	1,241	57.6%	1.336	0.027

Sentinel

Table 1r. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect, Stabilized (ATES), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 3

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
Fibrates	509	6.9%	152	7.1%	-0.123	-0.005
Amiodarone	927	12.7%	277	12.9%	-0.194	-0.006
Dronedarone	221	3.0%	76	3.5%	-0.522	-0.029
Health Service Utilization Intensity Metrics						
No emergency department (ED) encounters (past	4,720	64.5%	1,361	63.2%	1.264	0.029
No ED encounters (past 31-183 days)	5,578	76.2%	1,654	76.8%	-0.591	-0.014
At least 1 ED encounter (past 0-30 days)	2,600	35.5%	792	36.8%	-1.264	-0.029
At least 2 ED encounters (past 0-30 days)	604	8.3%	184	8.5%	-0.296	-0.011
At least 1 ED encounter (past 31-183 days)	1,742	23.8%	500	23.2%	0.591	0.014
At least 2 ED encounters (past 31-183 days)	628	8.6%	176	8.2%	0.401	0.015

[1]Weighted patient characteristics tables facilitate the assessment of covariate balance after inverse probability weighting and should not be interpreted as a description of the unweighted population. Treated patients are weighted by the proportion of treated patients in the trimmed population divided by the inverse of their propensity score (PS). Reference patients are weighted by 1 minus the proportion of treated patients in the trimmed population divided by 1 minus their PS.

[2]Value represents standard deviation where no % follows the value.

[3]Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

Sentinel

Table 1s. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 4

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Unique patients	3,045	100.0%	799	100.0%	N/A	N/A
Demographic Characteristics						
Age (years)	57.9	5.8	58.6	5.2	-0.649	-0.118
Age						
21-49 years	311	10.2%	64	8.0%	2.203	0.077
50-64 years	2,734	89.8%	735	92.0%	-2.203	-0.077
Sex						
Female	1,581	51.9%	422	52.8%	-0.895	-0.018
Male	1,464	48.1%	377	47.2%	0.895	0.018
Race[2]						
American Indian or Alaska Native	3	0.1%	0	0.0%	NaN	NaN
Asian	12	0.4%	4	0.5%	-0.107	-0.016
Black or African American	200	6.6%	32	4.0%	2.563	0.115
Native Hawaiian or Other Pacific Islander	6	0.2%	3	0.4%	-0.178	-0.033
Unknown	2,109	69.3%	582	72.8%	-3.580	-0.079
White	715	23.5%	178	22.3%	1.203	0.029
Hispanic origin						
Yes	31	1.0%	6	0.8%	0.267	0.029
No	703	23.1%	158	19.8%	3.312	0.081
Unknown	2,311	75.9%	635	79.5%	-3.579	-0.086
Year						
2010	0	0.0%	13	1.6%	NaN	NaN
2011	1	0.0%	202	25.3%	-25.249	-0.821
2012	73	2.4%	151	18.9%	-16.501	-0.555
2013	196	6.4%	93	11.6%	-5.203	-0.182
2014	284	9.3%	49	6.1%	3.194	0.120
2015	267	8.8%	44	5.5%	3.262	0.127
2016	370	12.2%	79	9.9%	2.264	0.072
2017	427	14.0%	67	8.4%	5.638	0.179
2018	406	13.3%	52	6.5%	6.825	0.230
2019	338	11.1%	24	3.0%	8.096	0.320
2020	323	10.6%	15	1.9%	8.730	0.367
2021	341	11.2%	9	1.1%	10.072	0.428

Sentinel

Table 1s. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 4

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
2022	19	0.6%	1	0.1%	0.499	0.082
CHADSVASC						
mean, std	4.0	0.0	4.0	0.0	0.000	NaN
0	0	0.0%	0	0.0%	NaN	NaN
1	0	0.0%	0	0.0%	NaN	NaN
2	0	0.0%	0	0.0%	NaN	NaN
3	0	0.0%	0	0.0%	NaN	NaN
4	3,045	100.0%	799	100.0%	0.000	NaN
>= 5	0	0.0%	0	0.0%	NaN	NaN
HASBLED						
mean, std	1.5	0.7	1.6	0.7	-0.044	-0.062
0	29	1.0%	8	1.0%	-0.049	-0.005
1	1,724	56.6%	418	52.3%	4.302	0.086
2	971	31.9%	284	35.5%	-3.656	-0.077
>= 3	321	10.5%	89	11.1%	-0.597	-0.019
Health Characteristics						
Diabetes	2,479	81.4%	591	74.0%	7.445	0.180
Hypercholesterolemia	1,122	36.8%	287	35.9%	0.927	0.019
Hypertension	2,982	97.9%	780	97.6%	0.309	0.021
Kidney failure (chronic)	426	14.0%	118	14.8%	-0.778	-0.022
Kidney failure (acute)	464	15.2%	95	11.9%	3.348	0.098
Obesity	1,687	55.4%	341	42.7%	12.724	0.257
Peptic ulcer disease	12	0.4%	5	0.6%	-0.232	-0.033
Nicotine dependency	1,071	35.2%	203	25.4%	9.766	0.214
Hospitalized acute myocardial infarction (past 0-30 days)	239	7.8%	61	7.6%	0.214	0.008
Hospitalized acute myocardial infarction (past 31-183 days)	134	4.4%	23	2.9%	1.522	0.081
Coronary revascularization	562	18.5%	157	19.6%	-1.193	-0.030
Hospitalized heart failure	1,453	47.7%	369	46.2%	1.535	0.031
Outpatient heart failure	1,126	37.0%	266	33.3%	3.687	0.077
Other ischemic heart disease	1,452	47.7%	389	48.7%	-1.001	-0.020
Hospitalized stroke (past 0-30 days)	175	5.7%	73	9.1%	-3.389	-0.129

Sentinel

Table 1s. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 4

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Hospitalized stroke (past 31-183 days)	86	2.8%	41	5.1%	-2.307	-0.118
Transient ischemic attack	488	16.0%	197	24.7%	-8.630	-0.216
Other medical conditions (falls, fractures, syncope, walker use)	1,088	35.7%	254	31.8%	3.941	0.083
Cardioversion	491	16.1%	106	13.3%	2.858	0.081
Cardioablation	130	4.3%	27	3.4%	0.890	0.046
Hospitalized for bleeding	22	0.7%	10	1.3%	-0.529	-0.054
Medical Product Use						
Estrogen replacement	73	2.4%	30	3.8%	-1.357	-0.079
H2-antagonist	154	5.1%	35	4.4%	0.677	0.032
Non-steroidal anti-inflammatory drugs (NSAIDs)	596	19.6%	142	17.8%	1.801	0.046
Proton pump inhibitors	838	27.5%	226	28.3%	-0.765	-0.017
Selective serotonin reuptake inhibitor (SSRI)	562	18.5%	139	17.4%	1.060	0.028
Insulin	856	28.1%	207	25.9%	2.204	0.050
Metformin (Biguanide)	1,403	46.1%	295	36.9%	9.154	0.187
Sulfonylureas	617	20.3%	156	19.5%	0.738	0.018
Other diabetes medications	688	22.6%	151	18.9%	3.696	0.091
Angiotensin converting enzyme inhibitor (ACEI)/Angiotensin II receptor blocker (ARB)	2,201	72.3%	565	70.7%	1.569	0.035
Antiarrhythmics	873	28.7%	288	36.0%	-7.375	-0.158
Anti-coagulant (injectable)	390	12.8%	84	10.5%	2.295	0.072
Anti-platelets	690	22.7%	171	21.4%	1.258	0.030
Beta-blockers	2,303	75.6%	619	77.5%	-1.840	-0.043
Calcium channel blockers	1,015	33.3%	316	39.5%	-6.216	-0.129
Digoxin	297	9.8%	118	14.8%	-5.015	-0.153
Diuretics (loop)	1,247	41.0%	319	39.9%	1.027	0.021
Diuretics (potassium sparing)	497	16.3%	125	15.6%	0.677	0.018
Diuretics (thiazide)	460	15.1%	113	14.1%	0.964	0.027
Nitrates	353	11.6%	116	14.5%	-2.925	-0.087
Statins	2,045	67.2%	514	64.3%	2.829	0.060
Fibrates	182	6.0%	69	8.6%	-2.659	-0.102
Amiodarone	506	16.6%	134	16.8%	-0.154	-0.004
Dronedarone	40	1.3%	36	4.5%	-3.192	-0.191

Sentinel

Table 1s. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 4

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Health Service Utilization Intensity Metrics						
No emergency department (ED) encounters (past 0-	1,748	57.4%	467	58.4%	-1.042	-0.021
No ED encounters (past 31-183 days)	1,958	64.3%	522	65.3%	-1.030	-0.022
At least 1 ED encounter (past 0-30 days)	1,297	42.6%	332	41.6%	1.042	0.021
At least 2 ED encounters (past 0-30 days)	386	12.7%	95	11.9%	0.787	0.024
At least 1 ED encounter (past 31-183 days)	1,087	35.7%	277	34.7%	1.030	0.022
At least 2 ED encounters (past 31-183 days)	480	15.8%	100	12.5%	3.248	0.093

[1]Value represents standard deviation where no % follows the value.

[2]Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

Sentinel

Table 1t. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect, Stabilized (ATES), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 4

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
Weighted patients	373,646	N/A	1,814,198	N/A	N/A	N/A
Demographic Characteristics						
Age (years)	64.8	4.8	54.7	8.0	10.114	1.527
Age						
21-49 years	245	0.1%	478,715	26.4%	-26.322	-0.711
50-64 years	373,401	99.9%	1,335,483	73.6%	26.322	0.711
Sex						
Female	2,706	0.7%	1,301,216	71.7%	-71.000	-1.295
Male	370,941	99.3%	512,981	28.3%	71.000	1.295
Race[3]						
American Indian or Alaska Native	3	0.0%	0	0.0%	NaN	NaN
Asian	13	0.0%	3	0.0%	0.003	0.001
Black or African American	257	0.1%	180,887	10.0%	-9.902	-0.362
Native Hawaiian or Other Pacific Islander	6	0.0%	2	0.0%	0.001	0.001
Unknown	1,930	0.5%	1,242,299	68.5%	-67.960	-1.774
White	371,438	99.4%	391,007	21.6%	77.856	2.130
Hispanic origin						
Yes	26	0.0%	5	0.0%	0.007	0.001
No	371,508	99.4%	571,843	31.5%	67.907	1.835
Unknown	2,112	0.6%	1,242,349	68.5%	-67.914	-1.827
Year						
2010	0	0.0%	10	0.0%	NaN	NaN
2011	1	0.0%	173	0.0%	-0.009	-0.008
2012	71	0.0%	127	0.0%	0.012	0.002
2013	206	0.1%	1,017,240	56.1%	-56.016	-1.378
2014	282	0.1%	6,854	0.4%	-0.302	-0.019
2015	350	0.1%	40	0.0%	0.091	0.005
2016	369,879	99.0%	43,606	2.4%	96.588	2.376
2017	1,634	0.4%	69	0.0%	0.434	0.011
2018	344	0.1%	451,458	24.9%	-24.793	-0.663
2019	295	0.1%	27	0.0%	0.077	0.005
2020	269	0.1%	294,585	16.2%	-16.166	-0.502

Sentinel

Table 1t. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect, Stabilized (ATES), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 4

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
2021	298	0.1%	9	0.0%	0.079	0.005
2022	18	0.0%	0	0.0%	0.005	0.001
CHADSVASC						
mean, std	4.0	0.0	4.0	0.0	0.000	NaN
0	0	0.0%	0	0.0%	NaN	NaN
1	0	0.0%	0	0.0%	NaN	NaN
2	0	0.0%	0	0.0%	NaN	NaN
3	0	0.0%	0	0.0%	NaN	NaN
4	373,646	100.0%	1,814,198	100.0%	0.000	NaN
>= 5	0	0.0%	0	0.0%	NaN	NaN
HASBLED						
mean, std	3.0	0.5	2.0	0.0	0.989	2.725
0	26	0.0%	10	0.0%	0.006	0.001
1	1,543	0.4%	410	0.0%	0.390	0.016
2	887	0.2%	1,813,701	100.0%	-99.735	-4.253
>= 3	371,191	99.3%	77	0.0%	99.339	6.370
Health Characteristics						
Diabetes	373,069	99.8%	1,676,684	92.4%	7.425	0.257
Hypercholesterolemia	2,356	0.6%	712,544	39.3%	-38.646	-0.678
Hypertension	373,590	100.0%	1,814,181	100.0%	-0.014	-0.002
Kidney failure (chronic)	1,737	0.5%	338,190	18.6%	-18.176	-0.368
Kidney failure (acute)	371	0.1%	137,436	7.6%	-7.476	-0.280
Obesity	2,685	0.7%	823,524	45.4%	-44.675	-0.782
Peptic ulcer disease	8	0.0%	2	0.0%	0.002	0.001
Nicotine dependency	371,663	99.5%	944,568	52.1%	47.404	1.033
Hospitalized acute myocardial infarction (past 0-30 days)	221	0.1%	137,403	7.6%	-7.515	-0.305
Hospitalized acute myocardial infarction (past 31-183 days)	100	0.0%	19	0.0%	0.026	0.003
Coronary revascularization	512	0.1%	227,727	12.6%	-12.416	-0.385
Hospitalized heart failure	370,828	99.2%	572,056	31.5%	67.713	1.204
Outpatient heart failure	370,519	99.2%	528,444	29.1%	70.035	1.273

Sentinel

Table 1t. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect, Stabilized (ATES), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 4

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
Other ischemic heart disease	370,857	99.3%	775,635	42.8%	56.500	0.979
Hospitalized stroke (past 0-30 days)	183	0.0%	54	0.0%	0.046	0.004
Hospitalized stroke (past 31-183 days)	182	0.0%	27	0.0%	0.047	0.004
Transient ischemic attack	509	0.1%	6,955	0.4%	-0.247	-0.012
Other medical conditions (falls, fractures, syncope, walker use)	943	0.3%	395,585	21.8%	-21.553	-0.541
Cardioversion	416	0.1%	395,449	21.8%	-21.686	-0.591
Cardioablation	104	0.0%	96,307	5.3%	-5.281	-0.266
Hospitalized for bleeding	20	0.0%	6	0.0%	0.005	0.001
Medical Product Use						
Estrogen replacement	74	0.0%	6,828	0.4%	-0.357	-0.038
H2-antagonist	369,757	99.0%	137,373	7.6%	91.387	2.226
Non-steroidal anti-inflammatory drugs (NSAIDs)	525	0.1%	485,600	26.8%	-26.626	-0.673
Proton pump inhibitors	371,564	99.4%	765,958	42.2%	57.222	1.267
Selective serotonin reuptake inhibitor (SSRI)	582	0.2%	280,486	15.5%	-15.305	-0.436
Insulin	2,012	0.5%	775,475	42.7%	-42.206	-0.756
Metformin (Biguanide)	1,180	0.3%	847,038	46.7%	-46.374	-1.009
Sulfonylureas	554	0.1%	153	0.0%	0.140	0.007
Other diabetes medications	585	0.2%	154	0.0%	0.148	0.007
Angiotensin converting enzyme inhibitor (ACEI)/Angiotensin II receptor blocker (ARB)	372,791	99.8%	1,264,648	69.7%	30.063	0.698
Antiarrhythmics	370,372	99.1%	475,673	26.2%	72.904	1.346
Anti-coagulant (injectable)	1,588	0.4%	321,499	17.7%	-17.296	-0.362
Anti-platelets	692	0.2%	167	0.0%	0.176	0.008
Beta-blockers	371,716	99.5%	1,418,691	78.2%	21.284	0.414
Calcium channel blockers	370,601	99.2%	328,489	18.1%	81.078	1.583
Digoxin	393	0.1%	388,282	21.4%	-21.297	-0.582
Diuretics (loop)	2,361	0.6%	665,627	36.7%	-36.058	-0.644
Diuretics (potassium sparing)	432	0.1%	103,202	5.7%	-5.573	-0.218
Diuretics (thiazide)	408	0.1%	108	0.0%	0.103	0.006
Nitrates	338	0.1%	43,605	2.4%	-2.313	-0.115
Statins	372,715	99.8%	1,067,879	58.9%	40.889	0.910

Sentinel

Table 1t. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect, Stabilized (ATES), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 4

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
Fibrates	181	0.0%	47	0.0%	0.046	0.004
Amiodarone	445	0.1%	180,987	10.0%	-9.857	-0.332
Dronedarone	55	0.0%	17	0.0%	0.014	0.002
Health Service Utilization Intensity Metrics						
No emergency department (ED) encounters (past	1,718	0.5%	1,237,686	68.2%	-67.762	-1.565
No ED encounters (past 31-183 days)	1,819	0.5%	833,579	45.9%	-45.461	-1.010
At least 1 ED encounter (past 0-30 days)	371,928	99.5%	576,511	31.8%	67.762	1.565
At least 2 ED encounters (past 0-30 days)	1,585	0.4%	43,606	2.4%	-1.979	-0.050
At least 1 ED encounter (past 31-183 days)	371,828	99.5%	980,619	54.1%	45.461	1.010
At least 2 ED encounters (past 31-183 days)	371,266	99.4%	685,890	37.8%	61.556	1.498

[1]Weighted patient characteristics tables facilitate the assessment of covariate balance after inverse probability weighting and should not be interpreted as a description of the unweighted population. Treated patients are weighted by the proportion of treated patients in the trimmed population divided by the inverse of their propensity score (PS). Reference patients are weighted by 1 minus the proportion of treated patients in the trimmed population divided by 1 minus their PS.

[2]Value represents standard deviation where no % follows the value.

[3]Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

Sentinel

Table 1u. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 5+

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Unique patients	885	100.0%	249	100.0%	N/A	N/A
Demographic Characteristics						
Age (years)	58.7	5.7	59.2	5.2	-0.521	-0.096
Age						
21-49 years	73	8.2%	12	4.8%	3.429	0.139
50-64 years	812	91.8%	237	95.2%	-3.429	-0.139
Sex						
Female	634	71.6%	183	73.5%	-1.856	-0.042
Male	251	28.4%	66	26.5%	1.856	0.042
Race[2]						
American Indian or Alaska Native	2	0.2%	0	0.0%	NaN	NaN
Asian	3	0.3%	2	0.8%	-0.464	-0.062
Black or African American	89	10.1%	16	6.4%	3.631	0.132
Native Hawaiian or Other Pacific Islander	6	0.7%	0	0.0%	NaN	NaN
Unknown	563	63.6%	177	71.1%	-7.469	-0.160
White	222	25.1%	54	21.7%	3.398	0.080
Hispanic origin						
Yes	9	1.0%	5	2.0%	-0.991	-0.081
No	249	28.1%	49	19.7%	8.457	0.199
Unknown	627	70.8%	195	78.3%	-7.466	-0.172
Year						
2010	0	0.0%	5	2.0%	NaN	NaN
2011	0	0.0%	66	26.5%	NaN	NaN
2012	24	2.7%	47	18.9%	-16.164	-0.540
2013	53	6.0%	26	10.4%	-4.453	-0.163
2014	69	7.8%	9	3.6%	4.182	0.181
2015	65	7.3%	18	7.2%	0.116	0.004
2016	116	13.1%	25	10.0%	3.067	0.096
2017	122	13.8%	19	7.6%	6.155	0.200
2018	122	13.8%	17	6.8%	6.958	0.230
2019	95	10.7%	4	1.6%	9.128	0.386
2020	106	12.0%	8	3.2%	8.765	0.335
2021	104	11.8%	5	2.0%	9.743	0.392

Sentinel

Table 1u. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 5+

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
2022	9	1.0%	0	0.0%	NaN	NaN
CHADSVASC						
mean, std	5.3	0.5	5.2	0.5	0.077	0.155
0	0	0.0%	0	0.0%	NaN	NaN
1	0	0.0%	0	0.0%	NaN	NaN
2	0	0.0%	0	0.0%	NaN	NaN
3	0	0.0%	0	0.0%	NaN	NaN
4	0	0.0%	0	0.0%	NaN	NaN
>= 5	885	100.0%	249	100.0%	0.000	NaN
HASBLED						
mean, std	1.8	0.8	1.8	0.8	0.047	0.058
0	3	0.3%	3	1.2%	-0.866	-0.099
1	369	41.7%	104	41.8%	-0.072	-0.001
2	334	37.7%	97	39.0%	-1.216	-0.025
>= 3	179	20.2%	45	18.1%	2.154	0.055
Health Characteristics						
Diabetes	787	88.9%	210	84.3%	4.589	0.135
Hypercholesterolemia	359	40.6%	101	40.6%	0.003	0.000
Hypertension	881	99.5%	246	98.8%	0.753	0.083
Kidney failure (chronic)	173	19.5%	40	16.1%	3.484	0.091
Kidney failure (acute)	184	20.8%	39	15.7%	5.128	0.133
Obesity	481	54.4%	108	43.4%	10.977	0.221
Peptic ulcer disease	6	0.7%	3	1.2%	-0.527	-0.055
Nicotine dependency	347	39.2%	64	25.7%	13.506	0.292
Hospitalized acute myocardial infarction (past 0-30 days)	66	7.5%	18	7.2%	0.229	0.009
Hospitalized acute myocardial infarction (past 31-183 days)	37	4.2%	15	6.0%	-1.843	-0.084
Coronary revascularization	182	20.6%	45	18.1%	2.493	0.063
Hospitalized heart failure	513	58.0%	108	43.4%	14.593	0.295
Outpatient heart failure	415	46.9%	80	32.1%	14.764	0.306
Other ischemic heart disease	484	54.7%	133	53.4%	1.276	0.026
Hospitalized stroke (past 0-30 days)	142	16.0%	51	20.5%	-4.437	-0.115

Sentinel

Table 1u. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 5+

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Hospitalized stroke (past 31-183 days)	93	10.5%	27	10.8%	-0.335	-0.011
Transient ischemic attack	370	41.8%	129	51.8%	-9.999	-0.201
Other medical conditions (falls, fractures, syncope, walker use)	344	38.9%	96	38.6%	0.316	0.006
Cardioversion	92	10.4%	21	8.4%	1.962	0.067
Cardioablation	23	2.6%	9	3.6%	-1.016	-0.059
Hospitalized for bleeding	8	0.9%	7	2.8%	-1.907	-0.142
Medical Product Use						
Estrogen replacement	28	3.2%	10	4.0%	-0.852	-0.046
H2-antagonist	61	6.9%	18	7.2%	-0.336	-0.013
Non-steroidal anti-inflammatory drugs (NSAIDs)	186	21.0%	48	19.3%	1.740	0.043
Proton pump inhibitors	297	33.6%	69	27.7%	5.848	0.127
Selective serotonin reuptake inhibitor (SSRI)	227	25.6%	48	19.3%	6.373	0.153
Insulin	324	36.6%	69	27.7%	8.899	0.191
Metformin (Biguanide)	421	47.6%	107	43.0%	4.599	0.092
Sulfonylureas	186	21.0%	57	22.9%	-1.875	-0.045
Other diabetes medications	216	24.4%	46	18.5%	5.933	0.145
Angiotensin converting enzyme inhibitor (ACEI)/Angiotensin II receptor blocker (ARB)	648	73.2%	162	65.1%	8.160	0.177
Antiarrhythmics	230	26.0%	79	31.7%	-5.738	-0.127
Anti-coagulant (injectable)	126	14.2%	28	11.2%	2.992	0.090
Anti-platelets	273	30.8%	77	30.9%	-0.076	-0.002
Beta-blockers	682	77.1%	180	72.3%	4.773	0.110
Calcium channel blockers	334	37.7%	92	36.9%	0.792	0.016
Digoxin	95	10.7%	40	16.1%	-5.330	-0.157
Diuretics (loop)	420	47.5%	95	38.2%	9.305	0.189
Diuretics (potassium sparing)	154	17.4%	38	15.3%	2.140	0.058
Diuretics (thiazide)	141	15.9%	36	14.5%	1.474	0.041
Nitrates	131	14.8%	23	9.2%	5.565	0.172
Statins	679	76.7%	163	65.5%	11.261	0.250
Fibrates	52	5.9%	24	9.6%	-3.763	-0.141
Amiodarone	137	15.5%	29	11.6%	3.834	0.112
Dronedarone	10	1.1%	12	4.8%	-3.689	-0.218

Sentinel

Table 1u. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 5+

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Health Service Utilization Intensity Metrics						
No emergency department (ED) encounters (past 0-	459	51.9%	130	52.2%	-0.344	-0.007
No ED encounters (past 31-183 days)	477	53.9%	146	58.6%	-4.736	-0.096
At least 1 ED encounter (past 0-30 days)	426	48.1%	119	47.8%	0.344	0.007
At least 2 ED encounters (past 0-30 days)	153	17.3%	28	11.2%	6.043	0.173
At least 1 ED encounter (past 31-183 days)	408	46.1%	103	41.4%	4.736	0.096
At least 2 ED encounters (past 31-183 days)	201	22.7%	47	18.9%	3.836	0.095

[1]Value represents standard deviation where no % follows the value.[2]Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

Sentinel

Table 1v. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect, Stabilized (ATES), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 5+

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
Weighted patients	615	N/A	184	N/A	N/A	N/A
Demographic Characteristics						
Age (years)	59.1	5.4	59.0	5.2	0.088	0.016
Age						
21-49 years	39	6.4%	7	3.9%	2.490	0.112
50-64 years	575	93.6%	177	96.1%	-2.490	-0.112
Sex						
Female	439	71.5%	128	69.8%	1.671	0.036
Male	175	28.5%	55	30.2%	-1.671	-0.036
Race[3]						
American Indian or Alaska Native	2	0.3%	0	0.0%	NaN	NaN
Asian	0	0.0%	0	0.0%	NaN	NaN
Black or African American	52	8.5%	13	7.0%	1.559	0.064
Native Hawaiian or Other Pacific Islander	5	0.9%	0	0.0%	NaN	NaN
Unknown	422	68.6%	132	72.1%	-3.482	-0.145
White	133	21.7%	38	20.9%	0.747	0.025
Hispanic origin						
Yes	6	1.0%	3	1.5%	-0.516	-0.046
No	165	26.8%	35	18.9%	7.876	0.473
Unknown	444	72.2%	146	79.6%	-7.361	-0.450
Year						
2010	0	0.0%	5	2.9%	NaN	NaN
2011	0	0.0%	36	19.6%	NaN	NaN
2012	17	2.8%	33	18.2%	-15.395	-0.532
2013	41	6.6%	20	10.9%	-4.283	-0.151
2014	71	11.5%	9	5.2%	6.385	0.233
2015	48	7.8%	19	10.3%	-2.410	-0.084
2016	79	12.8%	21	11.3%	1.497	0.046
2017	73	11.9%	13	7.2%	4.746	0.162
2018	84	13.6%	12	6.8%	6.859	0.229
2019	55	8.9%	4	1.9%	6.937	0.309
2020	76	12.4%	8	4.3%	8.093	0.296

Sentinel

Table 1v. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect, Stabilized (ATES), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 5+

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
2021	61	9.9%	3	1.5%	8.411	0.368
2022	10	1.7%	0	0.0%	NaN	NaN
CHADSVASC						
mean, std	5.2	0.5	5.2	0.5	0.062	0.128
0	0	0.0%	0	0.0%	NaN	NaN
1	0	0.0%	0	0.0%	NaN	NaN
2	0	0.0%	0	0.0%	NaN	NaN
3	0	0.0%	0	0.0%	NaN	NaN
4	0	0.0%	0	0.0%	NaN	NaN
>= 5	615	100.0%	184	100.0%	0.000	NaN
HASBLED						
mean, std	1.7	0.8	1.7	0.7	0.043	0.056
0	4	0.6%	1	0.6%	0.036	0.005
1	269	43.7%	82	44.7%	-0.991	-0.020
2	245	39.9%	77	41.8%	-1.905	-0.039
>= 3	97	15.7%	24	12.9%	2.860	0.082
Health Characteristics						
Diabetes	542	88.2%	161	87.5%	0.735	0.023
Hypercholesterolemia	248	40.3%	63	34.1%	6.162	0.128
Hypertension	610	99.3%	183	99.6%	-0.276	-0.038
Kidney failure (chronic)	110	17.9%	28	15.2%	2.693	0.073
Kidney failure (acute)	103	16.8%	25	13.8%	3.020	0.084
Obesity	310	50.4%	97	52.7%	-2.314	-0.046
Peptic ulcer disease	1	0.2%	0	0.0%	NaN	NaN
Nicotine dependency	191	31.2%	55	30.0%	1.139	0.025
Hospitalized acute myocardial infarction (past 0-30 days)	45	7.4%	11	5.9%	1.416	0.057
Hospitalized acute myocardial infarction (past 31-183 days)	19	3.1%	6	3.2%	-0.126	-0.007
Coronary revascularization	115	18.7%	31	16.8%	1.928	0.050
Hospitalized heart failure	319	52.0%	98	53.5%	-1.498	-0.030
Outpatient heart failure	240	39.1%	68	36.9%	2.147	0.045

Sentinel

Table 1v. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect, Stabilized (ATES), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 5+

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
Other ischemic heart disease	331	53.8%	99	54.0%	-0.169	-0.003
Hospitalized stroke (past 0-30 days)	109	17.8%	36	19.8%	-2.041	-0.052
Hospitalized stroke (past 31-183 days)	58	9.5%	17	9.2%	0.240	0.008
Transient ischemic attack	293	47.7%	93	50.5%	-2.729	-0.054
Other medical conditions (falls, fractures, syncope, walker use)	234	38.1%	64	34.8%	3.330	0.069
Cardioversion	53	8.7%	16	8.8%	-0.078	-0.003
Cardioablation	22	3.6%	11	6.1%	-2.455	-0.114
Hospitalized for bleeding	7	1.2%	1	0.7%	0.476	0.048
Medical Product Use						
Estrogen replacement	20	3.2%	4	2.0%	1.140	0.071
H2-antagonist	42	6.9%	11	6.2%	0.668	0.027
Non-steroidal anti-inflammatory drugs (NSAIDs)	119	19.3%	29	15.6%	3.705	0.098
Proton pump inhibitors	188	30.6%	50	27.4%	3.147	0.070
Selective serotonin reuptake inhibitor (SSRI)	140	22.7%	38	20.7%	2.031	0.049
Insulin	203	33.1%	56	30.7%	2.398	0.052
Metformin (Biguanide)	285	46.4%	85	46.1%	0.232	0.005
Sulfonylureas	131	21.2%	38	20.8%	0.472	0.012
Other diabetes medications	136	22.2%	49	26.4%	-4.259	-0.099
Angiotensin converting enzyme inhibitor (ACEI)/Angiotensin II receptor blocker (ARB)	436	70.9%	131	71.1%	-0.174	-0.004
Antiarrhythmics	159	25.9%	40	21.6%	4.265	0.100
Anti-coagulant (injectable)	78	12.6%	22	11.8%	0.804	0.025
Anti-platelets	190	30.9%	52	28.0%	2.896	0.064
Beta-blockers	461	75.1%	139	75.9%	-0.832	-0.019
Calcium channel blockers	221	35.9%	68	36.8%	-0.826	-0.017
Digoxin	83	13.6%	23	12.4%	1.198	0.035
Diuretics (loop)	272	44.2%	77	42.2%	2.043	0.041
Diuretics (potassium sparing)	106	17.3%	26	14.4%	2.928	0.080
Diuretics (thiazide)	95	15.4%	26	13.9%	1.446	0.041
Nitrates	68	11.1%	19	10.1%	1.013	0.033
Statins	453	73.8%	134	73.0%	0.805	0.018

Sentinel

Table 1v. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect, Stabilized (ATES), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 5+

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
Fibrates	34	5.5%	7	3.7%	1.777	0.085
Amiodarone	87	14.2%	23	12.6%	1.668	0.049
Dronedarone	9	1.5%	2	1.1%	0.452	0.040
Health Service Utilization Intensity Metrics						
No emergency department (ED) encounters (past 0-	343	55.8%	103	56.2%	-0.353	-0.008
No ED encounters (past 31-183 days)	361	58.7%	111	60.2%	-1.498	-0.032
At least 1 ED encounter (past 0-30 days)	272	44.2%	81	43.8%	0.353	0.008
At least 2 ED encounters (past 0-30 days)	79	12.9%	18	10.0%	2.934	0.095
At least 1 ED encounter (past 31-183 days)	254	41.3%	73	39.8%	1.498	0.032
At least 2 ED encounters (past 31-183 days)	119	19.3%	36	19.5%	-0.192	-0.005

[1]Weighted patient characteristics tables facilitate the assessment of covariate balance after inverse probability weighting and should not be interpreted as a description of the unweighted population. Treated patients are weighted by the proportion of treated patients in the trimmed population divided by the inverse of their propensity score (PS). Reference patients are weighted by 1 minus the proportion of treated patients in the trimmed population divided by 1 minus their PS.

[2]Value represents standard deviation where no % follows the value.

[3]Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

Sentinel

Table 1w. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 0

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Unique patients	15,304	100.0%	5,817	100.0%	N/A	N/A
Demographic Characteristics						
Age (years)	54.0	8.8	54.0	8.4	-0.011	-0.001
Age						
21-49 years	3,957	25.9%	1,501	25.8%	0.052	0.001
50-64 years	11,347	74.1%	4,316	74.2%	-0.052	-0.001
Sex						
Female	3,705	24.2%	1,203	20.7%	3.529	0.085
Male	11,599	75.8%	4,614	79.3%	-3.529	-0.085
Race[2]						
American Indian or Alaska Native	12	0.1%	7	0.1%	-0.042	-0.013
Asian	47	0.3%	27	0.5%	-0.157	-0.025
Black or African American	123	0.8%	23	0.4%	0.408	0.053
Native Hawaiian or Other Pacific Islander	5	0.0%	2	0.0%	-0.002	-0.001
Unknown	13,148	85.9%	4,958	85.2%	0.679	0.019
White	1,969	12.9%	800	13.8%	-0.887	-0.026
Hispanic origin						
Yes	77	0.5%	28	0.5%	0.022	0.003
No	495	3.2%	155	2.7%	0.570	0.034
Unknown	14,732	96.3%	5,634	96.9%	-0.592	-0.032
Year						
2010	0	0.0%	138	2.4%	NaN	NaN
2011	9	0.1%	2,123	36.5%	-36.438	-1.069
2012	835	5.5%	1,430	24.6%	-19.127	-0.556
2013	1,686	11.0%	758	13.0%	-2.014	-0.062
2014	2,008	13.1%	372	6.4%	6.726	0.228
2015	1,876	12.3%	256	4.4%	7.857	0.287
2016	1,669	10.9%	295	5.1%	5.834	0.216
2017	1,674	10.9%	184	3.2%	7.775	0.307
2018	1,638	10.7%	128	2.2%	8.503	0.351
2019	1,384	9.0%	75	1.3%	7.754	0.356
2020	1,167	7.6%	37	0.6%	6.989	0.357
2021	1,249	8.2%	20	0.3%	7.817	0.395

Sentinel

Table 1w. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 0

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
2022	109	0.7%	1	0.0%	0.695	0.115
CHADSVASC						
mean, std	0.5	0.7	0.4	0.7	0.033	0.048
0	9,679	63.2%	3,807	65.4%	-2.201	-0.046
1	4,460	29.1%	1,604	27.6%	1.568	0.035
2	899	5.9%	333	5.7%	0.150	0.006
3	234	1.5%	62	1.1%	0.463	0.041
4	29	0.2%	8	0.1%	0.052	0.013
>= 5	3	0.0%	3	0.1%	-0.032	-0.017
HASBLED						
mean, std	0.0	NaN	0.0	NaN	NaN	NaN
0	15,304	100.0%	5,817	100.0%	0.000	NaN
1	0	0.0%	0	0.0%	NaN	NaN
2	0	0.0%	0	0.0%	NaN	NaN
>= 3	0	0.0%	0	0.0%	NaN	NaN
Health Characteristics						
Diabetes	1,200	7.8%	472	8.1%	-0.273	-0.010
Hypercholesterolemia	2,052	13.4%	817	14.0%	-0.637	-0.019
Hypertension	414	2.7%	98	1.7%	1.020	0.070
Kidney failure (chronic)	9	0.1%	2	0.0%	0.024	0.011
Kidney failure (acute)	223	1.5%	56	1.0%	0.494	0.045
Obesity	2,669	17.4%	618	10.6%	6.816	0.197
Peptic ulcer disease	0	0.0%	0	0.0%	NaN	NaN
Nicotine dependency	2,453	16.0%	717	12.3%	3.703	0.106
Hospitalized acute myocardial infarction (past 0-30 days)	99	0.6%	34	0.6%	0.062	0.008
Hospitalized acute myocardial infarction (past 31-183 days)	25	0.2%	7	0.1%	0.043	0.011
Coronary revascularization	310	2.0%	131	2.3%	-0.226	-0.016
Hospitalized heart failure	807	5.3%	368	6.3%	-1.053	-0.045
Outpatient heart failure	986	6.4%	408	7.0%	-0.571	-0.023
Other ischemic heart disease	1,920	12.5%	788	13.5%	-1.001	-0.030
Hospitalized stroke (past 0-30 days)	0	0.0%	0	0.0%	NaN	NaN

Sentinel

Table 1w. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 0

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Hospitalized stroke (past 31-183 days)	0	0.0%	0	0.0%	NaN	NaN
Transient ischemic attack	275	1.8%	89	1.5%	0.267	0.021
Other medical conditions (falls, fractures, syncope, walker use)	3,446	22.5%	1,334	22.9%	-0.416	-0.010
Cardioversion	2,509	16.4%	996	17.1%	-0.728	-0.019
Cardioablation	938	6.1%	523	9.0%	-2.862	-0.108
Hospitalized for bleeding	0	0.0%	0	0.0%	NaN	NaN
Medical Product Use						
Estrogen replacement	353	2.3%	147	2.5%	-0.220	-0.014
H2-antagonist	146	1.0%	47	0.8%	0.146	0.016
Non-steroidal anti-inflammatory drugs (NSAIDs)	1,744	11.4%	694	11.9%	-0.535	-0.017
Proton pump inhibitors	1,950	12.7%	673	11.6%	1.172	0.036
Selective serotonin reuptake inhibitor (SSRI)	1,230	8.0%	445	7.6%	0.387	0.014
Insulin	233	1.5%	84	1.4%	0.078	0.006
Metformin (Biguanide)	797	5.2%	303	5.2%	-0.001	-0.000
Sulfonylureas	240	1.6%	112	1.9%	-0.357	-0.027
Other diabetes medications	310	2.0%	117	2.0%	0.014	0.001
Angiotensin converting enzyme inhibitor (ACEI)/Angiotensin II receptor blocker (ARB)	2,053	13.4%	974	16.7%	-3.329	-0.093
Antiarrhythmics	4,598	30.0%	2,130	36.6%	-6.572	-0.140
Anti-coagulant (injectable)	1,497	9.8%	413	7.1%	2.682	0.097
Anti-platelets	748	4.9%	223	3.8%	1.054	0.052
Beta-blockers	8,694	56.8%	3,408	58.6%	-1.778	-0.036
Calcium channel blockers	2,901	19.0%	1,197	20.6%	-1.622	-0.041
Digoxin	845	5.5%	539	9.3%	-3.745	-0.143
Diuretics (loop)	1,092	7.1%	468	8.0%	-0.910	-0.034
Diuretics (potassium sparing)	456	3.0%	221	3.8%	-0.820	-0.045
Diuretics (thiazide)	222	1.5%	103	1.8%	-0.320	-0.025
Nitrates	225	1.5%	91	1.6%	-0.094	-0.008
Statins	3,477	22.7%	1,431	24.6%	-1.881	-0.044
Fibrates	225	1.5%	103	1.8%	-0.300	-0.024
Amiodarone	876	5.7%	401	6.9%	-1.170	-0.048
Dronedarone	509	3.3%	420	7.2%	-3.894	-0.175

Sentinel

Table 1w. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 0

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Health Service Utilization Intensity Metrics						
No emergency department (ED) encounters (past 0-	11,041	72.1%	4,478	77.0%	-4.837	-0.111
No ED encounters (past 31-183 days)	13,389	87.5%	5,181	89.1%	-1.580	-0.049
At least 1 ED encounter (past 0-30 days)	4,263	27.9%	1,339	23.0%	4.837	0.111
At least 2 ED encounters (past 0-30 days)	705	4.6%	198	3.4%	1.203	0.061
At least 1 ED encounter (past 31-183 days)	1,915	12.5%	636	10.9%	1.580	0.049
At least 2 ED encounters (past 31-183 days)	438	2.9%	127	2.2%	0.679	0.043

[1]Value represents standard deviation where no % follows the value.

[2]Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

Sentinel

Table 1x. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect, Stabilized (ATES), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 0

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
Weighted patients	15,119	N/A	5,640	N/A	N/A	N/A
Demographic Characteristics						
Age (years)	54.1	8.8	54.0	8.4	0.058	0.007
Age						
21-49 years	3,880	25.7%	1,460	25.9%	-0.228	-0.005
50-64 years	11,238	74.3%	4,179	74.1%	0.228	0.005
Sex						
Female	3,496	23.1%	1,269	22.5%	0.621	0.015
Male	11,623	76.9%	4,371	77.5%	-0.621	-0.015
Race[3]						
American Indian or Alaska Native	11	0.1%	6	0.1%	-0.028	-0.010
Asian	49	0.3%	22	0.4%	-0.057	-0.010
Black or African American	102	0.7%	22	0.4%	0.295	0.041
Native Hawaiian or Other Pacific Islander	5	0.0%	3	0.1%	-0.015	-0.007
Unknown	13,067	86.4%	4,835	85.7%	0.704	0.027
White	1,884	12.5%	753	13.4%	-0.898	-0.035
Hispanic origin						
Yes	77	0.5%	27	0.5%	0.032	0.005
No	399	2.6%	135	2.4%	0.250	0.019
Unknown	14,643	96.9%	5,478	97.1%	-0.281	-0.019
Year						
2010	0	0.0%	122	2.2%	NaN	NaN
2011	10	0.1%	1,961	34.8%	-34.711	-1.030
2012	896	5.9%	1,351	24.0%	-18.028	-0.523
2013	1,757	11.6%	753	13.3%	-1.724	-0.052
2014	2,041	13.5%	375	6.6%	6.857	0.229
2015	1,881	12.4%	264	4.7%	7.757	0.280
2016	1,639	10.8%	320	5.7%	5.170	0.189
2017	1,626	10.8%	204	3.6%	7.138	0.279
2018	1,573	10.4%	144	2.6%	7.854	0.323
2019	1,305	8.6%	83	1.5%	7.157	0.331
2020	1,102	7.3%	41	0.7%	6.563	0.340

Sentinel

Table 1x. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect, Stabilized (ATES), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 0

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
2021	1,184	7.8%	21	0.4%	7.457	0.383
2022	106	0.7%	1	0.0%	0.672	0.112
CHADSVASC						
mean, std	0.4	0.7	0.4	0.7	0.007	0.010
0	9,690	64.1%	3,647	64.7%	-0.578	-0.012
1	4,338	28.7%	1,591	28.2%	0.486	0.011
2	872	5.8%	324	5.7%	0.030	0.001
3	189	1.3%	67	1.2%	0.070	0.006
4	25	0.2%	9	0.2%	0.006	0.001
>= 5	4	0.0%	2	0.0%	-0.014	-0.008
HASBLED						
mean, std	0.0	NaN	0.0	NaN	0.000	NaN
0	15,119	100.0%	5,640	100.0%	0.000	NaN
1	0	0.0%	0	0.0%	NaN	NaN
2	0	0.0%	0	0.0%	NaN	NaN
>= 3	0	0.0%	0	0.0%	NaN	NaN
Health Characteristics						
Diabetes	1,169	7.7%	436	7.7%	0.010	0.000
Hypercholesterolemia	2,054	13.6%	767	13.6%	-0.018	-0.001
Hypertension	346	2.3%	120	2.1%	0.158	0.011
Kidney failure (chronic)	5	0.0%	1	0.0%	0.008	0.005
Kidney failure (acute)	192	1.3%	67	1.2%	0.089	0.008
Obesity	2,334	15.4%	796	14.1%	1.326	0.037
Peptic ulcer disease	0	0.0%	0	0.0%	NaN	NaN
Nicotine dependency	2,241	14.8%	784	13.9%	0.921	0.026
Hospitalized acute myocardial infarction (past 0-30 days)	90	0.6%	33	0.6%	0.011	0.001
Hospitalized acute myocardial infarction (past 31-183 days)	15	0.1%	5	0.1%	0.013	0.004
Coronary revascularization	307	2.0%	115	2.0%	-0.001	-0.000
Hospitalized heart failure	827	5.5%	318	5.6%	-0.166	-0.007
Outpatient heart failure	978	6.5%	370	6.6%	-0.084	-0.003

Sentinel

Table 1x. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect, Stabilized (ATES), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 0

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
Other ischemic heart disease	1,915	12.7%	717	12.7%	-0.046	-0.001
Hospitalized stroke (past 0-30 days)	0	0.0%	0	0.0%	NaN	NaN
Hospitalized stroke (past 31-183 days)	0	0.0%	0	0.0%	NaN	NaN
Transient ischemic attack	258	1.7%	95	1.7%	0.024	0.002
Other medical conditions (falls, fractures, syncope, walker use)	3,415	22.6%	1,272	22.6%	0.030	0.001
Cardioversion	2,516	16.6%	945	16.8%	-0.116	-0.003
Cardioablation	1,019	6.7%	391	6.9%	-0.188	-0.007
Hospitalized for bleeding	0	0.0%	0	0.0%	NaN	NaN
Medical Product Use						
Estrogen replacement	355	2.3%	133	2.4%	-0.009	-0.001
H2-antagonist	137	0.9%	47	0.8%	0.069	0.007
Non-steroidal anti-inflammatory drugs (NSAIDs)	1,739	11.5%	653	11.6%	-0.076	-0.002
Proton pump inhibitors	1,862	12.3%	685	12.1%	0.178	0.005
Selective serotonin reuptake inhibitor (SSRI)	1,174	7.8%	425	7.5%	0.235	0.009
Insulin	214	1.4%	78	1.4%	0.024	0.002
Metformin (Biguanide)	773	5.1%	283	5.0%	0.084	0.004
Sulfonylureas	245	1.6%	95	1.7%	-0.065	-0.005
Other diabetes medications	302	2.0%	108	1.9%	0.084	0.006
Angiotensin converting enzyme inhibitor (ACEI)/Angiotensin II receptor blocker (ARB)	2,145	14.2%	818	14.5%	-0.325	-0.009
Antiarrhythmics	4,798	31.7%	1,841	32.6%	-0.910	-0.019
Anti-coagulant (injectable)	1,370	9.1%	456	8.1%	0.979	0.036
Anti-platelets	681	4.5%	229	4.1%	0.449	0.022
Beta-blockers	8,654	57.2%	3,224	57.2%	0.079	0.002
Calcium channel blockers	2,930	19.4%	1,098	19.5%	-0.081	-0.002
Digoxin	978	6.5%	391	6.9%	-0.464	-0.019
Diuretics (loop)	1,092	7.2%	406	7.2%	0.027	0.001
Diuretics (potassium sparing)	474	3.1%	179	3.2%	-0.038	-0.002
Diuretics (thiazide)	229	1.5%	83	1.5%	0.045	0.004
Nitrates	214	1.4%	79	1.4%	0.008	0.001
Statins	3,491	23.1%	1,298	23.0%	0.082	0.002

Sentinel

Table 1x. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect, Stabilized (ATES), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 0

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
Fibrates	235	1.6%	90	1.6%	-0.048	-0.004
Amiodarone	903	6.0%	344	6.1%	-0.131	-0.006
Dronedarone	648	4.3%	270	4.8%	-0.500	-0.024
Health Service Utilization Intensity Metrics						
No emergency department (ED) encounters (past 0-	11,147	73.7%	4,170	73.9%	-0.212	-0.005
No ED encounters (past 31-183 days)	13,332	88.2%	4,989	88.5%	-0.274	-0.009
At least 1 ED encounter (past 0-30 days)	3,971	26.3%	1,470	26.1%	0.212	0.005
At least 2 ED encounters (past 0-30 days)	637	4.2%	226	4.0%	0.199	0.010
At least 1 ED encounter (past 31-183 days)	1,787	11.8%	651	11.5%	0.274	0.009
At least 2 ED encounters (past 31-183 days)	382	2.5%	138	2.4%	0.085	0.005

[1]Weighted patient characteristics tables facilitate the assessment of covariate balance after inverse probability weighting and should not be interpreted as a description of the unweighted population. Treated patients are weighted by the proportion of treated patients in the trimmed population divided by the inverse of their propensity score (PS). Reference patients are weighted by 1 minus the proportion of treated patients in the trimmed population divided by 1 minus their PS.

[2]Value represents standard deviation where no % follows the value.

[3]Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

Sentinel

Table 1y. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 1

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Unique patients	32,170	100.0%	11,460	100.0%	N/A	N/A
Demographic Characteristics						
Age (years)	57.0	6.7	57.0	6.7	-0.043	-0.006
Age						
21-49 years	4,506	14.0%	1,625	14.2%	-0.173	-0.005
50-64 years	27,664	86.0%	9,835	85.8%	0.173	0.005
Sex						
Female	8,303	25.8%	2,690	23.5%	2.337	0.054
Male	23,867	74.2%	8,770	76.5%	-2.337	-0.054
Race[2]						
American Indian or Alaska Native	28	0.1%	11	0.1%	-0.009	-0.003
Asian	95	0.3%	31	0.3%	0.025	0.005
Black or African American	723	2.2%	167	1.5%	0.790	0.059
Native Hawaiian or Other Pacific Islander	39	0.1%	8	0.1%	0.051	0.017
Unknown	26,429	82.2%	9,483	82.7%	-0.595	-0.016
White	4,856	15.1%	1,760	15.4%	-0.263	-0.007
Hispanic origin						
Yes	213	0.7%	59	0.5%	0.147	0.019
No	2,633	8.2%	723	6.3%	1.876	0.072
Unknown	29,324	91.2%	10,678	93.2%	-2.023	-0.075
Year						
2010	0	0.0%	287	2.5%	NaN	NaN
2011	34	0.1%	3,894	34.0%	-33.873	-1.009
2012	1,572	4.9%	2,601	22.7%	-17.810	-0.535
2013	3,275	10.2%	1,311	11.4%	-1.259	-0.041
2014	4,199	13.1%	923	8.1%	4.998	0.163
2015	3,753	11.7%	608	5.3%	6.361	0.230
2016	3,659	11.4%	742	6.5%	4.899	0.172
2017	3,718	11.6%	483	4.20%	7.343	0.275
2018	3,481	10.8%	299	2.6%	8.212	0.333
2019	3,070	9.5%	156	1.4%	8.182	0.366
2020	2,479	7.7%	88	0.8%	6.938	0.350
2021	2,715	8.4%	65	0.6%	7.872	0.387

Sentinel

Table 1y. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 1

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
2022	215	0.7%	3	0.0%	0.642	0.109
CHADSVASC						
mean, std	1.8	1.0	1.8	0.9	0.080	0.084
0	856	2.7%	307	2.7%	-0.018	-0.001
1	13,287	41.3%	4,958	43.3%	-1.961	-0.040
2	11,019	34.3%	4,123	36.0%	-1.725	-0.036
3	4,915	15.3%	1,550	13.5%	1.753	0.050
4	1,724	5.4%	418	3.6%	1.712	0.083
>= 5	369	1.1%	104	0.9%	0.240	0.024
HASBLED						
mean, std	1.0	0.0	1.0	0.0	0.000	NaN
0	0	0.0%	0	0.0%	NaN	NaN
1	32,170	100.0%	11,460	100.0%	0.000	NaN
2	0	0.0%	0	0.0%	NaN	NaN
>= 3	0	0.0%	0	0.0%	NaN	NaN
Health Characteristics						
Diabetes	9,566	29.7%	3,374	29.4%	0.294	0.006
Hypercholesterolemia	9,414	29.3%	3,549	31.0%	-1.705	-0.037
Hypertension	30,241	94.0%	10,787	94.1%	-0.124	-0.005
Kidney failure (chronic)	209	0.6%	61	0.5%	0.117	0.015
Kidney failure (acute)	1,004	3.1%	239	2.1%	1.035	0.065
Obesity	11,798	36.7%	2,908	25.4%	11.299	0.246
Peptic ulcer disease	20	0.1%	11	0.1%	-0.034	-0.012
Nicotine dependency	7,330	22.8%	1,840	16.1%	6.729	0.171
Hospitalized acute myocardial infarction (past 0-30 days)	509	1.6%	133	1.2%	0.422	0.036
Hospitalized acute myocardial infarction (past 31-183 days)	222	0.7%	49	0.4%	0.263	0.035
Coronary revascularization	2,314	7.2%	785	6.8%	0.343	0.013
Hospitalized heart failure	3,946	12.3%	1,212	10.6%	1.690	0.053
Outpatient heart failure	4,168	13.0%	1,365	11.9%	1.045	0.032
Other ischemic heart disease	8,719	27.1%	3,149	27.5%	-0.375	-0.008
Hospitalized stroke (past 0-30 days)	89	0.3%	40	0.3%	-0.072	-0.013

Sentinel

Table 1y. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 1

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Hospitalized stroke (past 31-183 days)	34	0.1%	15	0.1%	-0.025	-0.007
Transient ischemic attack	803	2.5%	348	3.0%	-0.541	-0.033
Other medical conditions (falls, fractures, syncope, walker use)	7,664	23.8%	2,791	24.4%	-0.531	-0.012
Cardioversion	5,160	16.0%	1,912	16.7%	-0.644	-0.017
Cardioablation	1,334	4.1%	609	5.3%	-1.167	-0.055
Hospitalized for bleeding	15	0.0%	12	0.1%	-0.058	-0.021
Medical Product Use						
Estrogen replacement	603	1.9%	227	2.0%	-0.106	-0.008
H2-antagonist	715	2.2%	219	1.9%	0.312	0.022
Non-steroidal anti-inflammatory drugs (NSAIDs)	5,395	16.8%	1,809	15.8%	0.985	0.027
Proton pump inhibitors	5,887	18.3%	1,970	17.2%	1.109	0.029
Selective serotonin reuptake inhibitor (SSRI)	3,609	11.2%	1,206	10.5%	0.695	0.022
Insulin	2,083	6.5%	739	6.4%	0.026	0.001
Metformin (Biguanide)	6,155	19.1%	2,021	17.6%	1.497	0.039
Sulfonylureas	2,269	7.1%	915	8.0%	-0.931	-0.035
Other diabetes medications	2,701	8.4%	925	8.1%	0.324	0.012
Angiotensin converting enzyme inhibitor (ACEI)/Angiotensin II receptor blocker (ARB)	19,375	60.2%	6,726	58.7%	1.536	0.031
Antiarrhythmics	9,136	28.4%	4,040	35.3%	-6.854	-0.148
Anti-coagulant (injectable)	3,318	10.3%	785	6.8%	3.464	0.124
Anti-platelets	3,339	10.4%	953	8.3%	2.063	0.071
Beta-blockers	22,660	70.4%	8,106	70.7%	-0.295	-0.006
Calcium channel blockers	10,593	32.9%	4,025	35.1%	-2.194	-0.046
Digoxin	2,224	6.9%	1,250	10.9%	-3.994	-0.141
Diuretics (loop)	5,250	16.3%	1,727	15.1%	1.250	0.034
Diuretics (potassium sparing)	2,433	7.6%	764	6.7%	0.896	0.035
Diuretics (thiazide)	3,824	11.9%	1,229	10.7%	1.163	0.037
Nitrates	1,504	4.7%	537	4.7%	-0.011	-0.001
Statins	14,890	46.3%	5,345	46.6%	-0.355	-0.007
Fibrates	1,449	4.5%	671	5.9%	-1.351	-0.061
Amiodarone	2,852	8.9%	993	8.7%	0.200	0.007
Dronedarone	1,008	3.1%	857	7.5%	-4.345	-0.195

Sentinel

Table 1y. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 1

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Health Service Utilization Intensity Metrics						
No emergency department (ED) encounters (past 0-	22,980	71.4%	8,458	73.8%	-2.372	-0.053
No ED encounters (past 31-183 days)	26,515	82.4%	9,721	84.8%	-2.404	-0.065
At least 1 ED encounter (past 0-30 days)	9,190	28.6%	3,002	26.2%	2.372	0.053
At least 2 ED encounters (past 0-30 days)	1,886	5.9%	518	4.5%	1.343	0.061
At least 1 ED encounter (past 31-183 days)	5,655	17.6%	1,739	15.2%	2.404	0.065
At least 2 ED encounters (past 31-183 days)	1,610	5.0%	429	3.7%	1.261	0.062

[1]Value represents standard deviation where no % follows the value.

[2]Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

Sentinel

Table 1z. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect, Stabilized (ATES), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 1

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
Weighted patients	32,007	N/A	11,126	N/A	N/A	N/A
Demographic Characteristics						
Age (years)	57.0	6.7	56.9	6.8	0.055	0.008
Age						
21-49 years	4,440	13.9%	1,625	14.6%	-0.737	-0.021
50-64 years	27,567	86.1%	9,500	85.4%	0.737	0.021
Sex						
Female	8,071	25.2%	2,745	24.7%	0.545	0.013
Male	23,936	74.8%	8,381	75.3%	-0.545	-0.013
Race[3]						
American Indian or Alaska Native	28	0.1%	11	0.1%	-0.010	-0.003
Asian	97	0.3%	28	0.3%	0.048	0.009
Black or African American	681	2.1%	178	1.6%	0.529	0.041
Native Hawaiian or Other Pacific Islander	40	0.1%	10	0.1%	0.036	0.011
Unknown	26,360	82.4%	9,213	82.8%	-0.451	-0.017
White	4,802	15.0%	1,686	15.2%	-0.152	-0.006
Hispanic origin						
Yes	208	0.6%	56	0.5%	0.141	0.019
No	2,545	8.0%	726	6.5%	1.430	0.088
Unknown	29,254	91.4%	10,343	93.0%	-1.571	-0.089
Year						
2010	0	0.0%	252	2.3%	NaN	NaN
2011	39	0.1%	3,557	32.0%	-31.847	-0.965
2012	1,706	5.3%	2,456	22.1%	-16.747	-0.503
2013	3,461	10.8%	1,256	11.3%	-0.477	-0.015
2014	4,343	13.6%	919	8.3%	5.303	0.171
2015	3,804	11.9%	628	5.6%	6.244	0.222
2016	3,619	11.3%	809	7.3%	4.034	0.139
2017	3,612	11.3%	530	4.8%	6.525	0.242
2018	3,345	10.5%	345	3.1%	7.347	0.296
2019	2,943	9.2%	183	1.6%	7.550	0.338
2020	2,356	7.4%	105	0.9%	6.420	0.326

Sentinel

Table 1z. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect, Stabilized (ATES), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 1

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
2021	2,573	8.0%	82	0.7%	7.304	0.363
2022	206	0.6%	4	0.0%	0.610	0.105
CHADSVASC						
mean, std	1.8	1.0	1.8	0.9	0.030	0.031
0	848	2.6%	299	2.7%	-0.039	-0.002
1	13,384	41.8%	4,746	42.7%	-0.845	-0.017
2	11,122	34.7%	3,901	35.1%	-0.315	-0.007
3	4,755	14.9%	1,596	14.3%	0.514	0.015
4	1,550	4.8%	475	4.3%	0.576	0.028
>= 5	348	1.1%	109	1.0%	0.110	0.011
HASBLED						
mean, std	1.0	0.0	1.0	0.0	0.000	NaN
0	0	0.0%	0	0.0%	NaN	NaN
1	32,007	100.0%	11,126	100.0%	0.000	NaN
2	0	0.0%	0	0.0%	NaN	NaN
>= 3	0	0.0%	0	0.0%	NaN	NaN
Health Characteristics						
Diabetes	9,488	29.6%	3,231	29.0%	0.603	0.013
Hypercholesterolemia	9,495	29.7%	3,320	29.8%	-0.176	-0.004
Hypertension	30,109	94.1%	10,471	94.1%	-0.046	-0.002
Kidney failure (chronic)	196	0.6%	65	0.6%	0.024	0.003
Kidney failure (acute)	904	2.8%	278	2.5%	0.323	0.020
Obesity	10,798	33.7%	3,529	31.7%	2.020	0.043
Peptic ulcer disease	15	0.0%	6	0.1%	-0.002	-0.001
Nicotine dependency	6,707	21.0%	2,142	19.3%	1.698	0.043
Hospitalized acute myocardial infarction (past 0-30 days)	454	1.4%	143	1.3%	0.132	0.011
Hospitalized acute myocardial infarction (past 31-183 days)	196	0.6%	57	0.5%	0.102	0.014
Coronary revascularization	2,255	7.0%	765	6.9%	0.168	0.007
Hospitalized heart failure	3,785	11.8%	1,249	11.2%	0.603	0.019
Outpatient heart failure	4,063	12.7%	1,355	12.2%	0.518	0.016

Sentinel

Table 1z. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect, Stabilized (ATES), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 1

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
Other ischemic heart disease	8,696	27.2%	3,026	27.2%	-0.031	-0.001
Hospitalized stroke (past 0-30 days)	93	0.3%	33	0.3%	-0.006	-0.001
Hospitalized stroke (past 31-183 days)	36	0.1%	15	0.1%	-0.022	-0.006
Transient ischemic attack	844	2.6%	306	2.8%	-0.118	-0.007
Other medical conditions (falls, fractures, syncope, walker use)	7,677	24.0%	2,676	24.1%	-0.068	-0.002
Cardioversion	5,189	16.2%	1,826	16.4%	-0.200	-0.005
Cardioablation	1,425	4.5%	509	4.6%	-0.120	-0.006
Hospitalized for bleeding	18	0.1%	7	0.1%	-0.010	-0.004
Medical Product Use						
Estrogen replacement	606	1.9%	216	1.9%	-0.047	-0.003
H2-antagonist	696	2.2%	211	1.9%	0.276	0.020
Non-steroidal anti-inflammatory drugs (NSAIDs)	5,291	16.5%	1,820	16.4%	0.174	0.005
Proton pump inhibitors	5,772	18.0%	1,967	17.7%	0.353	0.009
Selective serotonin reuptake inhibitor (SSRI)	3,548	11.1%	1,213	10.9%	0.182	0.006
Insulin	2,070	6.5%	702	6.3%	0.160	0.007
Metformin (Biguanide)	5,989	18.7%	2,002	18.0%	0.722	0.019
Sulfonylureas	2,327	7.3%	803	7.2%	0.055	0.002
Other diabetes medications	2,651	8.3%	895	8.0%	0.240	0.009
Angiotensin converting enzyme inhibitor (ACEI)/Angiotensin II receptor blocker (ARB)	19,143	59.8%	6,602	59.3%	0.468	0.010
Antiarrhythmics	9,625	30.1%	3,474	31.2%	-1.150	-0.025
Anti-coagulant (injectable)	3,053	9.5%	903	8.1%	1.423	0.051
Anti-platelets	3,135	9.8%	1,029	9.2%	0.547	0.019
Beta-blockers	22,583	70.6%	7,855	70.6%	-0.044	-0.001
Calcium channel blockers	10,720	33.5%	3,776	33.9%	-0.444	-0.009
Digoxin	2,534	7.9%	932	8.4%	-0.464	-0.017
Diuretics (loop)	5,129	16.0%	1,717	15.4%	0.589	0.016
Diuretics (potassium sparing)	2,342	7.3%	781	7.0%	0.295	0.011
Diuretics (thiazide)	3,710	11.6%	1,254	11.3%	0.318	0.010
Nitrates	1,502	4.7%	512	4.6%	0.091	0.004
Statins	14,827	46.3%	5,114	46.0%	0.359	0.007

Sentinel

Table 1z. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect, Stabilized (ATES), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 1

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
Fibrates	1,545	4.8%	558	5.0%	-0.191	-0.009
Amiodarone	2,828	8.8%	990	8.9%	-0.060	-0.002
Dronedarone	1,320	4.1%	544	4.9%	-0.766	-0.037
Health Service Utilization Intensity Metrics						
No emergency department (ED) encounters (past 0-	23,202	72.5%	8,003	71.9%	0.562	0.013
No ED encounters (past 31-183 days)	26,617	83.2%	9,316	83.7%	-0.573	-0.016
At least 1 ED encounter (past 0-30 days)	8,805	27.5%	3,123	28.1%	-0.562	-0.013
At least 2 ED encounters (past 0-30 days)	1,716	5.4%	585	5.3%	0.103	0.005
At least 1 ED encounter (past 31-183 days)	5,390	16.8%	1,810	16.3%	0.573	0.016
At least 2 ED encounters (past 31-183 days)	1,470	4.6%	477	4.3%	0.308	0.015

[1]Weighted patient characteristics tables facilitate the assessment of covariate balance after inverse probability weighting and should not be interpreted as a description of the unweighted population. Treated patients are weighted by the proportion of treated patients in the trimmed population divided by the inverse of their propensity score (PS). Reference patients are weighted by 1 minus the proportion of treated patients in the trimmed population divided by 1 minus their PS.

[2]Value represents standard deviation where no % follows the value.

[3]Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

Sentinel

Table 1aa. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 2

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Unique patients	7,964	100.0%	2,434	100.0%	N/A	N/A
Demographic Characteristics						
Age (years)	57.2	6.5	57.3	6.5	-0.141	-0.022
Age						
21-49 years	1,091	13.7%	323	13.3%	0.429	0.013
50-64 years	6,873	86.3%	2,111	86.7%	-0.429	-0.013
Sex						
Female	2,156	27.1%	672	27.6%	-0.537	-0.012
Male	5,808	72.9%	1,762	72.4%	0.537	0.012
Race[2]						
American Indian or Alaska Native	7	0.1%	3	0.1%	-0.035	-0.011
Asian	24	0.3%	7	0.3%	0.014	0.003
Black or African American	346	4.3%	74	3.0%	1.304	0.069
Native Hawaiian or Other Pacific Islander	9	0.1%	3	0.1%	-0.010	-0.003
Unknown	6,091	76.5%	1,924	79.0%	-2.565	-0.062
White	1,487	18.7%	423	17.4%	1.293	0.034
Hispanic origin						
Yes	67	0.8%	22	0.9%	-0.063	-0.007
No	1,155	14.5%	286	11.8%	2.753	0.082
Unknown	6,742	84.7%	2,126	87.3%	-2.690	-0.078
Year						
2010	0	0.0%	48	2.0%	NaN	NaN
2011	5	0.1%	701	28.8%	-28.738	-0.896
2012	279	3.5%	544	22.4%	-18.847	-0.585
2013	679	8.5%	277	11.4%	-2.855	-0.095
2014	916	11.5%	186	7.6%	3.860	0.131
2015	861	10.8%	150	6.2%	4.648	0.167
2016	872	10.9%	187	7.7%	3.266	0.113
2017	998	12.5%	144	5.9%	6.615	0.230
2018	945	11.9%	93	3.8%	8.045	0.303
2019	849	10.7%	57	2.3%	8.319	0.342
2020	755	9.5%	30	1.2%	8.248	0.373
2021	757	9.5%	16	0.7%	8.848	0.411

Sentinel

Table 1aa. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 2

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
2022	48	0.6%	1	0.0%	0.562	0.099
CHADSVASC						
mean, std	2.3	1.2	2.3	1.1	0.047	0.041
0	74	0.9%	22	0.9%	0.025	0.003
1	2,043	25.7%	659	27.1%	-1.422	-0.032
2	2,655	33.3%	833	34.2%	-0.886	-0.019
3	1,887	23.7%	539	22.1%	1.550	0.037
4	971	12.2%	284	11.7%	0.524	0.016
>= 5	334	4.2%	97	4.0%	0.209	0.011
HASBLED						
mean, std	2.0	0.0	2.0	0.0	0.000	NaN
0	0	0.0%	0	0.0%	NaN	NaN
1	0	0.0%	0	0.0%	NaN	NaN
2	7,964	100.0%	2,434	100.0%	0.000	NaN
>= 3	0	0.0%	0	0.0%	NaN	NaN
Health Characteristics						
Diabetes	3,255	40.9%	986	40.5%	0.362	0.007
Hypercholesterolemia	2,609	32.8%	842	34.6%	-1.833	-0.039
Hypertension	7,773	97.6%	2,373	97.5%	0.108	0.007
Kidney failure (chronic)	1,600	20.1%	464	19.1%	1.027	0.026
Kidney failure (acute)	984	12.4%	241	9.9%	2.454	0.078
Obesity	3,531	44.3%	843	34.6%	9.703	0.199
Peptic ulcer disease	74	0.9%	27	1.1%	-0.180	-0.018
Nicotine dependency	2,590	32.5%	585	24.0%	8.487	0.189
Hospitalized acute myocardial infarction (past 0-30 days)	239	3.0%	49	2.0%	0.988	0.063
Hospitalized acute myocardial infarction (past 31-183 days)	126	1.6%	31	1.3%	0.308	0.026
Coronary revascularization	926	11.6%	290	11.9%	-0.287	-0.009
Hospitalized heart failure	1,841	23.1%	502	20.6%	2.492	0.060
Outpatient heart failure	1,674	21.0%	469	19.3%	1.751	0.044
Other ischemic heart disease	2,938	36.9%	916	37.6%	-0.743	-0.015
Hospitalized stroke (past 0-30 days)	339	4.3%	140	5.8%	-1.495	-0.069

Sentinel

Table 1aa. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 2

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Hospitalized stroke (past 31-183 days)	155	1.9%	63	2.6%	-0.642	-0.043
Transient ischemic attack	420	5.3%	174	7.1%	-1.875	-0.078
Other medical conditions (falls, fractures, syncope, walker use)	2,514	31.6%	765	31.4%	0.137	0.003
Cardioversion	1,349	16.9%	440	18.1%	-1.139	-0.030
Cardioablation	315	4.0%	138	5.7%	-1.714	-0.080
Hospitalized for bleeding	94	1.2%	42	1.7%	-0.545	-0.046
Medical Product Use						
Estrogen replacement	144	1.8%	38	1.6%	0.247	0.019
H2-antagonist	339	4.3%	81	3.3%	0.929	0.049
Non-steroidal anti-inflammatory drugs (NSAIDs)	1,498	18.8%	429	17.6%	1.184	0.031
Proton pump inhibitors	2,263	28.4%	692	28.4%	-0.015	-0.000
Selective serotonin reuptake inhibitor (SSRI)	1,235	15.5%	348	14.3%	1.210	0.034
Insulin	908	11.4%	276	11.3%	0.062	0.002
Metformin (Biguanide)	1,865	23.4%	461	18.9%	4.478	0.110
Sulfonylureas	724	9.1%	240	9.9%	-0.769	-0.026
Other diabetes medications	847	10.6%	241	9.9%	0.734	0.024
Angiotensin converting enzyme inhibitor (ACEI)/Angiotensin II receptor blocker (ARB)	5,145	64.6%	1,568	64.4%	0.183	0.004
Antiarrhythmics	2,367	29.7%	868	35.7%	-5.940	-0.127
Anti-coagulant (injectable)	951	11.9%	228	9.4%	2.574	0.083
Anti-platelets	1,204	15.1%	348	14.3%	0.821	0.023
Beta-blockers	5,879	73.8%	1,769	72.7%	1.141	0.026
Calcium channel blockers	2,936	36.9%	967	39.7%	-2.863	-0.059
Digoxin	652	8.2%	319	13.1%	-4.919	-0.160
Diuretics (loop)	2,093	26.3%	608	25.0%	1.301	0.030
Diuretics (potassium sparing)	879	11.0%	267	11.0%	0.068	0.002
Diuretics (thiazide)	984	12.4%	314	12.9%	-0.545	-0.016
Nitrates	628	7.9%	198	8.1%	-0.249	-0.009
Statins	4,256	53.4%	1,199	49.3%	4.180	0.084
Fibrates	449	5.6%	186	7.6%	-2.004	-0.081
Amiodarone	1,064	13.4%	319	13.1%	0.254	0.007
Dronedarone	193	2.4%	167	6.9%	-4.438	-0.212

Sentinel

Table 1aa. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 2

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Health Service Utilization Intensity Metrics						
No emergency department (ED) encounters (past 0-	5,002	62.8%	1,602	65.8%	-3.010	-0.063
No ED encounters (past 31-183 days)	5,757	72.3%	1,832	75.3%	-2.979	-0.068
At least 1 ED encounter (past 0-30 days)	2,962	37.2%	832	34.2%	3.010	0.063
At least 2 ED encounters (past 0-30 days)	767	9.6%	209	8.6%	1.044	0.036
At least 1 ED encounter (past 31-183 days)	2,207	27.7%	602	24.7%	2.979	0.068
At least 2 ED encounters (past 31-183 days)	862	10.8%	223	9.2%	1.662	0.055

[1]Value represents standard deviation where no % follows the value.

[2]Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

Sentinel

Table 1ab. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect, Stabilized (ATES), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 2

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
Weighted patients	7,791	N/A	2,340	N/A	N/A	N/A
Demographic Characteristics						
Age (years)	57.3	6.5	57.2	6.6	0.051	0.008
Age						
21-49 years	1,050	13.5%	328	14.0%	-0.528	-0.015
50-64 years	6,741	86.5%	2,012	86.0%	0.528	0.015
Sex						
Female	2,108	27.1%	628	26.8%	0.233	0.005
Male	5,683	72.9%	1,712	73.2%	-0.233	-0.005
Race[3]						
American Indian or Alaska Native	8	0.1%	3	0.1%	-0.045	-0.013
Asian	24	0.3%	6	0.2%	0.057	0.011
Black or African American	311	4.0%	71	3.1%	0.940	0.054
Native Hawaiian or Other Pacific Islander	8	0.1%	3	0.1%	-0.034	-0.010
Unknown	6,018	77.2%	1,853	79.2%	-1.964	-0.073
White	1,423	18.3%	403	17.2%	1.046	0.037
Hispanic origin						
Yes	67	0.9%	22	0.9%	-0.076	-0.008
No	1,072	13.8%	266	11.4%	2.395	0.139
Unknown	6,653	85.4%	2,052	87.7%	-2.320	-0.123
Year						
2010	0	0.0%	43	1.8%	NaN	NaN
2011	6	0.1%	615	26.3%	-26.224	-0.842
2012	309	4.0%	503	21.5%	-17.518	-0.545
2013	710	9.1%	255	10.9%	-1.796	-0.060
2014	938	12.0%	183	7.8%	4.231	0.142
2015	870	11.2%	151	6.5%	4.691	0.166
2016	855	11.0%	204	8.7%	2.244	0.075
2017	942	12.1%	159	6.8%	5.284	0.182
2018	896	11.5%	104	4.4%	7.055	0.263
2019	801	10.3%	62	2.7%	7.610	0.313
2020	704	9.0%	40	1.7%	7.330	0.330

Sentinel

Table 1ab. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect, Stabilized (ATES), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 2

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
2021	715	9.2%	19	0.8%	8.351	0.391
2022	47	0.6%	1	0.0%	0.584	0.104
CHADSVASC						
mean, std	2.3	1.2	2.3	1.1	0.030	0.026
0	72	0.9%	20	0.9%	0.058	0.006
1	2,046	26.3%	637	27.2%	-0.950	-0.022
2	2,609	33.5%	792	33.9%	-0.377	-0.008
3	1,815	23.3%	524	22.4%	0.926	0.022
4	932	12.0%	276	11.8%	0.152	0.005
>= 5	316	4.1%	91	3.9%	0.191	0.010
HASBLED						
mean, std	2.0	0.0	2.0	0.0	0.000	NaN
0	0	0.0%	0	0.0%	NaN	NaN
1	0	0.0%	0	0.0%	NaN	NaN
2	7,791	100.0%	2,340	100.0%	0.000	NaN
>= 3	0	0.0%	0	0.0%	NaN	NaN
Health Characteristics						
Diabetes	3,167	40.7%	926	39.6%	1.084	0.022
Hypercholesterolemia	2,601	33.4%	780	33.3%	0.039	0.001
Hypertension	7,606	97.6%	2,285	97.6%	-0.015	-0.001
Kidney failure (chronic)	1,548	19.9%	455	19.4%	0.422	0.011
Kidney failure (acute)	899	11.5%	258	11.0%	0.507	0.016
Obesity	3,273	42.0%	957	40.9%	1.108	0.023
Peptic ulcer disease	74	0.9%	22	1.0%	-0.006	-0.001
Nicotine dependency	2,349	30.1%	668	28.6%	1.589	0.035
Hospitalized acute myocardial infarction (past 0-30 days)	217	2.8%	59	2.5%	0.273	0.017
Hospitalized acute myocardial infarction (past 31-183 days)	112	1.4%	28	1.2%	0.254	0.022
Coronary revascularization	901	11.6%	264	11.3%	0.271	0.009
Hospitalized heart failure	1,725	22.1%	495	21.1%	0.995	0.024
Outpatient heart failure	1,594	20.5%	460	19.6%	0.824	0.021

Sentinel

Table 1ab. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect, Stabilized (ATES), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 2

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
Other ischemic heart disease	2,881	37.0%	854	36.5%	0.471	0.010
Hospitalized stroke (past 0-30 days)	359	4.6%	119	5.1%	-0.461	-0.022
Hospitalized stroke (past 31-183 days)	162	2.1%	53	2.3%	-0.192	-0.013
Transient ischemic attack	444	5.7%	137	5.9%	-0.162	-0.007
Other medical conditions (falls, fractures, syncope, walker use)	2,464	31.6%	733	31.3%	0.324	0.007
Cardioversion	1,338	17.2%	403	17.2%	-0.057	-0.002
Cardioablation	333	4.3%	102	4.3%	-0.072	-0.004
Hospitalized for bleeding	99	1.3%	31	1.3%	-0.051	-0.005
Medical Product Use						
Estrogen replacement	133	1.7%	37	1.6%	0.128	0.010
H2-antagonist	308	4.0%	82	3.5%	0.463	0.025
Non-steroidal anti-inflammatory drugs (NSAIDs)	1,440	18.5%	424	18.1%	0.355	0.009
Proton pump inhibitors	2,208	28.3%	656	28.1%	0.284	0.006
Selective serotonin reuptake inhibitor (SSRI)	1,192	15.3%	345	14.8%	0.535	0.015
Insulin	885	11.4%	258	11.0%	0.329	0.010
Metformin (Biguanide)	1,733	22.2%	488	20.9%	1.374	0.033
Sulfonylureas	722	9.3%	216	9.2%	0.053	0.002
Other diabetes medications	816	10.5%	236	10.1%	0.388	0.013
Angiotensin converting enzyme inhibitor (ACEI)/Angiotensin II receptor blocker (ARB)	5,033	64.6%	1,510	64.5%	0.087	0.002
Antiarrhythmics	2,424	31.1%	742	31.7%	-0.599	-0.013
Anti-coagulant (injectable)	875	11.2%	242	10.3%	0.896	0.029
Anti-platelets	1,159	14.9%	342	14.6%	0.272	0.008
Beta-blockers	5,736	73.6%	1,716	73.3%	0.286	0.006
Calcium channel blockers	2,926	37.6%	895	38.3%	-0.708	-0.015
Digoxin	723	9.3%	227	9.7%	-0.419	-0.014
Diuretics (loop)	2,005	25.7%	585	25.0%	0.734	0.017
Diuretics (potassium sparing)	852	10.9%	249	10.6%	0.308	0.010
Diuretics (thiazide)	962	12.3%	285	12.2%	0.184	0.006
Nitrates	605	7.8%	176	7.5%	0.253	0.010
Statins	4,078	52.3%	1,196	51.1%	1.214	0.024

Sentinel

Table 1ab. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect, Stabilized (ATES), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 2

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
Fibrates	482	6.2%	148	6.3%	-0.149	-0.006
Amiodarone	1,031	13.2%	309	13.2%	0.041	0.001
Dronedarone	263	3.4%	94	4.0%	-0.642	-0.034
Health Service Utilization Intensity Metrics						
No emergency department (ED) encounters (past 0-	5,009	64.3%	1,487	63.6%	0.735	0.017
No ED encounters (past 31-183 days)	5,728	73.5%	1,727	73.8%	-0.270	-0.006
At least 1 ED encounter (past 0-30 days)	2,783	35.7%	853	36.4%	-0.735	-0.017
At least 2 ED encounters (past 0-30 days)	715	9.2%	220	9.4%	-0.237	-0.008
At least 1 ED encounter (past 31-183 days)	2,064	26.5%	613	26.2%	0.270	0.006
At least 2 ED encounters (past 31-183 days)	782	10.0%	228	9.7%	0.289	0.010

[1]Weighted patient characteristics tables facilitate the assessment of covariate balance after inverse probability weighting and should not be interpreted as a description of the unweighted population. Treated patients are weighted by the proportion of treated patients in the trimmed population divided by the inverse of their propensity score (PS). Reference patients are weighted by 1 minus the proportion of treated patients in the trimmed population divided by 1 minus their PS.

[2]Value represents standard deviation where no % follows the value.

[3]Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

Sentinel

Table 1ac. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 3+

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Unique patients	1,790	100.0%	469	100.0%	N/A	N/A
Demographic Characteristics						
Age (years)	57.7	6.2	57.9	5.7	-0.227	-0.038
Age						
21-49 years	203	11.3%	47	10.0%	1.319	0.043
50-64 years	1,587	88.7%	422	90.0%	-1.319	-0.043
Sex						
Female	467	26.1%	131	27.9%	-1.842	-0.042
Male	1,323	73.9%	338	72.1%	1.842	0.042
Race[2]						
American Indian or Alaska Native	1	0.1%	1	0.2%	-0.157	-0.043
Asian	3	0.2%	0	0.0%	NaN	NaN
Black or African American	118	6.6%	19	4.1%	2.541	0.113
Native Hawaiian or Other Pacific Islander	4	0.2%	0	0.0%	NaN	NaN
Unknown	1,227	68.5%	344	73.3%	-4.800	-0.106
White	437	24.4%	105	22.4%	2.025	0.048
Hispanic origin						
Yes	13	0.7%	3	0.6%	0.087	0.011
No	416	23.2%	89	19.0%	4.264	0.105
Unknown	1,361	76.0%	377	80.4%	-4.350	-0.106
Year						
2010	0	0.0%	9	1.9%	NaN	NaN
2011	1	0.1%	125	26.7%	-26.597	-0.849
2012	41	2.3%	73	15.6%	-13.275	-0.479
2013	124	6.9%	46	9.8%	-2.881	-0.104
2014	170	9.5%	22	4.7%	4.806	0.188
2015	150	8.4%	28	6.0%	2.410	0.093
2016	208	11.6%	47	10.0%	1.599	0.051
2017	237	13.2%	45	9.6%	3.645	0.115
2018	227	12.7%	36	7.7%	5.006	0.166
2019	216	12.1%	16	3.4%	8.656	0.328
2020	189	10.6%	16	3.4%	7.147	0.283
2021	213	11.9%	6	1.3%	10.620	0.438

Sentinel

Table 1ac. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 3+

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
2022	14	0.8%	0	0.0%	NaN	NaN
CHADSVASC						
mean, std	2.8	1.3	2.7	1.3	0.023	0.017
0	5	0.3%	0	0.0%	NaN	NaN
1	330	18.4%	87	18.6%	-0.114	-0.003
2	501	28.0%	133	28.4%	-0.369	-0.008
3	454	25.4%	115	24.5%	0.843	0.019
4	321	17.9%	89	19.0%	-1.044	-0.027
>= 5	179	10.0%	45	9.6%	0.405	0.014
HASBLED						
mean, std	3.1	0.3	3.1	0.3	0.013	0.047
0	0	0.0%	0	0.0%	NaN	NaN
1	0	0.0%	0	0.0%	NaN	NaN
2	0	0.0%	0	0.0%	NaN	NaN
>= 3	1,790	100.0%	469	100.0%	0.000	NaN
Health Characteristics						
Diabetes	870	48.6%	228	48.6%	-0.011	-0.000
Hypercholesterolemia	625	34.9%	164	35.0%	-0.052	-0.001
Hypertension	1,776	99.2%	466	99.4%	-0.142	-0.017
Kidney failure (chronic)	804	44.9%	224	47.8%	-2.845	-0.057
Kidney failure (acute)	499	27.9%	128	27.3%	0.585	0.013
Obesity	854	47.7%	187	39.9%	7.837	0.158
Peptic ulcer disease	43	2.4%	12	2.6%	-0.156	-0.010
Nicotine dependency	720	40.2%	162	34.5%	5.682	0.118
Hospitalized acute myocardial infarction (past 0-30 days)	49	2.7%	10	2.1%	0.605	0.039
Hospitalized acute myocardial infarction (past 31-183 days)	58	3.2%	13	2.8%	0.468	0.027
Coronary revascularization	256	14.3%	77	16.4%	-2.116	-0.059
Hospitalized heart failure	617	34.5%	148	31.6%	2.913	0.062
Outpatient heart failure	568	31.7%	144	30.7%	1.028	0.022
Other ischemic heart disease	769	43.0%	218	46.5%	-3.521	-0.071
Hospitalized stroke (past 0-30 days)	123	6.9%	50	10.7%	-3.789	-0.134

Sentinel

Table 1ac. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 3+

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Hospitalized stroke (past 31-183 days)	95	5.3%	29	6.2%	-0.876	-0.038
Transient ischemic attack	156	8.7%	43	9.2%	-0.453	-0.016
Other medical conditions (falls, fractures, syncope, walker use)	657	36.7%	185	39.4%	-2.742	-0.056
Cardioversion	267	14.9%	67	14.3%	0.630	0.018
Cardioablation	68	3.8%	28	6.0%	-2.171	-0.101
Hospitalized for bleeding	63	3.5%	21	4.5%	-0.958	-0.049
Medical Product Use						
Estrogen replacement	32	1.8%	6	1.3%	0.508	0.041
H2-antagonist	132	7.4%	28	6.0%	1.404	0.056
Non-steroidal anti-inflammatory drugs (NSAIDs)	302	16.9%	77	16.4%	0.454	0.012
Proton pump inhibitors	700	39.1%	185	39.4%	-0.339	-0.007
Selective serotonin reuptake inhibitor (SSRI)	364	20.3%	84	17.9%	2.425	0.062
Insulin	304	17.0%	69	14.7%	2.271	0.062
Metformin (Biguanide)	395	22.1%	94	20.0%	2.024	0.050
Sulfonylureas	207	11.6%	52	11.1%	0.477	0.015
Other diabetes medications	218	12.2%	49	10.4%	1.731	0.055
Angiotensin converting enzyme inhibitor (ACEI)/Angiotensin II receptor blocker (ARB)	1,230	68.7%	304	64.8%	3.896	0.083
Antiarrhythmics	486	27.2%	154	32.8%	-5.685	-0.124
Anti-coagulant (injectable)	205	11.5%	50	10.7%	0.792	0.025
Anti-platelets	319	17.8%	82	17.5%	0.337	0.009
Beta-blockers	1,381	77.2%	361	77.0%	0.179	0.004
Calcium channel blockers	701	39.2%	215	45.8%	-6.680	-0.135
Digoxin	185	10.3%	65	13.9%	-3.524	-0.108
Diuretics (loop)	658	36.8%	179	38.2%	-1.407	-0.029
Diuretics (potassium sparing)	283	15.8%	87	18.6%	-2.740	-0.073
Diuretics (thiazide)	230	12.8%	65	13.9%	-1.010	-0.030
Nitrates	175	9.8%	43	9.2%	0.608	0.021
Statins	993	55.5%	251	53.5%	1.957	0.039
Fibrates	111	6.2%	49	10.4%	-4.247	-0.154
Amiodarone	277	15.5%	77	16.4%	-0.943	-0.026
Dronedarone	27	1.5%	18	3.8%	-2.330	-0.145

Sentinel

Table 1ac. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 3+

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Health Service Utilization Intensity Metrics						
No emergency department (ED) encounters (past 0-	1,083	60.5%	275	58.6%	1.867	0.038
No ED encounters (past 31-183 days)	1,048	58.5%	281	59.9%	-1.367	-0.028
At least 1 ED encounter (past 0-30 days)	707	39.5%	194	41.4%	-1.867	-0.038
At least 2 ED encounters (past 0-30 days)	251	14.0%	52	11.1%	2.935	0.089
At least 1 ED encounter (past 31-183 days)	742	41.5%	188	40.1%	1.367	0.028
At least 2 ED encounters (past 31-183 days)	358	20.0%	91	19.4%	0.597	0.015

[1]Value represents standard deviation where no % follows the value.

[2]Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

Sentinel

Table 1ad. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect, Stabilized (ATES), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 3+

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
Weighted patients	1,600	N/A	402	N/A	N/A	N/A
Demographic Characteristics						
Age (years)	57.9	6.2	57.8	5.8	0.085	0.014
Age						
21-49 years	172	10.8%	39	9.8%	0.961	0.032
50-64 years	1,428	89.2%	363	90.2%	-0.961	-0.032
Sex						
Female	413	25.8%	105	26.0%	-0.203	-0.005
Male	1,187	74.2%	298	74.0%	0.203	0.005
Race[3]						
American Indian or Alaska Native	1	0.1%	2	0.4%	-0.359	-0.074
Asian	3	0.2%	0	0.0%	NaN	NaN
Black or African American	94	5.9%	13	3.2%	2.676	0.135
Native Hawaiian or Other Pacific Islander	4	0.2%	0	0.0%	NaN	NaN
Unknown	1,109	69.3%	307	76.3%	-7.009	-0.261
White	390	24.4%	81	20.1%	4.278	0.144
Hispanic origin						
Yes	12	0.8%	3	0.7%	0.032	0.004
No	358	22.3%	69	17.2%	5.129	0.273
Unknown	1,230	76.9%	330	82.0%	-5.161	-0.275
Year						
2010	0	0.0%	9	2.3%	NaN	NaN
2011	1	0.1%	93	23.0%	-22.948	-0.768
2012	42	2.6%	55	13.6%	-10.962	-0.409
2013	118	7.4%	42	10.5%	-3.116	-0.110
2014	164	10.3%	21	5.3%	4.996	0.187
2015	146	9.1%	27	6.7%	2.441	0.090
2016	187	11.7%	45	11.1%	0.602	0.019
2017	198	12.4%	42	10.4%	1.964	0.062
2018	195	12.2%	32	8.0%	4.188	0.139
2019	186	11.6%	18	4.4%	7.219	0.268
2020	161	10.1%	13	3.3%	6.784	0.274

Sentinel

Table 1ad. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect, Stabilized (ATES), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 3+

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
2021	188	11.8%	6	1.5%	10.250	0.422
2022	13	0.8%	0	0.0%	NaN	NaN
CHADSVASC						
mean, std	2.7	1.3	2.6	1.2	0.087	0.070
0	0	0.0%	0	0.0%	NaN	NaN
1	302	18.9%	77	19.1%	-0.296	-0.008
2	462	28.9%	120	29.7%	-0.860	-0.019
3	406	25.4%	111	27.7%	-2.258	-0.051
4	290	18.1%	66	16.3%	1.770	0.047
>= 5	141	8.8%	29	7.2%	1.644	0.061
HASBLED						
mean, std	3.1	0.3	3.1	0.3	0.023	0.082
0	0	0.0%	0	0.0%	NaN	NaN
1	0	0.0%	0	0.0%	NaN	NaN
2	0	0.0%	0	0.0%	NaN	NaN
>= 3	1,600	100.0%	402	100.0%	0.000	NaN
Health Characteristics						
Diabetes	779	48.7%	193	47.9%	0.790	0.016
Hypercholesterolemia	564	35.2%	137	34.1%	1.182	0.025
Hypertension	1,598	99.9%	402	99.8%	0.068	0.016
Kidney failure (chronic)	747	46.7%	191	47.5%	-0.798	-0.016
Kidney failure (acute)	445	27.8%	112	27.8%	0.071	0.002
Obesity	727	45.4%	176	43.8%	1.600	0.032
Peptic ulcer disease	37	2.3%	7	1.7%	0.658	0.047
Nicotine dependency	586	36.6%	145	35.9%	0.670	0.014
Hospitalized acute myocardial infarction (past 0-30 days)	39	2.4%	8	2.0%	0.404	0.027
Hospitalized acute myocardial infarction (past 31-183 days)	51	3.2%	12	2.9%	0.235	0.014
Coronary revascularization	238	14.9%	55	13.6%	1.300	0.037
Hospitalized heart failure	527	32.9%	125	31.0%	1.965	0.042
Outpatient heart failure	505	31.5%	118	29.3%	2.203	0.049

Sentinel

Table 1ad. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect, Stabilized (ATES), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 3+

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
Other ischemic heart disease	701	43.8%	175	43.4%	0.449	0.009
Hospitalized stroke (past 0-30 days)	123	7.7%	32	7.9%	-0.269	-0.010
Hospitalized stroke (past 31-183 days)	82	5.1%	18	4.4%	0.748	0.035
Transient ischemic attack	125	7.8%	30	7.5%	0.301	0.011
Other medical conditions (falls, fractures, syncope, walker use)	597	37.3%	145	36.0%	1.268	0.026
Cardioversion	236	14.7%	56	13.9%	0.838	0.024
Cardioablation	67	4.2%	17	4.3%	-0.134	-0.007
Hospitalized for bleeding	59	3.7%	11	2.8%	0.836	0.047
Medical Product Use						
Estrogen replacement	19	1.2%	4	0.9%	0.232	0.023
H2-antagonist	100	6.2%	24	5.9%	0.372	0.016
Non-steroidal anti-inflammatory drugs (NSAIDs)	257	16.1%	69	17.1%	-1.056	-0.028
Proton pump inhibitors	626	39.1%	163	40.5%	-1.351	-0.028
Selective serotonin reuptake inhibitor (SSRI)	301	18.8%	68	16.8%	2.043	0.054
Insulin	257	16.0%	61	15.2%	0.887	0.025
Metformin (Biguanide)	338	21.1%	75	18.8%	2.387	0.060
Sulfonylureas	182	11.3%	43	10.6%	0.740	0.024
Other diabetes medications	186	11.6%	44	11.0%	0.637	0.020
Angiotensin converting enzyme inhibitor (ACEI)/Angiotensin II receptor blocker (ARB)	1,093	68.3%	268	66.7%	1.643	0.035
Antiarrhythmics	455	28.5%	120	29.8%	-1.325	-0.029
Anti-coagulant (injectable)	183	11.5%	44	10.9%	0.559	0.018
Anti-platelets	282	17.6%	67	16.7%	0.942	0.025
Beta-blockers	1,241	77.6%	310	77.1%	0.439	0.010
Calcium channel blockers	655	40.9%	162	40.3%	0.637	0.013
Digoxin	175	10.9%	45	11.1%	-0.191	-0.006
Diuretics (loop)	589	36.8%	138	34.4%	2.407	0.051
Diuretics (potassium sparing)	258	16.1%	60	14.9%	1.192	0.033
Diuretics (thiazide)	216	13.5%	55	13.7%	-0.144	-0.004
Nitrates	149	9.3%	35	8.7%	0.651	0.023
Statins	879	55.0%	215	53.5%	1.424	0.029

Sentinel

Table 1ad. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATES Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect, Stabilized (ATES), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 3+

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
Fibrates	119	7.4%	28	7.0%	0.440	0.017
Amiodarone	252	15.8%	66	16.3%	-0.523	-0.014
Dronedarone	32	2.0%	7	1.9%	0.155	0.011
Health Service Utilization Intensity Metrics						
No emergency department (ED) encounters (past 0-	994	62.1%	244	60.7%	1.376	0.031
No ED encounters (past 31-183 days)	968	60.5%	250	62.2%	-1.685	-0.036
At least 1 ED encounter (past 0-30 days)	606	37.9%	158	39.3%	-1.376	-0.031
At least 2 ED encounters (past 0-30 days)	199	12.4%	53	13.1%	-0.640	-0.020
At least 1 ED encounter (past 31-183 days)	632	39.5%	152	37.8%	1.685	0.036
At least 2 ED encounters (past 31-183 days)	298	18.6%	73	18.1%	0.535	0.014

[1]Weighted patient characteristics tables facilitate the assessment of covariate balance after inverse probability weighting and should not be interpreted as a description of the unweighted population. Treated patients are weighted by the proportion of treated patients in the trimmed population divided by the inverse of their propensity score (PS). Reference patients are weighted by 1 minus the proportion of treated patients in the trimmed population divided by 1 minus their PS.

[2]Value represents standard deviation where no % follows the value.

[3]Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

Sentinel

Table 1ae. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect in the Treated (ATT), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
Weighted patients	57,228	N/A	54,275	N/A	N/A	N/A
Demographic Characteristics						
Age (years)	56.2	7.4	56.3	7.3	-0.020	-0.003
Age						
21-49 years	9,757	17.0%	9,368	17.3%	-0.211	-0.006
50-64 years	47,471	83.0%	44,907	82.7%	0.211	0.006
Sex						
Female	14,631	25.6%	13,645	25.1%	0.426	0.010
Male	42,597	74.4%	40,630	74.9%	-0.426	-0.010
Race[3]						
American Indian or Alaska Native	48	0.1%	57	0.1%	-0.021	-0.007
Asian	169	0.3%	138	0.3%	0.042	0.008
Black or African American	1,310	2.3%	944	1.7%	0.550	0.041
Native Hawaiian or Other Pacific Islander	57	0.1%	48	0.1%	0.012	0.004
Unknown	46,895	81.9%	44,722	82.4%	-0.455	-0.017
White	8,749	15.3%	8,367	15.4%	-0.128	-0.005
Hispanic origin						
Yes	370	0.6%	296	0.5%	0.101	0.013
No	4,699	8.2%	4,178	7.7%	0.514	0.030
Unknown	52,159	91.1%	49,801	91.8%	-0.615	-0.034
Year						
2010	0	0.0%	1,142	2.1%	NaN	NaN
2011	49	0.1%	16,649	30.7%	-30.590	-0.938
2012	2,727	4.8%	11,862	21.9%	-17.091	-0.521
2013	5,764	10.1%	6,426	11.8%	-1.767	-0.057
2014	7,293	12.7%	4,348	8.0%	4.732	0.156
2015	6,640	11.6%	3,103	5.7%	5.885	0.210
2016	6,408	11.2%	4,058	7.5%	3.720	0.128
2017	6,627	11.6%	2,769	5.1%	6.479	0.236
2018	6,291	11.0%	1,881	3.5%	7.527	0.294
2019	5,519	9.6%	1,031	1.9%	7.744	0.337
2020	4,590	8.0%	604	1.1%	6.908	0.336

Sentinel

Table 1ae. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect in the Treated (ATT), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
2021	4,934	8.6%	382	0.7%	7.918	0.383
2022	386	0.7%	20	0.0%	0.638	0.108
CHADSVASC						
mean, std	1.6	1.2	1.5	1.1	0.032	0.028
0	10,614	18.5%	10,333	19.0%	-0.491	-0.013
1	20,120	35.2%	19,265	35.5%	-0.338	-0.007
2	15,074	26.3%	14,435	26.6%	-0.256	-0.006
3	7,490	13.1%	6,817	12.6%	0.527	0.016
4	3,045	5.3%	2,630	4.8%	0.476	0.022
>= 5	885	1.5%	795	1.5%	0.081	0.007
HASBLED						
mean, std	0.9	0.7	0.9	0.7	0.014	0.020
0	15,304	26.7%	14,835	27.3%	-0.592	-0.013
1	32,170	56.2%	30,525	56.2%	-0.028	-0.001
2	7,964	13.9%	7,297	13.4%	0.472	0.014
>= 3	1,790	3.1%	1,617	3.0%	0.148	0.009
Health Characteristics						
Diabetes	14,891	26.0%	13,806	25.4%	0.583	0.013
Hypercholesterolemia	14,700	25.7%	13,874	25.6%	0.125	0.003
Hypertension	40,204	70.3%	37,815	69.7%	0.579	0.013
Kidney failure (chronic)	2,622	4.6%	2,425	4.5%	0.114	0.006
Kidney failure (acute)	2,710	4.7%	2,285	4.2%	0.525	0.025
Obesity	18,852	32.9%	16,546	30.5%	2.456	0.053
Peptic ulcer disease	137	0.2%	122	0.2%	0.015	0.003
Nicotine dependency	13,093	22.9%	11,288	20.8%	2.081	0.051
Hospitalized acute myocardial infarction (past 0-30 days)	896	1.6%	770	1.4%	0.147	0.012
Hospitalized acute myocardial infarction (past 31-183 days)	431	0.8%	343	0.6%	0.121	0.015
Coronary revascularization	3,806	6.7%	3,502	6.5%	0.199	0.008
Hospitalized heart failure	7,211	12.6%	6,562	12.1%	0.511	0.016
Outpatient heart failure	7,396	12.9%	6,774	12.5%	0.444	0.013

Sentinel

Table 1ae. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect in the Treated (ATT), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
Other ischemic heart disease	14,346	25.1%	13,577	25.0%	0.052	0.001
Hospitalized stroke (past 0-30 days)	551	1.0%	574	1.1%	-0.095	-0.010
Hospitalized stroke (past 31-183 days)	284	0.5%	288	0.5%	-0.034	-0.005
Transient ischemic attack	1,654	2.9%	1,645	3.0%	-0.140	-0.008
Other medical conditions (falls, fractures, syncope, walker use)	14,281	25.0%	13,554	25.0%	-0.018	-0.000
Cardioversion	9,285	16.2%	8,856	16.3%	-0.093	-0.003
Cardioablation	2,655	4.6%	2,623	4.8%	-0.193	-0.009
Hospitalized for bleeding	172	0.3%	164	0.3%	-0.001	-0.000
Medical Product Use						
Estrogen replacement	1,132	2.0%	1,071	2.0%	0.005	0.000
H2-antagonist	1,332	2.3%	1,180	2.2%	0.153	0.010
Non-steroidal anti-inflammatory drugs (NSAIDs)	8,939	15.6%	8,412	15.5%	0.121	0.003
Proton pump inhibitors	10,800	18.9%	10,100	18.6%	0.264	0.007
Selective serotonin reuptake inhibitor (SSRI)	6,438	11.2%	5,993	11.0%	0.208	0.007
Insulin	3,528	6.2%	3,294	6.1%	0.095	0.004
Metformin (Biguanide)	9,212	16.1%	8,299	15.3%	0.805	0.022
Sulfonylureas	3,440	6.0%	3,264	6.0%	-0.003	-0.000
Other diabetes medications	4,076	7.1%	3,696	6.8%	0.313	0.012
Angiotensin converting enzyme inhibitor (ACEI)/Angiotensin II receptor blocker (ARB)	27,803	48.6%	26,132	48.1%	0.436	0.009
Antiarrhythmics	16,587	29.0%	16,239	29.9%	-0.937	-0.021
Anti-coagulant (injectable)	5,971	10.4%	5,132	9.5%	0.978	0.033
Anti-platelets	5,610	9.8%	4,965	9.1%	0.656	0.022
Beta-blockers	38,614	67.5%	36,623	67.5%	-0.003	-0.000
Calcium channel blockers	17,131	29.9%	16,492	30.4%	-0.451	-0.010
Digoxin	3,906	6.8%	3,976	7.3%	-0.499	-0.019
Diuretics (loop)	9,093	15.9%	8,382	15.4%	0.446	0.012
Diuretics (potassium sparing)	4,051	7.1%	3,728	6.9%	0.210	0.008
Diuretics (thiazide)	5,260	9.2%	4,863	9.0%	0.232	0.008
Nitrates	2,532	4.4%	2,348	4.3%	0.099	0.005
Statins	23,616	41.3%	22,150	40.8%	0.455	0.009

Sentinel

Table 1ae. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect in the Treated (ATT), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
Fibrates	2,234	3.9%	2,212	4.1%	-0.171	-0.009
Amiodarone	5,069	8.9%	4,870	9.0%	-0.115	-0.004
Dronedarone	1,737	3.0%	1,848	3.4%	-0.370	-0.021
Health Service Utilization Intensity Metrics						
No emergency department (ED) encounters (past 0-	40,106	70.1%	38,656	71.2%	-1.141	-0.026
No ED encounters (past 31-183 days)	46,709	81.6%	44,796	82.5%	-0.916	-0.024
At least 1 ED encounter (past 0-30 days)	17,122	29.9%	15,619	28.8%	1.141	0.026
At least 2 ED encounters (past 0-30 days)	3,609	6.3%	3,117	5.7%	0.564	0.024
At least 1 ED encounter (past 31-183 days)	10,519	18.4%	9,479	17.5%	0.916	0.024
At least 2 ED encounters (past 31-183 days)	3,268	5.7%	2,861	5.3%	0.440	0.020

[1]Weighted patient characteristics tables facilitate the assessment of covariate balance after inverse probability weighting and should not be interpreted as a description of the unweighted population. Treated patients are weighted by the proportion of treated patients in the trimmed population divided by the inverse of their propensity score (PS). Reference patients are weighted by 1 minus the proportion of treated patients in the trimmed population divided by 1 minus their PS.

[2]Value represents standard deviation where no % follows the value.

[3]Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

Sentinel

Table 1af. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Sex: Female

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Unique patients	14,631	100.0%	4,696	100.0%	N/A	N/A
Demographic Characteristics						
Age (years)	57.2	6.8	57.4	6.6	-0.193	-0.029
Age						
21-49 years	1,927	13.2%	589	12.5%	0.628	0.019
50-64 years	12,704	86.8%	4,107	87.5%	-0.628	-0.019
Sex						
Female	14,631	100.0%	4,696	100.0%	0.000	NaN
Male	0	0.0%	0	0.0%	NaN	NaN
Race[2]						
American Indian or Alaska Native	11	0.1%	5	0.1%	-0.031	-0.010
Asian	44	0.3%	16	0.3%	-0.040	-0.007
Black or African American	514	3.5%	112	2.4%	1.128	0.067
Native Hawaiian or Other Pacific Islander	14	0.1%	3	0.1%	0.032	0.011
Unknown	11,641	79.6%	3,789	80.7%	-1.122	-0.028
White	2,407	16.5%	771	16.4%	0.033	0.001
Hispanic origin						
Yes	87	0.6%	26	0.6%	0.041	0.005
No	1,582	10.8%	408	8.7%	2.124	0.072
Unknown	12,962	88.6%	4,262	90.8%	-2.165	-0.071
Year						
2010	0	0.0%	90	1.9%	NaN	NaN
2011	8	0.1%	1,543	32.9%	-32.803	-0.986
2012	640	4.4%	1,033	22.0%	-17.623	-0.539
2013	1,371	9.4%	529	11.3%	-1.894	-0.062
2014	1,811	12.4%	348	7.4%	4.967	0.167
2015	1,669	11.4%	261	5.6%	5.849	0.211
2016	1,612	11.0%	341	7.3%	3.756	0.131
2017	1,776	12.1%	247	5.3%	6.879	0.246
2018	1,709	11.7%	140	3.0%	8.699	0.339
2019	1,448	9.9%	82	1.7%	8.151	0.353
2020	1,192	8.1%	51	1.1%	7.061	0.341
2021	1,307	8.9%	29	0.6%	8.316	0.398

Sentinel

Table 1af. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Sex: Female

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
2022	88	0.6%	2	0.0%	0.559	0.099
CHADSVASC						
mean, std	2.3	1.1	2.3	1.1	0.037	0.035
0	0	0.0%	0	0.0%	NaN	NaN
1	3,428	23.4%	1,096	23.3%	0.091	0.002
2	5,843	39.9%	1,913	40.7%	-0.801	-0.016
3	3,145	21.5%	1,082	23.0%	-1.545	-0.037
4	1,581	10.8%	422	9.0%	1.819	0.061
>= 5	634	4.3%	183	3.9%	0.436	0.022
HASBLED						
mean, std	1.0	0.7	0.9	0.7	0.016	0.022
0	3,705	25.3%	1,203	25.6%	-0.295	-0.007
1	8,303	56.7%	2,690	57.3%	-0.533	-0.011
2	2,156	14.7%	672	14.3%	0.426	0.012
>= 3	467	3.2%	131	2.8%	0.402	0.024
Health Characteristics						
Diabetes	4,018	27.5%	1,266	27.0%	0.503	0.011
Hypercholesterolemia	3,492	23.9%	1,140	24.3%	-0.409	-0.010
Hypertension	10,415	71.2%	3,307	70.4%	0.763	0.017
Kidney failure (chronic)	641	4.4%	196	4.2%	0.207	0.010
Kidney failure (acute)	606	4.1%	145	3.1%	1.054	0.056
Obesity	5,592	38.2%	1,315	28.0%	10.218	0.218
Peptic ulcer disease	43	0.3%	19	0.4%	-0.111	-0.019
Nicotine dependency	3,132	21.4%	754	16.1%	5.350	0.137
Hospitalized acute myocardial infarction (past 0-30 days)	203	1.4%	50	1.1%	0.323	0.029
Hospitalized acute myocardial infarction (past 31-183 days)	82	0.6%	23	0.5%	0.071	0.010
Coronary revascularization	580	4.0%	161	3.4%	0.536	0.028
Hospitalized heart failure	1,767	12.1%	536	11.4%	0.663	0.021
Outpatient heart failure	1,786	12.2%	520	11.1%	1.134	0.035
Other ischemic heart disease	2,982	20.4%	926	19.7%	0.662	0.017
Hospitalized stroke (past 0-30 days)	143	1.0%	68	1.4%	-0.471	-0.043

Sentinel

Table 1af. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Sex: Female

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Hospitalized stroke (past 31-183 days)	87	0.6%	36	0.8%	-0.172	-0.021
Transient ischemic attack	522	3.6%	202	4.3%	-0.734	-0.038
Other medical conditions (falls, fractures, syncope, walker use)	3,555	24.3%	1,192	25.4%	-1.086	-0.025
Cardioversion	1,784	12.2%	625	13.3%	-1.116	-0.033
Cardioablation	673	4.6%	290	6.2%	-1.576	-0.070
Hospitalized for bleeding	40	0.3%	26	0.6%	-0.280	-0.044
Medical Product Use						
Estrogen replacement	1,126	7.7%	416	8.9%	-1.163	-0.042
H2-antagonist	489	3.3%	124	2.6%	0.702	0.041
Non-steroidal anti-inflammatory drugs (NSAIDs)	2,748	18.8%	853	18.2%	0.618	0.016
Proton pump inhibitors	3,442	23.5%	1,059	22.6%	0.974	0.023
Selective serotonin reuptake inhibitor (SSRI)	2,784	19.0%	851	18.1%	0.906	0.023
Insulin	1,028	7.0%	317	6.8%	0.276	0.011
Metformin (Biguanide)	2,432	16.6%	698	14.9%	1.759	0.048
Sulfonylureas	827	5.7%	286	6.1%	-0.438	-0.019
Other diabetes medications	1,079	7.4%	347	7.4%	-0.015	-0.001
Angiotensin converting enzyme inhibitor (ACEI)/Angiotensin II receptor blocker (ARB)	6,483	44.3%	2,106	44.8%	-0.537	-0.011
Antiarrhythmics	4,404	30.1%	1,791	38.1%	-8.038	-0.170
Anti-coagulant (injectable)	1,622	11.1%	342	7.3%	3.803	0.132
Anti-platelets	1,183	8.1%	297	6.3%	1.761	0.068
Beta-blockers	9,959	68.1%	3,159	67.3%	0.798	0.017
Calcium channel blockers	4,538	31.0%	1,685	35.9%	-4.865	-0.103
Digoxin	947	6.5%	507	10.8%	-4.324	-0.154
Diuretics (loop)	2,585	17.7%	834	17.8%	-0.092	-0.002
Diuretics (potassium sparing)	1,180	8.1%	368	7.8%	0.229	0.008
Diuretics (thiazide)	1,682	11.5%	504	10.7%	0.764	0.024
Nitrates	595	4.1%	187	4.0%	0.085	0.004
Statins	5,281	36.1%	1,670	35.6%	0.532	0.011
Fibrates	384	2.6%	166	3.5%	-0.910	-0.053
Amiodarone	1,040	7.1%	351	7.5%	-0.366	-0.014
Dronedarone	475	3.2%	370	7.9%	-4.633	-0.203

Sentinel

Table 1af. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Sex: Female

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Health Service Utilization Intensity Metrics						
No emergency department (ED) encounters (past 0-	9,817	67.1%	3,276	69.8%	-2.664	-0.057
No ED encounters (past 31-183 days)	11,227	76.7%	3,752	79.9%	-3.163	-0.077
At least 1 ED encounter (past 0-30 days)	4,814	32.9%	1,420	30.2%	2.664	0.057
At least 2 ED encounters (past 0-30 days)	1,077	7.4%	260	5.5%	1.824	0.074
At least 1 ED encounter (past 31-183 days)	3,404	23.3%	944	20.1%	3.163	0.077
At least 2 ED encounters (past 31-183 days)	1,147	7.8%	283	6.0%	1.813	0.071

[1]Value represents standard deviation where no % follows the value.

[2]Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

Sentinel

Table 1ag. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect in the Treated (ATT), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Sex: Female

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
Weighted patients	14,543	N/A	13,579	N/A	N/A	N/A
Demographic Characteristics						
Age (years)	57.2	6.8	57.3	6.7	-0.085	-0.013
Age						
21-49 years	1,913	13.2%	1,794	13.2%	-0.055	-0.002
50-64 years	12,630	86.8%	11,785	86.8%	0.055	0.002
Sex						
Female	14,543	100.0%	13,579	100.0%	0.000	NaN
Male	0	0.0%	0	0.0%	NaN	NaN
Race[3]						
American Indian or Alaska Native	11	0.1%	15	0.1%	-0.035	-0.011
Asian	44	0.3%	40	0.3%	0.010	0.002
Black or African American	500	3.4%	373	2.7%	0.693	0.042
Native Hawaiian or Other Pacific Islander	13	0.1%	10	0.1%	0.014	0.005
Unknown	11,609	79.8%	10,955	80.7%	-0.847	-0.031
White	2,366	16.3%	2,187	16.1%	0.166	0.006
Hispanic origin						
Yes	87	0.6%	72	0.5%	0.066	0.009
No	1,533	10.5%	1,317	9.7%	0.840	0.049
Unknown	12,923	88.9%	12,190	89.8%	-0.906	-0.050
Year						
2010	0	0.0%	214	1.6%	NaN	NaN
2011	8	0.1%	3,998	29.4%	-29.390	-0.914
2012	639	4.4%	2,771	20.4%	-16.015	-0.502
2013	1,371	9.4%	1,560	11.5%	-2.058	-0.067
2014	1,807	12.4%	1,083	8.0%	4.451	0.148
2015	1,659	11.4%	839	6.2%	5.230	0.186
2016	1,608	11.1%	1,143	8.4%	2.637	0.089
2017	1,758	12.1%	871	6.4%	5.676	0.197
2018	1,702	11.7%	486	3.6%	8.122	0.309
2019	1,434	9.9%	293	2.2%	7.704	0.329
2020	1,176	8.1%	204	1.5%	6.586	0.313

Sentinel

Table 1ag. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect in the Treated (ATT), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Sex: Female

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
2021	1,293	8.9%	111	0.8%	8.076	0.383
2022	88	0.6%	7	0.1%	0.555	0.097
CHADSVASC						
mean, std	2.3	1.1	2.3	1.1	0.022	0.021
0	0	0.0%	0	0.0%	NaN	NaN
1	3,425	23.6%	3,197	23.5%	0.011	0.000
2	5,822	40.0%	5,549	40.9%	-0.834	-0.017
3	3,130	21.5%	2,922	21.5%	0.002	0.000
4	1,551	10.7%	1,359	10.0%	0.653	0.022
>= 5	615	4.2%	551	4.1%	0.168	0.008
HASBLED						
mean, std	1.0	0.7	0.9	0.7	0.009	0.013
0	3,698	25.4%	3,483	25.7%	-0.225	-0.005
1	8,243	56.7%	7,734	57.0%	-0.277	-0.006
2	2,142	14.7%	1,957	14.4%	0.315	0.009
>= 3	460	3.2%	404	3.0%	0.187	0.011
Health Characteristics						
Diabetes	3,971	27.3%	3,639	26.8%	0.509	0.012
Hypercholesterolemia	3,454	23.8%	3,164	23.3%	0.453	0.011
Hypertension	10,336	71.1%	9,598	70.7%	0.393	0.009
Kidney failure (chronic)	634	4.4%	581	4.3%	0.078	0.004
Kidney failure (acute)	590	4.1%	491	3.6%	0.441	0.023
Obesity	5,522	38.0%	4,783	35.2%	2.749	0.057
Peptic ulcer disease	43	0.3%	39	0.3%	0.010	0.002
Nicotine dependency	3,084	21.2%	2,611	19.2%	1.981	0.050
Hospitalized acute myocardial infarction (past 0-30 days)	202	1.4%	169	1.2%	0.147	0.013
Hospitalized acute myocardial infarction (past 31-183 days)	78	0.5%	71	0.5%	0.010	0.001
Coronary revascularization	570	3.9%	504	3.7%	0.208	0.011
Hospitalized heart failure	1,728	11.9%	1,551	11.4%	0.459	0.014
Outpatient heart failure	1,761	12.1%	1,587	11.7%	0.425	0.013

Sentinel

Table 1ag. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect in the Treated (ATT), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Sex: Female

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
Other ischemic heart disease	2,949	20.3%	2,734	20.1%	0.142	0.004
Hospitalized stroke (past 0-30 days)	139	1.0%	147	1.1%	-0.126	-0.013
Hospitalized stroke (past 31-183 days)	86	0.6%	89	0.7%	-0.065	-0.008
Transient ischemic attack	517	3.6%	510	3.8%	-0.200	-0.011
Other medical conditions (falls, fractures, syncope, walker use)	3,537	24.3%	3,319	24.4%	-0.119	-0.003
Cardioversion	1,777	12.2%	1,676	12.3%	-0.122	-0.004
Cardioablation	673	4.6%	667	4.9%	-0.285	-0.013
Hospitalized for bleeding	39	0.3%	48	0.4%	-0.086	-0.015
Medical Product Use						
Estrogen replacement	1,122	7.7%	1,075	7.9%	-0.200	-0.007
H2-antagonist	476	3.3%	406	3.0%	0.280	0.016
Non-steroidal anti-inflammatory drugs (NSAIDs)	2,726	18.7%	2,496	18.4%	0.365	0.009
Proton pump inhibitors	3,406	23.4%	3,160	23.3%	0.151	0.004
Selective serotonin reuptake inhibitor (SSRI)	2,759	19.0%	2,480	18.3%	0.706	0.018
Insulin	1,011	7.0%	926	6.8%	0.134	0.005
Metformin (Biguanide)	2,409	16.6%	2,145	15.8%	0.767	0.021
Sulfonylureas	817	5.6%	771	5.7%	-0.062	-0.003
Other diabetes medications	1,070	7.4%	968	7.1%	0.232	0.009
Angiotensin converting enzyme inhibitor (ACEI)/Angiotensin II receptor blocker (ARB)	6,433	44.2%	6,014	44.3%	-0.053	-0.001
Antiarrhythmics	4,387	30.2%	4,188	30.8%	-0.677	-0.015
Anti-coagulant (injectable)	1,573	10.8%	1,300	9.6%	1.241	0.042
Anti-platelets	1,170	8.0%	1,004	7.4%	0.651	0.024
Beta-blockers	9,906	68.1%	9,249	68.1%	0.005	0.000
Calcium channel blockers	4,517	31.1%	4,311	31.7%	-0.689	-0.015
Digoxin	945	6.5%	949	7.0%	-0.488	-0.019
Diuretics (loop)	2,564	17.6%	2,363	17.4%	0.228	0.006
Diuretics (potassium sparing)	1,164	8.0%	1,040	7.7%	0.344	0.013
Diuretics (thiazide)	1,666	11.5%	1,496	11.0%	0.440	0.014
Nitrates	581	4.0%	530	3.9%	0.089	0.005
Statins	5,236	36.0%	4,869	35.9%	0.144	0.003

Sentinel

Table 1ag. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect in the Treated (ATT), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Sex: Female

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
Fibrates	382	2.6%	364	2.7%	-0.052	-0.003
Amiodarone	1,029	7.1%	959	7.1%	0.013	0.000
Dronedarone	475	3.3%	487	3.6%	-0.322	-0.018
Health Service Utilization Intensity Metrics						
No emergency department (ED) encounters (past 0-	9,787	67.3%	9,317	68.6%	-1.316	-0.029
No ED encounters (past 31-183 days)	11,192	77.0%	10,631	78.3%	-1.332	-0.032
At least 1 ED encounter (past 0-30 days)	4,756	32.7%	4,262	31.4%	1.316	0.029
At least 2 ED encounters (past 0-30 days)	1,038	7.1%	856	6.3%	0.833	0.034
At least 1 ED encounter (past 31-183 days)	3,351	23.0%	2,948	21.7%	1.332	0.032
At least 2 ED encounters (past 31-183 days)	1,105	7.6%	912	6.7%	0.881	0.035

[1]Weighted patient characteristics tables facilitate the assessment of covariate balance after inverse probability weighting and should not be interpreted as a description of the unweighted population. Treated patients are weighted by the proportion of treated patients in the trimmed population divided by the inverse of their propensity score (PS). Reference patients are weighted by 1 minus the proportion of treated patients in the trimmed population divided by 1 minus their PS.

[2]Value represents standard deviation where no % follows the value.

[3]Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

Sentinel

Table 1ah. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Sex: Male

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Unique patients	42,597	100.0%	15,484	100.0%	N/A	N/A
Demographic Characteristics						
Age (years)	55.9	7.6	55.8	7.5	0.046	0.006
Age						
21-49 years	7,830	18.4%	2,907	18.8%	-0.393	-0.010
50-64 years	34,767	81.6%	12,577	81.2%	0.393	0.010
Sex						
Female	0	0.0%	0	0.0%	NaN	NaN
Male	42,597	100.0%	15,484	100.0%	0.000	NaN
Race[2]						
American Indian or Alaska Native	37	0.1%	17	0.1%	-0.023	-0.007
Asian	125	0.3%	49	0.3%	-0.023	-0.004
Black or African American	796	1.9%	171	1.1%	0.764	0.063
Native Hawaiian or Other Pacific Islander	43	0.1%	10	0.1%	0.036	0.013
Unknown	35,254	82.8%	12,920	83.4%	-0.679	-0.018
White	6,342	14.9%	2,317	15.0%	-0.075	-0.002
Hispanic origin						
Yes	283	0.7%	86	0.6%	0.109	0.014
No	3,117	7.3%	845	5.5%	1.860	0.076
Unknown	39,197	92.0%	14,553	94.0%	-1.969	-0.077
Year						
2010	0	0.0%	392	2.5%	NaN	NaN
2011	41	0.1%	5,300	34.2%	-34.133	-1.015
2012	2,087	4.9%	3,615	23.3%	-18.447	-0.549
2013	4,393	10.3%	1,863	12.0%	-1.719	-0.055
2014	5,482	12.9%	1,155	7.5%	5.410	0.180
2015	4,971	11.7%	781	5.0%	6.626	0.241
2016	4,796	11.3%	930	6.0%	5.253	0.188
2017	4,851	11.4%	609	3.9%	7.455	0.283
2018	4,582	10.8%	416	2.7%	8.070	0.327
2019	4,071	9.6%	222	1.4%	8.123	0.362
2020	3,398	8.0%	120	0.8%	7.202	0.358
2021	3,627	8.5%	78	0.5%	8.011	0.393

Sentinel

Table 1ah. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Sex: Male

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
2022	298	0.7%	3	0.0%	0.680	0.114
CHADSVASC						
mean, std	1.3	1.1	1.2	1.0	0.096	0.092
0	10,614	24.9%	4,136	26.7%	-1.794	-0.041
1	16,692	39.2%	6,212	40.1%	-0.933	-0.019
2	9,231	21.7%	3,509	22.7%	-0.992	-0.024
3	4,345	10.2%	1,184	7.6%	2.554	0.090
4	1,464	3.4%	377	2.4%	1.002	0.059
>= 5	251	0.6%	66	0.4%	0.163	0.023
HASBLED						
mean, std	0.9	0.7	0.9	0.7	0.068	0.095
0	11,599	27.2%	4,614	29.8%	-2.569	-0.057
1	23,867	56.0%	8,770	56.6%	-0.609	-0.012
2	5,808	13.6%	1,762	11.4%	2.255	0.068
>= 3	1,323	3.1%	338	2.2%	0.923	0.058
Health Characteristics						
Diabetes	10,873	25.5%	3,794	24.5%	1.023	0.024
Hypercholesterolemia	11,208	26.3%	4,232	27.3%	-1.020	-0.023
Hypertension	29,789	69.9%	10,417	67.3%	2.656	0.057
Kidney failure (chronic)	1,981	4.7%	555	3.6%	1.066	0.054
Kidney failure (acute)	2,104	4.9%	519	3.4%	1.587	0.080
Obesity	13,260	31.1%	3,241	20.9%	10.198	0.234
Peptic ulcer disease	94	0.2%	31	0.2%	0.020	0.004
Nicotine dependency	9,961	23.4%	2,550	16.5%	6.916	0.174
Hospitalized acute myocardial infarction (past 0-30 days)	693	1.6%	176	1.1%	0.490	0.042
Hospitalized acute myocardial infarction (past 31-183 days)	349	0.8%	77	0.5%	0.322	0.040
Coronary revascularization	3,226	7.6%	1,122	7.2%	0.327	0.012
Hospitalized heart failure	5,444	12.8%	1,694	10.9%	1.840	0.057
Outpatient heart failure	5,610	13.2%	1,866	12.1%	1.119	0.034
Other ischemic heart disease	11,364	26.7%	4,145	26.8%	-0.092	-0.002
Hospitalized stroke (past 0-30 days)	408	1.0%	162	1.0%	-0.088	-0.009

Sentinel

Table 1ah. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Sex: Male

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Hospitalized stroke (past 31-183 days)	197	0.5%	71	0.5%	0.004	0.001
Transient ischemic attack	1,132	2.7%	452	2.9%	-0.262	-0.016
Other medical conditions (falls, fractures, syncope, walker use)	10,726	25.2%	3,883	25.1%	0.103	0.002
Cardioversion	7,501	17.6%	2,790	18.0%	-0.409	-0.011
Cardioablation	1,982	4.7%	1,008	6.5%	-1.857	-0.081
Hospitalized for bleeding	132	0.3%	49	0.3%	-0.007	-0.001
Medical Product Use						
Estrogen replacement	6	0.0%	2	0.0%	0.001	0.001
H2-antagonist	843	2.0%	251	1.6%	0.358	0.027
Non-steroidal anti-inflammatory drugs (NSAIDs)	6,191	14.5%	2,156	13.9%	0.610	0.017
Proton pump inhibitors	7,358	17.3%	2,461	15.9%	1.380	0.037
Selective serotonin reuptake inhibitor (SSRI)	3,654	8.6%	1,232	8.0%	0.621	0.023
Insulin	2,500	5.9%	851	5.5%	0.373	0.016
Metformin (Biguanide)	6,780	15.9%	2,181	14.1%	1.831	0.051
Sulfonylureas	2,613	6.1%	1,033	6.7%	-0.537	-0.022
Other diabetes medications	2,997	7.0%	985	6.4%	0.674	0.027
Angiotensin converting enzyme inhibitor (ACEI)/Angiotensin II receptor blocker (ARB)	21,320	50.1%	7,466	48.2%	1.833	0.037
Antiarrhythmics	12,183	28.6%	5,401	34.9%	-6.281	-0.135
Anti-coagulant (injectable)	4,349	10.2%	1,134	7.3%	2.886	0.102
Anti-platelets	4,427	10.4%	1,309	8.5%	1.939	0.066
Beta-blockers	28,655	67.3%	10,485	67.7%	-0.445	-0.010
Calcium channel blockers	12,593	29.6%	4,719	30.5%	-0.914	-0.020
Digoxin	2,959	6.9%	1,666	10.8%	-3.813	-0.135
Diuretics (loop)	6,508	15.3%	2,148	13.9%	1.406	0.040
Diuretics (potassium sparing)	2,871	6.7%	971	6.3%	0.469	0.019
Diuretics (thiazide)	3,578	8.4%	1,207	7.8%	0.605	0.022
Nitrates	1,937	4.5%	682	4.4%	0.143	0.007
Statins	18,335	43.0%	6,556	42.3%	0.702	0.014
Fibrates	1,850	4.3%	843	5.4%	-1.101	-0.051
Amiodarone	4,029	9.5%	1,439	9.3%	0.165	0.006
Dronedarone	1,262	3.0%	1,092	7.1%	-4.090	-0.188

Sentinel

Table 1ah. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Sex: Male

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Health Service Utilization Intensity Metrics						
No emergency department (ED) encounters (past 0-	30,289	71.1%	11,537	74.5%	-3.403	-0.077
No ED encounters (past 31-183 days)	35,482	83.3%	13,263	85.7%	-2.359	-0.065
At least 1 ED encounter (past 0-30 days)	12,308	28.9%	3,947	25.5%	3.403	0.077
At least 2 ED encounters (past 0-30 days)	2,532	5.9%	717	4.6%	1.313	0.059
At least 1 ED encounter (past 31-183 days)	7,115	16.7%	2,221	14.3%	2.359	0.065
At least 2 ED encounters (past 31-183 days)	2,121	5.0%	587	3.8%	1.188	0.058

[1]Value represents standard deviation where no % follows the value.

[2]Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

Sentinel

Table 1ai. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect in the Treated (ATT), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Sex: Male

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
Weighted patients	42,542	N/A	40,283	N/A	N/A	N/A
Demographic Characteristics						
Age (years)	55.9	7.6	55.9	7.5	-0.000	-0.000
Age						
21-49 years	7,825	18.4%	7,508	18.6%	-0.245	-0.006
50-64 years	34,717	81.6%	32,775	81.4%	0.245	0.006
Sex						
Female	0	0.0%	0	0.0%	NaN	NaN
Male	42,542	100.0%	40,283	100.0%	0.000	NaN
Race[3]						
American Indian or Alaska Native	37	0.1%	40	0.1%	-0.013	-0.004
Asian	125	0.3%	100	0.2%	0.045	0.009
Black or African American	782	1.8%	528	1.3%	0.527	0.044
Native Hawaiian or Other Pacific Islander	43	0.1%	37	0.1%	0.010	0.003
Unknown	35,228	82.8%	33,580	83.4%	-0.553	-0.021
White	6,327	14.9%	5,997	14.9%	-0.015	-0.001
Hispanic origin						
Yes	283	0.7%	225	0.6%	0.106	0.014
No	3,092	7.3%	2,679	6.7%	0.618	0.037
Unknown	39,167	92.1%	37,379	92.8%	-0.724	-0.040
Year						
2010	0	0.0%	923	2.3%	NaN	NaN
2011	41	0.1%	12,554	31.2%	-31.069	-0.948
2012	2,087	4.9%	8,991	22.3%	-17.414	-0.526
2013	4,392	10.3%	4,845	12.0%	-1.703	-0.054
2014	5,476	12.9%	3,202	7.9%	4.923	0.162
2015	4,968	11.7%	2,250	5.6%	6.093	0.218
2016	4,791	11.3%	2,864	7.1%	4.153	0.144
2017	4,838	11.4%	1,888	4.70%	6.685	0.248
2018	4,574	10.8%	1,374	3.4%	7.342	0.289
2019	4,066	9.6%	720	1.8%	7.770	0.341
2020	3,389	8.0%	398	1.0%	6.978	0.343

Sentinel

Table 1ai. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect in the Treated (ATT), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Sex: Male

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
2021	3,622	8.5%	262	0.6%	7.864	0.383
2022	298	0.7%	13	0.0%	0.669	0.111
CHADSVASC						
mean, std	1.3	1.1	1.3	1.1	0.035	0.033
0	10,611	24.9%	10,294	25.6%	-0.612	-0.014
1	16,683	39.2%	15,989	39.7%	-0.476	-0.010
2	9,219	21.7%	8,802	21.9%	-0.180	-0.004
3	4,328	10.2%	3,755	9.3%	0.851	0.029
4	1,454	3.4%	1,229	3.1%	0.366	0.021
>= 5	247	0.6%	214	0.5%	0.050	0.007
HASBLED						
mean, std	0.9	0.7	0.9	0.7	0.020	0.028
0	11,597	27.3%	11,307	28.1%	-0.808	-0.018
1	23,845	56.1%	22,613	56.1%	-0.086	-0.002
2	5,789	13.6%	5,214	12.9%	0.665	0.020
>= 3	1,311	3.1%	1,149	2.9%	0.230	0.014
Health Characteristics						
Diabetes	10,852	25.5%	9,968	24.7%	0.763	0.018
Hypercholesterolemia	11,199	26.3%	10,601	26.3%	0.007	0.000
Hypertension	29,736	69.9%	27,845	69.1%	0.774	0.017
Kidney failure (chronic)	1,965	4.6%	1,757	4.4%	0.256	0.012
Kidney failure (acute)	2,083	4.9%	1,742	4.3%	0.572	0.027
Obesity	13,228	31.1%	11,544	28.7%	2.437	0.053
Peptic ulcer disease	92	0.2%	78	0.2%	0.022	0.005
Nicotine dependency	9,929	23.3%	8,456	21.0%	2.348	0.057
Hospitalized acute myocardial infarction (past 0-30 days)	682	1.6%	583	1.4%	0.157	0.013
Hospitalized acute myocardial infarction (past 31-183 days)	346	0.8%	266	0.7%	0.153	0.018
Coronary revascularization	3,214	7.6%	2,948	7.3%	0.236	0.009
Hospitalized heart failure	5,416	12.7%	4,896	12.2%	0.576	0.018
Outpatient heart failure	5,596	13.2%	5,130	12.7%	0.420	0.013

Sentinel

Table 1ai. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect in the Treated (ATT), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Sex: Male

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
Other ischemic heart disease	11,336	26.6%	10,658	26.5%	0.188	0.004
Hospitalized stroke (past 0-30 days)	404	0.9%	399	1.0%	-0.042	-0.004
Hospitalized stroke (past 31-183 days)	194	0.5%	195	0.5%	-0.028	-0.004
Transient ischemic attack	1,129	2.7%	1,110	2.8%	-0.101	-0.006
Other medical conditions (falls, fractures, syncope, walker use)	10,711	25.2%	10,086	25.0%	0.138	0.003
Cardioversion	7,494	17.6%	7,109	17.6%	-0.032	-0.001
Cardioablation	1,982	4.7%	1,942	4.8%	-0.161	-0.008
Hospitalized for bleeding	132	0.3%	114	0.3%	0.028	0.005
Medical Product Use						
Estrogen replacement	1	0.0%	1	0.0%	-0.000	-0.000
H2-antagonist	840	2.0%	746	1.9%	0.122	0.009
Non-steroidal anti-inflammatory drugs (NSAIDs)	6,181	14.5%	5,795	14.4%	0.144	0.004
Proton pump inhibitors	7,340	17.3%	6,793	16.9%	0.390	0.010
Selective serotonin reuptake inhibitor (SSRI)	3,647	8.6%	3,419	8.5%	0.086	0.003
Insulin	2,491	5.9%	2,308	5.7%	0.126	0.005
Metformin (Biguanide)	6,764	15.9%	6,040	15.0%	0.905	0.025
Sulfonylureas	2,610	6.1%	2,460	6.1%	0.029	0.001
Other diabetes medications	2,991	7.0%	2,674	6.6%	0.392	0.016
Angiotensin converting enzyme inhibitor (ACEI)/Angiotensin II receptor blocker (ARB)	21,286	50.0%	19,863	49.3%	0.727	0.015
Antiarrhythmics	12,172	28.6%	11,927	29.6%	-0.997	-0.022
Anti-coagulant (injectable)	4,336	10.2%	3,738	9.3%	0.913	0.031
Anti-platelets	4,409	10.4%	3,892	9.7%	0.702	0.023
Beta-blockers	28,617	67.3%	27,062	67.2%	0.088	0.002
Calcium channel blockers	12,576	29.6%	11,987	29.8%	-0.195	-0.004
Digoxin	2,956	6.9%	2,997	7.4%	-0.491	-0.019
Diuretics (loop)	6,484	15.2%	5,929	14.7%	0.524	0.015
Diuretics (potassium sparing)	2,862	6.7%	2,643	6.6%	0.167	0.007
Diuretics (thiazide)	3,572	8.4%	3,309	8.2%	0.183	0.007
Nitrates	1,922	4.5%	1,761	4.4%	0.145	0.007
Statins	18,300	43.0%	17,044	42.3%	0.706	0.014

Sentinel

Table 1ai. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect in the Treated (ATT), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Sex: Male

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
Fibrates	1,850	4.3%	1,832	4.5%	-0.200	-0.010
Amiodarone	4,024	9.5%	3,841	9.5%	-0.077	-0.003
Dronedarone	1,258	3.0%	1,361	3.4%	-0.422	-0.024
Health Service Utilization Intensity Metrics						
No emergency department (ED) encounters (past 0-	30,268	71.1%	29,159	72.4%	-1.237	-0.029
No ED encounters (past 31-183 days)	35,450	83.3%	33,932	84.2%	-0.906	-0.025
At least 1 ED encounter (past 0-30 days)	12,274	28.9%	11,124	27.6%	1.237	0.029
At least 2 ED encounters (past 0-30 days)	2,519	5.9%	2,175	5.4%	0.521	0.023
At least 1 ED encounter (past 31-183 days)	7,092	16.7%	6,350	15.8%	0.906	0.025
At least 2 ED encounters (past 31-183 days)	2,105	4.9%	1,850	4.6%	0.357	0.017

[1]Weighted patient characteristics tables facilitate the assessment of covariate balance after inverse probability weighting and should not be interpreted as a description of the unweighted population. Treated patients are weighted by the proportion of treated patients in the trimmed population divided by the inverse of their propensity score (PS). Reference patients are weighted by 1 minus the proportion of treated patients in the trimmed population divided by 1 minus their PS.

[2]Value represents standard deviation where no % follows the value.

[3]Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

Sentinel

Table 1aj. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Age Group: 21-49 years

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Unique patients	9,757	100.0%	3,496	100.0%	N/A	N/A
Demographic Characteristics						
Age (years)	43.0	6.2	43.5	6.0	-0.461	-0.076
Age						
21-49 years	9,757	100.0%	3,496	100.0%	0.000	NaN
50-64 years	0	0.0%	0	0.0%	NaN	NaN
Sex						
Female	1,927	19.7%	589	16.8%	2.902	0.075
Male	7,830	80.3%	2,907	83.2%	-2.902	-0.075
Race[2]						
American Indian or Alaska Native	7	0.1%	3	0.1%	-0.014	-0.005
Asian	41	0.4%	17	0.5%	-0.066	-0.010
Black or African American	224	2.3%	45	1.3%	1.009	0.076
Native Hawaiian or Other Pacific Islander	7	0.1%	0	0.0%	NaN	NaN
Unknown	8,498	87.1%	3,057	87.4%	-0.346	-0.010
White	980	10.0%	374	10.7%	-0.654	-0.021
Hispanic origin						
Yes	114	1.2%	25	0.7%	0.453	0.047
No	392	4.0%	93	2.7%	1.357	0.076
Unknown	9,251	94.8%	3,378	96.6%	-1.811	-0.090
Year						
2010	0	0.0%	79	2.3%	NaN	NaN
2011	6	0.1%	1,232	35.2%	-35.179	-1.040
2012	479	4.9%	865	24.7%	-19.833	-0.581
2013	983	10.1%	424	12.1%	-2.053	-0.065
2014	1,205	12.4%	247	7.1%	5.285	0.179
2015	1,194	12.2%	150	4.3%	7.947	0.292
2016	1,104	11.3%	195	5.6%	5.737	0.207
2017	1,102	11.3%	123	3.5%	7.776	0.300
2018	1,066	10.9%	81	2.3%	8.609	0.352
2019	940	9.6%	55	1.6%	8.061	0.356
2020	795	8.1%	35	1.0%	7.147	0.347
2021	825	8.5%	10	0.3%	8.169	0.408

Sentinel

Table 1aj. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Age Group: 21-49 years

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
2022	58	0.6%	0	0.0%	NaN	NaN
CHADSVASC						
mean, std	1.2	1.1	1.1	1.0	0.125	0.119
0	3,021	31.0%	1,157	33.1%	-2.133	-0.046
1	3,521	36.1%	1,336	38.2%	-2.128	-0.044
2	1,973	20.2%	691	19.8%	0.456	0.011
3	858	8.8%	236	6.8%	2.043	0.076
4	311	3.2%	64	1.8%	1.357	0.087
>= 5	73	0.7%	12	0.3%	0.405	0.055
HASBLED						
mean, std	0.7	0.7	0.7	0.7	0.059	0.082
0	3,957	40.6%	1,501	42.9%	-2.379	-0.048
1	4,506	46.2%	1,625	46.5%	-0.299	-0.006
2	1,091	11.2%	323	9.2%	1.943	0.064
>= 3	203	2.1%	47	1.3%	0.736	0.057
Health Characteristics						
Diabetes	1,682	17.2%	549	15.7%	1.535	0.041
Hypercholesterolemia	1,533	15.7%	595	17.0%	-1.308	-0.035
Hypertension	5,380	55.1%	1,834	52.5%	2.680	0.054
Kidney failure (chronic)	266	2.7%	75	2.1%	0.581	0.038
Kidney failure (acute)	426	4.4%	80	2.3%	2.078	0.116
Obesity	3,483	35.7%	904	25.9%	9.839	0.214
Peptic ulcer disease	13	0.1%	5	0.1%	-0.010	-0.003
Nicotine dependency	2,287	23.4%	616	17.6%	5.819	0.144
Hospitalized acute myocardial infarction (past 0-30 days)	118	1.2%	20	0.6%	0.637	0.068
Hospitalized acute myocardial infarction (past 31-183 days)	54	0.6%	10	0.3%	0.267	0.041
Coronary revascularization	260	2.7%	100	2.9%	-0.196	-0.012
Hospitalized heart failure	1,127	11.6%	358	10.2%	1.310	0.042
Outpatient heart failure	1,000	10.2%	352	10.1%	0.180	0.006
Other ischemic heart disease	1,400	14.3%	537	15.4%	-1.012	-0.028
Hospitalized stroke (past 0-30 days)	73	0.7%	17	0.5%	0.262	0.033

Sentinel

Table 1aj. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Age Group: 21-49 years

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Hospitalized stroke (past 31-183 days)	43	0.4%	19	0.5%	-0.103	-0.015
Transient ischemic attack	215	2.2%	63	1.8%	0.401	0.029
Other medical conditions (falls, fractures, syncope, walker use)	2,792	28.6%	1,024	29.3%	-0.675	-0.015
Cardioversion	2,106	21.6%	800	22.9%	-1.299	-0.031
Cardioablation	703	7.2%	371	10.6%	-3.407	-0.120
Hospitalized for bleeding	23	0.2%	5	0.1%	0.093	0.021
Medical Product Use						
Estrogen replacement	65	0.7%	19	0.5%	0.123	0.016
H2-antagonist	173	1.8%	45	1.3%	0.486	0.040
Non-steroidal anti-inflammatory drugs (NSAIDs)	1,361	13.9%	447	12.8%	1.163	0.034
Proton pump inhibitors	1,565	16.0%	487	13.9%	2.110	0.059
Selective serotonin reuptake inhibitor (SSRI)	993	10.2%	336	9.6%	0.566	0.019
Insulin	378	3.9%	114	3.3%	0.613	0.033
Metformin (Biguanide)	1,041	10.7%	308	8.8%	1.859	0.063
Sulfonylureas	324	3.3%	131	3.7%	-0.426	-0.023
Other diabetes medications	430	4.4%	114	3.3%	1.146	0.060
Angiotensin converting enzyme inhibitor (ACEI)/Angiotensin II receptor blocker (ARB)	3,533	36.2%	1,208	34.6%	1.656	0.035
Antiarrhythmics	3,042	31.2%	1,303	37.3%	-6.094	-0.129
Anti-coagulant (injectable)	1,238	12.7%	332	9.5%	3.192	0.102
Anti-platelets	576	5.9%	132	3.8%	2.128	0.099
Beta-blockers	6,248	64.0%	2,268	64.9%	-0.838	-0.018
Calcium channel blockers	2,591	26.6%	978	28.0%	-1.420	-0.032
Digoxin	592	6.1%	339	9.7%	-3.629	-0.135
Diuretics (loop)	1,160	11.9%	391	11.2%	0.705	0.022
Diuretics (potassium sparing)	592	6.1%	186	5.3%	0.747	0.032
Diuretics (thiazide)	607	6.2%	186	5.3%	0.901	0.039
Nitrates	209	2.1%	87	2.5%	-0.347	-0.023
Statins	2,160	22.1%	792	22.7%	-0.517	-0.012
Fibrates	259	2.7%	102	2.9%	-0.263	-0.016
Amiodarone	749	7.7%	270	7.7%	-0.047	-0.002
Dronedarone	307	3.1%	257	7.4%	-4.205	-0.189

Sentinel

Table 1aj. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Age Group: 21-49 years

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Health Service Utilization Intensity Metrics						
No emergency department (ED) encounters (past 0-	6,089	62.4%	2,284	65.3%	-2.925	-0.061
No ED encounters (past 31-183 days)	7,643	78.3%	2,833	81.0%	-2.702	-0.067
At least 1 ED encounter (past 0-30 days)	3,668	37.6%	1,212	34.7%	2.925	0.061
At least 2 ED encounters (past 0-30 days)	736	7.5%	210	6.0%	1.536	0.061
At least 1 ED encounter (past 31-183 days)	2,114	21.7%	663	19.0%	2.702	0.067
At least 2 ED encounters (past 31-183 days)	668	6.8%	186	5.3%	1.526	0.064

[1]Value represents standard deviation where no % follows the value.

[2]Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

Sentinel

Table 1ak. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect in the Treated (ATT), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Age Group: 21-49 years

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
Weighted patients	9,604	N/A	8,970	N/A	N/A	N/A
Demographic Characteristics						
Age (years)	43.0	6.2	43.1	6.2	-0.104	-0.017
Age						
21-49 years	9,604	100.0%	8,970	100.0%	0.000	NaN
50-64 years	0	0.0%	0	0.0%	NaN	NaN
Sex						
Female	1,858	19.3%	1,670	18.6%	0.727	0.019
Male	7,746	80.7%	7,300	81.4%	-0.727	-0.019
Race[3]						
American Indian or Alaska Native	7	0.1%	10	0.1%	-0.037	-0.012
Asian	40	0.4%	33	0.4%	0.050	0.008
Black or African American	198	2.1%	111	1.2%	0.822	0.067
Native Hawaiian or Other Pacific Islander	7	0.1%	0	0.0%	NaN	NaN
Unknown	8,404	87.5%	7,914	88.2%	-0.717	-0.029
White	948	9.9%	903	10.1%	-0.190	-0.008
Hispanic origin						
Yes	113	1.2%	60	0.7%	0.512	0.055
No	333	3.5%	244	2.7%	0.747	0.056
Unknown	9,158	95.4%	8,667	96.6%	-1.259	-0.078
Year						
2010	0	0.0%	175	2.0%	NaN	NaN
2011	5	0.1%	2,916	32.5%	-32.453	-0.979
2012	478	5.0%	2,084	23.2%	-18.250	-0.544
2013	979	10.2%	1,135	12.6%	-2.454	-0.077
2014	1,194	12.4%	697	7.8%	4.667	0.155
2015	1,185	12.3%	401	4.5%	7.871	0.287
2016	1,087	11.3%	612	6.8%	4.492	0.157
2017	1,078	11.2%	377	4.2%	7.018	0.265
2018	1,042	10.8%	268	3.0%	7.861	0.314
2019	913	9.5%	170	1.9%	7.612	0.333
2020	777	8.1%	106	1.2%	6.911	0.334

Sentinel

Table 1ak. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect in the Treated (ATT), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Age Group: 21-49 years

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
2021	808	8.4%	31	0.3%	8.072	0.403
2022	58	0.6%	0	0.0%	NaN	NaN
CHADSVASC						
mean, std	1.2	1.1	1.1	1.0	0.041	0.039
0	3,016	31.4%	2,894	32.3%	-0.857	-0.018
1	3,501	36.5%	3,311	36.9%	-0.462	-0.010
2	1,945	20.3%	1,793	20.0%	0.259	0.006
3	819	8.5%	729	8.1%	0.402	0.015
4	274	2.9%	205	2.3%	0.564	0.036
>= 5	49	0.5%	37	0.4%	0.094	0.014
HASBLED						
mean, std	0.7	0.7	0.7	0.7	0.017	0.024
0	3,941	41.0%	3,724	41.5%	-0.484	-0.010
1	4,444	46.3%	4,195	46.8%	-0.492	-0.010
2	1,042	10.8%	905	10.1%	0.758	0.025
>= 3	177	1.8%	146	1.6%	0.218	0.017
Health Characteristics						
Diabetes	1,606	16.7%	1,409	15.7%	1.019	0.028
Hypercholesterolemia	1,497	15.6%	1,379	15.4%	0.214	0.006
Hypertension	5,245	54.6%	4,873	54.3%	0.285	0.006
Kidney failure (chronic)	237	2.5%	218	2.4%	0.042	0.003
Kidney failure (acute)	379	3.9%	281	3.1%	0.810	0.044
Obesity	3,380	35.2%	2,969	33.1%	2.091	0.044
Peptic ulcer disease	11	0.1%	9	0.1%	0.018	0.006
Nicotine dependency	2,204	22.9%	1,846	20.6%	2.366	0.057
Hospitalized acute myocardial infarction (past 0-30 days)	103	1.1%	66	0.7%	0.337	0.036
Hospitalized acute myocardial infarction (past 31-183 days)	41	0.4%	35	0.4%	0.040	0.006
Coronary revascularization	237	2.5%	215	2.4%	0.075	0.005
Hospitalized heart failure	1,075	11.2%	946	10.5%	0.646	0.021
Outpatient heart failure	959	10.0%	850	9.5%	0.510	0.017

Sentinel

Table 1ak. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect in the Treated (ATT), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Age Group: 21-49 years

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
Other ischemic heart disease	1,349	14.0%	1,263	14.1%	-0.030	-0.001
Hospitalized stroke (past 0-30 days)	63	0.7%	43	0.5%	0.177	0.024
Hospitalized stroke (past 31-183 days)	41	0.4%	41	0.5%	-0.026	-0.004
Transient ischemic attack	200	2.1%	191	2.1%	-0.048	-0.003
Other medical conditions (falls, fractures, syncope, walker use)	2,745	28.6%	2,582	28.8%	-0.204	-0.005
Cardioversion	2,092	21.8%	2,013	22.4%	-0.658	-0.016
Cardioablation	698	7.3%	649	7.2%	0.034	0.001
Hospitalized for bleeding	16	0.2%	13	0.1%	0.019	0.005
Medical Product Use						
Estrogen replacement	62	0.6%	56	0.6%	0.020	0.002
H2-antagonist	154	1.6%	120	1.3%	0.260	0.022
Non-steroidal anti-inflammatory drugs (NSAIDs)	1,312	13.7%	1,184	13.2%	0.457	0.013
Proton pump inhibitors	1,516	15.8%	1,344	15.0%	0.805	0.022
Selective serotonin reuptake inhibitor (SSRI)	971	10.1%	869	9.7%	0.423	0.014
Insulin	350	3.6%	308	3.4%	0.210	0.011
Metformin (Biguanide)	987	10.3%	883	9.8%	0.429	0.014
Sulfonylureas	305	3.2%	271	3.0%	0.155	0.009
Other diabetes medications	413	4.3%	361	4.0%	0.274	0.014
Angiotensin converting enzyme inhibitor (ACEI)/Angiotensin II receptor blocker (ARB)	3,444	35.9%	3,163	35.3%	0.596	0.012
Antiarrhythmics	2,999	31.2%	2,884	32.1%	-0.919	-0.020
Anti-coagulant (injectable)	1,198	12.5%	1,038	11.6%	0.905	0.029
Anti-platelets	531	5.5%	409	4.6%	0.975	0.045
Beta-blockers	6,138	63.9%	5,744	64.0%	-0.125	-0.003
Calcium channel blockers	2,546	26.5%	2,360	26.3%	0.198	0.004
Digoxin	583	6.1%	598	6.7%	-0.599	-0.025
Diuretics (loop)	1,112	11.6%	984	11.0%	0.609	0.019
Diuretics (potassium sparing)	566	5.9%	493	5.5%	0.392	0.017
Diuretics (thiazide)	584	6.1%	517	5.8%	0.313	0.013
Nitrates	195	2.0%	206	2.3%	-0.263	-0.018
Statins	2,088	21.7%	1,876	20.9%	0.827	0.020

Sentinel

Table 1ak. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect in the Treated (ATT), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Age Group: 21-49 years

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
Fibrates	255	2.7%	253	2.8%	-0.160	-0.010
Amiodarone	730	7.6%	690	7.7%	-0.088	-0.003
Dronedarone	306	3.2%	320	3.6%	-0.378	-0.021
Health Service Utilization Intensity Metrics						
No emergency department (ED) encounters (past 0-	6,005	62.5%	5,698	63.5%	-0.996	-0.022
No ED encounters (past 31-183 days)	7,579	78.9%	7,223	80.5%	-1.600	-0.040
At least 1 ED encounter (past 0-30 days)	3,599	37.5%	3,272	36.5%	0.996	0.022
At least 2 ED encounters (past 0-30 days)	718	7.5%	597	6.7%	0.824	0.033
At least 1 ED encounter (past 31-183 days)	2,025	21.1%	1,748	19.5%	1.600	0.040
At least 2 ED encounters (past 31-183 days)	622	6.5%	523	5.8%	0.648	0.027

[1]Weighted patient characteristics tables facilitate the assessment of covariate balance after inverse probability weighting and should not be interpreted as a description of the unweighted population. Treated patients are weighted by the proportion of treated patients in the trimmed population divided by the inverse of their propensity score (PS). Reference patients are weighted by 1 minus the proportion of treated patients in the trimmed population divided by 1 minus their PS.

[2]Value represents standard deviation where no % follows the value.

[3]Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

Sentinel

Table 1al. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Age Group: 50-64 years

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Unique patients	47,471	100.0%	16,684	100.0%	N/A	N/A
Demographic Characteristics						
Age (years)	59.0	4.0	58.9	4.1	0.069	0.017
Age						
21-49 years	0	0.0%	0	0.0%	NaN	NaN
50-64 years	47,471	100.0%	16,684	100.0%	0.000	NaN
Sex						
Female	12,704	26.8%	4,107	24.6%	2.145	0.049
Male	34,767	73.2%	12,577	75.4%	-2.145	-0.049
Race[2]						
American Indian or Alaska Native	41	0.1%	19	0.1%	-0.028	-0.009
Asian	128	0.3%	48	0.3%	-0.018	-0.003
Black or African American	1,086	2.3%	238	1.4%	0.861	0.064
Native Hawaiian or Other Pacific Islander	50	0.1%	13	0.1%	0.027	0.009
Unknown	38,397	80.9%	13,652	81.8%	-0.942	-0.024
White	7,769	16.4%	2,714	16.3%	0.099	0.003
Hispanic origin						
Yes	256	0.5%	87	0.5%	0.018	0.002
No	4,307	9.1%	1,160	7.0%	2.120	0.078
Unknown	42,908	90.4%	15,437	92.5%	-2.138	-0.077
Year						
2010	0	0.0%	403	2.4%	NaN	NaN
2011	43	0.1%	5,611	33.6%	-33.540	-1.002
2012	2,248	4.7%	3,783	22.7%	-17.939	-0.540
2013	4,781	10.1%	1,968	11.8%	-1.724	-0.055
2014	6,088	12.8%	1,256	7.5%	5.297	0.176
2015	5,446	11.5%	892	5.3%	6.126	0.222
2016	5,304	11.2%	1,076	6.4%	4.724	0.167
2017	5,525	11.6%	733	4.4%	7.245	0.269
2018	5,225	11.0%	475	2.8%	8.160	0.326
2019	4,579	9.6%	249	1.5%	8.153	0.361
2020	3,795	8.0%	136	0.8%	7.179	0.355
2021	4,109	8.7%	97	0.6%	8.074	0.392

Sentinel

Table 1al. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Age Group: 50-64 years

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
2022	328	0.7%	5	0.0%	0.661	0.110
CHADSVASC						
mean, std	1.6	1.2	1.5	1.1	0.101	0.088
0	7,593	16.0%	2,979	17.9%	-1.860	-0.050
1	16,599	35.0%	5,972	35.8%	-0.828	-0.017
2	13,101	27.6%	4,731	28.4%	-0.759	-0.017
3	6,632	14.0%	2,030	12.2%	1.803	0.054
4	2,734	5.8%	735	4.4%	1.354	0.062
>= 5	812	1.7%	237	1.4%	0.290	0.023
HASBLED						
mean, std	1.0	0.7	0.9	0.7	0.055	0.078
0	11,347	23.9%	4,316	25.9%	-1.966	-0.045
1	27,664	58.3%	9,835	58.9%	-0.673	-0.014
2	6,873	14.5%	2,111	12.7%	1.825	0.053
>= 3	1,587	3.3%	422	2.5%	0.814	0.048
Health Characteristics						
Diabetes	13,209	27.8%	4,511	27.0%	0.788	0.018
Hypercholesterolemia	13,167	27.7%	4,777	28.6%	-0.895	-0.020
Hypertension	34,824	73.4%	11,890	71.3%	2.093	0.047
Kidney failure (chronic)	2,356	5.0%	676	4.1%	0.911	0.044
Kidney failure (acute)	2,284	4.8%	584	3.5%	1.311	0.066
Obesity	15,369	32.4%	3,652	21.9%	10.486	0.237
Peptic ulcer disease	124	0.3%	45	0.3%	-0.009	-0.002
Nicotine dependency	10,806	22.8%	2,688	16.1%	6.652	0.169
Hospitalized acute myocardial infarction (past 0-30 days)	778	1.6%	206	1.2%	0.404	0.034
Hospitalized acute myocardial infarction (past 31-183 days)	377	0.8%	90	0.5%	0.255	0.031
Coronary revascularization	3,546	7.5%	1,183	7.1%	0.379	0.015
Hospitalized heart failure	6,084	12.8%	1,872	11.2%	1.596	0.049
Outpatient heart failure	6,396	13.5%	2,034	12.2%	1.282	0.038
Other ischemic heart disease	12,946	27.3%	4,534	27.2%	0.096	0.002
Hospitalized stroke (past 0-30 days)	478	1.0%	213	1.3%	-0.270	-0.025

Sentinel

Table 1al. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Age Group: 50-64 years

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Hospitalized stroke (past 31-183 days)	241	0.5%	88	0.5%	-0.020	-0.003
Transient ischemic attack	1,439	3.0%	591	3.5%	-0.511	-0.029
Other medical conditions (falls, fractures, syncope, walker use)	11,489	24.2%	4,051	24.3%	-0.079	-0.002
Cardioversion	7,179	15.1%	2,615	15.7%	-0.551	-0.015
Cardioablation	1,952	4.1%	927	5.6%	-1.444	-0.067
Hospitalized for bleeding	149	0.3%	70	0.4%	-0.106	-0.017
Medical Product Use						
Estrogen replacement	1,067	2.2%	399	2.4%	-0.144	-0.010
H2-antagonist	1,159	2.4%	330	2.0%	0.464	0.032
Non-steroidal anti-inflammatory drugs (NSAIDs)	7,578	16.0%	2,562	15.4%	0.607	0.017
Proton pump inhibitors	9,235	19.5%	3,033	18.2%	1.275	0.033
Selective serotonin reuptake inhibitor (SSRI)	5,445	11.5%	1,747	10.5%	0.999	0.032
Insulin	3,150	6.6%	1,054	6.3%	0.318	0.013
Metformin (Biguanide)	8,171	17.2%	2,571	15.4%	1.803	0.049
Sulfonylureas	3,116	6.6%	1,188	7.1%	-0.557	-0.022
Other diabetes medications	3,646	7.7%	1,218	7.3%	0.380	0.014
Angiotensin converting enzyme inhibitor (ACEI)/Angiotensin II receptor blocker (ARB)	24,270	51.1%	8,364	50.1%	0.994	0.020
Antiarrhythmics	13,545	28.5%	5,889	35.3%	-6.764	-0.145
Anti-coagulant (injectable)	4,733	10.0%	1,144	6.9%	3.113	0.112
Anti-platelets	5,034	10.6%	1,474	8.8%	1.770	0.060
Beta-blockers	32,366	68.2%	11,376	68.2%	-0.005	-0.000
Calcium channel blockers	14,540	30.6%	5,426	32.5%	-1.893	-0.041
Digoxin	3,314	7.0%	1,834	11.0%	-4.011	-0.141
Diuretics (loop)	7,933	16.7%	2,591	15.5%	1.181	0.032
Diuretics (potassium sparing)	3,459	7.3%	1,153	6.9%	0.376	0.015
Diuretics (thiazide)	4,653	9.8%	1,525	9.1%	0.661	0.023
Nitrates	2,323	4.9%	782	4.7%	0.206	0.010
Statins	21,456	45.2%	7,434	44.6%	0.640	0.013
Fibrates	1,975	4.2%	907	5.4%	-1.276	-0.060
Amiodarone	4,320	9.1%	1,520	9.1%	-0.010	-0.000
Dronedarone	1,430	3.0%	1,205	7.2%	-4.210	-0.192

Sentinel

Table 1al. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Age Group: 50-64 years

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Health Service Utilization Intensity Metrics						
No emergency department (ED) encounters (past 0-	34,017	71.7%	12,529	75.1%	-3.437	-0.078
No ED encounters (past 31-183 days)	39,066	82.3%	14,182	85.0%	-2.709	-0.073
At least 1 ED encounter (past 0-30 days)	13,454	28.3%	4,155	24.9%	3.437	0.078
At least 2 ED encounters (past 0-30 days)	2,873	6.1%	767	4.6%	1.455	0.065
At least 1 ED encounter (past 31-183 days)	8,405	17.7%	2,502	15.0%	2.709	0.073
At least 2 ED encounters (past 31-183 days)	2,600	5.5%	684	4.1%	1.377	0.065

[1]Value represents standard deviation where no % follows the value.

[2]Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

Sentinel

Table 1am. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect in the Treated (ATT), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Age Group: 50-64 years

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
Weighted patients	47,385	N/A	44,995	N/A	N/A	N/A
Demographic Characteristics						
Age (years)	59.0	4.0	59.0	4.1	-0.001	-0.000
Age						
21-49 years	0	0.0%	0	0.0%	NaN	NaN
50-64 years	47,385	100.0%	44,995	100.0%	0.000	NaN
Sex						
Female	12,672	26.7%	11,819	26.3%	0.476	0.011
Male	34,713	73.3%	33,176	73.7%	-0.476	-0.011
Race[3]						
American Indian or Alaska Native	41	0.1%	46	0.1%	-0.016	-0.005
Asian	128	0.3%	102	0.2%	0.043	0.009
Black or African American	1,060	2.2%	808	1.8%	0.442	0.033
Native Hawaiian or Other Pacific Islander	50	0.1%	48	0.1%	-0.001	-0.000
Unknown	38,372	81.0%	36,593	81.3%	-0.348	-0.013
White	7,734	16.3%	7,398	16.4%	-0.119	-0.004
Hispanic origin						
Yes	256	0.5%	229	0.5%	0.030	0.004
No	4,250	9.0%	3,867	8.6%	0.375	0.022
Unknown	42,879	90.5%	40,899	90.9%	-0.406	-0.022
Year						
2010	0	0.0%	957	2.1%	NaN	NaN
2011	43	0.1%	13,649	30.3%	-30.244	-0.931
2012	2,248	4.7%	9,708	21.6%	-16.833	-0.515
2013	4,780	10.1%	5,254	11.7%	-1.590	-0.051
2014	6,083	12.8%	3,613	8.0%	4.807	0.158
2015	5,444	11.5%	2,667	5.9%	5.562	0.198
2016	5,300	11.2%	3,430	7.6%	3.562	0.122
2017	5,512	11.6%	2,398	5.3%	6.303	0.228
2018	5,209	11.0%	1,613	3.6%	7.408	0.288
2019	4,566	9.6%	844	1.9%	7.761	0.338
2020	3,775	8.0%	494	1.1%	6.870	0.335

Sentinel

Table 1am. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect in the Treated (ATT), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Age Group: 50-64 years

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
2021	4,098	8.6%	349	0.8%	7.872	0.379
2022	327	0.7%	19	0.0%	0.648	0.108
CHADSVASC						
mean, std	1.6	1.2	1.6	1.2	0.029	0.025
0	7,590	16.0%	7,408	16.5%	-0.446	-0.012
1	16,591	35.0%	15,885	35.3%	-0.292	-0.006
2	13,082	27.6%	12,563	27.9%	-0.314	-0.007
3	6,608	13.9%	6,025	13.4%	0.554	0.016
4	2,713	5.7%	2,381	5.3%	0.433	0.019
>= 5	801	1.7%	732	1.6%	0.065	0.005
HASBLED						
mean, std	1.0	0.7	1.0	0.7	0.013	0.018
0	11,343	23.9%	11,030	24.5%	-0.577	-0.014
1	27,633	58.3%	26,210	58.3%	0.065	0.001
2	6,839	14.4%	6,311	14.0%	0.407	0.012
>= 3	1,570	3.3%	1,443	3.2%	0.105	0.006
Health Characteristics						
Diabetes	13,168	27.8%	12,290	27.3%	0.474	0.011
Hypercholesterolemia	13,144	27.7%	12,427	27.6%	0.119	0.003
Hypertension	34,745	73.3%	32,717	72.7%	0.613	0.014
Kidney failure (chronic)	2,330	4.9%	2,181	4.8%	0.070	0.003
Kidney failure (acute)	2,251	4.8%	1,954	4.3%	0.407	0.020
Obesity	15,313	32.3%	13,412	29.8%	2.508	0.055
Peptic ulcer disease	124	0.3%	111	0.2%	0.015	0.003
Nicotine dependency	10,744	22.7%	9,316	20.7%	1.969	0.048
Hospitalized acute myocardial infarction (past 0-30 days)	773	1.6%	682	1.5%	0.115	0.009
Hospitalized acute myocardial infarction (past 31-183 days)	374	0.8%	304	0.7%	0.113	0.013
Coronary revascularization	3,531	7.5%	3,271	7.3%	0.183	0.007
Hospitalized heart failure	6,030	12.7%	5,558	12.4%	0.373	0.011
Outpatient heart failure	6,353	13.4%	5,869	13.0%	0.364	0.011

Sentinel

Table 1am. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect in the Treated (ATT), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Age Group: 50-64 years

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
Other ischemic heart disease	12,906	27.2%	12,242	27.2%	0.029	0.001
Hospitalized stroke (past 0-30 days)	475	1.0%	506	1.1%	-0.121	-0.012
Hospitalized stroke (past 31-183 days)	235	0.5%	239	0.5%	-0.035	-0.005
Transient ischemic attack	1,438	3.0%	1,435	3.2%	-0.153	-0.009
Other medical conditions (falls, fractures, syncope, walker use)	11,470	24.2%	10,858	24.1%	0.074	0.002
Cardioversion	7,174	15.1%	6,788	15.1%	0.053	0.001
Cardioablation	1,946	4.1%	1,951	4.3%	-0.229	-0.011
Hospitalized for bleeding	149	0.3%	147	0.3%	-0.013	-0.002
Medical Product Use						
Estrogen replacement	1,067	2.3%	1,006	2.2%	0.015	0.001
H2-antagonist	1,155	2.4%	1,027	2.3%	0.155	0.010
Non-steroidal anti-inflammatory drugs (NSAIDs)	7,561	16.0%	7,131	15.8%	0.108	0.003
Proton pump inhibitors	9,203	19.4%	8,687	19.3%	0.115	0.003
Selective serotonin reuptake inhibitor (SSRI)	5,430	11.5%	5,065	11.3%	0.202	0.006
Insulin	3,136	6.6%	2,960	6.6%	0.040	0.002
Metformin (Biguanide)	8,153	17.2%	7,360	16.4%	0.849	0.023
Sulfonylureas	3,113	6.6%	2,972	6.6%	-0.037	-0.001
Other diabetes medications	3,638	7.7%	3,310	7.4%	0.321	0.012
Angiotensin converting enzyme inhibitor (ACEI)/Angiotensin II receptor blocker (ARB)	24,211	51.1%	22,838	50.8%	0.337	0.007
Antiarrhythmics	13,527	28.5%	13,235	29.4%	-0.869	-0.019
Anti-coagulant (injectable)	4,701	9.9%	4,024	8.9%	0.978	0.034
Anti-platelets	5,020	10.6%	4,513	10.0%	0.563	0.019
Beta-blockers	32,305	68.2%	30,690	68.2%	-0.032	-0.001
Calcium channel blockers	14,523	30.6%	14,010	31.1%	-0.488	-0.011
Digoxin	3,311	7.0%	3,361	7.5%	-0.481	-0.019
Diuretics (loop)	7,892	16.7%	7,313	16.3%	0.402	0.011
Diuretics (potassium sparing)	3,439	7.3%	3,208	7.1%	0.128	0.005
Diuretics (thiazide)	4,641	9.8%	4,340	9.6%	0.150	0.005
Nitrates	2,306	4.9%	2,143	4.8%	0.104	0.005
Statins	21,392	45.1%	20,154	44.8%	0.353	0.007

Sentinel

Table 1am. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect in the Treated (ATT), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Age Group: 50-64 years

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
Fibrates	1,971	4.2%	1,950	4.3%	-0.173	-0.009
Amiodarone	4,306	9.1%	4,142	9.2%	-0.118	-0.004
Dronedarone	1,430	3.0%	1,523	3.4%	-0.367	-0.021
Health Service Utilization Intensity Metrics						
No emergency department (ED) encounters (past 0-	33,997	71.7%	32,814	72.9%	-1.182	-0.027
No ED encounters (past 31-183 days)	39,034	82.4%	37,406	83.1%	-0.757	-0.020
At least 1 ED encounter (past 0-30 days)	13,388	28.3%	12,181	27.1%	1.182	0.027
At least 2 ED encounters (past 0-30 days)	2,841	6.0%	2,457	5.5%	0.535	0.023
At least 1 ED encounter (past 31-183 days)	8,351	17.6%	7,589	16.9%	0.757	0.020
At least 2 ED encounters (past 31-183 days)	2,562	5.4%	2,283	5.1%	0.334	0.015

[1]Weighted patient characteristics tables facilitate the assessment of covariate balance after inverse probability weighting and should not be interpreted as a description of the unweighted population. Treated patients are weighted by the proportion of treated patients in the trimmed population divided by the inverse of their propensity score (PS). Reference patients are weighted by 1 minus the proportion of treated patients in the trimmed population divided by 1 minus their PS.

[2]Value represents standard deviation where no % follows the value.

[3]Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

Sentinel

Table 1an. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 0

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Unique patients	10,614	100.0%	4,136	100.0%	N/A	N/A
Demographic Characteristics						
Age (years)	53.4	9.1	53.5	8.7	-0.089	-0.010
Age						
21-49 years	3,021	28.5%	1,157	28.0%	0.489	0.011
50-64 years	7,593	71.5%	2,979	72.0%	-0.489	-0.011
Sex						
Female	0	0.0%	0	0.0%	NaN	NaN
Male	10,614	100.0%	4,136	100.0%	0.000	NaN
Race[2]						
American Indian or Alaska Native	10	0.1%	3	0.1%	0.022	0.008
Asian	31	0.3%	15	0.4%	-0.071	-0.012
Black or African American	64	0.6%	13	0.3%	0.289	0.043
Native Hawaiian or Other Pacific Islander	3	0.0%	2	0.0%	-0.020	-0.010
Unknown	9,207	86.7%	3,576	86.5%	0.284	0.008
White	1,299	12.2%	527	12.7%	-0.503	-0.015
Hispanic origin						
Yes	57	0.5%	17	0.4%	0.126	0.018
No	245	2.3%	78	1.9%	0.422	0.029
Unknown	10,312	97.2%	4,041	97.7%	-0.548	-0.035
Year						
2010	0	0.0%	113	2.7%	NaN	NaN
2011	11	0.1%	1,515	36.6%	-36.526	-1.070
2012	560	5.3%	1,025	24.8%	-19.506	-0.567
2013	1,196	11.3%	542	13.1%	-1.836	-0.056
2014	1,359	12.8%	255	6.2%	6.638	0.228
2015	1,316	12.4%	179	4.3%	8.071	0.295
2016	1,175	11.1%	197	4.8%	6.307	0.235
2017	1,139	10.7%	119	2.9%	7.854	0.316
2018	1,142	10.8%	98	2.4%	8.390	0.344
2019	972	9.2%	49	1.2%	7.973	0.366
2020	818	7.7%	29	0.7%	7.006	0.355
2021	843	7.9%	14	0.3%	7.604	0.389

Sentinel

Table 1an. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 0

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
2022	83	0.8%	1	0.0%	0.758	0.120
CHADSVASC						
mean, std	0.0	NaN	0.0	NaN	NaN	NaN
0	10,614	100.0%	4,136	100.0%	0.000	NaN
1	0	0.0%	0	0.0%	NaN	NaN
2	0	0.0%	0	0.0%	NaN	NaN
3	0	0.0%	0	0.0%	NaN	NaN
4	0	0.0%	0	0.0%	NaN	NaN
>= 5	0	0.0%	0	0.0%	NaN	NaN
HASBLED						
mean, std	0.1	0.3	0.1	0.3	0.011	0.036
0	9,679	91.2%	3,807	92.0%	-0.855	-0.031
1	856	8.1%	307	7.4%	0.642	0.024
2	74	0.7%	22	0.5%	0.165	0.021
>= 3	5	0.0%	0	0.0%	NaN	NaN
Health Characteristics						
Diabetes	27	0.3%	9	0.2%	0.037	0.008
Hypercholesterolemia	1,435	13.5%	601	14.5%	-1.011	-0.029
Hypertension	256	2.4%	57	1.4%	1.034	0.076
Kidney failure (chronic)	78	0.7%	24	0.6%	0.155	0.019
Kidney failure (acute)	107	1.0%	31	0.7%	0.259	0.028
Obesity	1,529	14.4%	346	8.4%	6.040	0.191
Peptic ulcer disease	11	0.1%	4	0.1%	0.007	0.002
Nicotine dependency	1,592	15.0%	469	11.3%	3.660	0.108
Hospitalized acute myocardial infarction (past 0-30 days)	0	0.0%	0	0.0%	NaN	NaN
Hospitalized acute myocardial infarction (past 31-183 days)	0	0.0%	0	0.0%	NaN	NaN
Coronary revascularization	161	1.5%	66	1.6%	-0.079	-0.006
Hospitalized heart failure	0	0.0%	0	0.0%	NaN	NaN
Outpatient heart failure	426	4.0%	199	4.8%	-0.798	-0.039
Other ischemic heart disease	1,116	10.5%	481	11.6%	-1.115	-0.036
Hospitalized stroke (past 0-30 days)	0	0.0%	0	0.0%	NaN	NaN

Sentinel

Table 1an. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 0

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Hospitalized stroke (past 31-183 days)	0	0.0%	0	0.0%	NaN	NaN
Transient ischemic attack	5	0.0%	0	0.0%	NaN	NaN
Other medical conditions (falls, fractures, syncope, walker use)	2,291	21.6%	892	21.6%	0.018	0.000
Cardioversion	1,738	16.4%	687	16.6%	-0.236	-0.006
Cardioablation	629	5.9%	371	9.0%	-3.044	-0.116
Hospitalized for bleeding	14	0.1%	8	0.2%	-0.062	-0.015
Medical Product Use						
Estrogen replacement	1	0.0%	0	0.0%	NaN	NaN
H2-antagonist	98	0.9%	28	0.7%	0.246	0.028
Non-steroidal anti-inflammatory drugs (NSAIDs)	1,131	10.7%	479	11.6%	-0.926	-0.029
Proton pump inhibitors	1,317	12.4%	467	11.3%	1.117	0.035
Selective serotonin reuptake inhibitor (SSRI)	628	5.9%	241	5.8%	0.090	0.004
Insulin	10	0.1%	4	0.1%	-0.002	-0.001
Metformin (Biguanide)	112	1.1%	33	0.8%	0.257	0.027
Sulfonylureas	22	0.2%	7	0.2%	0.038	0.009
Other diabetes medications	37	0.3%	12	0.3%	0.058	0.010
Angiotensin converting enzyme inhibitor (ACEI)/Angiotensin II receptor blocker (ARB)	1,063	10.0%	536	13.0%	-2.944	-0.092
Antiarrhythmics	3,124	29.4%	1,484	35.9%	-6.447	-0.138
Anti-coagulant (injectable)	1,027	9.7%	290	7.0%	2.664	0.096
Anti-platelets	424	4.0%	121	2.9%	1.069	0.059
Beta-blockers	5,694	53.6%	2,333	56.4%	-2.761	-0.056
Calcium channel blockers	2,009	18.9%	830	20.1%	-1.140	-0.029
Digoxin	422	4.0%	330	8.0%	-4.003	-0.169
Diuretics (loop)	393	3.7%	172	4.2%	-0.456	-0.023
Diuretics (potassium sparing)	170	1.6%	93	2.2%	-0.647	-0.047
Diuretics (thiazide)	112	1.1%	66	1.6%	-0.541	-0.047
Nitrates	95	0.9%	33	0.8%	0.097	0.011
Statins	2,190	20.6%	955	23.1%	-2.457	-0.059
Fibrates	158	1.5%	63	1.5%	-0.035	-0.003
Amiodarone	501	4.7%	232	5.6%	-0.889	-0.040
Dronedarone	361	3.4%	313	7.6%	-4.167	-0.184

Sentinel

Table 1an. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 0

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Health Service Utilization Intensity Metrics						
No emergency department (ED) encounters (past 0-	7,782	73.3%	3,289	79.5%	-6.203	-0.147
No ED encounters (past 31-183 days)	9,443	89.0%	3,727	90.1%	-1.144	-0.037
At least 1 ED encounter (past 0-30 days)	2,832	26.7%	847	20.5%	6.203	0.147
At least 2 ED encounters (past 0-30 days)	420	4.0%	115	2.8%	1.177	0.065
At least 1 ED encounter (past 31-183 days)	1,171	11.0%	409	9.9%	1.144	0.037
At least 2 ED encounters (past 31-183 days)	270	2.5%	86	2.1%	0.465	0.031

[1]Value represents standard deviation where no % follows the value.

[2]Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

Sentinel

Table 1ao. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect in the Treated (ATT), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 0

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
Weighted patients	10,445	N/A	9,928	N/A	N/A	N/A
Demographic Characteristics						
Age (years)	53.4	9.1	53.4	8.7	-0.057	-0.006
Age (years)	53.4	9.1	53.4	8.7	-0.057	-0.006
Age						
21-49 years	2,980	28.5%	2,815	28.3%	0.180	0.004
50-64 years	7,465	71.5%	7,114	71.7%	-0.180	-0.004
Sex						
Female	0	0.0%	0	0.0%	NaN	NaN
Male	10,445	100.0%	9,928	100.0%	0.000	NaN
Race[3]						
American Indian or Alaska Native	10	0.1%	7	0.1%	0.024	0.008
Asian	30	0.3%	28	0.3%	0.000	0.000
Black or African American	55	0.5%	33	0.3%	0.191	0.029
Native Hawaiian or Other Pacific Islander	2	0.0%	7	0.1%	-0.047	-0.023
Unknown	9,111	87.2%	8,635	87.0%	0.249	0.010
White	1,237	11.8%	1,217	12.3%	-0.417	-0.017
Hispanic origin						
Yes	57	0.5%	37	0.4%	0.177	0.027
No	183	1.8%	181	1.8%	-0.074	-0.006
Unknown	10,205	97.7%	9,710	97.8%	-0.104	-0.008
Year						
2010	0	0.0%	253	2.6%	NaN	NaN
2011	11	0.1%	3,391	34.2%	-34.052	-1.013
2012	554	5.3%	2,398	24.2%	-18.848	-0.552
2013	1,190	11.4%	1,364	13.7%	-2.349	-0.071
2014	1,342	12.8%	649	6.5%	6.306	0.214
2015	1,291	12.4%	464	4.7%	7.689	0.278
2016	1,155	11.1%	553	5.6%	5.490	0.200
2017	1,118	10.7%	330	3.3%	7.375	0.292
2018	1,125	10.8%	273	2.8%	8.017	0.324
2018	1,125	10.8%	273	2.8%	8.017	0.324

Sentinel

Table 1ao. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect in the Treated (ATT), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 0

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
2019	945	9.0%	128	1.3%	7.760	0.356
2020	799	7.6%	83	0.8%	6.812	0.343
2021	834	8.0%	36	0.4%	7.622	0.388
2022	81	0.8%	4	0.0%	0.731	0.115
CHADSVASC						
mean, std	0.0	NaN	0.0	NaN	0.000	NaN
0	10,445	100.0%	9,928	100.0%	0.000	NaN
1	0	0.0%	0	0.0%	NaN	NaN
2	0	0.0%	0	0.0%	NaN	NaN
3	0	0.0%	0	0.0%	NaN	NaN
3	0	0.0%	0	0.0%	NaN	NaN
4	0	0.0%	0	0.0%	NaN	NaN
4	0	0.0%	0	0.0%	NaN	NaN
>= 5	0	0.0%	0	0.0%	NaN	NaN
>= 5	0	0.0%	0	0.0%	NaN	NaN
HASBLED						
mean, std	0.1	0.3	0.1	0.3	0.007	0.021
mean, std	0.1	0.3	0.1	0.3	0.007	0.021
0	9,549	91.4%	9,134	92.0%	-0.583	-0.021
0	9,549	91.4%	9,134	92.0%	-0.583	-0.021
1	829	7.9%	737	7.4%	0.515	0.019
2	67	0.6%	57	0.6%	0.068	0.009
>= 3	0	0.0%	0	0.0%	NaN	NaN
Health Characteristics						
Diabetes	21	0.2%	16	0.2%	0.044	0.010
Hypercholesterolemia	1,413	13.5%	1,362	13.7%	-0.194	-0.006
Hypertension	216	2.1%	158	1.6%	0.473	0.035
Kidney failure (chronic)	72	0.7%	57	0.6%	0.113	0.014
Kidney failure (acute)	100	1.0%	85	0.9%	0.100	0.011
Obesity	1,473	14.1%	1,203	12.1%	1.982	0.059
Peptic ulcer disease	4	0.0%	4	0.0%	-0.000	-0.000
Nicotine dependency	1,530	14.6%	1,301	13.1%	1.541	0.045

Sentinel

Table 1ao. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect in the Treated (ATT), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 0

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
Hospitalized acute myocardial infarction (past 0-30	0	0.0%	0	0.0%	NaN	NaN
Hospitalized acute myocardial infarction (past 31-183	0	0.0%	0	0.0%	NaN	NaN
Coronary revascularization	156	1.5%	142	1.4%	0.068	0.006
Hospitalized heart failure	0	0.0%	0	0.0%	NaN	NaN
Outpatient heart failure	410	3.9%	415	4.2%	-0.260	-0.013
Other ischemic heart disease	1,077	10.3%	1,020	10.3%	0.039	0.001
Hospitalized stroke (past 0-30 days)	0	0.0%	0	0.0%	NaN	NaN
Hospitalized stroke (past 31-183 days)	0	0.0%	0	0.0%	NaN	NaN
Transient ischemic attack	0	0.0%	0	0.0%	NaN	NaN
Other medical conditions (falls, fractures, syncope,	2,251	21.6%	2,101	21.2%	0.390	0.010
Cardioversion	1,715	16.4%	1,626	16.4%	0.047	0.001
Cardioversion	1,715	16.4%	1,626	16.4%	0.047	0.001
Cardioablation	623	6.0%	599	6.0%	-0.072	-0.003
Cardioablation	623	6.0%	599	6.0%	-0.072	-0.003
Hospitalized for bleeding	12	0.1%	11	0.1%	0.001	0.000
Hospitalized for bleeding	12	0.1%	11	0.1%	0.001	0.000
Medical Product Use						
Estrogen replacement	0	0.0%	0	0.0%	NaN	NaN
Estrogen replacement	0	0.0%	0	0.0%	NaN	NaN
H2-antagonist	74	0.7%	77	0.8%	-0.070	-0.008
H2-antagonist	74	0.7%	77	0.8%	-0.070	-0.008
Non-steroidal anti-inflammatory drugs (NSAIDs)	1,106	10.6%	1,071	10.8%	-0.200	-0.006
Non-steroidal anti-inflammatory drugs (NSAIDs)	1,106	10.6%	1,071	10.8%	-0.200	-0.006
Proton pump inhibitors	1,274	12.2%	1,193	12.0%	0.183	0.006
Proton pump inhibitors	1,274	12.2%	1,193	12.0%	0.183	0.006
Selective serotonin reuptake inhibitor (SSRI)	607	5.8%	557	5.6%	0.203	0.009
Selective serotonin reuptake inhibitor (SSRI)	607	5.8%	557	5.6%	0.203	0.009
Insulin	3	0.0%	3	0.0%	0.000	0.000
Metformin (Biguanide)	94	0.9%	81	0.8%	0.080	0.009
Sulfonylureas	19	0.2%	13	0.1%	0.056	0.014
Other diabetes medications	19	0.2%	20	0.2%	-0.019	-0.004

Sentinel

Table 1ao. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect in the Treated (ATT), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 0

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
Angiotensin converting enzyme inhibitor (ACEI)/Angiotensin II receptor blocker (ARB)	1,024	9.8%	998	10.1%	-0.248	-0.008
Antiarrhythmics	3,084	29.5%	3,040	30.6%	-1.093	-0.024
Anti-coagulant (injectable)	980	9.4%	831	8.4%	1.017	0.036
Anti-platelets	402	3.8%	311	3.1%	0.711	0.039
Beta-blockers	5,596	53.6%	5,344	53.8%	-0.247	-0.005
Calcium channel blockers	1,966	18.8%	1,869	18.8%	0.000	0.000
Digoxin	414	4.0%	448	4.5%	-0.553	-0.027
Diuretics (loop)	376	3.6%	352	3.5%	0.050	0.003
Diuretics (potassium sparing)	162	1.6%	161	1.6%	-0.069	-0.006
Diuretics (thiazide)	102	1.0%	101	1.0%	-0.038	-0.004
Nitrates	81	0.8%	70	0.7%	0.066	0.008
Statins	2,141	20.5%	2,030	20.4%	0.052	0.001
Fibrates	155	1.5%	152	1.5%	-0.051	-0.004
Amiodarone	491	4.7%	478	4.8%	-0.114	-0.005
Dronedarone	357	3.4%	374	3.8%	-0.349	-0.019

Sentinel

Table 1ao. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect in the Treated (ATT), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 0

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
Health Service Utilization Intensity Metrics						
No emergency department (ED) encounters (past 0-	7,691	73.6%	7,465	75.2%	-1.558	-0.036
No ED encounters (past 31-183 days)	9,327	89.3%	8,921	89.9%	-0.559	-0.018
At least 1 ED encounter (past 0-30 days)	2,754	26.4%	2,463	24.8%	1.558	0.036
At least 2 ED encounters (past 0-30 days)	400	3.8%	324	3.3%	0.565	0.031
At least 1 ED encounter (past 31-183 days)	1,118	10.7%	1,007	10.1%	0.559	0.018
At least 2 ED encounters (past 31-183 days)	243	2.3%	218	2.2%	0.133	0.009

[1]Weighted patient characteristics tables facilitate the assessment of covariate balance after inverse probability weighting and should not be interpreted as a description of the unweighted population. Treated patients are weighted by the proportion of treated patients in the trimmed population divided by the inverse of their propensity score (PS). Reference patients are weighted by 1 minus the proportion of treated patients in the trimmed population divided by 1 minus their PS.

[2]Value represents standard deviation where no % follows the value.

[3]Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

Sentinel

Table 1ap. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 1

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Unique patients	20,120	100.0%	7,308	100.0%	N/A	N/A
Demographic Characteristics						
Age (years)	56.1	7.4	56.0	7.4	0.155	0.021
Age						
21-49 years	3,521	17.5%	1,336	18.3%	-0.781	-0.020
50-64 years	16,599	82.5%	5,972	81.7%	0.781	0.020
Sex						
Female	3,428	17.0%	1,096	15.0%	2.041	0.056
Male	16,692	83.0%	6,212	85.0%	-2.041	-0.056
Race[2]						
American Indian or Alaska Native	12	0.1%	10	0.1%	-0.077	-0.025
Asian	50	0.2%	24	0.3%	-0.080	-0.015
Black or African American	217	1.1%	59	0.8%	0.271	0.028
Native Hawaiian or Other Pacific Islander	10	0.0%	6	0.1%	-0.032	-0.013
Unknown	17,161	85.3%	6,178	84.5%	0.756	0.021
White	2,670	13.3%	1,031	14.1%	-0.837	-0.024
Hispanic origin						
Yes	118	0.6%	28	0.4%	0.203	0.029
No	941	4.7%	277	3.8%	0.887	0.044
Unknown	19,061	94.7%	7,003	95.8%	-1.090	-0.051
Year						
2010	0	0.0%	181	2.5%	NaN	NaN
2011	17	0.1%	2,526	34.6%	-34.480	-1.023
2012	1,053	5.2%	1,708	23.4%	-18.138	-0.536
2013	2,043	10.2%	861	11.8%	-1.628	-0.052
2014	2,632	13.1%	576	7.9%	5.200	0.170
2015	2,310	11.5%	382	5.2%	6.254	0.227
2016	2,243	11.1%	442	6.0%	5.100	0.183
2017	2,331	11.6%	287	3.9%	7.658	0.289
2018	2,181	10.8%	178	2.4%	8.404	0.343
2019	1,918	9.5%	100	1.4%	8.164	0.366
2020	1,555	7.7%	41	0.6%	7.168	0.366
2021	1,702	8.5%	25	0.3%	8.117	0.404

Sentinel

Table 1ap. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 1

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
2022	135	0.7%	1	0.0%	0.657	0.113
CHADSVASC						
mean, std	1.0	0.0	1.0	0.0	0.000	NaN
0	0	0.0%	0	0.0%	NaN	NaN
1	20,120	100.0%	7,308	100.0%	0.000	NaN
2	0	0.0%	0	0.0%	NaN	NaN
3	0	0.0%	0	0.0%	NaN	NaN
4	0	0.0%	0	0.0%	NaN	NaN
>= 5	0	0.0%	0	0.0%	NaN	NaN
HASBLED						
mean, std	0.9	0.6	0.9	0.6	0.019	0.031
0	4,460	22.2%	1,604	21.9%	0.218	0.005
1	13,287	66.0%	4,958	67.8%	-1.805	-0.038
2	2,043	10.2%	659	9.0%	1.137	0.039
>= 3	330	1.6%	87	1.2%	0.450	0.038
Health Characteristics						
Diabetes	746	3.7%	322	4.4%	-0.698	-0.035
Hypercholesterolemia	4,890	24.3%	1,858	25.4%	-1.120	-0.026
Hypertension	15,026	74.7%	5,480	75.0%	-0.304	-0.007
Kidney failure (chronic)	494	2.5%	142	1.9%	0.512	0.035
Kidney failure (acute)	472	2.3%	118	1.6%	0.731	0.053
Obesity	5,659	28.1%	1,343	18.4%	9.749	0.232
Peptic ulcer disease	30	0.1%	16	0.2%	-0.070	-0.016
Nicotine dependency	4,207	20.9%	1,119	15.3%	5.598	0.146
Hospitalized acute myocardial infarction (past 0-30 days)	37	0.2%	8	0.1%	0.074	0.019
Hospitalized acute myocardial infarction (past 31-183 days)	19	0.1%	4	0.1%	0.040	0.015
Coronary revascularization	911	4.5%	346	4.7%	-0.207	-0.010
Hospitalized heart failure	653	3.2%	266	3.6%	-0.394	-0.022
Outpatient heart failure	1,375	6.8%	564	7.7%	-0.884	-0.034
Other ischemic heart disease	4,210	20.9%	1,568	21.5%	-0.531	-0.013
Hospitalized stroke (past 0-30 days)	0	0.0%	0	0.0%	NaN	NaN

Sentinel

Table 1ap. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 1

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Hospitalized stroke (past 31-183 days)	0	0.0%	0	0.0%	NaN	NaN
Transient ischemic attack	10	0.0%	5	0.1%	-0.019	-0.008
Other medical conditions (falls, fractures, syncope, walker use)	4,633	23.0%	1,756	24.0%	-1.002	-0.024
Cardioversion	3,345	16.6%	1,322	18.1%	-1.465	-0.039
Cardioablation	1,066	5.3%	506	6.9%	-1.626	-0.068
Hospitalized for bleeding	43	0.2%	22	0.3%	-0.087	-0.017
Medical Product Use						
Estrogen replacement	346	1.7%	146	2.0%	-0.278	-0.021
H2-antagonist	325	1.6%	110	1.5%	0.110	0.009
Non-steroidal anti-inflammatory drugs (NSAIDs)	2,935	14.6%	1,034	14.1%	0.439	0.013
Proton pump inhibitors	3,520	17.5%	1,171	16.0%	1.471	0.039
Selective serotonin reuptake inhibitor (SSRI)	1,864	9.3%	619	8.5%	0.794	0.028
Insulin	113	0.6%	61	0.8%	-0.273	-0.033
Metformin (Biguanide)	678	3.4%	258	3.5%	-0.161	-0.009
Sulfonylureas	150	0.7%	71	1.0%	-0.226	-0.024
Other diabetes medications	217	1.1%	77	1.1%	0.025	0.002
Angiotensin converting enzyme inhibitor (ACEI)/Angiotensin II receptor blocker (ARB)	9,526	47.3%	3,413	46.7%	0.644	0.013
Antiarrhythmics	5,930	29.5%	2,685	36.7%	-7.267	-0.155
Anti-coagulant (injectable)	2,032	10.1%	509	7.0%	3.134	0.112
Anti-platelets	1,444	7.2%	431	5.9%	1.279	0.052
Beta-blockers	13,457	66.9%	4,925	67.4%	-0.508	-0.011
Calcium channel blockers	6,133	30.5%	2,296	31.4%	-0.936	-0.020
Digoxin	1,166	5.8%	679	9.3%	-3.496	-0.133
Diuretics (loop)	1,792	8.9%	662	9.1%	-0.152	-0.005
Diuretics (potassium sparing)	916	4.6%	343	4.7%	-0.141	-0.007
Diuretics (thiazide)	1,683	8.4%	539	7.4%	0.989	0.037
Nitrates	583	2.9%	206	2.8%	0.079	0.005
Statins	7,247	36.0%	2,726	37.3%	-1.283	-0.027
Fibrates	640	3.2%	296	4.1%	-0.869	-0.047
Amiodarone	1,482	7.4%	541	7.4%	-0.037	-0.001
Dronedarone	711	3.5%	599	8.2%	-4.663	-0.199

Sentinel

Table 1ap. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 1

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Health Service Utilization Intensity Metrics						
No emergency department (ED) encounters (past 0-	15,003	74.6%	5,638	77.1%	-2.581	-0.060
No ED encounters (past 31-183 days)	17,088	84.9%	6,343	86.8%	-1.865	-0.054
At least 1 ED encounter (past 0-30 days)	5,117	25.4%	1,670	22.9%	2.581	0.060
At least 2 ED encounters (past 0-30 days)	968	4.8%	281	3.8%	0.966	0.047
At least 1 ED encounter (past 31-183 days)	3,032	15.1%	965	13.2%	1.865	0.054
At least 2 ED encounters (past 31-183 days)	770	3.8%	237	3.2%	0.584	0.032

[1]Value represents standard deviation where no % follows the value.

[2]Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

Sentinel

Table 1aq. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect in the Treated (ATT), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 1

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
Weighted patients	20,030	N/A	18,959	N/A	N/A	N/A
Demographic Characteristics						
Age (years)	56.1	7.4	56.1	7.3	0.010	0.001
Age						
21-49 years	3,494	17.4%	3,364	17.7%	-0.300	-0.008
50-64 years	16,536	82.6%	15,595	82.3%	0.300	0.008
Sex						
Female	3,409	17.0%	3,135	16.5%	0.483	0.013
Male	16,621	83.0%	15,824	83.5%	-0.483	-0.013
Race[3]						
American Indian or Alaska Native	12	0.1%	24	0.1%	-0.065	-0.021
Asian	50	0.2%	53	0.3%	-0.032	-0.006
Black or African American	207	1.0%	162	0.9%	0.177	0.019
Native Hawaiian or Other Pacific Islander	10	0.0%	21	0.1%	-0.059	-0.021
Unknown	17,130	85.5%	16,270	85.8%	-0.297	-0.011
White	2,621	13.1%	2,429	12.8%	0.275	0.011
Hispanic origin						
Yes	116	0.6%	65	0.3%	0.238	0.035
No	893	4.5%	750	4.0%	0.504	0.034
Unknown	19,021	95.0%	18,144	95.7%	-0.742	-0.046
Year						
2010	0	0.0%	422	2.2%	NaN	NaN
2011	17	0.1%	6,071	32.0%	-31.938	-0.967
2012	1,051	5.2%	4,287	22.6%	-17.366	-0.519
2013	2,040	10.2%	2,189	11.5%	-1.364	-0.044
2014	2,625	13.1%	1,626	8.6%	4.527	0.146
2015	2,305	11.5%	1,091	5.8%	5.755	0.206
2016	2,231	11.1%	1,329	7.0%	4.130	0.144
2017	2,310	11.5%	870	4.6%	6.942	0.257
2018	2,165	10.8%	568	3.0%	7.811	0.312
2019	1,906	9.5%	301	1.6%	7.930	0.352
2020	1,545	7.7%	122	0.6%	7.072	0.360

Sentinel

Table 1aq. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect in the Treated (ATT), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 1

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
2021	1,700	8.5%	77	0.4%	8.082	0.400
2022	135	0.7%	5	0.0%	0.647	0.110
CHADSVASC						
mean, std	1.0	0.0	1.0	0.0	0.000	NaN
0	0	0.0%	0	0.0%	NaN	NaN
1	20,030	100.0%	18,959	100.0%	0.000	NaN
2	0	0.0%	0	0.0%	NaN	NaN
3	0	0.0%	0	0.0%	NaN	NaN
4	0	0.0%	0	0.0%	NaN	NaN
>= 5	0	0.0%	0	0.0%	NaN	NaN
HASBLED						
mean, std	0.9	0.6	0.9	0.6	0.004	0.006
0	4,437	22.2%	4,162	22.0%	0.197	0.005
1	13,245	66.1%	12,649	66.7%	-0.595	-0.013
2	2,023	10.1%	1,865	9.8%	0.260	0.009
>= 3	325	1.6%	281	1.5%	0.138	0.011
Health Characteristics						
Diabetes	740	3.7%	719	3.8%	-0.100	-0.005
Hypercholesterolemia	4,876	24.3%	4,642	24.5%	-0.140	-0.003
Hypertension	14,964	74.7%	14,235	75.1%	-0.376	-0.009
Kidney failure (chronic)	485	2.4%	419	2.2%	0.210	0.014
Kidney failure (acute)	456	2.3%	380	2.0%	0.273	0.019
Obesity	5,603	28.0%	4,831	25.5%	2.489	0.056
Peptic ulcer disease	29	0.1%	25	0.1%	0.013	0.003
Nicotine dependency	4,144	20.7%	3,544	18.7%	1.996	0.050
Hospitalized acute myocardial infarction (past 0-30 days)	31	0.2%	27	0.1%	0.012	0.003
Hospitalized acute myocardial infarction (past 31-183 days)	18	0.1%	9	0.0%	0.042	0.016
Coronary revascularization	905	4.5%	845	4.5%	0.064	0.003
Hospitalized heart failure	648	3.2%	611	3.2%	0.012	0.001
Outpatient heart failure	1,363	6.8%	1,335	7.0%	-0.239	-0.009

Sentinel

Table 1aq. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect in the Treated (ATT), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 1

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
Other ischemic heart disease	4,185	20.9%	3,958	20.9%	0.015	0.000
Hospitalized stroke (past 0-30 days)	0	0.0%	0	0.0%	NaN	NaN
Hospitalized stroke (past 31-183 days)	0	0.0%	0	0.0%	NaN	NaN
Transient ischemic attack	6	0.0%	8	0.0%	-0.015	-0.008
Other medical conditions (falls, fractures, syncope, walker use)	4,599	23.0%	4,335	22.9%	0.097	0.002
Cardioversion	3,331	16.6%	3,166	16.7%	-0.068	-0.002
Cardioablation	1,062	5.3%	1,042	5.5%	-0.195	-0.009
Hospitalized for bleeding	42	0.2%	38	0.2%	0.011	0.002
Medical Product Use						
Estrogen replacement	345	1.7%	330	1.7%	-0.017	-0.001
H2-antagonist	321	1.6%	283	1.5%	0.110	0.009
Non-steroidal anti-inflammatory drugs (NSAIDs)	2,911	14.5%	2,731	14.4%	0.130	0.004
Proton pump inhibitors	3,488	17.4%	3,184	16.8%	0.622	0.017
Selective serotonin reuptake inhibitor (SSRI)	1,848	9.2%	1,667	8.8%	0.434	0.015
Insulin	113	0.6%	108	0.6%	-0.003	-0.000
Metformin (Biguanide)	671	3.3%	616	3.2%	0.100	0.006
Sulfonylureas	146	0.7%	152	0.8%	-0.070	-0.008
Other diabetes medications	210	1.0%	195	1.0%	0.022	0.002
Angiotensin converting enzyme inhibitor (ACEI)/Angiotensin II receptor blocker (ARB)	9,483	47.3%	8,926	47.1%	0.260	0.005
Antiarrhythmics	5,908	29.5%	5,769	30.4%	-0.936	-0.020
Anti-coagulant (injectable)	2,003	10.0%	1,711	9.0%	0.975	0.034
Anti-platelets	1,434	7.2%	1,266	6.7%	0.480	0.019
Beta-blockers	13,392	66.9%	12,714	67.1%	-0.205	-0.004
Calcium channel blockers	6,102	30.5%	5,840	30.8%	-0.340	-0.007
Digoxin	1,161	5.8%	1,170	6.2%	-0.375	-0.016
Diuretics (loop)	1,777	8.9%	1,687	8.9%	-0.029	-0.001
Diuretics (potassium sparing)	911	4.5%	852	4.5%	0.056	0.003
Diuretics (thiazide)	1,671	8.3%	1,531	8.1%	0.267	0.010
Nitrates	579	2.9%	524	2.8%	0.124	0.007
Statins	7,213	36.0%	6,819	36.0%	0.042	0.001

Sentinel

Table 1aq. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect in the Treated (ATT), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 1

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
Fibrates	639	3.2%	621	3.3%	-0.084	-0.005
Amiodarone	1,476	7.4%	1,423	7.5%	-0.136	-0.005
Dronedarone	708	3.5%	767	4.0%	-0.511	-0.027
Health Service Utilization Intensity Metrics						
No emergency department (ED) encounters (past 0-	14,967	74.7%	14,433	76.1%	-1.404	-0.033
No ED encounters (past 31-183 days)	17,041	85.1%	16,313	86.0%	-0.967	-0.028
At least 1 ED encounter (past 0-30 days)	5,063	25.3%	4,526	23.9%	1.404	0.033
At least 2 ED encounters (past 0-30 days)	941	4.7%	807	4.3%	0.441	0.022
At least 1 ED encounter (past 31-183 days)	2,989	14.9%	2,646	14.0%	0.967	0.028
At least 2 ED encounters (past 31-183 days)	743	3.7%	649	3.4%	0.284	0.015

[1]Weighted patient characteristics tables facilitate the assessment of covariate balance after inverse probability weighting and should not be interpreted as a description of the unweighted population. Treated patients are weighted by the proportion of treated patients in the trimmed population divided by the inverse of their propensity score (PS). Reference patients are weighted by 1 minus the proportion of treated patients in the trimmed population divided by 1 minus their PS.

[2]Value represents standard deviation where no % follows the value.

[3]Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

Sentinel

Table 1ar. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 2

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Unique patients	15,074	100.0%	5,422	100.0%	N/A	N/A
Demographic Characteristics						
Age (years)	57.2	6.5	57.5	6.2	-0.263	-0.041
Age						
21-49 years	1,973	13.1%	691	12.7%	0.344	0.010
50-64 years	13,101	86.9%	4,731	87.3%	-0.344	-0.010
Sex						
Female	5,843	38.8%	1,913	35.3%	3.480	0.072
Male	9,231	61.2%	3,509	64.7%	-3.480	-0.072
Race[2]						
American Indian or Alaska Native	15	0.1%	6	0.1%	-0.011	-0.003
Asian	50	0.3%	14	0.3%	0.073	0.014
Black or African American	375	2.5%	91	1.7%	0.809	0.057
Native Hawaiian or Other Pacific Islander	19	0.1%	2	0.0%	0.089	0.031
Unknown	12,244	81.2%	4,420	81.5%	-0.294	-0.008
White	2,371	15.7%	889	16.4%	-0.667	-0.018
Hispanic origin						
Yes	86	0.6%	38	0.7%	-0.130	-0.016
No	1,364	9.0%	421	7.8%	1.284	0.046
Unknown	13,624	90.4%	4,963	91.5%	-1.154	-0.040
Year						
2010	0	0.0%	123	2.3%	NaN	NaN
2011	15	0.1%	1,836	33.9%	-33.763	-1.007
2012	731	4.8%	1,221	22.5%	-17.670	-0.532
2013	1,616	10.7%	617	11.4%	-0.659	-0.021
2014	2,071	13.7%	444	8.2%	5.550	0.178
2015	1,835	12.2%	272	5.0%	7.157	0.257
2016	1,648	10.9%	341	6.3%	4.644	0.166
2017	1,657	11.0%	254	4.7%	6.308	0.236
2018	1,561	10.4%	153	2.8%	7.534	0.307
2019	1,435	9.5%	82	1.5%	8.007	0.356
2020	1,169	7.8%	43	0.8%	6.962	0.349
2021	1,243	8.2%	35	0.6%	7.600	0.375

Sentinel

Table 1ar. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 2

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
2022	93	0.6%	1	0.0%	0.599	0.107
CHADSVASC						
mean, std	2.0	0.0	2.0	0.0	0.000	NaN
0	0	0.0%	0	0.0%	NaN	NaN
1	0	0.0%	0	0.0%	NaN	NaN
2	15,074	100.0%	5,422	100.0%	0.000	NaN
3	0	0.0%	0	0.0%	NaN	NaN
4	0	0.0%	0	0.0%	NaN	NaN
>= 5	0	0.0%	0	0.0%	NaN	NaN
HASBLED						
mean, std	1.2	0.6	1.1	0.6	0.042	0.073
0	899	6.0%	333	6.1%	-0.178	-0.007
1	11,019	73.1%	4,123	76.0%	-2.943	-0.068
2	2,655	17.6%	833	15.4%	2.250	0.061
>= 3	501	3.3%	133	2.5%	0.871	0.052
Health Characteristics						
Diabetes	5,578	37.0%	2,379	43.9%	-6.873	-0.140
Hypercholesterolemia	4,354	28.9%	1,718	31.7%	-2.802	-0.061
Hypertension	13,901	92.2%	4,995	92.1%	0.094	0.003
Kidney failure (chronic)	769	5.1%	235	4.3%	0.767	0.036
Kidney failure (acute)	782	5.2%	207	3.8%	1.370	0.066
Obesity	5,929	39.3%	1,574	29.0%	10.303	0.219
Peptic ulcer disease	47	0.3%	15	0.3%	0.035	0.006
Nicotine dependency	3,717	24.7%	951	17.5%	7.119	0.175
Hospitalized acute myocardial infarction (past 0-30 days)	222	1.5%	61	1.1%	0.348	0.031
Hospitalized acute myocardial infarction (past 31-183 days)	75	0.5%	22	0.4%	0.092	0.014
Coronary revascularization	1,122	7.4%	388	7.2%	0.287	0.011
Hospitalized heart failure	2,505	16.6%	784	14.5%	2.158	0.060
Outpatient heart failure	2,338	15.5%	776	14.3%	1.198	0.034
Other ischemic heart disease	4,290	28.5%	1,645	30.3%	-1.880	-0.041
Hospitalized stroke (past 0-30 days)	41	0.3%	25	0.5%	-0.189	-0.031

Sentinel

Table 1ar. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 2

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Hospitalized stroke (past 31-183 days)	23	0.2%	6	0.1%	0.042	0.012
Transient ischemic attack	199	1.3%	89	1.6%	-0.321	-0.027
Other medical conditions (falls, fractures, syncope, walker use)	3,831	25.4%	1,389	25.6%	-0.203	-0.005
Cardioversion	2,506	16.6%	902	16.6%	-0.011	-0.000
Cardioablation	591	3.9%	280	5.2%	-1.243	-0.060
Hospitalized for bleeding	44	0.3%	13	0.2%	0.052	0.010
Medical Product Use						
Estrogen replacement	469	3.1%	163	3.0%	0.105	0.006
H2-antagonist	417	2.8%	112	2.1%	0.701	0.046
Non-steroidal anti-inflammatory drugs (NSAIDs)	2,620	17.4%	921	17.0%	0.395	0.010
Proton pump inhibitors	3,021	20.0%	1,078	19.9%	0.159	0.004
Selective serotonin reuptake inhibitor (SSRI)	1,969	13.1%	651	12.0%	1.056	0.032
Insulin	920	6.1%	441	8.1%	-2.030	-0.079
Metformin (Biguanide)	3,439	22.8%	1,353	25.0%	-2.140	-0.050
Sulfonylureas	1,240	8.2%	633	11.7%	-3.449	-0.115
Other diabetes medications	1,446	9.6%	629	11.6%	-2.008	-0.065
Angiotensin converting enzyme inhibitor (ACEI)/Angiotensin II receptor blocker (ARB)	9,215	61.1%	3,333	61.5%	-0.340	-0.007
Antiarrhythmics	4,311	28.6%	1,857	34.2%	-5.650	-0.122
Anti-coagulant (injectable)	1,545	10.2%	386	7.1%	3.130	0.111
Anti-platelets	1,591	10.6%	479	8.8%	1.720	0.058
Beta-blockers	10,924	72.5%	3,890	71.7%	0.724	0.016
Calcium channel blockers	5,022	33.3%	1,974	36.4%	-3.092	-0.065
Digoxin	1,243	8.2%	675	12.4%	-4.203	-0.138
Diuretics (loop)	3,023	20.1%	1,038	19.1%	0.910	0.023
Diuretics (potassium sparing)	1,442	9.6%	472	8.7%	0.861	0.030
Diuretics (thiazide)	1,855	12.3%	644	11.9%	0.428	0.013
Nitrates	757	5.0%	284	5.2%	-0.216	-0.010
Statins	6,950	46.1%	2,600	48.0%	-1.847	-0.037
Fibrates	719	4.8%	369	6.8%	-2.036	-0.087
Amiodarone	1,516	10.1%	554	10.2%	-0.161	-0.005
Dronedarone	438	2.9%	377	7.0%	-4.047	-0.188

Sentinel

Table 1ar. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 2

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Health Service Utilization Intensity Metrics						
No emergency department (ED) encounters (past 0-	10,360	68.7%	3,822	70.5%	-1.763	-0.038
No ED encounters (past 31-183 days)	12,122	80.4%	4,518	83.3%	-2.911	-0.076
At least 1 ED encounter (past 0-30 days)	4,714	31.3%	1,600	29.5%	1.763	0.038
At least 2 ED encounters (past 0-30 days)	1,023	6.8%	291	5.4%	1.419	0.059
At least 1 ED encounter (past 31-183 days)	2,952	19.6%	904	16.7%	2.911	0.076
At least 2 ED encounters (past 31-183 days)	847	5.6%	229	4.2%	1.395	0.065

[1]Value represents standard deviation where no % follows the value.

[2]Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

Sentinel

Table 1as. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect in the Treated (ATT), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 2

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
Weighted patients	14,982	N/A	14,211	N/A	N/A	N/A
Demographic Characteristics						
Age (years)	57.2	6.5	57.3	6.4	-0.054	-0.008
Age						
21-49 years	1,956	13.1%	1,914	13.5%	-0.412	-0.012
50-64 years	13,026	86.9%	12,297	86.5%	0.412	0.012
Sex						
Female	5,811	38.8%	5,495	38.7%	0.118	0.002
Male	9,171	61.2%	8,716	61.3%	-0.118	-0.002
Race[3]						
American Indian or Alaska Native	15	0.1%	17	0.1%	-0.021	-0.006
Asian	50	0.3%	29	0.2%	0.130	0.025
Black or African American	370	2.5%	264	1.9%	0.611	0.044
Native Hawaiian or Other Pacific Islander	19	0.1%	10	0.1%	0.056	0.018
Unknown	12,189	81.4%	11,636	81.9%	-0.520	-0.019
White	2,339	15.6%	2,255	15.9%	-0.256	-0.009
Hispanic origin						
Yes	86	0.6%	102	0.7%	-0.142	-0.018
No	1,336	8.9%	1,221	8.6%	0.324	0.020
Unknown	13,560	90.5%	12,888	90.7%	-0.182	-0.010
Year						
2010	0	0.0%	287	2.0%	NaN	NaN
2011	15	0.1%	4,370	30.8%	-30.652	-0.938
2012	731	4.9%	2,978	21.0%	-16.074	-0.494
2013	1,613	10.8%	1,635	11.5%	-0.738	-0.023
2014	2,066	13.8%	1,254	8.8%	4.967	0.157
2015	1,829	12.2%	755	5.3%	6.896	0.246
2016	1,639	10.9%	1,064	7.5%	3.451	0.120
2017	1,644	11.0%	810	5.7%	5.270	0.192
2018	1,548	10.3%	505	3.6%	6.778	0.269
2019	1,411	9.4%	289	2.0%	7.383	0.322
2020	1,156	7.7%	140	1.0%	6.730	0.335

Sentinel

Table 1as. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect in the Treated (ATT), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 2

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
2021	1,237	8.3%	120	0.8%	7.409	0.362
2022	93	0.6%	3	0.0%	0.596	0.106
CHADSVASC						
mean, std	2.0	0.0	2.0	0.0	0.000	NaN
0	0	0.0%	0	0.0%	NaN	NaN
1	0	0.0%	0	0.0%	NaN	NaN
2	14,982	100.0%	14,211	100.0%	0.000	NaN
3	0	0.0%	0	0.0%	NaN	NaN
4	0	0.0%	0	0.0%	NaN	NaN
>= 5	0	0.0%	0	0.0%	NaN	NaN
HASBLED						
mean, std	1.2	0.6	1.2	0.6	0.010	0.017
0	897	6.0%	880	6.2%	-0.206	-0.009
1	10,986	73.3%	10,495	73.9%	-0.525	-0.012
2	2,609	17.4%	2,393	16.8%	0.575	0.015
>= 3	490	3.3%	443	3.1%	0.156	0.009
Health Characteristics						
Diabetes	5,562	37.1%	5,459	38.4%	-1.290	-0.027
Hypercholesterolemia	4,330	28.9%	4,145	29.2%	-0.269	-0.006
Hypertension	13,825	92.3%	13,092	92.1%	0.147	0.005
Kidney failure (chronic)	759	5.1%	724	5.1%	-0.029	-0.001
Kidney failure (acute)	759	5.1%	639	4.5%	0.571	0.027
Obesity	5,866	39.2%	5,305	37.3%	1.823	0.038
Peptic ulcer disease	46	0.3%	40	0.3%	0.024	0.004
Nicotine dependency	3,648	24.3%	3,171	22.3%	2.034	0.049
Hospitalized acute myocardial infarction (past 0-30 days)	215	1.4%	180	1.3%	0.165	0.014
Hospitalized acute myocardial infarction (past 31-183 days)	72	0.5%	71	0.5%	-0.022	-0.003
Coronary revascularization	1,108	7.4%	994	7.0%	0.400	0.015
Hospitalized heart failure	2,479	16.5%	2,227	15.7%	0.872	0.024
Outpatient heart failure	2,311	15.4%	2,091	14.7%	0.708	0.020

Sentinel

Table 1as. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect in the Treated (ATT), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 2

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
Other ischemic heart disease	4,257	28.4%	4,047	28.5%	-0.067	-0.001
Hospitalized stroke (past 0-30 days)	41	0.3%	35	0.2%	0.025	0.005
Hospitalized stroke (past 31-183 days)	18	0.1%	20	0.1%	-0.019	-0.005
Transient ischemic attack	196	1.3%	182	1.3%	0.028	0.003
Other medical conditions (falls, fractures, syncope, walker use)	3,807	25.4%	3,644	25.6%	-0.234	-0.005
Cardioversion	2,497	16.7%	2,373	16.7%	-0.032	-0.001
Cardioablation	589	3.9%	576	4.1%	-0.119	-0.006
Hospitalized for bleeding	41	0.3%	33	0.2%	0.038	0.008
Medical Product Use						
Estrogen replacement	467	3.1%	438	3.1%	0.035	0.002
H2-antagonist	409	2.7%	347	2.4%	0.292	0.018
Non-steroidal anti-inflammatory drugs (NSAIDs)	2,600	17.4%	2,458	17.3%	0.054	0.001
Proton pump inhibitors	2,994	20.0%	2,870	20.2%	-0.213	-0.005
Selective serotonin reuptake inhibitor (SSRI)	1,952	13.0%	1,803	12.7%	0.343	0.010
Insulin	917	6.1%	922	6.5%	-0.366	-0.015
Metformin (Biguanide)	3,426	22.9%	3,287	23.1%	-0.262	-0.006
Sulfonylureas	1,238	8.3%	1,249	8.8%	-0.528	-0.019
Other diabetes medications	1,442	9.6%	1,395	9.8%	-0.189	-0.006
Angiotensin converting enzyme inhibitor (ACEI)/Angiotensin II receptor blocker (ARB)	9,159	61.1%	8,656	60.9%	0.223	0.005
Antiarrhythmics	4,292	28.6%	4,204	29.6%	-0.936	-0.021
Anti-coagulant (injectable)	1,512	10.1%	1,323	9.3%	0.782	0.027
Anti-platelets	1,566	10.5%	1,425	10.0%	0.427	0.014
Beta-blockers	10,860	72.5%	10,266	72.2%	0.243	0.005
Calcium channel blockers	4,991	33.3%	4,857	34.2%	-0.865	-0.018
Digoxin	1,240	8.3%	1,239	8.7%	-0.444	-0.016
Diuretics (loop)	2,995	20.0%	2,762	19.4%	0.554	0.014
Diuretics (potassium sparing)	1,426	9.5%	1,315	9.3%	0.267	0.009
Diuretics (thiazide)	1,835	12.2%	1,722	12.1%	0.128	0.004
Nitrates	747	5.0%	706	5.0%	0.015	0.001
Statins	6,907	46.1%	6,579	46.3%	-0.191	-0.004

Sentinel

Table 1as. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect in the Treated (ATT), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 2

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
Fibrates	717	4.8%	723	5.1%	-0.304	-0.014
Amiodarone	1,508	10.1%	1,453	10.2%	-0.157	-0.005
Dronedarone	438	2.9%	454	3.2%	-0.270	-0.016
Health Service Utilization Intensity Metrics						
No emergency department (ED) encounters (past 0-	10,320	68.9%	9,969	70.2%	-1.271	-0.029
No ED encounters (past 31-183 days)	12,086	80.7%	11,609	81.7%	-1.019	-0.026
At least 1 ED encounter (past 0-30 days)	4,662	31.1%	4,241	29.8%	1.271	0.029
At least 2 ED encounters (past 0-30 days)	992	6.6%	853	6.0%	0.620	0.026
At least 1 ED encounter (past 31-183 days)	2,896	19.3%	2,602	18.3%	1.019	0.026
At least 2 ED encounters (past 31-183 days)	812	5.4%	697	4.9%	0.518	0.024

[1]Weighted patient characteristics tables facilitate the assessment of covariate balance after inverse probability weighting and should not be interpreted as a description of the unweighted population. Treated patients are weighted by the proportion of treated patients in the trimmed population divided by the inverse of their propensity score (PS). Reference patients are weighted by 1 minus the proportion of treated patients in the trimmed population divided by 1 minus their PS.

[2]Value represents standard deviation where no % follows the value.

[3]Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

Sentinel

Table 1at. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 3

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Unique patients	7,490	100.0%	2,266	100.0%	N/A	N/A
Demographic Characteristics						
Age (years)	57.6	6.1	57.8	6.2	-0.200	-0.033
Age						
21-49 years	858	11.5%	236	10.4%	1.040	0.033
50-64 years	6,632	88.5%	2,030	89.6%	-1.040	-0.033
Sex						
Female	3,145	42.0%	1,082	47.7%	-5.760	-0.116
Male	4,345	58.0%	1,184	52.3%	5.760	0.116
Race[2]						
American Indian or Alaska Native	6	0.1%	3	0.1%	-0.052	-0.016
Asian	23	0.3%	6	0.3%	0.042	0.008
Black or African American	365	4.9%	72	3.2%	1.696	0.086
Native Hawaiian or Other Pacific Islander	13	0.2%	0	0.0%	NaN	NaN
Unknown	5,611	74.9%	1,776	78.4%	-3.463	-0.082
White	1,472	19.7%	409	18.0%	1.603	0.041
Hispanic origin						
Yes	69	0.9%	18	0.8%	0.127	0.014
No	1,197	16.0%	270	11.9%	4.066	0.118
Unknown	6,224	83.1%	1,978	87.3%	-4.193	-0.118
Year						
2010	0	0.0%	47	2.1%	NaN	NaN
2011	5	0.1%	698	30.8%	-30.736	-0.940
2012	286	3.8%	496	21.9%	-18.070	-0.561
2013	660	8.8%	253	11.2%	-2.353	-0.079
2014	878	11.7%	170	7.5%	4.220	0.144
2015	847	11.3%	147	6.5%	4.821	0.170
2016	856	11.4%	187	8.3%	3.176	0.107
2017	951	12.7%	110	4.9%	7.843	0.280
2018	879	11.7%	58	2.6%	9.176	0.362
2019	761	10.2%	45	2.0%	8.174	0.347
2020	619	8.3%	35	1.5%	6.720	0.315
2021	701	9.4%	19	0.8%	8.521	0.395

Sentinel

Table 1at. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 3

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
2022	47	0.6%	1	0.0%	0.583	0.101
CHADSVASC						
mean, std	3.0	0.0	3.0	0.0	0.000	NaN
0	0	0.0%	0	0.0%	NaN	NaN
1	0	0.0%	0	0.0%	NaN	NaN
2	0	0.0%	0	0.0%	NaN	NaN
3	7,490	100.0%	2,266	100.0%	0.000	NaN
4	0	0.0%	0	0.0%	NaN	NaN
>= 5	0	0.0%	0	0.0%	NaN	NaN
HASBLED						
mean, std	1.3	0.7	1.3	0.6	0.033	0.052
0	234	3.1%	62	2.7%	0.388	0.023
1	4,915	65.6%	1,550	68.4%	-2.782	-0.059
2	1,887	25.2%	539	23.8%	1.407	0.033
>= 3	454	6.1%	115	5.1%	0.986	0.043
Health Characteristics						
Diabetes	5,274	70.4%	1,549	68.4%	2.056	0.045
Hypercholesterolemia	2,540	33.9%	807	35.6%	-1.702	-0.036
Hypertension	7,158	95.6%	2,166	95.6%	-0.020	-0.001
Kidney failure (chronic)	682	9.1%	192	8.5%	0.632	0.022
Kidney failure (acute)	701	9.4%	174	7.7%	1.680	0.060
Obesity	3,567	47.6%	844	37.2%	10.377	0.211
Peptic ulcer disease	31	0.4%	7	0.3%	0.105	0.017
Nicotine dependency	2,159	28.8%	498	22.0%	6.848	0.158
Hospitalized acute myocardial infarction (past 0-30 days)	332	4.4%	78	3.4%	0.990	0.051
Hospitalized acute myocardial infarction (past 31-183 days)	166	2.2%	36	1.6%	0.628	0.046
Coronary revascularization	868	11.6%	281	12.4%	-0.812	-0.025
Hospitalized heart failure	2,087	27.9%	703	31.0%	-3.160	-0.069
Outpatient heart failure	1,716	22.9%	501	22.1%	0.801	0.019
Other ischemic heart disease	2,794	37.3%	855	37.7%	-0.429	-0.009
Hospitalized stroke (past 0-30 days)	193	2.6%	81	3.6%	-0.998	-0.058

Sentinel

Table 1at. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 3

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Hospitalized stroke (past 31-183 days)	82	1.1%	33	1.5%	-0.362	-0.032
Transient ischemic attack	582	7.8%	234	10.3%	-2.556	-0.089
Other medical conditions (falls, fractures, syncope, walker use)	2,094	28.0%	688	30.4%	-2.405	-0.053
Cardioversion	1,113	14.9%	377	16.6%	-1.777	-0.049
Cardioablation	216	2.9%	105	4.6%	-1.750	-0.092
Hospitalized for bleeding	41	0.5%	15	0.7%	-0.115	-0.015
Medical Product Use						
Estrogen replacement	215	2.9%	69	3.0%	-0.175	-0.010
H2-antagonist	277	3.7%	72	3.2%	0.521	0.029
Non-steroidal anti-inflammatory drugs	1,471	19.6%	385	17.0%	2.649	0.069
Proton pump inhibitors	1,807	24.1%	509	22.5%	1.663	0.039
Selective serotonin reuptake inhibitor (SSRI)	1,188	15.9%	385	17.0%	-1.129	-0.030
Insulin	1,305	17.4%	386	17.0%	0.389	0.010
Metformin (Biguanide)	3,159	42.2%	833	36.8%	5.415	0.111
Sulfonylureas	1,225	16.4%	395	17.4%	-1.076	-0.029
Other diabetes medications	1,472	19.7%	417	18.4%	1.250	0.032
Angiotensin converting enzyme inhibitor (ACEI)/Angiotensin II receptor blocker (ARB)	5,150	68.8%	1,563	69.0%	-0.218	-0.005
Antiarrhythmics	2,119	28.3%	799	35.3%	-6.969	-0.150
Anti-coagulant (injectable)	851	11.4%	179	7.9%	3.462	0.118
Anti-platelets	1,188	15.9%	327	14.4%	1.430	0.040
Beta-blockers	5,554	74.2%	1,697	74.9%	-0.737	-0.017
Calcium channel blockers	2,618	35.0%	896	39.5%	-4.588	-0.095
Digoxin	683	9.1%	331	14.6%	-5.488	-0.170
Diuretics (loop)	2,218	29.6%	696	30.7%	-1.102	-0.024
Diuretics (potassium sparing)	872	11.6%	268	11.8%	-0.185	-0.006
Diuretics (thiazide)	1,009	13.5%	313	13.8%	-0.342	-0.010
Nitrates	613	8.2%	207	9.1%	-0.951	-0.034
Statins	4,505	60.1%	1,268	56.0%	4.189	0.085
Fibrates	483	6.4%	188	8.3%	-1.848	-0.071
Amiodarone	927	12.4%	300	13.2%	-0.863	-0.026
Dronedarone	177	2.4%	125	5.5%	-3.153	-0.163

Sentinel

Table 1at. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 3

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Health Service Utilization Intensity Metrics						
No emergency department (ED) encounters	4,754	63.5%	1,467	64.7%	-1.268	-0.026
No ED encounters (past 31-183 days)	5,621	75.0%	1,759	77.6%	-2.579	-0.061
At least 1 ED encounter (past 0-30 days)	2,736	36.5%	799	35.3%	1.268	0.026
At least 2 ED encounters (past 0-30 days)	659	8.8%	167	7.4%	1.429	0.052
At least 1 ED encounter (past 31-183 days)	1,869	25.0%	507	22.4%	2.579	0.061
At least 2 ED encounters (past 31-183 days)	700	9.3%	171	7.5%	1.799	0.065

[1]Value represents standard deviation where no % follows the value.

[2]Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

Sentinel

Table 1au. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect in the Treated (ATT), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 3

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
Weighted patients	7,325	N/A	6,772	N/A	N/A	N/A
Demographic Characteristics						
Age (years)	57.7	6.1	57.7	6.4	0.002	0.000
Age						
21-49 years	825	11.3%	761	11.2%	0.019	0.001
50-64 years	6,500	88.7%	6,011	88.8%	-0.019	-0.001
Sex						
Female	3,095	42.3%	2,960	43.7%	-1.452	-0.029
Male	4,230	57.7%	3,812	56.3%	1.452	0.029
Race[3]						
American Indian or Alaska Native	6	0.1%	15	0.2%	-0.144	-0.037
Asian	23	0.3%	10	0.2%	0.161	0.033
Black or African American	351	4.8%	291	4.3%	0.492	0.025
Native Hawaiian or Other Pacific Islander	12	0.2%	0	0.0%	NaN	NaN
Unknown	5,534	75.5%	5,185	76.6%	-1.019	-0.038
White	1,399	19.1%	1,270	18.8%	0.346	0.012
Hispanic origin						
Yes	66	0.9%	51	0.7%	0.152	0.017
No	1,117	15.2%	942	13.9%	1.335	0.075
Unknown	6,142	83.8%	5,779	85.3%	-1.487	-0.078
Year						
2010	0	0.0%	110	1.6%	NaN	NaN
2011	5	0.1%	1,821	26.9%	-26.817	-0.855
2012	283	3.9%	1,355	20.0%	-16.144	-0.515
2013	656	9.0%	683	10.1%	-1.123	-0.038
2014	863	11.8%	528	7.8%	3.990	0.135
2015	841	11.5%	503	7.4%	4.054	0.139
2016	842	11.5%	686	10.1%	1.371	0.044
2017	925	12.6%	418	6.2%	6.462	0.223
2018	844	11.5%	239	3.5%	7.989	0.306
2019	742	10.1%	165	2.4%	7.691	0.321
2020	600	8.2%	164	2.4%	5.772	0.260

Sentinel

Table 1au. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect in the Treated (ATT), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 3

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
2021	678	9.3%	95	1.4%	7.846	0.355
2022	46	0.6%	6	0.1%	0.536	0.090
CHADSVASC						
mean, std	3.0	0.0	3.0	0.0	-0.000	-1.044
0	0	0.0%	0	0.0%	NaN	NaN
1	0	0.0%	0	0.0%	NaN	NaN
2	0	0.0%	0	0.0%	NaN	NaN
3	7,325	100.0%	6,772	100.0%	0.000	NaN
4	0	0.0%	0	0.0%	NaN	NaN
>= 5	0	0.0%	0	0.0%	NaN	NaN
HASBLED						
mean, std	1.3	0.6	1.3	0.6	0.008	0.013
0	206	2.8%	186	2.7%	0.071	0.004
1	4,860	66.3%	4,535	67.0%	-0.619	-0.013
2	1,831	25.0%	1,657	24.5%	0.533	0.012
>= 3	428	5.8%	395	5.8%	0.015	0.001
Health Characteristics						
Diabetes	5,172	70.6%	4,707	69.5%	1.108	0.024
Hypercholesterolemia	2,496	34.1%	2,278	33.6%	0.431	0.009
Hypertension	7,020	95.8%	6,471	95.6%	0.281	0.014
Kidney failure (chronic)	663	9.1%	594	8.8%	0.283	0.010
Kidney failure (acute)	668	9.1%	629	9.3%	-0.170	-0.006
Obesity	3,465	47.3%	3,071	45.3%	1.954	0.039
Peptic ulcer disease	20	0.3%	18	0.3%	0.009	0.002
Nicotine dependency	2,074	28.3%	1,863	27.5%	0.807	0.018
Hospitalized acute myocardial infarction (past 0-30 days)	321	4.4%	284	4.2%	0.193	0.010
Hospitalized acute myocardial infarction (past 31-183 days)	154	2.1%	124	1.8%	0.266	0.019
Coronary revascularization	850	11.6%	755	11.2%	0.449	0.014
Hospitalized heart failure	2,044	27.9%	1,916	28.3%	-0.387	-0.009
Outpatient heart failure	1,674	22.9%	1,527	22.5%	0.311	0.008

Sentinel

Table 1au. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect in the Treated (ATT), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 3

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
Other ischemic heart disease	2,734	37.3%	2,580	38.1%	-0.777	-0.016
Hospitalized stroke (past 0-30 days)	184	2.5%	198	2.9%	-0.412	-0.025
Hospitalized stroke (past 31-183 days)	71	1.0%	75	1.1%	-0.140	-0.014
Transient ischemic attack	565	7.7%	586	8.7%	-0.943	-0.035
Other medical conditions (falls, fractures, syncope, walker use)	2,055	28.1%	1,912	28.2%	-0.177	-0.004
Cardioversion	1,100	15.0%	1,054	15.6%	-0.543	-0.015
Cardioablation	211	2.9%	206	3.0%	-0.157	-0.009
Hospitalized for bleeding	37	0.5%	32	0.5%	0.040	0.006
Medical Product Use						
Estrogen replacement	210	2.9%	199	2.9%	-0.070	-0.004
H2-antagonist	265	3.6%	237	3.5%	0.121	0.007
Non-steroidal anti-inflammatory drugs (NSAIDs)	1,414	19.3%	1,262	18.6%	0.669	0.017
Proton pump inhibitors	1,748	23.9%	1,639	24.2%	-0.345	-0.008
Selective serotonin reuptake inhibitor (SSRI)	1,155	15.8%	1,080	16.0%	-0.183	-0.005
Insulin	1,268	17.3%	1,149	17.0%	0.344	0.009
Metformin (Biguanide)	3,082	42.1%	2,756	40.7%	1.384	0.028
Sulfonylureas	1,202	16.4%	1,092	16.1%	0.278	0.008
Other diabetes medications	1,441	19.7%	1,265	18.7%	0.997	0.025
Angiotensin converting enzyme inhibitor (ACEI)/Angiotensin II receptor blocker (ARB)	5,054	69.0%	4,680	69.1%	-0.113	-0.002
Antiarrhythmics	2,094	28.6%	2,004	29.6%	-1.012	-0.022
Anti-coagulant (injectable)	819	11.2%	666	9.8%	1.340	0.044
Anti-platelets	1,149	15.7%	998	14.7%	0.948	0.026
Beta-blockers	5,442	74.3%	5,046	74.5%	-0.221	-0.005
Calcium channel blockers	2,581	35.2%	2,434	35.9%	-0.711	-0.015
Digoxin	673	9.2%	695	10.3%	-1.078	-0.036
Diuretics (loop)	2,175	29.7%	2,015	29.8%	-0.062	-0.001
Diuretics (potassium sparing)	846	11.5%	771	11.4%	0.162	0.005
Diuretics (thiazide)	992	13.5%	903	13.3%	0.208	0.006
Nitrates	598	8.2%	511	7.5%	0.624	0.023
Statins	4,385	59.9%	3,969	58.6%	1.252	0.026

Sentinel

Table 1au. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect in the Treated (ATT), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 3

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
Fibrates	478	6.5%	460	6.8%	-0.261	-0.010
Amiodarone	915	12.5%	860	12.7%	-0.202	-0.006
Dronedarone	177	2.4%	182	2.7%	-0.270	-0.017
Health Service Utilization Intensity Metrics						
No emergency department (ED) encounters (past 0-	4,684	63.9%	4,367	64.5%	-0.536	-0.012
No ED encounters (past 31-183 days)	5,547	75.7%	5,176	76.4%	-0.696	-0.017
At least 1 ED encounter (past 0-30 days)	2,641	36.1%	2,405	35.5%	0.536	0.012
At least 2 ED encounters (past 0-30 days)	630	8.6%	571	8.4%	0.172	0.006
At least 1 ED encounter (past 31-183 days)	1,778	24.3%	1,597	23.6%	0.696	0.017
At least 2 ED encounters (past 31-183 days)	650	8.9%	573	8.5%	0.409	0.015

[1]Weighted patient characteristics tables facilitate the assessment of covariate balance after inverse probability weighting and should not be interpreted as a description of the unweighted population. Treated patients are weighted by the proportion of treated patients in the trimmed population divided by the inverse of their propensity score (PS). Reference patients are weighted by 1 minus the proportion of treated patients in the trimmed population divided by 1 minus their PS.

[2]Value represents standard deviation where no % follows the value.

[3]Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

Sentinel

Table 1av. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 4

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Unique patients	3,045	100.0%	799	100.0%	N/A	N/A
Demographic Characteristics						
Age (years)	57.9	5.8	58.6	5.2	-0.649	-0.118
Age						
21-49 years	311	10.2%	64	8.0%	2.203	0.077
50-64 years	2,734	89.8%	735	92.0%	-2.203	-0.077
Sex						
Female	1,581	51.9%	422	52.8%	-0.895	-0.018
Male	1,464	48.1%	377	47.2%	0.895	0.018
Race[2]						
American Indian or Alaska Native	3	0.1%	0	0.0%	NaN	NaN
Asian	12	0.4%	4	0.5%	-0.107	-0.016
Black or African American	200	6.6%	32	4.0%	2.563	0.115
Native Hawaiian or Other Pacific Islander	6	0.2%	3	0.4%	-0.178	-0.033
Unknown	2,109	69.3%	582	72.8%	-3.580	-0.079
White	715	23.5%	178	22.3%	1.203	0.029
Hispanic origin						
Yes	31	1.0%	6	0.8%	0.267	0.029
No	703	23.1%	158	19.8%	3.312	0.081
Unknown	2,311	75.9%	635	79.5%	-3.579	-0.086
Year						
2010	0	0.0%	13	1.6%	NaN	NaN
2011	1	0.0%	202	25.3%	-25.249	-0.821
2012	73	2.4%	151	18.9%	-16.501	-0.555
2013	196	6.4%	93	11.6%	-5.203	-0.182
2014	284	9.3%	49	6.1%	3.194	0.120
2015	267	8.8%	44	5.5%	3.262	0.127
2016	370	12.2%	79	9.9%	2.264	0.072
2017	427	14.0%	67	8.4%	5.638	0.179
2018	406	13.3%	52	6.5%	6.825	0.230
2019	338	11.1%	24	3.0%	8.096	0.320
2020	323	10.6%	15	1.9%	8.730	0.367
2021	341	11.2%	9	1.1%	10.072	0.428

Sentinel

Table 1av. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 4

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
2022	19	0.6%	1	0.1%	0.499	0.082
CHADSVASC						
mean, std	4.0	0.0	4.0	0.0	0.000	NaN
0	0	0.0%	0	0.0%	NaN	NaN
1	0	0.0%	0	0.0%	NaN	NaN
2	0	0.0%	0	0.0%	NaN	NaN
3	0	0.0%	0	0.0%	NaN	NaN
4	3,045	100.0%	799	100.0%	0.000	NaN
>= 5	0	0.0%	0	0.0%	NaN	NaN
HASBLED						
mean, std	1.5	0.7	1.6	0.7	-0.044	-0.062
0	29	1.0%	8	1.0%	-0.049	-0.005
1	1,724	56.6%	418	52.3%	4.302	0.086
2	971	31.9%	284	35.5%	-3.656	-0.077
>= 3	321	10.5%	89	11.1%	-0.597	-0.019
Health Characteristics						
Diabetes	2,479	81.4%	591	74.0%	7.445	0.180
Hypercholesterolemia	1,122	36.8%	287	35.9%	0.927	0.019
Hypertension	2,982	97.9%	780	97.6%	0.309	0.021
Kidney failure (chronic)	426	14.0%	118	14.8%	-0.778	-0.022
Kidney failure (acute)	464	15.2%	95	11.9%	3.348	0.098
Obesity	1,687	55.4%	341	42.7%	12.724	0.257
Peptic ulcer disease	12	0.4%	5	0.6%	-0.232	-0.033
Nicotine dependency	1,071	35.2%	203	25.4%	9.766	0.214
Hospitalized acute myocardial infarction (past 0-30 days)	239	7.8%	61	7.6%	0.214	0.008
Hospitalized acute myocardial infarction (past 31-183 days)	134	4.4%	23	2.9%	1.522	0.081
Coronary revascularization	562	18.5%	157	19.6%	-1.193	-0.030
Hospitalized heart failure	1,453	47.7%	369	46.2%	1.535	0.031
Outpatient heart failure	1,126	37.0%	266	33.3%	3.687	0.077
Other ischemic heart disease	1,452	47.7%	389	48.7%	-1.001	-0.020
Hospitalized stroke (past 0-30 days)	175	5.7%	73	9.1%	-3.389	-0.129

Sentinel

Table 1av. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 4

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Hospitalized stroke (past 31-183 days)	86	2.8%	41	5.1%	-2.307	-0.118
Transient ischemic attack	488	16.0%	197	24.7%	-8.630	-0.216
Other medical conditions (falls, fractures, syncope, walker use)	1,088	35.7%	254	31.8%	3.941	0.083
Cardioversion	491	16.1%	106	13.3%	2.858	0.081
Cardioablation	130	4.3%	27	3.4%	0.890	0.046
Hospitalized for bleeding	22	0.7%	10	1.3%	-0.529	-0.054
Medical Product Use						
Estrogen replacement	73	2.4%	30	3.8%	-1.357	-0.079
H2-antagonist	154	5.1%	35	4.4%	0.677	0.032
Non-steroidal anti-inflammatory drugs (NSAIDs)	596	19.6%	142	17.8%	1.801	0.046
Proton pump inhibitors	838	27.5%	226	28.3%	-0.765	-0.017
Selective serotonin reuptake inhibitor (SSRI)	562	18.5%	139	17.4%	1.060	0.028
Insulin	856	28.1%	207	25.9%	2.204	0.050
Metformin (Biguanide)	1,403	46.1%	295	36.9%	9.154	0.187
Sulfonylureas	617	20.3%	156	19.5%	0.738	0.018
Other diabetes medications	688	22.6%	151	18.9%	3.696	0.091
Angiotensin converting enzyme inhibitor (ACEI)/Angiotensin II receptor blocker (ARB)	2,201	72.3%	565	70.7%	1.569	0.035
Antiarrhythmics	873	28.7%	288	36.0%	-7.375	-0.158
Anti-coagulant (injectable)	390	12.8%	84	10.5%	2.295	0.072
Anti-platelets	690	22.7%	171	21.4%	1.258	0.030
Beta-blockers	2,303	75.6%	619	77.5%	-1.840	-0.043
Calcium channel blockers	1,015	33.3%	316	39.5%	-6.216	-0.129
Digoxin	297	9.8%	118	14.8%	-5.015	-0.153
Diuretics (loop)	1,247	41.0%	319	39.9%	1.027	0.021
Diuretics (potassium sparing)	497	16.3%	125	15.6%	0.677	0.018
Diuretics (thiazide)	460	15.1%	113	14.1%	0.964	0.027
Nitrates	353	11.6%	116	14.5%	-2.925	-0.087
Statins	2,045	67.2%	514	64.3%	2.829	0.060
Fibrates	182	6.0%	69	8.6%	-2.659	-0.102
Amiodarone	506	16.6%	134	16.8%	-0.154	-0.004
Dronedarone	40	1.3%	36	4.5%	-3.192	-0.191

Sentinel

Table 1av. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 4

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Health Service Utilization Intensity Metrics						
No emergency department (ED) encounters (past 0-	1,748	57.4%	467	58.4%	-1.042	-0.021
No ED encounters (past 31-183 days)	1,958	64.3%	522	65.3%	-1.030	-0.022
At least 1 ED encounter (past 0-30 days)	1,297	42.6%	332	41.6%	1.042	0.021
At least 2 ED encounters (past 0-30 days)	386	12.7%	95	11.9%	0.787	0.024
At least 1 ED encounter (past 31-183 days)	1,087	35.7%	277	34.7%	1.030	0.022
At least 2 ED encounters (past 31-183 days)	480	15.8%	100	12.5%	3.248	0.093

[1]Value represents standard deviation where no % follows the value.

[2]Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

Sentinel

Table 1aw. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect in the Treated (ATT), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 4

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
Weighted patients	2,766	N/A	3,438,572	N/A	N/A	N/A
Demographic Characteristics						
Age (years)	58.2	5.7	54.7	8.0	3.440	0.494
Age						
21-49 years	259	9.4%	907,146	26.4%	-17.018	-0.427
50-64 years	2,507	90.6%	2,531,425	73.6%	17.018	0.427
Sex						
Female	1,446	52.3%	2,466,081	71.7%	-19.441	-0.392
Male	1,320	47.7%	972,491	28.3%	19.441	0.392
Race[3]						
American Indian or Alaska Native	3	0.1%	0	0.0%	NaN	NaN
Asian	12	0.4%	9	0.0%	0.434	0.094
Black or African American	170	6.1%	342,775	10.0%	-3.822	-0.136
Native Hawaiian or Other Pacific Islander	6	0.2%	8	0.0%	0.217	0.066
Unknown	1,943	70.2%	2,354,652	68.5%	1.768	0.044
White	632	22.8%	741,128	21.6%	1.296	0.034
Hispanic origin						
Yes	27	1.0%	19	0.0%	0.976	0.142
No	616	22.3%	1,083,727	31.5%	-9.246	-0.243
Unknown	2,123	76.8%	2,354,826	68.5%	8.271	0.216
Year						
2010	0	0.0%	31	0.0%	NaN	NaN
2011	1	0.0%	576	0.0%	0.019	0.012
2012	68	2.5%	422	0.0%	2.446	0.223
2013	188	6.8%	1,927,535	56.1%	-49.259	-1.163
2014	263	9.5%	13,054	0.4%	9.129	0.429
2015	251	9.1%	140	0.0%	9.070	0.447
2016	337	12.2%	82,763	2.4%	9.777	0.376
2017	381	13.8%	242	0.0%	13.767	0.565
2018	354	12.8%	855,487	24.9%	-12.081	-0.295
2019	303	11.0%	102	0.0%	10.951	0.496
2020	285	10.3%	558,186	16.2%	-5.929	-0.166

Sentinel

Table 1aw. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect in the Treated (ATT), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 4

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
2021	317	11.5%	32	0.0%	11.460	0.509
2022	18	0.7%	1	0.0%	0.651	0.115
CHADSVASC						
mean, std	4.0	0.0	4.0	0.0	0.000	NaN
0	0	0.0%	0	0.0%	NaN	NaN
1	0	0.0%	0	0.0%	NaN	NaN
2	0	0.0%	0	0.0%	NaN	NaN
3	0	0.0%	0	0.0%	NaN	NaN
4	2,766	100.0%	3,438,572	100.0%	0.000	NaN
>= 5	0	0.0%	0	0.0%	NaN	NaN
HASBLED						
mean, std	1.5	0.7	2.0	0.0	-0.469	-0.923
0	23	0.8%	34	0.0%	0.831	0.129
1	1,574	56.9%	1,421	0.0%	56.864	1.626
2	873	31.6%	3,436,849	99.9%	-68.388	-2.082
>= 3	296	10.7%	269	0.0%	10.694	0.491
Health Characteristics						
Diabetes	2,224	80.4%	3,177,787	92.4%	-12.011	-0.347
Hypercholesterolemia	1,013	36.6%	1,350,503	39.3%	-2.652	-0.052
Hypertension	2,714	98.1%	3,438,513	100.0%	-1.878	-0.196
Kidney failure (chronic)	386	14.0%	640,942	18.6%	-4.685	-0.121
Kidney failure (acute)	387	14.0%	260,557	7.6%	6.414	0.201
Obesity	1,490	53.9%	1,561,000	45.4%	8.472	0.163
Peptic ulcer disease	6	0.2%	4	0.0%	0.217	0.066
Nicotine dependency	911	32.9%	1,790,058	52.1%	-19.123	-0.377
Hospitalized acute myocardial infarction (past 0-30 days)	224	8.1%	260,434	7.6%	0.524	0.019
Hospitalized acute myocardial infarction (past 31-183 days)	109	3.9%	63	0.0%	3.939	0.286
Coronary revascularization	507	18.3%	431,683	12.6%	5.776	0.154
Hospitalized heart failure	1,300	47.0%	1,084,413	31.5%	15.463	0.307
Outpatient heart failure	992	35.9%	1,001,658	29.1%	6.734	0.140

Sentinel

Table 1aw. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect in the Treated (ATT), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 4

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
Other ischemic heart disease	1,305	47.2%	1,470,180	42.8%	4.424	0.085
Hospitalized stroke (past 0-30 days)	168	6.1%	169	0.0%	6.069	0.360
Hospitalized stroke (past 31-183 days)	83	3.0%	84	0.0%	2.998	0.249
Transient ischemic attack	467	16.9%	13,369	0.4%	16.495	0.617
Other medical conditions (falls, fractures, syncope, walker use)	962	34.8%	749,949	21.8%	12.970	0.280
Cardioversion	432	15.6%	749,463	21.8%	-6.178	-0.151
Cardioablation	110	4.0%	182,519	5.3%	-1.331	-0.060
Hospitalized for bleeding	16	0.6%	16	0.0%	0.578	0.108
Medical Product Use						
Estrogen replacement	67	2.4%	12,963	0.4%	2.045	0.172
H2-antagonist	130	4.7%	260,329	7.6%	-2.871	-0.114
Non-steroidal anti-inflammatory drugs (NSAIDs)	537	19.4%	920,319	26.8%	-7.350	-0.166
Proton pump inhibitors	748	27.0%	1,451,624	42.2%	-15.173	-0.308
Selective serotonin reuptake inhibitor (SSRI)	500	18.1%	531,657	15.5%	2.615	0.067
Insulin	756	27.3%	1,469,652	42.7%	-15.408	-0.311
Metformin (Biguanide)	1,234	44.6%	1,605,411	46.7%	-2.075	-0.040
Sulfonylureas	559	20.2%	535	0.0%	20.194	0.711
Other diabetes medications	606	21.9%	540	0.0%	21.893	0.748
Angiotensin converting enzyme inhibitor (ACEI)/Angiotensin II receptor blocker (ARB)	1,995	72.1%	2,397,029	69.7%	2.416	0.051
Antiarrhythmics	794	28.7%	901,614	26.2%	2.485	0.053
Anti-coagulant (injectable)	330	11.9%	609,299	17.7%	-5.789	-0.156
Anti-platelets	605	21.9%	580	0.0%	21.856	0.748
Beta-blockers	2,084	75.3%	2,688,920	78.2%	-2.855	-0.065
Calcium channel blockers	945	34.2%	622,779	18.1%	16.053	0.358
Digoxin	279	10.1%	735,800	21.4%	-11.312	-0.296
Diuretics (loop)	1,111	40.2%	1,261,623	36.7%	3.476	0.069
Diuretics (potassium sparing)	434	15.7%	195,712	5.7%	9.999	0.319
Diuretics (thiazide)	414	15.0%	374	0.0%	14.957	0.592
Nitrates	320	11.6%	82,752	2.4%	9.162	0.361
Statins	1,845	66.7%	2,024,106	58.9%	7.838	0.155

Sentinel

Table 1aw. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect in the Treated (ATT), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 4

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
Fibrates	171	6.2%	154	0.0%	6.178	0.363
Amiodarone	447	16.2%	343,111	10.0%	6.182	0.177
Dronedarone	40	1.4%	40	0.0%	1.445	0.171
Health Service Utilization Intensity Metrics						
No emergency department (ED) encounters (past 0-	1,631	59.0%	2,345,772	68.2%	-9.253	-0.194
No ED encounters (past 31-183 days)	1,823	65.9%	1,580,190	46.0%	19.953	0.395
At least 1 ED encounter (past 0-30 days)	1,135	41.0%	1,092,800	31.8%	9.253	0.194
At least 2 ED encounters (past 0-30 days)	329	11.9%	82,742	2.4%	9.488	0.379
At least 1 ED encounter (past 31-183 days)	943	34.1%	1,858,382	54.0%	-19.953	-0.395
At least 2 ED encounters (past 31-183 days)	385	13.9%	1,299,720	37.8%	-23.879	-0.538

[1]Weighted patient characteristics tables facilitate the assessment of covariate balance after inverse probability weighting and should not be interpreted as a description of the unweighted population. Treated patients are weighted by the proportion of treated patients in the trimmed population divided by the inverse of their propensity score (PS). Reference patients are weighted by 1 minus the proportion of treated patients in the trimmed population divided by 1 minus their PS.

[2]Value represents standard deviation where no % follows the value.

[3]Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

Sentinel

Table 1ax. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 5+

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Unique patients	885	100.0%	249	100.0%	N/A	N/A
Demographic Characteristics						
Age (years)	58.7	5.7	59.2	5.2	-0.521	-0.096
Age						
21-49 years	73	8.2%	12	4.8%	3.429	0.139
50-64 years	812	91.8%	237	95.2%	-3.429	-0.139
Sex						
Female	634	71.6%	183	73.5%	-1.856	-0.042
Male	251	28.4%	66	26.5%	1.856	0.042
Race[2]						
American Indian or Alaska Native	2	0.2%	0	0.0%	NaN	NaN
Asian	3	0.3%	2	0.8%	-0.464	-0.062
Black or African American	89	10.1%	16	6.4%	3.631	0.132
Native Hawaiian or Other Pacific Islander	6	0.7%	0	0.0%	NaN	NaN
Unknown	563	63.6%	177	71.1%	-7.469	-0.160
White	222	25.1%	54	21.7%	3.398	0.080
Hispanic origin						
Yes	9	1.0%	5	2.0%	-0.991	-0.081
No	249	28.1%	49	19.7%	8.457	0.199
Unknown	627	70.8%	195	78.3%	-7.466	-0.172
Year						
2010	0	0.0%	5	2.0%	NaN	NaN
2011	0	0.0%	66	26.5%	NaN	NaN
2012	24	2.7%	47	18.9%	-16.164	-0.540
2013	53	6.0%	26	10.4%	-4.453	-0.163
2014	69	7.8%	9	3.6%	4.182	0.181
2015	65	7.3%	18	7.2%	0.116	0.004
2016	116	13.1%	25	10.0%	3.067	0.096
2017	122	13.8%	19	7.6%	6.155	0.200
2018	122	13.8%	17	6.8%	6.958	0.230
2019	95	10.7%	4	1.6%	9.128	0.386
2020	106	12.0%	8	3.2%	8.765	0.335
2021	104	11.8%	5	2.0%	9.743	0.392

Sentinel

Table 1ax. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 5+

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
2022	9	1.0%	0	0.0%	NaN	NaN
CHADSVASC						
mean, std	5.3	0.5	5.2	0.5	0.077	0.155
0	0	0.0%	0	0.0%	NaN	NaN
1	0	0.0%	0	0.0%	NaN	NaN
2	0	0.0%	0	0.0%	NaN	NaN
3	0	0.0%	0	0.0%	NaN	NaN
4	0	0.0%	0	0.0%	NaN	NaN
>= 5	885	100.0%	249	100.0%	0.000	NaN
HASBLED						
mean, std	1.8	0.8	1.8	0.8	0.047	0.058
0	3	0.3%	3	1.2%	-0.866	-0.099
1	369	41.7%	104	41.8%	-0.072	-0.001
2	334	37.7%	97	39.0%	-1.216	-0.025
>= 3	179	20.2%	45	18.1%	2.154	0.055
Health Characteristics						
Diabetes	787	88.9%	210	84.3%	4.589	0.135
Hypercholesterolemia	359	40.6%	101	40.6%	0.003	0.000
Hypertension	881	99.5%	246	98.8%	0.753	0.083
Kidney failure (chronic)	173	19.5%	40	16.1%	3.484	0.091
Kidney failure (acute)	184	20.8%	39	15.7%	5.128	0.133
Obesity	481	54.4%	108	43.4%	10.977	0.221
Peptic ulcer disease	6	0.7%	3	1.2%	-0.527	-0.055
Nicotine dependency	347	39.2%	64	25.7%	13.506	0.292
Hospitalized acute myocardial infarction (past 0-30 days)	66	7.5%	18	7.2%	0.229	0.009
Hospitalized acute myocardial infarction (past 31-183 days)	37	4.2%	15	6.0%	-1.843	-0.084
Coronary revascularization	182	20.6%	45	18.1%	2.493	0.063
Hospitalized heart failure	513	58.0%	108	43.4%	14.593	0.295
Outpatient heart failure	415	46.9%	80	32.1%	14.764	0.306
Other ischemic heart disease	484	54.7%	133	53.4%	1.276	0.026
Hospitalized stroke (past 0-30 days)	142	16.0%	51	20.5%	-4.437	-0.115

Sentinel

Table 1ax. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 5+

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Hospitalized stroke (past 31-183 days)	93	10.5%	27	10.8%	-0.335	-0.011
Transient ischemic attack	370	41.8%	129	51.8%	-9.999	-0.201
Other medical conditions (falls, fractures, syncope, walker use)	344	38.9%	96	38.6%	0.316	0.006
Cardioversion	92	10.4%	21	8.4%	1.962	0.067
Cardioablation	23	2.6%	9	3.6%	-1.016	-0.059
Hospitalized for bleeding	8	0.9%	7	2.8%	-1.907	-0.142
Medical Product Use						
Estrogen replacement	28	3.2%	10	4.0%	-0.852	-0.046
H2-antagonist	61	6.9%	18	7.2%	-0.336	-0.013
Non-steroidal anti-inflammatory drugs (NSAIDs)	186	21.0%	48	19.3%	1.740	0.043
Proton pump inhibitors	297	33.6%	69	27.7%	5.848	0.127
Selective serotonin reuptake inhibitor (SSRI)	227	25.6%	48	19.3%	6.373	0.153
Insulin	324	36.6%	69	27.7%	8.899	0.191
Metformin (Biguanide)	421	47.6%	107	43.0%	4.599	0.092
Sulfonylureas	186	21.0%	57	22.9%	-1.875	-0.045
Other diabetes medications	216	24.4%	46	18.5%	5.933	0.145
Angiotensin converting enzyme inhibitor (ACEI)/Angiotensin II receptor blocker (ARB)	648	73.2%	162	65.1%	8.160	0.177
Antiarrhythmics	230	26.0%	79	31.7%	-5.738	-0.127
Anti-coagulant (injectable)	126	14.2%	28	11.2%	2.992	0.090
Anti-platelets	273	30.8%	77	30.9%	-0.076	-0.002
Beta-blockers	682	77.1%	180	72.3%	4.773	0.110
Calcium channel blockers	334	37.7%	92	36.9%	0.792	0.016
Digoxin	95	10.7%	40	16.1%	-5.330	-0.157
Diuretics (loop)	420	47.5%	95	38.2%	9.305	0.189
Diuretics (potassium sparing)	154	17.4%	38	15.3%	2.140	0.058
Diuretics (thiazide)	141	15.9%	36	14.5%	1.474	0.041
Nitrates	131	14.8%	23	9.2%	5.565	0.172
Statins	679	76.7%	163	65.5%	11.261	0.250
Fibrates	52	5.9%	24	9.6%	-3.763	-0.141
Amiodarone	137	15.5%	29	11.6%	3.834	0.112
Dronedarone	10	1.1%	12	4.8%	-3.689	-0.218

Sentinel

Table 1ax. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 5+

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Health Service Utilization Intensity Metrics						
No emergency department (ED) encounters (past 0-	459	51.9%	130	52.2%	-0.344	-0.007
No ED encounters (past 31-183 days)	477	53.9%	146	58.6%	-4.736	-0.096
At least 1 ED encounter (past 0-30 days)	426	48.1%	119	47.8%	0.344	0.007
At least 2 ED encounters (past 0-30 days)	153	17.3%	28	11.2%	6.043	0.173
At least 1 ED encounter (past 31-183 days)	408	46.1%	103	41.4%	4.736	0.096
At least 2 ED encounters (past 31-183 days)	201	22.7%	47	18.9%	3.836	0.095

[1]Value represents standard deviation where no % follows the value.

[2]Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

Sentinel

Table 1ay. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect in the Treated (ATT), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 5+

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
Weighted patients	602	N/A	588	N/A	N/A	N/A
Demographic Characteristics						
Age (years)	59.0	5.5	59.0	5.2	0.049	0.009
Age (years)	59.0	5.5	59.0	5.2	0.049	0.009
Age						
21-49 years	41	6.8%	23	4.0%	2.837	0.125
50-64 years	561	93.2%	565	96.0%	-2.837	-0.125
Sex						
Female	428	71.1%	408	69.4%	1.698	0.037
Male	174	28.9%	180	30.6%	-1.698	-0.037
Race[3]						
American Indian or Alaska Native	2	0.3%	0	0.0%	NaN	NaN
Asian	0	0.0%	0	0.0%	NaN	NaN
Black or African American	54	9.0%	42	7.2%	1.760	0.071
Native Hawaiian or Other Pacific Islander	5	0.8%	0	0.0%	NaN	NaN
Unknown	412	68.4%	410	69.7%	-1.295	-0.055
White	129	21.4%	136	23.1%	-1.628	-0.055
Hispanic origin						
Yes	6	1.0%	10	1.7%	-0.680	-0.059
No	163	27.1%	128	21.8%	5.290	0.308
Unknown	433	71.9%	450	76.5%	-4.610	-0.281
Year						
2010	0	0.0%	18	3.1%	NaN	NaN
2011	0	0.0%	111	18.8%	NaN	NaN
2012	16	2.7%	106	17.9%	-15.291	-0.535
2013	39	6.5%	63	10.8%	-4.309	-0.153
2014	60	10.0%	33	5.6%	4.405	0.166
2015	48	8.0%	60	10.1%	-2.174	-0.076
2016	77	12.8%	66	11.1%	1.647	0.050
2017	74	12.3%	45	7.6%	4.654	0.157
2018	82	13.6%	39	6.7%	6.940	0.232
2018	82	13.6%	39	6.7%	6.940	0.232

Sentinel

Table 1ay. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect in the Treated (ATT), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 5+

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
2019	54	9.0%	12	2.1%	6.898	0.304
2020	77	12.8%	28	4.7%	8.080	0.288
2021	66	11.0%	8	1.4%	9.551	0.405
2022	9	1.5%	0	0.0%	NaN	NaN
CHADSVASC						
mean, std	5.2	0.5	5.2	0.5	0.054	0.109
0	0	0.0%	0	0.0%	NaN	NaN
1	0	0.0%	0	0.0%	NaN	NaN
2	0	0.0%	0	0.0%	NaN	NaN
3	0	0.0%	0	0.0%	NaN	NaN
3	0	0.0%	0	0.0%	NaN	NaN
4	0	0.0%	0	0.0%	NaN	NaN
4	0	0.0%	0	0.0%	NaN	NaN
>= 5	602	100.0%	588	100.0%	0.000	NaN
>= 5	602	100.0%	588	100.0%	0.000	NaN
HASBLED						
mean, std	1.7	0.8	1.7	0.8	0.049	0.063
mean, std	1.7	0.8	1.7	0.8	0.049	0.063
0	3	0.5%	3	0.5%	-0.008	-0.001
0	3	0.5%	3	0.5%	-0.008	-0.001
1	266	44.2%	263	44.7%	-0.511	-0.010
2	235	39.0%	249	42.4%	-3.333	-0.067
>= 3	98	16.3%	73	12.4%	3.852	0.110
Health Characteristics						
Diabetes	535	88.9%	520	88.5%	0.386	0.012
Hypercholesterolemia	243	40.4%	190	32.3%	8.074	0.169
Hypertension	598	99.3%	586	99.7%	-0.333	-0.047
Kidney failure (chronic)	110	18.3%	90	15.3%	2.976	0.080
Kidney failure (acute)	107	17.8%	80	13.7%	4.092	0.112
Obesity	309	51.3%	320	54.4%	-3.066	-0.062
Peptic ulcer disease	1	0.2%	0	0.0%	NaN	NaN
Nicotine dependency	199	33.1%	187	31.7%	1.317	0.028

Sentinel

Table 1ay. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect in the Treated (ATT), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 5+

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
Hospitalized acute myocardial infarction (past 0-30	44	7.3%	33	5.6%	1.742	0.071
Hospitalized acute myocardial infarction (past 31-183	17	2.8%	20	3.4%	-0.548	-0.032
Coronary revascularization	114	18.9%	95	16.1%	2.814	0.074
Hospitalized heart failure	320	53.2%	324	55.1%	-1.940	-0.039
Outpatient heart failure	241	40.0%	227	38.5%	1.500	0.031
Other ischemic heart disease	317	52.7%	317	53.9%	-1.234	-0.025
Hospitalized stroke (past 0-30 days)	103	17.1%	117	19.9%	-2.772	-0.071
Hospitalized stroke (past 31-183 days)	58	9.6%	54	9.2%	0.481	0.016
Transient ischemic attack	280	46.5%	299	50.8%	-4.319	-0.086
Other medical conditions (falls, fractures, syncope,	227	37.7%	204	34.6%	3.070	0.064
Cardioversion	52	8.6%	51	8.7%	-0.038	-0.001
Cardioversion	52	8.6%	51	8.7%	-0.038	-0.001
Cardioablation	18	3.0%	38	6.4%	-3.444	-0.162
Cardioablation	18	3.0%	38	6.4%	-3.444	-0.162
Hospitalized for bleeding	7	1.2%	3	0.5%	0.702	0.078
Hospitalized for bleeding	7	1.2%	3	0.5%	0.702	0.078
Medical Product Use						
Estrogen replacement	21	3.5%	10	1.7%	1.794	0.113
Estrogen replacement	21	3.5%	10	1.7%	1.794	0.113
H2-antagonist	39	6.5%	36	6.1%	0.425	0.018
H2-antagonist	39	6.5%	36	6.1%	0.425	0.018
Non-steroidal anti-inflammatory drugs (NSAIDs)	126	20.9%	89	15.2%	5.732	0.149
Non-steroidal anti-inflammatory drugs (NSAIDs)	126	20.9%	89	15.2%	5.732	0.149
Proton pump inhibitors	188	31.2%	157	26.7%	4.546	0.101
Proton pump inhibitors	188	31.2%	157	26.7%	4.546	0.101
Selective serotonin reuptake inhibitor (SSRI)	142	23.6%	123	21.0%	2.636	0.063
Selective serotonin reuptake inhibitor (SSRI)	142	23.6%	123	21.0%	2.636	0.063
Insulin	205	34.1%	182	30.9%	3.156	0.068
Metformin (Biguanide)	286	47.5%	274	46.6%	0.896	0.018
Sulfonylureas	128	21.3%	117	19.9%	1.382	0.034
Other diabetes medications	135	22.4%	163	27.7%	-5.270	-0.121

Sentinel

Table 1ay. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect in the Treated (ATT), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 5+

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
Angiotensin converting enzyme inhibitor (ACEI)/Angiotensin II receptor blocker (ARB)	437	72.6%	421	71.6%	0.979	0.022
Antiarrhythmics	154	25.6%	119	20.3%	5.262	0.125
Anti-coagulant (injectable)	78	13.0%	71	12.0%	0.927	0.028
Anti-platelets	191	31.7%	163	27.7%	4.017	0.088
Beta-blockers	455	75.6%	453	77.0%	-1.395	-0.032
Calcium channel blockers	220	36.5%	220	37.4%	-0.890	-0.018
Digoxin	75	12.5%	68	11.6%	0.828	0.025
Diuretics (loop)	267	44.4%	252	42.8%	1.534	0.031
Diuretics (potassium sparing)	105	17.4%	83	14.1%	3.378	0.092
Diuretics (thiazide)	98	16.3%	82	13.9%	2.344	0.065
Nitrates	69	11.5%	59	10.0%	1.498	0.048
Statins	457	75.9%	435	74.0%	1.904	0.044
Fibrates	31	5.1%	17	2.9%	2.204	0.111
Amiodarone	87	14.5%	72	12.2%	2.288	0.067
Dronedarone	7	1.2%	5	0.9%	0.304	0.030

Sentinel

Table 1ay. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect in the Treated (ATT), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 5+

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
Health Service Utilization Intensity Metrics						
No emergency department (ED) encounters (past 0-	343	57.0%	332	56.4%	0.557	0.013
No ED encounters (past 31-183 days)	350	58.1%	350	59.5%	-1.336	-0.028
At least 1 ED encounter (past 0-30 days)	259	43.0%	256	43.6%	-0.557	-0.013
At least 2 ED encounters (past 0-30 days)	80	13.3%	58	9.9%	3.392	0.110
At least 1 ED encounter (past 31-183 days)	252	41.9%	238	40.5%	1.336	0.028
At least 2 ED encounters (past 31-183 days)	117	19.4%	120	20.3%	-0.907	-0.024

[1]Weighted patient characteristics tables facilitate the assessment of covariate balance after inverse probability weighting and should not be interpreted as a description of the unweighted population. Treated patients are weighted by the proportion of treated patients in the trimmed population divided by the inverse of their propensity score (PS). Reference patients are weighted by 1 minus the proportion of treated patients in the trimmed population divided by 1 minus their PS.

[2]Value represents standard deviation where no % follows the value.

[3]Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

Sentinel

Table 1az. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 0

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Unique patients	15,304	100.0%	5,817	100.0%	N/A	N/A
Demographic Characteristics						
Age (years)	54.0	8.8	54.0	8.4	-0.011	-0.001
Age						
21-49 years	3,957	25.9%	1,501	25.8%	0.052	0.001
50-64 years	11,347	74.1%	4,316	74.2%	-0.052	-0.001
Sex						
Female	3,705	24.2%	1,203	20.7%	3.529	0.085
Male	11,599	75.8%	4,614	79.3%	-3.529	-0.085
Race[2]						
American Indian or Alaska Native	12	0.1%	7	0.1%	-0.042	-0.013
Asian	47	0.3%	27	0.5%	-0.157	-0.025
Black or African American	123	0.8%	23	0.4%	0.408	0.053
Native Hawaiian or Other Pacific Islander	5	0.0%	2	0.0%	-0.002	-0.001
Unknown	13,148	85.9%	4,958	85.2%	0.679	0.019
White	1,969	12.9%	800	13.8%	-0.887	-0.026
Hispanic origin						
Yes	77	0.5%	28	0.5%	0.022	0.003
No	495	3.2%	155	2.7%	0.570	0.034
Unknown	14,732	96.3%	5,634	96.9%	-0.592	-0.032
Year						
2010	0	0.0%	138	2.4%	NaN	NaN
2011	9	0.1%	2,123	36.5%	-36.438	-1.069
2012	835	5.5%	1,430	24.6%	-19.127	-0.556
2013	1,686	11.0%	758	13.0%	-2.014	-0.062
2014	2,008	13.1%	372	6.4%	6.726	0.228
2015	1,876	12.3%	256	4.4%	7.857	0.287
2016	1,669	10.9%	295	5.1%	5.834	0.216
2017	1,674	10.9%	184	3.2%	7.775	0.307
2018	1,638	10.7%	128	2.2%	8.503	0.351
2019	1,384	9.0%	75	1.3%	7.754	0.356
2020	1,167	7.6%	37	0.6%	6.989	0.357
2021	1,249	8.2%	20	0.3%	7.817	0.395

Sentinel

Table 1az. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 0

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
2022	109	0.7%	1	0.0%	0.695	0.115
CHADSVASC						
mean, std	0.5	0.7	0.4	0.7	0.033	0.048
0	9,679	63.2%	3,807	65.4%	-2.201	-0.046
1	4,460	29.1%	1,604	27.6%	1.568	0.035
2	899	5.9%	333	5.7%	0.150	0.006
3	234	1.5%	62	1.1%	0.463	0.041
4	29	0.2%	8	0.1%	0.052	0.013
>= 5	3	0.0%	3	0.1%	-0.032	-0.017
HASBLED						
mean, std	0.0	NaN	0.0	NaN	NaN	NaN
0	15,304	100.0%	5,817	100.0%	0.000	NaN
1	0	0.0%	0	0.0%	NaN	NaN
2	0	0.0%	0	0.0%	NaN	NaN
>= 3	0	0.0%	0	0.0%	NaN	NaN
Health Characteristics						
Diabetes	1,200	7.8%	472	8.1%	-0.273	-0.010
Hypercholesterolemia	2,052	13.4%	817	14.0%	-0.637	-0.019
Hypertension	414	2.7%	98	1.7%	1.020	0.070
Kidney failure (chronic)	9	0.1%	2	0.0%	0.024	0.011
Kidney failure (acute)	223	1.5%	56	1.0%	0.494	0.045
Obesity	2,669	17.4%	618	10.6%	6.816	0.197
Peptic ulcer disease	0	0.0%	0	0.0%	NaN	NaN
Nicotine dependency	2,453	16.0%	717	12.3%	3.703	0.106
Hospitalized acute myocardial infarction (past 0-30 days)	99	0.6%	34	0.6%	0.062	0.008
Hospitalized acute myocardial infarction (past 31-183 days)	25	0.2%	7	0.1%	0.043	0.011
Coronary revascularization	310	2.0%	131	2.3%	-0.226	-0.016
Hospitalized heart failure	807	5.3%	368	6.3%	-1.053	-0.045
Outpatient heart failure	986	6.4%	408	7.0%	-0.571	-0.023
Other ischemic heart disease	1,920	12.5%	788	13.5%	-1.001	-0.030
Hospitalized stroke (past 0-30 days)	0	0.0%	0	0.0%	NaN	NaN

Sentinel

Table 1az. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 0

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Hospitalized stroke (past 31-183 days)	0	0.0%	0	0.0%	NaN	NaN
Transient ischemic attack	275	1.8%	89	1.5%	0.267	0.021
Other medical conditions (falls, fractures, syncope, walker use)	3,446	22.5%	1,334	22.9%	-0.416	-0.010
Cardioversion	2,509	16.4%	996	17.1%	-0.728	-0.019
Cardioablation	938	6.1%	523	9.0%	-2.862	-0.108
Hospitalized for bleeding	0	0.0%	0	0.0%	NaN	NaN
Medical Product Use						
Estrogen replacement	353	2.3%	147	2.5%	-0.220	-0.014
H2-antagonist	146	1.0%	47	0.8%	0.146	0.016
Non-steroidal anti-inflammatory drugs (NSAIDs)	1,744	11.4%	694	11.9%	-0.535	-0.017
Proton pump inhibitors	1,950	12.7%	673	11.6%	1.172	0.036
Selective serotonin reuptake inhibitor (SSRI)	1,230	8.0%	445	7.6%	0.387	0.014
Insulin	233	1.5%	84	1.4%	0.078	0.006
Metformin (Biguanide)	797	5.2%	303	5.2%	-0.001	-0.000
Sulfonylureas	240	1.6%	112	1.9%	-0.357	-0.027
Other diabetes medications	310	2.0%	117	2.0%	0.014	0.001
Angiotensin converting enzyme inhibitor (ACEI)/Angiotensin II receptor blocker (ARB)	2,053	13.4%	974	16.7%	-3.329	-0.093
Antiarrhythmics	4,598	30.0%	2,130	36.6%	-6.572	-0.140
Anti-coagulant (injectable)	1,497	9.8%	413	7.1%	2.682	0.097
Anti-platelets	748	4.9%	223	3.8%	1.054	0.052
Beta-blockers	8,694	56.8%	3,408	58.6%	-1.778	-0.036
Calcium channel blockers	2,901	19.0%	1,197	20.6%	-1.622	-0.041
Digoxin	845	5.5%	539	9.3%	-3.745	-0.143
Diuretics (loop)	1,092	7.1%	468	8.0%	-0.910	-0.034
Diuretics (potassium sparing)	456	3.0%	221	3.8%	-0.820	-0.045
Diuretics (thiazide)	222	1.5%	103	1.8%	-0.320	-0.025
Nitrates	225	1.5%	91	1.6%	-0.094	-0.008
Statins	3,477	22.7%	1,431	24.6%	-1.881	-0.044
Fibrates	225	1.5%	103	1.8%	-0.300	-0.024
Amiodarone	876	5.7%	401	6.9%	-1.170	-0.048
Dronedarone	509	3.3%	420	7.2%	-3.894	-0.175

Sentinel

Table 1az. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 0

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Health Service Utilization Intensity Metrics						
No emergency department (ED) encounters (past 0-	11,041	72.1%	4,478	77.0%	-4.837	-0.111
No ED encounters (past 31-183 days)	13,389	87.5%	5,181	89.1%	-1.580	-0.049
At least 1 ED encounter (past 0-30 days)	4,263	27.9%	1,339	23.0%	4.837	0.111
At least 2 ED encounters (past 0-30 days)	705	4.6%	198	3.4%	1.203	0.061
At least 1 ED encounter (past 31-183 days)	1,915	12.5%	636	10.9%	1.580	0.049
At least 2 ED encounters (past 31-183 days)	438	2.9%	127	2.2%	0.679	0.043

[1]Value represents standard deviation where no % follows the value.

[2]Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

Sentinel

Table 1ba. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect in the Treated (ATT), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 0

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
Weighted patients	15,150	N/A	14,376	N/A	N/A	N/A
Demographic Characteristics						
Age (years)	54.1	8.8	54.0	8.4	0.020	0.002
Age						
21-49 years	3,899	25.7%	3,704	25.8%	-0.029	-0.001
50-64 years	11,251	74.3%	10,672	74.2%	0.029	0.001
Sex						
Female	3,639	24.0%	3,323	23.1%	0.906	0.021
Male	11,511	76.0%	11,053	76.9%	-0.906	-0.021
Race[3]						
American Indian or Alaska Native	11	0.1%	13	0.1%	-0.017	-0.006
Asian	47	0.3%	50	0.3%	-0.037	-0.006
Black or African American	108	0.7%	55	0.4%	0.330	0.045
Native Hawaiian or Other Pacific Islander	5	0.0%	7	0.1%	-0.018	-0.009
Unknown	13,079	86.3%	12,394	86.2%	0.117	0.005
White	1,900	12.5%	1,857	12.9%	-0.374	-0.015
Hispanic origin						
Yes	76	0.5%	66	0.5%	0.045	0.007
No	412	2.7%	338	2.3%	0.371	0.029
Unknown	14,662	96.8%	13,973	97.2%	-0.416	-0.029
Year						
2010	0	0.0%	305	2.1%	NaN	NaN
2011	9	0.1%	4,900	34.1%	-34.024	-1.014
2012	830	5.5%	3,410	23.7%	-18.244	-0.535
2013	1,679	11.1%	1,939	13.5%	-2.404	-0.073
2014	1,990	13.1%	979	6.8%	6.324	0.212
2015	1,863	12.3%	697	4.8%	7.452	0.269
2016	1,654	10.9%	846	5.9%	5.033	0.182
2017	1,655	10.9%	539	3.7%	7.176	0.278
2018	1,615	10.7%	379	2.6%	8.024	0.327
2019	1,361	9.0%	216	1.5%	7.482	0.341
2020	1,143	7.5%	109	0.8%	6.786	0.345

Sentinel

Table 1ba. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect in the Treated (ATT), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 0

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
2021	1,242	8.2%	53	0.4%	7.826	0.394
2022	109	0.7%	4	0.0%	0.688	0.113
CHADSVASC						
mean, std	0.5	0.7	0.4	0.7	0.011	0.016
0	9,633	63.6%	9,263	64.4%	-0.848	-0.018
1	4,412	29.1%	4,087	28.4%	0.693	0.015
2	876	5.8%	824	5.7%	0.051	0.002
3	200	1.3%	173	1.2%	0.117	0.010
4	26	0.2%	24	0.2%	0.008	0.002
>= 5	3	0.0%	6	0.0%	-0.021	-0.012
HASBLED						
mean, std	0.0	NaN	0.0	NaN	0.000	NaN
0	15,150	100.0%	14,376	100.0%	0.000	NaN
1	0	0.0%	0	0.0%	NaN	NaN
2	0	0.0%	0	0.0%	NaN	NaN
>= 3	0	0.0%	0	0.0%	NaN	NaN
Health Characteristics						
Diabetes	1,158	7.6%	1,092	7.6%	0.049	0.002
Hypercholesterolemia	2,035	13.4%	1,929	13.4%	0.016	0.000
Hypertension	389	2.6%	300	2.1%	0.479	0.032
Kidney failure (chronic)	5	0.0%	3	0.0%	0.014	0.009
Kidney failure (acute)	208	1.4%	179	1.2%	0.130	0.011
Obesity	2,608	17.2%	2,158	15.0%	2.201	0.060
Peptic ulcer disease	0	0.0%	0	0.0%	NaN	NaN
Nicotine dependency	2,396	15.8%	2,055	14.3%	1.520	0.043
Hospitalized acute myocardial infarction (past 0-30 days)	89	0.6%	84	0.6%	0.004	0.001
Hospitalized acute myocardial infarction (past 31-183 days)	15	0.1%	14	0.1%	0.003	0.001
Coronary revascularization	301	2.0%	281	2.0%	0.032	0.002
Hospitalized heart failure	776	5.1%	775	5.4%	-0.266	-0.012
Outpatient heart failure	954	6.3%	908	6.3%	-0.019	-0.001

Sentinel

Table 1ba. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect in the Treated (ATT), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 0

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
Other ischemic heart disease	1,882	12.4%	1,774	12.3%	0.080	0.002
Hospitalized stroke (past 0-30 days)	0	0.0%	0	0.0%	NaN	NaN
Hospitalized stroke (past 31-183 days)	0	0.0%	0	0.0%	NaN	NaN
Transient ischemic attack	266	1.8%	244	1.7%	0.058	0.004
Other medical conditions (falls, fractures, syncope, walker use)	3,404	22.5%	3,207	22.3%	0.163	0.004
Cardioversion	2,488	16.4%	2,380	16.6%	-0.135	-0.004
Cardioablation	928	6.1%	894	6.2%	-0.096	-0.004
Hospitalized for bleeding	0	0.0%	0	0.0%	NaN	NaN
Medical Product Use						
Estrogen replacement	350	2.3%	330	2.3%	0.015	0.001
H2-antagonist	143	0.9%	131	0.9%	0.032	0.003
Non-steroidal anti-inflammatory drugs (NSAIDs)	1,721	11.4%	1,635	11.4%	-0.014	-0.000
Proton pump inhibitors	1,910	12.6%	1,764	12.3%	0.337	0.010
Selective serotonin reuptake inhibitor (SSRI)	1,198	7.9%	1,068	7.4%	0.479	0.018
Insulin	213	1.4%	199	1.4%	0.023	0.002
Metformin (Biguanide)	776	5.1%	714	5.0%	0.154	0.007
Sulfonylureas	231	1.5%	231	1.6%	-0.079	-0.006
Other diabetes medications	305	2.0%	272	1.9%	0.121	0.009
Angiotensin converting enzyme inhibitor (ACEI)/Angiotensin II receptor blocker (ARB)	2,010	13.3%	1,965	13.7%	-0.401	-0.012
Antiarrhythmics	4,549	30.0%	4,464	31.1%	-1.027	-0.022
Anti-coagulant (injectable)	1,464	9.7%	1,240	8.6%	1.039	0.037
Anti-platelets	728	4.8%	594	4.1%	0.672	0.033
Beta-blockers	8,595	56.7%	8,149	56.7%	0.052	0.001
Calcium channel blockers	2,871	19.0%	2,737	19.0%	-0.086	-0.002
Digoxin	826	5.5%	856	6.0%	-0.504	-0.022
Diuretics (loop)	1,056	7.0%	986	6.9%	0.110	0.004
Diuretics (potassium sparing)	443	2.9%	421	2.9%	-0.007	-0.000
Diuretics (thiazide)	221	1.5%	198	1.4%	0.084	0.007
Nitrates	210	1.4%	196	1.4%	0.022	0.002
Statins	3,429	22.6%	3,219	22.4%	0.242	0.006

Sentinel

Table 1ba. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect in the Treated (ATT), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 0

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
Fibrates	222	1.5%	221	1.5%	-0.071	-0.006
Amiodarone	857	5.7%	832	5.8%	-0.130	-0.006
Dronedarone	508	3.4%	533	3.7%	-0.357	-0.019
Health Service Utilization Intensity Metrics						
No emergency department (ED) encounters (past 0-	10,951	72.3%	10,613	73.8%	-1.538	-0.036
No ED encounters (past 31-183 days)	13,296	87.8%	12,700	88.3%	-0.578	-0.018
At least 1 ED encounter (past 0-30 days)	4,199	27.7%	3,763	26.2%	1.538	0.036
At least 2 ED encounters (past 0-30 days)	693	4.6%	570	4.0%	0.612	0.031
At least 1 ED encounter (past 31-183 days)	1,854	12.2%	1,676	11.7%	0.578	0.018
At least 2 ED encounters (past 31-183 days)	404	2.7%	354	2.5%	0.203	0.013

[1]Weighted patient characteristics tables facilitate the assessment of covariate balance after inverse probability weighting and should not be interpreted as a description of the unweighted population. Treated patients are weighted by the proportion of treated patients in the trimmed population divided by the inverse of their propensity score (PS). Reference patients are weighted by 1 minus the proportion of treated patients in the trimmed population divided by 1 minus their PS.

[2]Value represents standard deviation where no % follows the value.

[3]Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

Sentinel

Table 1bb. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 1

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Unique patients	32,170	100.0%	11,460	100.0%	N/A	N/A
Demographic Characteristics						
Age (years)	57.0	6.7	57.0	6.7	-0.043	-0.006
Age						
21-49 years	4,506	14.0%	1,625	14.2%	-0.173	-0.005
50-64 years	27,664	86.0%	9,835	85.8%	0.173	0.005
Sex						
Female	8,303	25.8%	2,690	23.5%	2.337	0.054
Male	23,867	74.2%	8,770	76.5%	-2.337	-0.054
Race[2]						
American Indian or Alaska Native	28	0.1%	11	0.1%	-0.009	-0.003
Asian	95	0.3%	31	0.3%	0.025	0.005
Black or African American	723	2.2%	167	1.5%	0.790	0.059
Native Hawaiian or Other Pacific Islander	39	0.1%	8	0.1%	0.051	0.017
Unknown	26,429	82.2%	9,483	82.7%	-0.595	-0.016
White	4,856	15.1%	1,760	15.4%	-0.263	-0.007
Hispanic origin						
Yes	213	0.7%	59	0.5%	0.147	0.019
No	2,633	8.2%	723	6.3%	1.876	0.072
Unknown	29,324	91.2%	10,678	93.2%	-2.023	-0.075
Year						
2010	0	0.0%	287	2.5%	NaN	NaN
2011	34	0.1%	3,894	34.0%	-33.873	-1.009
2012	1,572	4.9%	2,601	22.7%	-17.810	-0.535
2013	3,275	10.2%	1,311	11.4%	-1.259	-0.041
2014	4,199	13.1%	923	8.1%	4.998	0.163
2015	3,753	11.7%	608	5.3%	6.361	0.230
2016	3,659	11.4%	742	6.5%	4.899	0.172
2017	3,718	11.6%	483	4.2%	7.343	0.275
2018	3,481	10.8%	299	2.6%	8.212	0.333
2019	3,070	9.5%	156	1.4%	8.182	0.366
2020	2,479	7.7%	88	0.8%	6.938	0.350
2021	2,715	8.4%	65	0.6%	7.872	0.387

Sentinel

Table 1bb. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 1

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
2022	215	0.7%	3	0.0%	0.642	0.109
CHADSVASC						
mean, std	1.8	1.0	1.8	0.9	0.080	0.084
0	856	2.7%	307	2.7%	-0.018	-0.001
1	13,287	41.3%	4,958	43.3%	-1.961	-0.040
2	11,019	34.3%	4,123	36.0%	-1.725	-0.036
3	4,915	15.3%	1,550	13.5%	1.753	0.050
4	1,724	5.4%	418	3.6%	1.712	0.083
>= 5	369	1.1%	104	0.9%	0.240	0.024
HASBLED						
mean, std	1.0	0.0	1.0	0.0	0.000	NaN
0	0	0.0%	0	0.0%	NaN	NaN
1	32,170	100.0%	11,460	100.0%	0.000	NaN
2	0	0.0%	0	0.0%	NaN	NaN
>= 3	0	0.0%	0	0.0%	NaN	NaN
Health Characteristics						
Diabetes	9,566	29.7%	3,374	29.4%	0.294	0.006
Hypercholesterolemia	9,414	29.3%	3,549	31.0%	-1.705	-0.037
Hypertension	30,241	94.0%	10,787	94.1%	-0.124	-0.005
Kidney failure (chronic)	209	0.6%	61	0.5%	0.117	0.015
Kidney failure (acute)	1,004	3.1%	239	2.1%	1.035	0.065
Obesity	11,798	36.7%	2,908	25.4%	11.299	0.246
Peptic ulcer disease	20	0.1%	11	0.1%	-0.034	-0.012
Nicotine dependency	7,330	22.8%	1,840	16.1%	6.729	0.171
Hospitalized acute myocardial infarction (past 0-30 days)	509	1.6%	133	1.2%	0.422	0.036
Hospitalized acute myocardial infarction (past 31-183 days)	222	0.7%	49	0.4%	0.263	0.035
Coronary revascularization	2,314	7.2%	785	6.8%	0.343	0.013
Hospitalized heart failure	3,946	12.3%	1,212	10.6%	1.690	0.053
Outpatient heart failure	4,168	13.0%	1,365	11.9%	1.045	0.032
Other ischemic heart disease	8,719	27.1%	3,149	27.5%	-0.375	-0.008
Hospitalized stroke (past 0-30 days)	89	0.3%	40	0.3%	-0.072	-0.013

Sentinel

Table 1bb. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 1

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Hospitalized stroke (past 31-183 days)	34	0.1%	15	0.1%	-0.025	-0.007
Transient ischemic attack	803	2.5%	348	3.0%	-0.541	-0.033
Other medical conditions (falls, fractures, syncope, walker use)	7,664	23.8%	2,791	24.4%	-0.531	-0.012
Cardioversion	5,160	16.0%	1,912	16.7%	-0.644	-0.017
Cardioablation	1,334	4.1%	609	5.3%	-1.167	-0.055
Hospitalized for bleeding	15	0.0%	12	0.1%	-0.058	-0.021
Medical Product Use						
Estrogen replacement	603	1.9%	227	2.0%	-0.106	-0.008
H2-antagonist	715	2.2%	219	1.9%	0.312	0.022
Non-steroidal anti-inflammatory drugs (NSAIDs)	5,395	16.8%	1,809	15.8%	0.985	0.027
Proton pump inhibitors	5,887	18.3%	1,970	17.2%	1.109	0.029
Selective serotonin reuptake inhibitor (SSRI)	3,609	11.2%	1,206	10.5%	0.695	0.022
Insulin	2,083	6.5%	739	6.4%	0.026	0.001
Metformin (Biguanide)	6,155	19.1%	2,021	17.6%	1.497	0.039
Sulfonylureas	2,269	7.1%	915	8.0%	-0.931	-0.035
Other diabetes medications	2,701	8.4%	925	8.1%	0.324	0.012
Angiotensin converting enzyme inhibitor (ACEI)/Angiotensin II receptor blocker (ARB)	19,375	60.2%	6,726	58.7%	1.536	0.031
Antiarrhythmics	9,136	28.4%	4,040	35.3%	-6.854	-0.148
Anti-coagulant (injectable)	3,318	10.3%	785	6.8%	3.464	0.124
Anti-platelets	3,339	10.4%	953	8.3%	2.063	0.071
Beta-blockers	22,660	70.4%	8,106	70.7%	-0.295	-0.006
Calcium channel blockers	10,593	32.9%	4,025	35.1%	-2.194	-0.046
Digoxin	2,224	6.9%	1,250	10.9%	-3.994	-0.141
Diuretics (loop)	5,250	16.3%	1,727	15.1%	1.250	0.034
Diuretics (potassium sparing)	2,433	7.6%	764	6.7%	0.896	0.035
Diuretics (thiazide)	3,824	11.9%	1,229	10.7%	1.163	0.037
Nitrates	1,504	4.7%	537	4.7%	-0.011	-0.001
Statins	14,890	46.3%	5,345	46.6%	-0.355	-0.007
Fibrates	1,449	4.5%	671	5.9%	-1.351	-0.061
Amiodarone	2,852	8.9%	993	8.7%	0.200	0.007
Dronedarone	1,008	3.1%	857	7.5%	-4.345	-0.195

Sentinel

Table 1bb. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 1

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Health Service Utilization Intensity Metrics						
No emergency department (ED) encounters (past	22,980	71.4%	8,458	73.8%	-2.372	-0.053
No ED encounters (past 31-183 days)	26,515	82.4%	9,721	84.8%	-2.404	-0.065
At least 1 ED encounter (past 0-30 days)	9,190	28.6%	3,002	26.2%	2.372	0.053
At least 2 ED encounters (past 0-30 days)	1,886	5.9%	518	4.5%	1.343	0.061
At least 1 ED encounter (past 31-183 days)	5,655	17.6%	1,739	15.2%	2.404	0.065
At least 2 ED encounters (past 31-183 days)	1,610	5.0%	429	3.7%	1.261	0.062

[1]Value represents standard deviation where no % follows the value.

[2]Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

Sentinel

Table 1bc. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect in the Treated (ATT), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 1

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
Weighted patients	32,064	N/A	30,246	N/A	N/A	N/A
Demographic Characteristics						
Age (years)	57.0	6.7	57.0	6.8	-0.015	-0.002
Age						
21-49 years	4,491	14.0%	4,388	14.5%	-0.500	-0.014
50-64 years	27,573	86.0%	25,858	85.5%	0.500	0.014
Sex						
Female	8,251	25.7%	7,640	25.3%	0.472	0.011
Male	23,813	74.3%	22,606	74.7%	-0.472	-0.011
Race[3]						
American Indian or Alaska Native	28	0.1%	28	0.1%	-0.005	-0.002
Asian	95	0.3%	71	0.2%	0.060	0.012
Black or African American	709	2.2%	521	1.7%	0.490	0.037
Native Hawaiian or Other Pacific Islander	39	0.1%	28	0.1%	0.028	0.009
Unknown	26,385	82.3%	25,077	82.9%	-0.623	-0.023
White	4,808	15.0%	4,521	14.9%	0.049	0.002
Hispanic origin						
Yes	212	0.7%	144	0.5%	0.186	0.025
No	2,586	8.1%	2,242	7.4%	0.653	0.039
Unknown	29,266	91.3%	27,860	92.1%	-0.839	-0.047
Year						
2010	0	0.0%	655	2.2%	NaN	NaN
2011	34	0.1%	9,353	30.9%	-30.817	-0.942
2012	1,570	4.9%	6,529	21.6%	-16.690	-0.509
2013	3,272	10.2%	3,414	11.3%	-1.082	-0.035
2014	4,192	13.1%	2,592	8.6%	4.506	0.146
2015	3,750	11.7%	1,785	5.9%	5.795	0.206
2016	3,646	11.4%	2,340	7.7%	3.634	0.124
2017	3,698	11.5%	1,511	5.0%	6.536	0.239
2018	3,457	10.8%	987	3.3%	7.519	0.298
2019	3,058	9.5%	521	1.7%	7.814	0.344
2020	2,466	7.7%	309	1.0%	6.670	0.332

Sentinel

Table 1bc. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect in the Treated (ATT), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 1

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
2021	2,707	8.4%	238	0.8%	7.656	0.372
2022	214	0.7%	13	0.0%	0.625	0.106
CHADSVASC						
mean, std	1.8	1.0	1.8	0.9	0.031	0.032
0	852	2.7%	802	2.7%	0.006	0.000
1	13,282	41.4%	12,783	42.3%	-0.841	-0.017
2	10,998	34.3%	10,507	34.7%	-0.437	-0.009
3	4,888	15.2%	4,468	14.8%	0.473	0.013
4	1,679	5.2%	1,375	4.5%	0.691	0.032
>= 5	365	1.1%	311	1.0%	0.109	0.011
HASBLED						
mean, std	1.0	0.0	1.0	0.0	0.000	NaN
0	0	0.0%	0	0.0%	NaN	NaN
1	32,064	100.0%	30,246	100.0%	0.000	NaN
2	0	0.0%	0	0.0%	NaN	NaN
>= 3	0	0.0%	0	0.0%	NaN	NaN
Health Characteristics						
Diabetes	9,506	29.6%	8,794	29.1%	0.573	0.013
Hypercholesterolemia	9,378	29.2%	8,876	29.3%	-0.097	-0.002
Hypertension	30,150	94.0%	28,478	94.2%	-0.125	-0.005
Kidney failure (chronic)	205	0.6%	185	0.6%	0.028	0.004
Kidney failure (acute)	987	3.1%	800	2.6%	0.434	0.026
Obesity	11,737	36.6%	10,243	33.9%	2.738	0.057
Peptic ulcer disease	13	0.0%	11	0.0%	0.003	0.001
Nicotine dependency	7,252	22.6%	6,165	20.4%	2.236	0.055
Hospitalized acute myocardial infarction (past 0-30 days)	485	1.5%	407	1.3%	0.168	0.014
Hospitalized acute myocardial infarction (past 31-183 days)	215	0.7%	164	0.5%	0.128	0.016
Coronary revascularization	2,282	7.1%	2,070	6.8%	0.275	0.011
Hospitalized heart failure	3,905	12.2%	3,508	11.6%	0.582	0.018
Outpatient heart failure	4,138	12.9%	3,728	12.3%	0.579	0.018

Sentinel

Table 1bc. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect in the Treated (ATT), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 1

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
Other ischemic heart disease	8,656	27.0%	8,177	27.0%	-0.039	-0.001
Hospitalized stroke (past 0-30 days)	87	0.3%	81	0.3%	0.005	0.001
Hospitalized stroke (past 31-183 days)	32	0.1%	42	0.1%	-0.039	-0.011
Transient ischemic attack	801	2.5%	794	2.6%	-0.128	-0.008
Other medical conditions (falls, fractures, syncope, walker use)	7,637	23.8%	7,242	23.9%	-0.125	-0.003
Cardioversion	5,148	16.1%	4,912	16.2%	-0.186	-0.005
Cardioablation	1,329	4.1%	1,320	4.4%	-0.219	-0.011
Hospitalized for bleeding	15	0.0%	16	0.1%	-0.005	-0.002
Medical Product Use						
Estrogen replacement	595	1.9%	584	1.9%	-0.074	-0.005
H2-antagonist	708	2.2%	627	2.1%	0.136	0.009
Non-steroidal anti-inflammatory drugs (NSAIDs)	5,367	16.7%	5,032	16.6%	0.102	0.003
Proton pump inhibitors	5,856	18.3%	5,437	18.0%	0.287	0.007
Selective serotonin reuptake inhibitor (SSRI)	3,589	11.2%	3,399	11.2%	-0.043	-0.001
Insulin	2,065	6.4%	1,914	6.3%	0.113	0.005
Metformin (Biguanide)	6,117	19.1%	5,522	18.3%	0.821	0.021
Sulfonylureas	2,255	7.0%	2,113	7.0%	0.048	0.002
Other diabetes medications	2,686	8.4%	2,423	8.0%	0.366	0.013
Angiotensin converting enzyme inhibitor (ACEI)/Angiotensin II receptor blocker (ARB)	19,303	60.2%	18,049	59.7%	0.526	0.011
Antiarrhythmics	9,106	28.4%	8,911	29.5%	-1.063	-0.023
Anti-coagulant (injectable)	3,285	10.2%	2,757	9.1%	1.128	0.039
Anti-platelets	3,306	10.3%	2,904	9.6%	0.711	0.024
Beta-blockers	22,582	70.4%	21,357	70.6%	-0.183	-0.004
Calcium channel blockers	10,561	32.9%	10,162	33.6%	-0.660	-0.014
Digoxin	2,219	6.9%	2,240	7.4%	-0.485	-0.019
Diuretics (loop)	5,212	16.3%	4,786	15.8%	0.433	0.012
Diuretics (potassium sparing)	2,412	7.5%	2,189	7.2%	0.286	0.011
Diuretics (thiazide)	3,806	11.9%	3,498	11.6%	0.305	0.009
Nitrates	1,490	4.6%	1,406	4.6%	-0.001	-0.000
Statins	14,816	46.2%	13,876	45.9%	0.331	0.007

Sentinel

Table 1bc. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect in the Treated (ATT), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 1

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
Fibrates	1,441	4.5%	1,420	4.7%	-0.200	-0.010
Amiodarone	2,837	8.8%	2,708	9.0%	-0.107	-0.004
Dronedarone	1,007	3.1%	1,067	3.5%	-0.387	-0.022
Health Service Utilization Intensity Metrics						
No emergency department (ED) encounters (past 0-	22,944	71.6%	22,010	72.8%	-1.212	-0.028
No ED encounters (past 31-183 days)	26,459	82.5%	25,273	83.6%	-1.039	-0.028
At least 1 ED encounter (past 0-30 days)	9,120	28.4%	8,236	27.2%	1.212	0.028
At least 2 ED encounters (past 0-30 days)	1,852	5.8%	1,535	5.1%	0.700	0.031
At least 1 ED encounter (past 31-183 days)	5,605	17.5%	4,973	16.4%	1.039	0.028
At least 2 ED encounters (past 31-183 days)	1,574	4.9%	1,320	4.4%	0.546	0.026

[1]Weighted patient characteristics tables facilitate the assessment of covariate balance after inverse probability weighting and should not be interpreted as a description of the unweighted population. Treated patients are weighted by the proportion of treated patients in the trimmed population divided by the inverse of their propensity score (PS). Reference patients are weighted by 1 minus the proportion of treated patients in the trimmed population divided by 1 minus their PS.

[2]Value represents standard deviation where no % follows the value.

[3]Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

Sentinel

Table 1bd. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 2

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Unique patients	7,964	100.0%	2,434	100.0%	N/A	N/A
Demographic Characteristics						
Age (years)	57.2	6.5	57.3	6.5	-0.141	-0.022
Age						
21-49 years	1,091	13.7%	323	13.3%	0.429	0.013
50-64 years	6,873	86.3%	2,111	86.7%	-0.429	-0.013
Sex						
Female	2,156	27.1%	672	27.6%	-0.537	-0.012
Male	5,808	72.9%	1,762	72.4%	0.537	0.012
Race[2]						
American Indian or Alaska Native	7	0.1%	3	0.1%	-0.035	-0.011
Asian	24	0.3%	7	0.3%	0.014	0.003
Black or African American	346	4.3%	74	3.0%	1.304	0.069
Native Hawaiian or Other Pacific Islander	9	0.1%	3	0.1%	-0.010	-0.003
Unknown	6,091	76.5%	1,924	79.0%	-2.565	-0.062
White	1,487	18.7%	423	17.4%	1.293	0.034
Hispanic origin						
Yes	67	0.8%	22	0.9%	-0.063	-0.007
No	1,155	14.5%	286	11.8%	2.753	0.082
Unknown	6,742	84.7%	2,126	87.3%	-2.690	-0.078
Year						
2010	0	0.0%	48	2.0%	NaN	NaN
2011	5	0.1%	701	28.8%	-28.738	-0.896
2012	279	3.5%	544	22.4%	-18.847	-0.585
2013	679	8.5%	277	11.4%	-2.855	-0.095
2014	916	11.5%	186	7.6%	3.860	0.131
2015	861	10.8%	150	6.2%	4.648	0.167
2016	872	10.9%	187	7.7%	3.266	0.113
2017	998	12.5%	144	5.9%	6.615	0.230
2018	945	11.9%	93	3.8%	8.045	0.303
2019	849	10.7%	57	2.3%	8.319	0.342
2020	755	9.5%	30	1.2%	8.248	0.373
2021	757	9.5%	16	0.7%	8.848	0.411

Sentinel

Table 1bd. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 2

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
2022	48	0.6%	1	0.0%	0.562	0.099
CHADSVASC						
mean, std	2.3	1.2	2.3	1.1	0.047	0.041
0	74	0.9%	22	0.9%	0.025	0.003
1	2,043	25.7%	659	27.1%	-1.422	-0.032
2	2,655	33.3%	833	34.2%	-0.886	-0.019
3	1,887	23.7%	539	22.1%	1.550	0.037
4	971	12.2%	284	11.7%	0.524	0.016
>= 5	334	4.2%	97	4.0%	0.209	0.011
HASBLED						
mean, std	2.0	0.0	2.0	0.0	0.000	NaN
0	0	0.0%	0	0.0%	NaN	NaN
1	0	0.0%	0	0.0%	NaN	NaN
2	7,964	100.0%	2,434	100.0%	0.000	NaN
>= 3	0	0.0%	0	0.0%	NaN	NaN
Health Characteristics						
Diabetes	3,255	40.9%	986	40.5%	0.362	0.007
Hypercholesterolemia	2,609	32.8%	842	34.6%	-1.833	-0.039
Hypertension	7,773	97.6%	2,373	97.5%	0.108	0.007
Kidney failure (chronic)	1,600	20.1%	464	19.1%	1.027	0.026
Kidney failure (acute)	984	12.4%	241	9.9%	2.454	0.078
Obesity	3,531	44.3%	843	34.6%	9.703	0.199
Peptic ulcer disease	74	0.9%	27	1.1%	-0.180	-0.018
Nicotine dependency	2,590	32.5%	585	24.0%	8.487	0.189
Hospitalized acute myocardial infarction (past 0-30 days)	239	3.0%	49	2.0%	0.988	0.063
Hospitalized acute myocardial infarction (past 31-183 days)	126	1.6%	31	1.3%	0.308	0.026
Coronary revascularization	926	11.6%	290	11.9%	-0.287	-0.009
Hospitalized heart failure	1,841	23.1%	502	20.6%	2.492	0.060
Outpatient heart failure	1,674	21.0%	469	19.3%	1.751	0.044
Other ischemic heart disease	2,938	36.9%	916	37.6%	-0.743	-0.015
Hospitalized stroke (past 0-30 days)	339	4.3%	140	5.8%	-1.495	-0.069

Sentinel

Table 1bd. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 2

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Hospitalized stroke (past 31-183 days)	155	1.9%	63	2.6%	-0.642	-0.043
Transient ischemic attack	420	5.3%	174	7.1%	-1.875	-0.078
Other medical conditions (falls, fractures, syncope, walker use)	2,514	31.6%	765	31.4%	0.137	0.003
Cardioversion	1,349	16.9%	440	18.1%	-1.139	-0.030
Cardioablation	315	4.0%	138	5.7%	-1.714	-0.080
Hospitalized for bleeding	94	1.2%	42	1.7%	-0.545	-0.046
Medical Product Use						
Estrogen replacement	144	1.8%	38	1.6%	0.247	0.019
H2-antagonist	339	4.3%	81	3.3%	0.929	0.049
Non-steroidal anti-inflammatory drugs (NSAIDs)	1,498	18.8%	429	17.6%	1.184	0.031
Proton pump inhibitors	2,263	28.4%	692	28.4%	-0.015	-0.000
Selective serotonin reuptake inhibitor (SSRI)	1,235	15.5%	348	14.3%	1.210	0.034
Insulin	908	11.4%	276	11.3%	0.062	0.002
Metformin (Biguanide)	1,865	23.4%	461	18.9%	4.478	0.110
Sulfonylureas	724	9.1%	240	9.9%	-0.769	-0.026
Other diabetes medications	847	10.6%	241	9.9%	0.734	0.024
Angiotensin converting enzyme inhibitor (ACEI)/Angiotensin II receptor blocker (ARB)	5,145	64.6%	1,568	64.4%	0.183	0.004
Antiarrhythmics	2,367	29.7%	868	35.7%	-5.940	-0.127
Anti-coagulant (injectable)	951	11.9%	228	9.4%	2.574	0.083
Anti-platelets	1,204	15.1%	348	14.3%	0.821	0.023
Beta-blockers	5,879	73.8%	1,769	72.7%	1.141	0.026
Calcium channel blockers	2,936	36.9%	967	39.7%	-2.863	-0.059
Digoxin	652	8.2%	319	13.1%	-4.919	-0.160
Diuretics (loop)	2,093	26.3%	608	25.0%	1.301	0.030
Diuretics (potassium sparing)	879	11.0%	267	11.0%	0.068	0.002
Diuretics (thiazide)	984	12.4%	314	12.9%	-0.545	-0.016
Nitrates	628	7.9%	198	8.1%	-0.249	-0.009
Statins	4,256	53.4%	1,199	49.3%	4.180	0.084
Fibrates	449	5.6%	186	7.6%	-2.004	-0.081
Amiodarone	1,064	13.4%	319	13.1%	0.254	0.007
Dronedarone	193	2.4%	167	6.9%	-4.438	-0.212

Sentinel

Table 1bd. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 2

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Health Service Utilization Intensity Metrics						
No emergency department (ED) encounters (past 0-	5,002	62.8%	1,602	65.8%	-3.010	-0.063
No ED encounters (past 31-183 days)	5,757	72.3%	1,832	75.3%	-2.979	-0.068
At least 1 ED encounter (past 0-30 days)	2,962	37.2%	832	34.2%	3.010	0.063
At least 2 ED encounters (past 0-30 days)	767	9.6%	209	8.6%	1.044	0.036
At least 1 ED encounter (past 31-183 days)	2,207	27.7%	602	24.7%	2.979	0.068
At least 2 ED encounters (past 31-183 days)	862	10.8%	223	9.2%	1.662	0.055

[1]Value represents standard deviation where no % follows the value.

[2]Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

Sentinel

Table 1be. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect in the Treated (ATT), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 2

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
Weighted patients	7,809	N/A	7,311	N/A	N/A	N/A
Demographic Characteristics						
Age (years)	57.2	6.5	57.3	6.6	-0.055	-0.008
Age						
21-49 years	1,069	13.7%	1,014	13.9%	-0.180	-0.005
50-64 years	6,740	86.3%	6,297	86.1%	0.180	0.005
Sex						
Female	2,108	27.0%	1,955	26.7%	0.259	0.006
Male	5,701	73.0%	5,357	73.3%	-0.259	-0.006
Race[3]						
American Indian or Alaska Native	7	0.1%	11	0.1%	-0.059	-0.017
Asian	24	0.3%	17	0.2%	0.079	0.015
Black or African American	313	4.0%	240	3.3%	0.724	0.041
Native Hawaiian or Other Pacific Islander	9	0.1%	13	0.2%	-0.057	-0.015
Unknown	6,028	77.2%	5,721	78.3%	-1.060	-0.039
White	1,428	18.3%	1,310	17.9%	0.372	0.013
Hispanic origin						
Yes	65	0.8%	69	0.9%	-0.106	-0.011
No	1,074	13.8%	926	12.7%	1.082	0.061
Unknown	6,670	85.4%	6,316	86.4%	-0.976	-0.051
Year						
2010	0	0.0%	132	1.8%	NaN	NaN
2011	5	0.1%	1,855	25.4%	-25.314	-0.822
2012	279	3.6%	1,541	21.1%	-17.503	-0.553
2013	674	8.6%	789	10.8%	-2.165	-0.073
2014	902	11.6%	592	8.1%	3.449	0.116
2015	852	10.9%	497	6.8%	4.108	0.145
2016	860	11.0%	653	8.9%	2.088	0.070
2017	967	12.4%	512	7.0%	5.387	0.183
2018	919	11.8%	338	4.6%	7.143	0.263
2019	824	10.6%	206	2.8%	7.737	0.314
2020	734	9.4%	133	1.8%	7.577	0.334

Sentinel

Table 1be. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect in the Treated (ATT), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 2

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
2021	746	9.6%	61	0.8%	8.717	0.401
2022	47	0.6%	2	0.0%	0.577	0.104
CHADSVASC						
mean, std	2.3	1.2	2.3	1.1	0.037	0.032
0	73	0.9%	64	0.9%	0.065	0.007
1	2,023	25.9%	1,989	27.2%	-1.304	-0.030
2	2,597	33.3%	2,463	33.7%	-0.429	-0.009
3	1,849	23.7%	1,639	22.4%	1.255	0.030
4	946	12.1%	867	11.9%	0.261	0.008
>= 5	321	4.1%	289	4.0%	0.152	0.008
HASBLED						
mean, std	2.0	0.0	2.0	0.0	0.000	NaN
0	0	0.0%	0	0.0%	NaN	NaN
1	0	0.0%	0	0.0%	NaN	NaN
2	7,809	100.0%	7,311	100.0%	0.000	NaN
>= 3	0	0.0%	0	0.0%	NaN	NaN
Health Characteristics						
Diabetes	3,185	40.8%	2,883	39.4%	1.359	0.028
Hypercholesterolemia	2,577	33.0%	2,415	33.0%	-0.034	-0.001
Hypertension	7,627	97.7%	7,141	97.7%	-0.001	-0.000
Kidney failure (chronic)	1,564	20.0%	1,451	19.8%	0.187	0.005
Kidney failure (acute)	937	12.0%	841	11.5%	0.496	0.015
Obesity	3,450	44.2%	3,124	42.7%	1.458	0.029
Peptic ulcer disease	72	0.9%	65	0.9%	0.031	0.003
Nicotine dependency	2,499	32.0%	2,178	29.8%	2.210	0.048
Hospitalized acute myocardial infarction (past 0-30 days)	235	3.0%	192	2.6%	0.389	0.024
Hospitalized acute myocardial infarction (past 31-183 days)	118	1.5%	85	1.2%	0.342	0.030
Coronary revascularization	899	11.5%	814	11.1%	0.381	0.012
Hospitalized heart failure	1,771	22.7%	1,560	21.3%	1.346	0.033
Outpatient heart failure	1,622	20.8%	1,463	20.0%	0.758	0.019

Sentinel

Table 1be. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect in the Treated (ATT), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 2

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
Other ischemic heart disease	2,867	36.7%	2,665	36.4%	0.264	0.006
Hospitalized stroke (past 0-30 days)	335	4.3%	349	4.8%	-0.477	-0.023
Hospitalized stroke (past 31-183 days)	151	1.9%	157	2.2%	-0.219	-0.015
Transient ischemic attack	416	5.3%	407	5.6%	-0.241	-0.011
Other medical conditions (falls, fractures, syncope, walker use)	2,469	31.6%	2,303	31.5%	0.123	0.003
Cardioversion	1,327	17.0%	1,242	17.0%	0.005	0.000
Cardioablation	308	3.9%	295	4.0%	-0.085	-0.004
Hospitalized for bleeding	91	1.2%	87	1.2%	-0.019	-0.002
Medical Product Use						
Estrogen replacement	139	1.8%	116	1.6%	0.190	0.015
H2-antagonist	321	4.1%	281	3.8%	0.262	0.013
Non-steroidal anti-inflammatory drugs (NSAIDs)	1,460	18.7%	1,348	18.4%	0.262	0.007
Proton pump inhibitors	2,205	28.2%	2,065	28.2%	-0.004	-0.000
Selective serotonin reuptake inhibitor (SSRI)	1,207	15.5%	1,108	15.2%	0.304	0.008
Insulin	882	11.3%	810	11.1%	0.214	0.007
Metformin (Biguanide)	1,818	23.3%	1,569	21.5%	1.822	0.044
Sulfonylureas	711	9.1%	662	9.1%	0.051	0.002
Other diabetes medications	834	10.7%	737	10.1%	0.596	0.020
Angiotensin converting enzyme inhibitor (ACEI)/Angiotensin II receptor blocker (ARB)	5,041	64.6%	4,721	64.6%	-0.017	-0.000
Antiarrhythmics	2,337	29.9%	2,217	30.3%	-0.392	-0.009
Anti-coagulant (injectable)	913	11.7%	821	11.2%	0.468	0.015
Anti-platelets	1,169	15.0%	1,077	14.7%	0.237	0.007
Beta-blockers	5,769	73.9%	5,391	73.7%	0.144	0.003
Calcium channel blockers	2,878	36.9%	2,766	37.8%	-0.979	-0.020
Digoxin	634	8.1%	631	8.6%	-0.508	-0.018
Diuretics (loop)	2,028	26.0%	1,852	25.3%	0.635	0.015
Diuretics (potassium sparing)	858	11.0%	777	10.6%	0.357	0.012
Diuretics (thiazide)	954	12.2%	880	12.0%	0.176	0.005
Nitrates	596	7.6%	550	7.5%	0.105	0.004
Statins	4,152	53.2%	3,794	51.9%	1.276	0.026

Sentinel

Table 1be. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect in the Treated (ATT), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 2

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
Fibrates	448	5.7%	439	6.0%	-0.271	-0.012
Amiodarone	1,044	13.4%	967	13.2%	0.147	0.004
Dronedarone	193	2.5%	215	2.9%	-0.464	-0.029
Health Service Utilization Intensity Metrics						
No emergency department (ED) encounters (past 0-	4,941	63.3%	4,714	64.5%	-1.205	-0.027
No ED encounters (past 31-183 days)	5,691	72.9%	5,382	73.6%	-0.740	-0.017
At least 1 ED encounter (past 0-30 days)	2,868	36.7%	2,597	35.5%	1.205	0.027
At least 2 ED encounters (past 0-30 days)	742	9.5%	668	9.1%	0.370	0.013
At least 1 ED encounter (past 31-183 days)	2,118	27.1%	1,929	26.4%	0.740	0.017
At least 2 ED encounters (past 31-183 days)	811	10.4%	716	9.8%	0.586	0.020

[1]Weighted patient characteristics tables facilitate the assessment of covariate balance after inverse probability weighting and should not be interpreted as a description of the unweighted population. Treated patients are weighted by the proportion of treated patients in the trimmed population divided by the inverse of their propensity score (PS). Reference patients are weighted by 1 minus the proportion of treated patients in the trimmed population divided by 1 minus their PS.

[2]Value represents standard deviation where no % follows the value.

[3]Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

Sentinel

Table 1bf. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 3+

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Unique patients	1,790	100.0%	469	100.0%	N/A	N/A
Demographic Characteristics						
Age (years)	57.7	6.2	57.9	5.7	-0.227	-0.038
Age						
21-49 years	203	11.3%	47	10.0%	1.319	0.043
50-64 years	1,587	88.7%	422	90.0%	-1.319	-0.043
Sex						
Female	467	26.1%	131	27.9%	-1.842	-0.042
Male	1,323	73.9%	338	72.1%	1.842	0.042
Race[2]						
American Indian or Alaska Native	1	0.1%	1	0.2%	-0.157	-0.043
Asian	3	0.2%	0	0.0%	NaN	NaN
Black or African American	118	6.6%	19	4.1%	2.541	0.113
Native Hawaiian or Other Pacific Islander	4	0.2%	0	0.0%	NaN	NaN
Unknown	1,227	68.5%	344	73.3%	-4.800	-0.106
White	437	24.4%	105	22.4%	2.025	0.048
Hispanic origin						
Yes	13	0.7%	3	0.6%	0.087	0.011
No	416	23.2%	89	19.0%	4.264	0.105
Unknown	1,361	76.0%	377	80.4%	-4.350	-0.106
Year						
2010	0	0.0%	9	1.9%	NaN	NaN
2011	1	0.1%	125	26.7%	-26.597	-0.849
2012	41	2.3%	73	15.6%	-13.275	-0.479
2013	124	6.9%	46	9.8%	-2.881	-0.104
2014	170	9.5%	22	4.7%	4.806	0.188
2015	150	8.4%	28	6.0%	2.410	0.093
2016	208	11.6%	47	10.0%	1.599	0.051
2017	237	13.2%	45	9.6%	3.645	0.115
2018	227	12.7%	36	7.7%	5.006	0.166
2019	216	12.1%	16	3.4%	8.656	0.328
2020	189	10.6%	16	3.4%	7.147	0.283
2021	213	11.9%	6	1.3%	10.620	0.438

Sentinel

Table 1bf. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 3+

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
2022	14	0.8%	0	0.0%	NaN	NaN
CHADSVASC						
mean, std	2.8	1.3	2.7	1.3	0.023	0.017
0	5	0.3%	0	0.0%	NaN	NaN
1	330	18.4%	87	18.6%	-0.114	-0.003
2	501	28.0%	133	28.4%	-0.369	-0.008
3	454	25.4%	115	24.5%	0.843	0.019
4	321	17.9%	89	19.0%	-1.044	-0.027
>= 5	179	10.0%	45	9.6%	0.405	0.014
HASBLED						
mean, std	3.1	0.3	3.1	0.3	0.013	0.047
0	0	0.0%	0	0.0%	NaN	NaN
1	0	0.0%	0	0.0%	NaN	NaN
2	0	0.0%	0	0.0%	NaN	NaN
>= 3	1,790	100.0%	469	100.0%	0.000	NaN
Health Characteristics						
Diabetes	870	48.6%	228	48.6%	-0.011	-0.000
Hypercholesterolemia	625	34.9%	164	35.0%	-0.052	-0.001
Hypertension	1,776	99.2%	466	99.4%	-0.142	-0.017
Kidney failure (chronic)	804	44.9%	224	47.8%	-2.845	-0.057
Kidney failure (acute)	499	27.9%	128	27.3%	0.585	0.013
Obesity	854	47.7%	187	39.9%	7.837	0.158
Peptic ulcer disease	43	2.4%	12	2.6%	-0.156	-0.010
Nicotine dependency	720	40.2%	162	34.5%	5.682	0.118
Hospitalized acute myocardial infarction (past 0-30 days)	49	2.7%	10	2.1%	0.605	0.039
Hospitalized acute myocardial infarction (past 31-183 days)	58	3.2%	13	2.8%	0.468	0.027
Coronary revascularization	256	14.3%	77	16.4%	-2.116	-0.059
Hospitalized heart failure	617	34.5%	148	31.6%	2.913	0.062
Outpatient heart failure	568	31.7%	144	30.7%	1.028	0.022
Other ischemic heart disease	769	43.0%	218	46.5%	-3.521	-0.071
Hospitalized stroke (past 0-30 days)	123	6.9%	50	10.7%	-3.789	-0.134

Sentinel

Table 1bf. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 3+

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Hospitalized stroke (past 31-183 days)	95	5.3%	29	6.2%	-0.876	-0.038
Transient ischemic attack	156	8.7%	43	9.2%	-0.453	-0.016
Other medical conditions (falls, fractures, syncope, walker use)	657	36.7%	185	39.4%	-2.742	-0.056
Cardioversion	267	14.9%	67	14.3%	0.630	0.018
Cardioablation	68	3.8%	28	6.0%	-2.171	-0.101
Hospitalized for bleeding	63	3.5%	21	4.5%	-0.958	-0.049
Medical Product Use						
Estrogen replacement	32	1.8%	6	1.3%	0.508	0.041
H2-antagonist	132	7.4%	28	6.0%	1.404	0.056
Non-steroidal anti-inflammatory drugs (NSAIDs)	302	16.9%	77	16.4%	0.454	0.012
Proton pump inhibitors	700	39.1%	185	39.4%	-0.339	-0.007
Selective serotonin reuptake inhibitor (SSRI)	364	20.3%	84	17.9%	2.425	0.062
Insulin	304	17.0%	69	14.7%	2.271	0.062
Metformin (Biguanide)	395	22.1%	94	20.0%	2.024	0.050
Sulfonylureas	207	11.6%	52	11.1%	0.477	0.015
Other diabetes medications	218	12.2%	49	10.4%	1.731	0.055
Angiotensin converting enzyme inhibitor (ACEI)/Angiotensin II receptor blocker (ARB)	1,230	68.7%	304	64.8%	3.896	0.083
Antiarrhythmics	486	27.2%	154	32.8%	-5.685	-0.124
Anti-coagulant (injectable)	205	11.5%	50	10.7%	0.792	0.025
Anti-platelets	319	17.8%	82	17.5%	0.337	0.009
Beta-blockers	1,381	77.2%	361	77.0%	0.179	0.004
Calcium channel blockers	701	39.2%	215	45.8%	-6.680	-0.135
Digoxin	185	10.3%	65	13.9%	-3.524	-0.108
Diuretics (loop)	658	36.8%	179	38.2%	-1.407	-0.029
Diuretics (potassium sparing)	283	15.8%	87	18.6%	-2.740	-0.073
Diuretics (thiazide)	230	12.8%	65	13.9%	-1.010	-0.030
Nitrates	175	9.8%	43	9.2%	0.608	0.021
Statins	993	55.5%	251	53.5%	1.957	0.039
Fibrates	111	6.2%	49	10.4%	-4.247	-0.154
Amiodarone	277	15.5%	77	16.4%	-0.943	-0.026
Dronedarone	27	1.5%	18	3.8%	-2.330	-0.145

Sentinel

Table 1bf. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 3+

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Health Service Utilization Intensity Metrics						
No emergency department (ED) encounters (past 0-	1,083	60.5%	275	58.6%	1.867	0.038
No ED encounters (past 31-183 days)	1,048	58.5%	281	59.9%	-1.367	-0.028
At least 1 ED encounter (past 0-30 days)	707	39.5%	194	41.4%	-1.867	-0.038
At least 2 ED encounters (past 0-30 days)	251	14.0%	52	11.1%	2.935	0.089
At least 1 ED encounter (past 31-183 days)	742	41.5%	188	40.1%	1.367	0.028
At least 2 ED encounters (past 31-183 days)	358	20.0%	91	19.4%	0.597	0.015

[1]Value represents standard deviation where no % follows the value.

[2]Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

Sentinel

Table 1bg. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect in the Treated (ATT), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 3+

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
Weighted patients	1,598	N/A	1,379	N/A	N/A	N/A
Demographic Characteristics						
Age (years)	57.8	6.2	57.8	5.8	-0.017	-0.003
Age						
21-49 years	175	11.0%	139	10.1%	0.865	0.028
50-64 years	1,423	89.0%	1,240	89.9%	-0.865	-0.028
Sex						
Female	404	25.3%	365	26.4%	-1.163	-0.027
Male	1,194	74.7%	1,014	73.6%	1.163	0.027
Race[3]						
American Indian or Alaska Native	1	0.1%	7	0.5%	-0.435	-0.083
Asian	3	0.2%	0	0.0%	NaN	NaN
Black or African American	95	5.9%	45	3.3%	2.686	0.135
Native Hawaiian or Other Pacific Islander	4	0.3%	0	0.0%	NaN	NaN
Unknown	1,107	69.3%	1,040	75.4%	-6.162	-0.227
White	388	24.3%	287	20.8%	3.473	0.115
Hispanic origin						
Yes	13	0.8%	12	0.9%	-0.054	-0.006
No	360	22.5%	247	17.9%	4.595	0.239
Unknown	1,225	76.7%	1,120	81.2%	-4.541	-0.239
Year						
2010	0	0.0%	31	2.3%	NaN	NaN
2011	1	0.1%	303	21.9%	-21.878	-0.743
2012	39	2.4%	179	13.0%	-10.523	-0.401
2013	116	7.3%	157	11.4%	-4.095	-0.142
2014	157	9.8%	72	5.2%	4.595	0.175
2015	142	8.9%	96	6.9%	1.959	0.073
2016	191	12.0%	157	11.4%	0.601	0.019
2017	201	12.6%	145	10.5%	2.075	0.065
2018	192	12.0%	109	7.9%	4.119	0.138
2019	188	11.8%	58	4.2%	7.545	0.281
2020	168	10.5%	49	3.6%	6.951	0.274

Sentinel

Table 1bg. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect in the Treated (ATT), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 3+

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
2021	189	11.8%	24	1.8%	10.052	0.408
2022	14	0.9%	0	0.0%	NaN	NaN
CHADSVASC						
mean, std	2.7	1.3	2.6	1.2	0.094	0.075
0	0	0.0%	0	0.0%	NaN	NaN
1	305	19.1%	262	19.0%	0.077	0.002
2	461	28.8%	409	29.7%	-0.842	-0.018
3	399	25.0%	388	28.2%	-3.201	-0.072
4	289	18.1%	227	16.4%	1.651	0.044
>= 5	144	9.0%	92	6.7%	2.315	0.086
HASBLED						
mean, std	3.1	0.3	3.1	0.2	0.029	0.107
0	0	0.0%	0	0.0%	NaN	NaN
1	0	0.0%	0	0.0%	NaN	NaN
2	0	0.0%	0	0.0%	NaN	NaN
>= 3	1,598	100.0%	1,379	100.0%	0.000	NaN
Health Characteristics						
Diabetes	775	48.5%	666	48.3%	0.175	0.004
Hypercholesterolemia	566	35.4%	474	34.4%	1.056	0.022
Hypertension	1,596	99.9%	1,378	99.9%	-0.017	-0.005
Kidney failure (chronic)	729	45.6%	661	47.9%	-2.319	-0.047
Kidney failure (acute)	445	27.8%	382	27.7%	0.118	0.003
Obesity	749	46.9%	617	44.8%	2.115	0.043
Peptic ulcer disease	38	2.4%	21	1.5%	0.871	0.063
Nicotine dependency	605	37.9%	491	35.6%	2.281	0.048
Hospitalized acute myocardial infarction (past 0-30 days)	42	2.6%	31	2.3%	0.350	0.023
Hospitalized acute myocardial infarction (past 31-183 days)	52	3.3%	42	3.0%	0.221	0.013
Coronary revascularization	236	14.8%	183	13.3%	1.477	0.043
Hospitalized heart failure	536	33.5%	430	31.2%	2.363	0.051
Outpatient heart failure	506	31.7%	410	29.8%	1.908	0.042

Sentinel

Table 1bg. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect in the Treated (ATT), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 3+

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
Other ischemic heart disease	693	43.4%	593	43.0%	0.376	0.008
Hospitalized stroke (past 0-30 days)	112	7.0%	96	6.9%	0.059	0.002
Hospitalized stroke (past 31-183 days)	84	5.3%	53	3.8%	1.407	0.067
Transient ischemic attack	124	7.8%	97	7.0%	0.762	0.029
Other medical conditions (falls, fractures, syncope, walker use)	593	37.1%	492	35.7%	1.419	0.030
Cardioversion	239	15.0%	199	14.5%	0.500	0.014
Cardioablation	60	3.8%	53	3.8%	-0.070	-0.004
Hospitalized for bleeding	59	3.7%	36	2.6%	1.053	0.060
Medical Product Use						
Estrogen replacement	19	1.2%	15	1.1%	0.079	0.007
H2-antagonist	100	6.3%	89	6.5%	-0.219	-0.009
Non-steroidal anti-inflammatory drugs (NSAIDs)	253	15.8%	229	16.6%	-0.771	-0.021
Proton pump inhibitors	618	38.7%	561	40.7%	-2.016	-0.041
Selective serotonin reuptake inhibitor (SSRI)	313	19.6%	227	16.5%	3.093	0.081
Insulin	260	16.3%	217	15.8%	0.517	0.014
Metformin (Biguanide)	347	21.7%	260	18.8%	2.866	0.071
Sulfonylureas	183	11.5%	147	10.7%	0.761	0.024
Other diabetes medications	189	11.8%	155	11.2%	0.577	0.018
Angiotensin converting enzyme inhibitor (ACEI)/Angiotensin II receptor blocker (ARB)	1,104	69.1%	937	68.0%	1.107	0.024
Antiarrhythmics	440	27.5%	398	28.9%	-1.316	-0.029
Anti-coagulant (injectable)	179	11.2%	165	12.0%	-0.778	-0.025
Anti-platelets	284	17.8%	230	16.7%	1.065	0.028
Beta-blockers	1,243	77.8%	1,056	76.6%	1.225	0.029
Calcium channel blockers	640	40.1%	534	38.7%	1.346	0.027
Digoxin	164	10.3%	150	10.9%	-0.609	-0.020
Diuretics (loop)	584	36.5%	470	34.1%	2.430	0.051
Diuretics (potassium sparing)	252	15.8%	205	14.8%	0.932	0.026
Diuretics (thiazide)	213	13.3%	189	13.7%	-0.341	-0.010
Nitrates	151	9.4%	115	8.4%	1.096	0.039
Statins	881	55.1%	741	53.7%	1.403	0.028

Sentinel

Table 1bg. Aggregated Weighted Characteristics of Rivaroxaban and Dabigatran Users, TruncWeight = 2.5, ATT Weights (Inverse Probability of Treatment Weighted, Trimmed, Weight: Average Treatment Effect in the Treated (ATT), Truncation: 2.5%) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 3+

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics[1]	Number/Mean	Percent/Standard Deviation[2]	Number/Mean	Percent/Standard Deviation[2]	Absolute Difference	Standardized Difference
Fibrates	108	6.8%	90	6.5%	0.214	0.009
Amiodarone	249	15.6%	223	16.1%	-0.553	-0.015
Dronedarone	26	1.6%	22	1.6%	0.058	0.005
Health Service Utilization Intensity Metrics						
No emergency department (ED) encounters (past 0-	991	62.0%	883	64.0%	-2.004	-0.046
No ED encounters (past 31-183 days)	956	59.8%	881	63.9%	-4.031	-0.086
At least 1 ED encounter (past 0-30 days)	607	38.0%	496	36.0%	2.004	0.046
At least 2 ED encounters (past 0-30 days)	208	13.0%	171	12.4%	0.608	0.019
At least 1 ED encounter (past 31-183 days)	642	40.2%	498	36.1%	4.031	0.086
At least 2 ED encounters (past 31-183 days)	303	19.0%	230	16.7%	2.258	0.061

[1]Weighted patient characteristics tables facilitate the assessment of covariate balance after inverse probability weighting and should not be interpreted as a description of the unweighted population. Treated patients are weighted by the proportion of treated patients in the trimmed population divided by the inverse of their propensity score (PS). Reference patients are weighted by 1 minus the proportion of treated patients in the trimmed population divided by 1 minus their PS.

[2]Value represents standard deviation where no % follows the value.

[3]Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

Sentinel

Table 1bh. Aggregated Adjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Unique patients	19,994	34.8%	19,994	99.0%	N/A	N/A
Demographic Characteristics						
Age (years)	56.2	7.4	56.2	7.3	0.007	0.001
Age						
21-49 years	3,386	16.9%	3,459	17.3%	-0.365	-0.010
50-64 years	16,608	83.1%	16,535	82.7%	0.365	0.010
Sex						
Female	4,608	23.0%	4,660	23.3%	-0.260	-0.006
Male	15,386	77.0%	15,334	76.7%	0.260	0.006
Race[2]						
American Indian or Alaska Native	18	0.1%	22	0.1%	-0.020	-0.006
Asian	69	0.3%	65	0.3%	0.020	0.003
Black or African American	361	1.8%	282	1.4%	0.395	0.031
Native Hawaiian or Other Pacific Islander	24	0.1%	13	0.1%	0.055	0.018
Unknown	16,546	82.8%	16,551	82.8%	-0.025	-0.001
White	2,976	14.9%	3,061	15.3%	-0.425	-0.012
Hispanic origin						
Yes	135	0.7%	111	0.6%	0.120	0.015
No	1,303	6.5%	1,240	6.2%	0.315	0.013
Unknown	18,556	92.8%	18,643	93.2%	-0.435	-0.017
Year						
2010	0	0.0%	471	2.4%	NaN	NaN
2011	23	0.1%	6,744	33.7%	-33.615	-1.003
2012	1,322	6.6%	4,598	23.0%	-16.385	-0.474
2013	2,486	12.4%	2,379	11.9%	0.535	0.016
2014	2,908	14.5%	1,498	7.5%	7.052	0.227
2015	2,432	12.2%	1,041	5.2%	6.957	0.249
2016	2,212	11.1%	1,270	6.4%	4.711	0.168
2017	2,098	10.5%	853	4.3%	6.227	0.240
2018	1,962	9.8%	555	2.8%	7.037	0.293
2019	1,661	8.3%	302	1.5%	6.797	0.319
2020	1,284	6.4%	171	0.9%	5.567	0.301
2021	1,492	7.5%	107	0.5%	6.927	0.359

Sentinel

Table 1bh. Aggregated Adjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
2022	114	0.6%	5	0.0%	0.545	0.100
CHADSVASC						
mean, std	1.5	1.1	1.5	1.1	-0.004	-0.004
0	4,124	20.6%	4,096	20.5%	0.140	0.003
1	7,262	36.3%	7,240	36.2%	0.110	0.002
2	5,326	26.6%	5,370	26.9%	-0.220	-0.005
3	2,254	11.3%	2,250	11.3%	0.020	0.001
4	803	4.0%	793	4.0%	0.050	0.003
>= 5	225	1.1%	245	1.2%	-0.100	-0.009
HASBLED						
mean, std	0.9	0.7	0.9	0.7	0.002	0.003
0	5,778	28.9%	5,760	28.8%	0.090	0.002
1	11,287	56.5%	11,358	56.8%	-0.355	-0.007
2	2,475	12.4%	2,411	12.1%	0.320	0.010
>= 3	454	2.3%	465	2.3%	-0.055	-0.004
Health Characteristics						
Diabetes	5,005	25.0%	5,008	25.0%	-0.015	-0.000
Hypercholesterolemia	5,310	26.6%	5,300	26.5%	0.050	0.001
Hypertension	13,578	67.9%	13,599	68.0%	-0.105	-0.002
Kidney failure (chronic)	766	3.8%	746	3.7%	0.100	0.005
Kidney failure (acute)	686	3.4%	659	3.3%	0.135	0.007
Obesity	4,462	22.3%	4,539	22.7%	-0.385	-0.009
Peptic ulcer disease	56	0.3%	49	0.2%	0.035	0.007
Nicotine dependency	3,299	16.5%	3,286	16.4%	0.065	0.002
Hospitalized acute myocardial infarction (past 0-30 days)	214	1.1%	226	1.1%	-0.060	-0.006
Hospitalized acute myocardial infarction (past 31-183 days)	101	0.5%	99	0.5%	0.010	0.001
Coronary revascularization	1,259	6.3%	1,266	6.3%	-0.035	-0.001
Hospitalized heart failure	2,166	10.8%	2,217	11.1%	-0.255	-0.008
Outpatient heart failure	2,329	11.6%	2,368	11.8%	-0.195	-0.006
Other ischemic heart disease	5,001	25.0%	4,998	25.0%	0.015	0.000
Hospitalized stroke (past 0-30 days)	252	1.3%	224	1.1%	0.140	0.013

Sentinel

Table 1bh. Aggregated Adjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Hospitalized stroke (past 31-183 days)	101	0.5%	104	0.5%	-0.015	-0.002
Transient ischemic attack	668	3.3%	641	3.2%	0.135	0.008
Other medical conditions (falls, fractures, syncope, walker use)	4,993	25.0%	5,004	25.0%	-0.055	-0.001
Cardioversion	3,352	16.8%	3,366	16.8%	-0.070	-0.002
Cardioablation	1,163	5.8%	1,232	6.2%	-0.345	-0.015
Hospitalized for bleeding	71	0.4%	71	0.4%	0.000	0.000
Medical Product Use						
Estrogen replacement	424	2.1%	411	2.1%	0.065	0.005
H2-antagonist	398	2.0%	368	1.8%	0.150	0.011
Non-steroidal anti-inflammatory drugs (NSAIDs)	2,995	15.0%	2,975	14.9%	0.100	0.003
Proton pump inhibitors	3,459	17.3%	3,480	17.4%	-0.105	-0.003
Selective serotonin reuptake inhibitor (SSRI)	2,101	10.5%	2,074	10.4%	0.135	0.004
Insulin	1,155	5.8%	1,156	5.8%	-0.005	-0.000
Metformin (Biguanide)	2,851	14.3%	2,855	14.3%	-0.020	-0.001
Sulfonylureas	1,308	6.5%	1,306	6.5%	0.010	0.000
Other diabetes medications	1,330	6.7%	1,320	6.6%	0.050	0.002
Angiotensin converting enzyme inhibitor (ACEI)/Angiotensin II receptor blocker (ARB)	9,415	47.1%	9,484	47.4%	-0.345	-0.007
Antiarrhythmics	6,992	35.0%	7,032	35.2%	-0.200	-0.004
Anti-coagulant (injectable)	1,478	7.4%	1,467	7.3%	0.055	0.002
Anti-platelets	1,582	7.9%	1,591	8.0%	-0.045	-0.002
Beta-blockers	13,514	67.6%	13,506	67.6%	0.040	0.001
Calcium channel blockers	6,286	31.4%	6,319	31.6%	-0.165	-0.004
Digoxin	2,105	10.5%	2,107	10.5%	-0.010	-0.000
Diuretics (loop)	2,880	14.4%	2,947	14.7%	-0.335	-0.009
Diuretics (potassium sparing)	1,311	6.6%	1,326	6.6%	-0.075	-0.003
Diuretics (thiazide)	1,706	8.5%	1,701	8.5%	0.025	0.001
Nitrates	862	4.3%	854	4.3%	0.040	0.002
Statins	8,065	40.3%	8,136	40.7%	-0.355	-0.007
Fibrates	987	4.9%	980	4.9%	0.035	0.002
Amiodarone	1,770	8.9%	1,776	8.9%	-0.030	-0.001
Dronedarone	1,303	6.5%	1,356	6.8%	-0.265	-0.011

Sentinel

Table 1bh. Aggregated Adjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Health Service Utilization Intensity Metrics						
No emergency department (ED) encounters (past 0-	14,664	73.3%	14,675	73.4%	-0.055	-0.001
No ED encounters (past 31-183 days)	16,930	84.7%	16,876	84.4%	0.270	0.007
At least 1 ED encounter (past 0-30 days)	5,330	26.7%	5,319	26.6%	0.055	0.001
At least 2 ED encounters (past 0-30 days)	994	5.0%	972	4.9%	0.110	0.005
At least 1 ED encounter (past 31-183 days)	3,064	15.3%	3,118	15.6%	-0.270	-0.007
At least 2 ED encounters (past 31-183 days)	843	4.2%	858	4.3%	-0.075	-0.004

[1]Value represents standard deviation where no % follows the value.

[2]Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

Sentinel

Table 1bi. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Sex: Female

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Unique patients	14,711	100.0%	4,699	100.0%	N/A	N/A
Demographic Characteristics						
Age (years)	57.2	6.8	57.4	6.6	-0.185	-0.028
Age						
21-49 years	1,937	13.2%	591	12.6%	0.590	0.018
50-64 years	12,774	86.8%	4,108	87.4%	-0.590	-0.018
Sex						
Female	14,711	100.0%	4,699	100.0%	0.000	NaN
Male	0	0.0%	0	0.0%	NaN	NaN
Race[2]						
American Indian or Alaska Native	12	0.1%	5	0.1%	-0.025	-0.008
Asian	44	0.3%	16	0.3%	-0.041	-0.007
Black or African American	522	3.5%	112	2.4%	1.165	0.069
Native Hawaiian or Other Pacific Islander	14	0.1%	3	0.1%	0.031	0.011
Unknown	11,670	79.3%	3,791	80.7%	-1.348	-0.034
White	2,449	16.6%	772	16.4%	0.218	0.006
Hispanic origin						
Yes	88	0.6%	26	0.6%	0.045	0.006
No	1,621	11.0%	409	8.7%	2.315	0.078
Unknown	13,002	88.4%	4,264	90.7%	-2.360	-0.077
Year						
2010	0	0.0%	90	1.9%	NaN	NaN
2011	8	0.1%	1,543	32.8%	-32.782	-0.986
2012	640	4.4%	1,035	22.0%	-17.675	-0.541
2013	1,371	9.3%	529	11.3%	-1.938	-0.064
2014	1,814	12.3%	348	7.4%	4.925	0.166
2015	1,674	11.4%	261	5.6%	5.825	0.210
2016	1,623	11.0%	341	7.3%	3.776	0.131
2017	1,786	12.1%	247	5.3%	6.884	0.246
2018	1,722	11.7%	141	3.0%	8.705	0.338
2019	1,458	9.9%	82	1.7%	8.166	0.354
2020	1,207	8.2%	51	1.1%	7.119	0.343
2021	1,320	9.0%	29	0.6%	8.356	0.399

Sentinel

Table 1bi. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Sex: Female

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
2022	88	0.6%	2	0.0%	0.556	0.098
CHADSVASC						
mean, std	2.3	1.1	2.3	1.1	0.045	0.042
0	0	0.0%	0	0.0%	NaN	NaN
1	3,428	23.3%	1,096	23.3%	-0.022	-0.001
2	5,850	39.8%	1,915	40.8%	-0.987	-0.020
3	3,174	21.6%	1,082	23.0%	-1.450	-0.035
4	1,600	10.9%	423	9.0%	1.874	0.063
>= 5	659	4.5%	183	3.9%	0.585	0.029
HASBLED						
mean, std	1.0	0.7	0.9	0.7	0.019	0.027
0	3,708	25.2%	1,203	25.6%	-0.396	-0.009
1	8,339	56.7%	2,692	57.3%	-0.603	-0.012
2	2,186	14.9%	673	14.3%	0.537	0.015
>= 3	478	3.2%	131	2.8%	0.461	0.027
Health Characteristics						
Diabetes	4,064	27.6%	1,267	27.0%	0.662	0.015
Hypercholesterolemia	3,523	23.9%	1,142	24.3%	-0.355	-0.008
Hypertension	10,492	71.3%	3,309	70.4%	0.902	0.020
Kidney failure (chronic)	657	4.5%	196	4.2%	0.295	0.015
Kidney failure (acute)	623	4.2%	145	3.1%	1.149	0.061
Obesity	5,666	38.5%	1,316	28.0%	10.509	0.224
Peptic ulcer disease	45	0.3%	20	0.4%	-0.120	-0.020
Nicotine dependency	3,203	21.8%	755	16.1%	5.706	0.146
Hospitalized acute myocardial infarction (past 0-30 days)	205	1.4%	50	1.1%	0.329	0.030
Hospitalized acute myocardial infarction (past 31-183 days)	92	0.6%	23	0.5%	0.136	0.018
Coronary revascularization	595	4.0%	161	3.4%	0.618	0.033
Hospitalized heart failure	1,802	12.2%	537	11.4%	0.821	0.025
Outpatient heart failure	1,815	12.3%	522	11.1%	1.229	0.038
Other ischemic heart disease	3,012	20.5%	927	19.7%	0.747	0.019
Hospitalized stroke (past 0-30 days)	145	1.0%	68	1.4%	-0.461	-0.042

Sentinel

Table 1bi. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Sex: Female

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Hospitalized stroke (past 31-183 days)	87	0.6%	36	0.8%	-0.175	-0.021
Transient ischemic attack	526	3.6%	202	4.3%	-0.723	-0.037
Other medical conditions (falls, fractures, syncope, walker use)	3,581	24.3%	1,194	25.4%	-1.067	-0.025
Cardioversion	1,788	12.2%	627	13.3%	-1.189	-0.036
Cardioablation	673	4.6%	292	6.2%	-1.639	-0.073
Hospitalized for bleeding	40	0.3%	26	0.6%	-0.281	-0.044
Medical Product Use						
Estrogen replacement	1,131	7.7%	417	8.9%	-1.186	-0.043
H2-antagonist	499	3.4%	124	2.6%	0.753	0.044
Non-steroidal anti-inflammatory drugs (NSAIDs)	2,778	18.9%	853	18.2%	0.731	0.019
Proton pump inhibitors	3,493	23.7%	1,060	22.6%	1.186	0.028
Selective serotonin reuptake inhibitor (SSRI)	2,806	19.1%	851	18.1%	0.964	0.025
Insulin	1,040	7.1%	317	6.7%	0.323	0.013
Metformin (Biguanide)	2,464	16.7%	698	14.9%	1.895	0.052
Sulfonylureas	832	5.7%	286	6.1%	-0.431	-0.018
Other diabetes medications	1,090	7.4%	347	7.4%	0.025	0.001
Angiotensin converting enzyme inhibitor (ACEI)/Angiotensin II receptor blocker (ARB)	6,536	44.4%	2,108	44.9%	-0.431	-0.009
Antiarrhythmics	4,414	30.0%	1,793	38.2%	-8.152	-0.173
Anti-coagulant (injectable)	1,663	11.3%	342	7.3%	4.026	0.139
Anti-platelets	1,209	8.2%	298	6.3%	1.877	0.072
Beta-blockers	10,019	68.1%	3,162	67.3%	0.815	0.017
Calcium channel blockers	4,554	31.0%	1,685	35.9%	-4.902	-0.104
Digoxin	947	6.4%	509	10.8%	-4.395	-0.157
Diuretics (loop)	2,610	17.7%	835	17.8%	-0.028	-0.001
Diuretics (potassium sparing)	1,192	8.1%	368	7.8%	0.271	0.010
Diuretics (thiazide)	1,697	11.5%	504	10.7%	0.810	0.026
Nitrates	602	4.1%	187	4.0%	0.113	0.006
Statins	5,328	36.2%	1,671	35.6%	0.657	0.014
Fibrates	384	2.6%	166	3.5%	-0.922	-0.053
Amiodarone	1,047	7.1%	351	7.5%	-0.353	-0.014
Dronedarone	475	3.2%	371	7.9%	-4.666	-0.205

Sentinel

Table 1bi. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Sex: Female

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Health Service Utilization Intensity Metrics						
No emergency department (ED) encounters (past 0-	9,834	66.8%	3,278	69.8%	-2.912	-0.063
No ED encounters (past 31-183 days)	11,253	76.5%	3,753	79.9%	-3.374	-0.082
At least 1 ED encounter (past 0-30 days)	4,877	33.2%	1,421	30.2%	2.912	0.063
At least 2 ED encounters (past 0-30 days)	1,122	7.6%	260	5.5%	2.094	0.085
At least 1 ED encounter (past 31-183 days)	3,458	23.5%	946	20.1%	3.374	0.082
At least 2 ED encounters (past 31-183 days)	1,192	8.1%	284	6.0%	2.059	0.080

[1]Value represents standard deviation where no % follows the value.

[2]Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

Sentinel

Table 1bj. Aggregated Adjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Sex: Female

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Unique patients	4,631	31.5%	4,631	98.6%	N/A	N/A
Demographic Characteristics						
Age (years)	57.4	6.7	57.4	6.6	-0.047	-0.007
Age						
21-49 years	583	12.6%	583	12.6%	0.000	0.000
50-64 years	4,048	87.4%	4,048	87.4%	0.000	0.000
Sex						
Female	4,631	100.0%	4,631	100.0%	0.000	NaN
Male	0	0.0%	0	0.0%	NaN	NaN
Race[2]						
American Indian or Alaska Native	3	0.1%	5	0.1%	-0.043	-0.015
Asian	17	0.4%	16	0.3%	0.022	0.004
Black or African American	144	3.1%	111	2.4%	0.713	0.044
Native Hawaiian or Other Pacific Islander	2	0.0%	3	0.1%	-0.022	-0.009
Unknown	3,754	81.1%	3,730	80.5%	0.518	0.013
White	711	15.4%	766	16.5%	-1.188	-0.032
Hispanic origin						
Yes	24	0.5%	26	0.6%	-0.043	-0.006
No	415	9.0%	402	8.7%	0.281	0.010
Unknown	4,192	90.5%	4,203	90.8%	-0.238	-0.008
Year						
2010	0	0.0%	89	1.9%	NaN	NaN
2011	2	0.0%	1,514	32.7%	-32.650	-0.983
2012	294	6.3%	1,015	21.9%	-15.569	-0.459
2013	539	11.6%	523	11.3%	0.345	0.011
2014	654	14.1%	344	7.4%	6.694	0.217
2015	565	12.2%	257	5.5%	6.651	0.235
2016	509	11.0%	340	7.3%	3.649	0.127
2017	513	11.1%	246	5.3%	5.765	0.211
2018	484	10.5%	140	3.0%	7.428	0.300
2019	393	8.5%	81	1.7%	6.737	0.309
2020	322	7.0%	51	1.1%	5.852	0.301
2021	336	7.3%	29	0.6%	6.629	0.346

Sentinel

Table 1bj. Aggregated Adjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Sex: Female

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
2022	20	0.4%	2	0.0%	0.389	0.080
CHADSVASC						
mean, std	2.3	1.1	2.3	1.1	-0.000	-0.000
0	0	0.0%	0	0.0%	NaN	NaN
1	1,081	23.3%	1,088	23.5%	-0.151	-0.004
2	1,932	41.7%	1,889	40.8%	0.929	0.019
3	1,026	22.2%	1,061	22.9%	-0.756	-0.018
4	413	8.9%	412	8.9%	0.022	0.001
>= 5	179	3.9%	181	3.9%	-0.043	-0.002
HASBLED						
mean, std	0.9	0.7	0.9	0.7	0.000	0.000
0	1,195	25.8%	1,189	25.7%	0.130	0.003
1	2,644	57.1%	2,653	57.3%	-0.194	-0.004
2	663	14.3%	662	14.3%	0.022	0.001
>= 3	129	2.8%	127	2.7%	0.043	0.003
Health Characteristics						
Diabetes	1,205	26.0%	1,241	26.8%	-0.777	-0.018
Hypercholesterolemia	1,088	23.5%	1,118	24.1%	-0.648	-0.015
Hypertension	3,264	70.5%	3,259	70.4%	0.108	0.002
Kidney failure (chronic)	193	4.2%	188	4.1%	0.108	0.005
Kidney failure (acute)	144	3.1%	142	3.1%	0.043	0.002
Obesity	1,302	28.1%	1,307	28.2%	-0.108	-0.002
Peptic ulcer disease	20	0.4%	18	0.4%	0.043	0.007
Nicotine dependency	754	16.3%	744	16.1%	0.216	0.006
Hospitalized acute myocardial infarction (past 0-30 days)	40	0.9%	50	1.1%	-0.216	-0.022
Hospitalized acute myocardial infarction (past 31-183 days)	19	0.4%	21	0.5%	-0.043	-0.007
Coronary revascularization	157	3.4%	155	3.3%	0.043	0.002
Hospitalized heart failure	524	11.3%	518	11.2%	0.130	0.004
Outpatient heart failure	486	10.5%	507	10.9%	-0.453	-0.015
Other ischemic heart disease	925	20.0%	900	19.4%	0.540	0.014
Hospitalized stroke (past 0-30 days)	66	1.4%	65	1.4%	0.022	0.002

Sentinel

Table 1bj. Aggregated Adjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Sex: Female

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Hospitalized stroke (past 31-183 days)	36	0.8%	35	0.8%	0.022	0.002
Transient ischemic attack	198	4.3%	199	4.3%	-0.022	-0.001
Other medical conditions (falls, fractures, syncope, walker use)	1,233	26.6%	1,167	25.2%	1.425	0.033
Cardioversion	666	14.4%	614	13.3%	1.123	0.033
Cardioablation	254	5.5%	273	5.9%	-0.410	-0.018
Hospitalized for bleeding	21	0.5%	23	0.5%	-0.043	-0.006
Medical Product Use						
Estrogen replacement	400	8.6%	410	8.9%	-0.216	-0.008
H2-antagonist	113	2.4%	121	2.6%	-0.173	-0.011
Non-steroidal anti-inflammatory drugs (NSAIDs)	854	18.4%	838	18.1%	0.345	0.009
Proton pump inhibitors	1,010	21.8%	1,042	22.5%	-0.691	-0.017
Selective serotonin reuptake inhibitor (SSRI)	803	17.3%	839	18.1%	-0.777	-0.020
Insulin	328	7.1%	314	6.8%	0.302	0.012
Metformin (Biguanide)	678	14.6%	684	14.8%	-0.130	-0.004
Sulfonylureas	264	5.7%	278	6.0%	-0.302	-0.013
Other diabetes medications	331	7.1%	338	7.3%	-0.151	-0.006
Angiotensin converting enzyme inhibitor (ACEI)/Angiotensin II receptor blocker (ARB)	2,098	45.3%	2,070	44.7%	0.605	0.012
Antiarrhythmics	1,711	36.9%	1,740	37.6%	-0.626	-0.013
Anti-coagulant (injectable)	343	7.4%	340	7.3%	0.065	0.002
Anti-platelets	302	6.5%	290	6.3%	0.259	0.011
Beta-blockers	3,124	67.5%	3,110	67.2%	0.302	0.006
Calcium channel blockers	1,671	36.1%	1,645	35.5%	0.561	0.012
Digoxin	477	10.3%	487	10.5%	-0.216	-0.007
Diuretics (loop)	810	17.5%	817	17.6%	-0.151	-0.004
Diuretics (potassium sparing)	332	7.2%	360	7.8%	-0.605	-0.023
Diuretics (thiazide)	501	10.8%	497	10.7%	0.086	0.003
Nitrates	197	4.3%	179	3.9%	0.389	0.020
Statins	1,641	35.4%	1,647	35.6%	-0.130	-0.003
Fibrates	151	3.3%	159	3.4%	-0.173	-0.010
Amiodarone	306	6.6%	345	7.4%	-0.842	-0.033
Dronedarone	323	7.0%	330	7.1%	-0.151	-0.006

Sentinel

Table 1bj. Aggregated Adjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Sex: Female

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Health Service Utilization Intensity Metrics						
No emergency department (ED) encounters (past 0-	3,209	69.3%	3,230	69.7%	-0.453	-0.010
No ED encounters (past 31-183 days)	3,698	79.9%	3,712	80.2%	-0.302	-0.008
At least 1 ED encounter (past 0-30 days)	1,422	30.7%	1,401	30.3%	0.453	0.010
At least 2 ED encounters (past 0-30 days)	241	5.2%	254	5.5%	-0.281	-0.012
At least 1 ED encounter (past 31-183 days)	933	20.1%	919	19.8%	0.302	0.008
At least 2 ED encounters (past 31-183 days)	290	6.3%	275	5.9%	0.324	0.014

[1]Value represents standard deviation where no % follows the value.

[2]Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

Sentinel

Table 1bk. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Sex: Male

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Unique patients	42,688	100.0%	15,489	100.0%	N/A	N/A
Demographic Characteristics						
Age (years)	55.9	7.6	55.8	7.5	0.050	0.007
Age						
21-49 years	7,839	18.4%	2,908	18.8%	-0.411	-0.011
50-64 years	34,849	81.6%	12,581	81.2%	0.411	0.011
Sex						
Female	0	0.0%	0	0.0%	NaN	NaN
Male	42,688	100.0%	15,489	100.0%	0.000	NaN
Race[2]						
American Indian or Alaska Native	37	0.1%	17	0.1%	-0.023	-0.007
Asian	125	0.3%	49	0.3%	-0.024	-0.004
Black or African American	807	1.9%	172	1.1%	0.780	0.064
Native Hawaiian or Other Pacific Islander	43	0.1%	10	0.1%	0.036	0.013
Unknown	35,300	82.7%	12,924	83.4%	-0.747	-0.020
White	6,376	14.9%	2,317	15.0%	-0.023	-0.001
Hispanic origin						
Yes	285	0.7%	86	0.6%	0.112	0.014
No	3,154	7.4%	846	5.5%	1.927	0.079
Unknown	39,249	91.9%	14,557	94.0%	-2.039	-0.080
Year						
2010	0	0.0%	392	2.5%	NaN	NaN
2011	41	0.1%	5,304	34.2%	-34.148	-1.016
2012	2,087	4.9%	3,615	23.3%	-18.450	-0.550
2013	4,394	10.3%	1,864	12.0%	-1.741	-0.055
2014	5,484	12.8%	1,155	7.5%	5.390	0.179
2015	4,980	11.7%	781	5.0%	6.624	0.241
2016	4,802	11.2%	930	6.0%	5.245	0.188
2017	4,860	11.4%	609	3.9%	7.453	0.283
2018	4,599	10.8%	416	2.7%	8.088	0.327
2019	4,093	9.6%	222	1.4%	8.155	0.363
2020	3,406	8.0%	120	0.8%	7.204	0.358
2021	3,642	8.5%	78	0.5%	8.028	0.394

Sentinel

Table 1bk. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Sex: Male

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
2022	300	0.7%	3	0.0%	0.683	0.114
CHADSVASC						
mean, std	1.3	1.1	1.2	1.0	0.100	0.095
0	10,615	24.9%	4,137	26.7%	-1.843	-0.042
1	16,696	39.1%	6,212	40.1%	-0.994	-0.020
2	9,245	21.7%	3,512	22.7%	-1.017	-0.024
3	4,385	10.3%	1,185	7.7%	2.622	0.092
4	1,494	3.5%	377	2.4%	1.066	0.063
>= 5	253	0.6%	66	0.4%	0.167	0.023
HASBLED						
mean, std	0.9	0.7	0.9	0.7	0.070	0.098
0	11,601	27.2%	4,615	29.8%	-2.619	-0.058
1	23,892	56.0%	8,774	56.6%	-0.678	-0.014
2	5,844	13.7%	1,762	11.4%	2.314	0.070
>= 3	1,351	3.2%	338	2.2%	0.983	0.061
Health Characteristics						
Diabetes	10,931	25.6%	3,795	24.5%	1.105	0.026
Hypercholesterolemia	11,243	26.3%	4,234	27.3%	-0.998	-0.023
Hypertension	29,878	70.0%	10,418	67.3%	2.731	0.059
Kidney failure (chronic)	2,006	4.7%	555	3.6%	1.116	0.056
Kidney failure (acute)	2,140	5.0%	519	3.4%	1.662	0.083
Obesity	13,342	31.3%	3,241	20.9%	10.330	0.237
Peptic ulcer disease	94	0.2%	31	0.2%	0.020	0.004
Nicotine dependency	10,038	23.5%	2,552	16.5%	7.039	0.177
Hospitalized acute myocardial infarction (past 0-30 days)	694	1.6%	176	1.1%	0.489	0.042
Hospitalized acute myocardial infarction (past 31-183 days)	362	0.8%	77	0.5%	0.351	0.043
Coronary revascularization	3,251	7.6%	1,123	7.3%	0.365	0.014
Hospitalized heart failure	5,494	12.9%	1,695	10.9%	1.927	0.060
Outpatient heart failure	5,656	13.2%	1,867	12.1%	1.196	0.036
Other ischemic heart disease	11,414	26.7%	4,148	26.8%	-0.042	-0.001
Hospitalized stroke (past 0-30 days)	411	1.0%	162	1.0%	-0.083	-0.008

Sentinel

Table 1bk. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Sex: Male

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Hospitalized stroke (past 31-183 days)	198	0.5%	71	0.5%	0.005	0.001
Transient ischemic attack	1,138	2.7%	454	2.9%	-0.265	-0.016
Other medical conditions (falls, fractures, syncope, walker use)	10,762	25.2%	3,885	25.1%	0.129	0.003
Cardioversion	7,513	17.6%	2,792	18.0%	-0.426	-0.011
Cardioablation	1,982	4.6%	1,012	6.5%	-1.891	-0.082
Hospitalized for bleeding	133	0.3%	50	0.3%	-0.011	-0.002
Medical Product Use						
Estrogen replacement	6	0.0%	2	0.0%	0.001	0.001
H2-antagonist	855	2.0%	251	1.6%	0.382	0.029
Non-steroidal anti-inflammatory drugs (NSAIDs)	6,208	14.5%	2,156	13.9%	0.623	0.018
Proton pump inhibitors	7,388	17.3%	2,462	15.9%	1.412	0.038
Selective serotonin reuptake inhibitor (SSRI)	3,670	8.6%	1,234	8.0%	0.630	0.023
Insulin	2,521	5.9%	851	5.5%	0.411	0.018
Metformin (Biguanide)	6,827	16.0%	2,181	14.1%	1.912	0.054
Sulfonylureas	2,618	6.1%	1,034	6.7%	-0.543	-0.022
Other diabetes medications	3,015	7.1%	985	6.4%	0.704	0.028
Angiotensin converting enzyme inhibitor (ACEI)/Angiotensin II receptor blocker (ARB)	21,384	50.1%	7,467	48.2%	1.885	0.038
Antiarrhythmics	12,193	28.6%	5,405	34.9%	-6.333	-0.136
Anti-coagulant (injectable)	4,400	10.3%	1,137	7.3%	2.967	0.105
Anti-platelets	4,461	10.5%	1,309	8.5%	1.999	0.068
Beta-blockers	28,725	67.3%	10,487	67.7%	-0.416	-0.009
Calcium channel blockers	12,620	29.6%	4,720	30.5%	-0.910	-0.020
Digoxin	2,959	6.9%	1,669	10.8%	-3.844	-0.136
Diuretics (loop)	6,544	15.3%	2,149	13.9%	1.455	0.041
Diuretics (potassium sparing)	2,886	6.8%	972	6.3%	0.485	0.020
Diuretics (thiazide)	3,602	8.4%	1,207	7.8%	0.645	0.024
Nitrates	1,952	4.6%	684	4.4%	0.157	0.008
Statins	18,401	43.1%	6,560	42.4%	0.753	0.015
Fibrates	1,852	4.3%	843	5.4%	-1.104	-0.051
Amiodarone	4,038	9.5%	1,439	9.3%	0.169	0.006
Dronedarone	1,262	3.0%	1,096	7.1%	-4.120	-0.190

Sentinel

Table 1bk. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Sex: Male

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Health Service Utilization Intensity Metrics						
No emergency department (ED) encounters (past 0-	30,319	71.0%	11,540	74.5%	-3.480	-0.078
No ED encounters (past 31-183 days)	35,514	83.2%	13,265	85.6%	-2.447	-0.068
At least 1 ED encounter (past 0-30 days)	12,369	29.0%	3,949	25.5%	3.480	0.078
At least 2 ED encounters (past 0-30 days)	2,572	6.0%	717	4.6%	1.396	0.062
At least 1 ED encounter (past 31-183 days)	7,174	16.8%	2,224	14.4%	2.447	0.068
At least 2 ED encounters (past 31-183 days)	2,168	5.1%	589	3.8%	1.276	0.062

[1]Value represents standard deviation where no % follows the value.

[2]Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

Sentinel

Table 1bl. Aggregated Adjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Sex: Male

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Unique patients	15,299	35.8%	15,299	98.8%	N/A	N/A
Demographic Characteristics						
Age (years)	55.8	7.7	55.9	7.5	-0.035	-0.005
Age						
21-49 years	2,873	18.8%	2,862	18.7%	0.072	0.002
50-64 years	12,426	81.2%	12,437	81.3%	-0.072	-0.002
Sex						
Female	0	0.0%	0	0.0%	NaN	NaN
Male	15,299	100.0%	15,299	100.0%	0.000	NaN
Race[2]						
American Indian or Alaska Native	16	0.1%	17	0.1%	-0.007	-0.002
Asian	50	0.3%	49	0.3%	0.007	0.001
Black or African American	231	1.5%	170	1.1%	0.399	0.035
Native Hawaiian or Other Pacific Islander	17	0.1%	10	0.1%	0.046	0.015
Unknown	12,750	83.3%	12,768	83.5%	-0.118	-0.003
White	2,235	14.6%	2,285	14.9%	-0.327	-0.009
Hispanic origin						
Yes	101	0.7%	86	0.6%	0.098	0.013
No	876	5.7%	828	5.4%	0.314	0.014
Unknown	14,322	93.6%	14,385	94.0%	-0.412	-0.017
Year						
2010	0	0.0%	386	2.5%	NaN	NaN
2011	24	0.2%	5,206	34.0%	-33.871	-1.007
2012	1,023	6.7%	3,569	23.3%	-16.642	-0.479
2013	1,883	12.3%	1,841	12.0%	0.275	0.008
2014	2,227	14.6%	1,149	7.5%	7.046	0.226
2015	1,952	12.8%	776	5.1%	7.687	0.272
2016	1,647	10.8%	929	6.1%	4.693	0.170
2017	1,576	10.3%	608	4.0%	6.327	0.248
2018	1,446	9.5%	415	2.7%	6.739	0.285
2019	1,263	8.3%	220	1.4%	6.817	0.322
2020	1,063	6.9%	119	0.8%	6.170	0.324
2021	1,107	7.2%	78	0.5%	6.726	0.354

Sentinel

Table 1bl. Aggregated Adjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Sex: Male

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
2022	88	0.6%	3	0.0%	0.556	0.102
CHADSVASC						
mean, std	1.2	1.0	1.2	1.0	0.009	0.009
0	4,073	26.6%	4,106	26.8%	-0.216	-0.005
1	6,176	40.4%	6,142	40.1%	0.222	0.005
2	3,393	22.2%	3,443	22.5%	-0.327	-0.008
3	1,172	7.7%	1,173	7.7%	-0.007	-0.000
4	416	2.7%	369	2.4%	0.307	0.019
>= 5	69	0.5%	66	0.4%	0.020	0.003
HASBLED						
mean, std	0.9	0.7	0.9	0.7	0.005	0.008
0	4,517	29.5%	4,579	29.9%	-0.405	-0.009
1	8,679	56.7%	8,648	56.5%	0.203	0.004
2	1,781	11.6%	1,738	11.4%	0.281	0.009
>= 3	322	2.1%	334	2.2%	-0.078	-0.005
Health Characteristics						
Diabetes	3,732	24.4%	3,729	24.4%	0.020	0.000
Hypercholesterolemia	4,134	27.0%	4,162	27.2%	-0.183	-0.004
Hypertension	10,329	67.5%	10,272	67.1%	0.373	0.008
Kidney failure (chronic)	563	3.7%	550	3.6%	0.085	0.005
Kidney failure (acute)	511	3.3%	512	3.3%	-0.007	-0.000
Obesity	3,227	21.1%	3,230	21.1%	-0.020	-0.000
Peptic ulcer disease	33	0.2%	31	0.2%	0.013	0.003
Nicotine dependency	2,500	16.3%	2,525	16.5%	-0.163	-0.004
Hospitalized acute myocardial infarction (past 0-30 days)	190	1.2%	176	1.2%	0.092	0.008
Hospitalized acute myocardial infarction (past 31-183 days)	81	0.5%	77	0.5%	0.026	0.004
Coronary revascularization	1,082	7.1%	1,098	7.2%	-0.105	-0.004
Hospitalized heart failure	1,695	11.1%	1,670	10.9%	0.163	0.005
Outpatient heart failure	1,867	12.2%	1,835	12.0%	0.209	0.006
Other ischemic heart disease	4,076	26.6%	4,075	26.6%	0.007	0.000
Hospitalized stroke (past 0-30 days)	159	1.0%	159	1.0%	0.000	0.000

Sentinel

Table 1bl. Aggregated Adjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Sex: Male

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Hospitalized stroke (past 31-183 days)	81	0.5%	71	0.5%	0.065	0.009
Transient ischemic attack	459	3.0%	441	2.9%	0.118	0.007
Other medical conditions (falls, fractures, syncope, walker use)	3,779	24.7%	3,805	24.9%	-0.170	-0.004
Cardioversion	2,685	17.6%	2,734	17.9%	-0.320	-0.008
Cardioablation	902	5.9%	945	6.2%	-0.281	-0.012
Hospitalized for bleeding	46	0.3%	46	0.3%	0.000	0.000
Medical Product Use						
Estrogen replacement	0	0.0%	1	0.0%	NaN	NaN
H2-antagonist	224	1.5%	248	1.6%	-0.157	-0.013
Non-steroidal anti-inflammatory drugs (NSAIDs)	2,135	14.0%	2,113	13.8%	0.144	0.004
Proton pump inhibitors	2,440	15.9%	2,433	15.9%	0.046	0.001
Selective serotonin reuptake inhibitor (SSRI)	1,232	8.1%	1,219	8.0%	0.085	0.003
Insulin	812	5.3%	836	5.5%	-0.157	-0.007
Metformin (Biguanide)	2,142	14.0%	2,151	14.1%	-0.059	-0.002
Sulfonylureas	1,006	6.6%	1,008	6.6%	-0.013	-0.001
Other diabetes medications	995	6.5%	968	6.3%	0.176	0.007
Angiotensin converting enzyme inhibitor (ACEI)/Angiotensin II receptor blocker (ARB)	7,320	47.8%	7,371	48.2%	-0.333	-0.007
Antiarrhythmics	5,289	34.6%	5,254	34.3%	0.229	0.005
Anti-coagulant (injectable)	1,112	7.3%	1,122	7.3%	-0.065	-0.003
Anti-platelets	1,297	8.5%	1,295	8.5%	0.013	0.000
Beta-blockers	10,365	67.7%	10,345	67.6%	0.131	0.003
Calcium channel blockers	4,648	30.4%	4,642	30.3%	0.039	0.001
Digoxin	1,570	10.3%	1,606	10.5%	-0.235	-0.008
Diuretics (loop)	2,097	13.7%	2,117	13.8%	-0.131	-0.004
Diuretics (potassium sparing)	961	6.3%	959	6.3%	0.013	0.001
Diuretics (thiazide)	1,271	8.3%	1,193	7.8%	0.510	0.019
Nitrates	698	4.6%	670	4.4%	0.183	0.009
Statins	6,439	42.1%	6,463	42.2%	-0.157	-0.003
Fibrates	842	5.5%	817	5.3%	0.163	0.007
Amiodarone	1,471	9.6%	1,427	9.3%	0.288	0.010
Dronedarone	974	6.4%	1,003	6.6%	-0.190	-0.008

Sentinel

Table 1bl. Aggregated Adjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Sex: Male

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Health Service Utilization Intensity Metrics						
No emergency department (ED) encounters (past 0-	11,394	74.5%	11,401	74.5%	-0.046	-0.001
No ED encounters (past 31-183 days)	13,148	85.9%	13,132	85.8%	0.105	0.003
At least 1 ED encounter (past 0-30 days)	3,905	25.5%	3,898	25.5%	0.046	0.001
At least 2 ED encounters (past 0-30 days)	710	4.6%	703	4.6%	0.046	0.002
At least 1 ED encounter (past 31-183 days)	2,151	14.1%	2,167	14.2%	-0.105	-0.003
At least 2 ED encounters (past 31-183 days)	574	3.8%	568	3.7%	0.039	0.002

[1]Value represents standard deviation where no % follows the value.

[2]Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

Sentinel

Table 1bm. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Age Group: 21-49 Years

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Unique patients	9,776	100.0%	3,499	100.0%	N/A	N/A
Demographic Characteristics						
Age (years)	43.0	6.2	43.5	6.0	-0.462	-0.076
Age						
21-49 years	9,776	100.0%	3,499	100.0%	0.000	NaN
50-64 years	0	0.0%	0	0.0%	NaN	NaN
Sex						
Female	1,937	19.8%	591	16.9%	2.923	0.076
Male	7,839	80.2%	2,908	83.1%	-2.923	-0.076
Race[2]						
American Indian or Alaska Native	7	0.1%	3	0.1%	-0.014	-0.005
Asian	41	0.4%	17	0.5%	-0.066	-0.010
Black or African American	224	2.3%	45	1.3%	1.005	0.076
Native Hawaiian or Other Pacific Islander	7	0.1%	0	0.0%	NaN	NaN
Unknown	8,512	87.1%	3,059	87.4%	-0.355	-0.011
White	985	10.1%	375	10.7%	-0.642	-0.021
Hispanic origin						
Yes	114	1.2%	25	0.7%	0.452	0.047
No	396	4.1%	94	2.7%	1.364	0.076
Unknown	9,266	94.8%	3,380	96.6%	-1.816	-0.090
Year						
2010	0	0.0%	79	2.3%	NaN	NaN
2011	6	0.1%	1,233	35.2%	-35.177	-1.040
2012	479	4.9%	866	24.7%	-19.850	-0.582
2013	983	10.1%	424	12.1%	-2.063	-0.066
2014	1,205	12.3%	247	7.1%	5.267	0.179
2015	1,197	12.2%	150	4.3%	7.957	0.292
2016	1,106	11.3%	195	5.6%	5.740	0.208
2017	1,107	11.3%	123	3.5%	7.808	0.301
2018	1,071	11.0%	82	2.3%	8.612	0.351
2019	943	9.6%	55	1.6%	8.074	0.356
2020	795	8.1%	35	1.0%	7.132	0.347
2021	826	8.4%	10	0.3%	8.163	0.408

Sentinel

Table 1bm. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Age Group: 21-49 Years

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
2022	58	0.6%	0	0.0%	NaN	NaN
CHADSVASC						
mean, std	1.2	1.1	1.1	1.0	0.128	0.121
0	3,021	30.9%	1,157	33.1%	-2.164	-0.046
1	3,522	36.0%	1,336	38.2%	-2.155	-0.045
2	1,976	20.2%	692	19.8%	0.436	0.011
3	864	8.8%	237	6.8%	2.065	0.077
4	318	3.3%	65	1.9%	1.395	0.089
>= 5	75	0.8%	12	0.3%	0.424	0.057
HASBLED						
mean, std	0.8	0.7	0.7	0.7	0.060	0.084
0	3,957	40.5%	1,501	42.9%	-2.421	-0.049
1	4,513	46.2%	1,627	46.5%	-0.335	-0.007
2	1,101	11.3%	324	9.3%	2.002	0.066
>= 3	205	2.1%	47	1.3%	0.754	0.058
Health Characteristics						
Diabetes	1,691	17.3%	550	15.7%	1.579	0.043
Hypercholesterolemia	1,536	15.7%	597	17.1%	-1.350	-0.036
Hypertension	5,398	55.2%	1,836	52.5%	2.745	0.055
Kidney failure (chronic)	267	2.7%	75	2.1%	0.588	0.038
Kidney failure (acute)	429	4.4%	80	2.3%	2.102	0.117
Obesity	3,500	35.8%	905	25.9%	9.937	0.216
Peptic ulcer disease	13	0.1%	6	0.2%	-0.038	-0.010
Nicotine dependency	2,303	23.6%	617	17.6%	5.924	0.147
Hospitalized acute myocardial infarction (past 0-30 days)	118	1.2%	20	0.6%	0.635	0.068
Hospitalized acute myocardial infarction (past 31-183 days)	55	0.6%	10	0.3%	0.277	0.043
Coronary revascularization	262	2.7%	100	2.9%	-0.178	-0.011
Hospitalized heart failure	1,132	11.6%	358	10.2%	1.348	0.043
Outpatient heart failure	1,006	10.3%	353	10.1%	0.202	0.007
Other ischemic heart disease	1,406	14.4%	538	15.4%	-0.994	-0.028
Hospitalized stroke (past 0-30 days)	76	0.8%	17	0.5%	0.292	0.037

Sentinel

Table 1bm. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Age Group: 21-49 Years

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Hospitalized stroke (past 31-183 days)	44	0.5%	19	0.5%	-0.093	-0.013
Transient ischemic attack	217	2.2%	64	1.8%	0.391	0.028
Other medical conditions (falls, fractures, syncope, walker use)	2,798	28.6%	1,026	29.3%	-0.702	-0.015
Cardioversion	2,107	21.6%	802	22.9%	-1.368	-0.033
Cardioablation	703	7.2%	373	10.7%	-3.469	-0.122
Hospitalized for bleeding	23	0.2%	5	0.1%	0.092	0.021
Medical Product Use						
Estrogen replacement	65	0.7%	19	0.5%	0.122	0.016
H2-antagonist	176	1.8%	45	1.3%	0.514	0.042
Non-steroidal anti-inflammatory drugs (NSAIDs)	1,368	14.0%	447	12.8%	1.218	0.036
Proton pump inhibitors	1,576	16.1%	488	13.9%	2.174	0.061
Selective serotonin reuptake inhibitor (SSRI)	997	10.2%	336	9.6%	0.596	0.020
Insulin	381	3.9%	114	3.3%	0.639	0.034
Metformin (Biguanide)	1,048	10.7%	308	8.8%	1.918	0.065
Sulfonylureas	324	3.3%	131	3.7%	-0.430	-0.023
Other diabetes medications	432	4.4%	114	3.3%	1.161	0.060
Angiotensin converting enzyme inhibitor (ACEI)/Angiotensin II receptor blocker (ARB)	3,546	36.3%	1,209	34.6%	1.720	0.036
Antiarrhythmics	3,045	31.1%	1,306	37.3%	-6.177	-0.130
Anti-coagulant (injectable)	1,248	12.8%	333	9.5%	3.249	0.103
Anti-platelets	579	5.9%	133	3.8%	2.122	0.099
Beta-blockers	6,262	64.1%	2,271	64.9%	-0.849	-0.018
Calcium channel blockers	2,598	26.6%	978	28.0%	-1.376	-0.031
Digoxin	592	6.1%	341	9.7%	-3.690	-0.137
Diuretics (loop)	1,162	11.9%	391	11.2%	0.712	0.022
Diuretics (potassium sparing)	595	6.1%	186	5.3%	0.771	0.033
Diuretics (thiazide)	612	6.3%	186	5.3%	0.944	0.040
Nitrates	209	2.1%	87	2.5%	-0.349	-0.023
Statins	2,169	22.2%	794	22.7%	-0.505	-0.012
Fibrates	259	2.6%	102	2.9%	-0.266	-0.016
Amiodarone	750	7.7%	270	7.7%	-0.045	-0.002
Dronedarone	307	3.1%	259	7.4%	-4.262	-0.192

Sentinel

Table 1bm. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Age Group: 21-49 Years

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Health Service Utilization Intensity Metrics						
No emergency department (ED) encounters (past 0-	6,091	62.3%	2,286	65.3%	-3.027	-0.063
No ED encounters (past 31-183 days)	7,649	78.2%	2,833	81.0%	-2.723	-0.068
At least 1 ED encounter (past 0-30 days)	3,685	37.7%	1,213	34.7%	3.027	0.063
At least 2 ED encounters (past 0-30 days)	745	7.6%	210	6.0%	1.619	0.064
At least 1 ED encounter (past 31-183 days)	2,127	21.8%	666	19.0%	2.723	0.068
At least 2 ED encounters (past 31-183 days)	676	6.9%	188	5.4%	1.542	0.064

[1]Value represents standard deviation where no % follows the value.

[2]Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

Sentinel

Table 1bn. Aggregated Adjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Age Group: 21-49 Years

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Unique patients	3,375	34.5%	3,375	96.5%	N/A	N/A
Demographic Characteristics						
Age (years)	43.4	6.0	43.5	6.0	-0.019	-0.003
Age						
21-49 years	3,375	100.0%	3,375	100.0%	0.000	NaN
50-64 years	0	0.0%	0	0.0%	NaN	NaN
Sex						
Female	570	16.9%	572	16.9%	-0.059	-0.002
Male	2,805	83.1%	2,803	83.1%	0.059	0.002
Race[2]						
American Indian or Alaska Native	4	0.1%	3	0.1%	0.030	0.009
Asian	18	0.5%	17	0.5%	0.030	0.004
Black or African American	52	1.5%	40	1.2%	0.356	0.031
Native Hawaiian or Other Pacific Islander	2	0.1%	0	0.0%	NaN	NaN
Unknown	2,960	87.7%	2,971	88.0%	-0.326	-0.010
White	339	10.0%	344	10.2%	-0.148	-0.005
Hispanic origin						
Yes	40	1.2%	25	0.7%	0.444	0.046
No	89	2.6%	73	2.2%	0.474	0.031
Unknown	3,246	96.2%	3,277	97.1%	-0.919	-0.051
Year						
2010	0	0.0%	75	2.2%	NaN	NaN
2011	3	0.1%	1,181	35.0%	-34.904	-1.033
2012	229	6.8%	835	24.7%	-17.956	-0.508
2013	426	12.6%	414	12.3%	0.356	0.011
2014	477	14.1%	241	7.1%	6.993	0.228
2015	430	12.7%	144	4.3%	8.474	0.307
2016	357	10.6%	194	5.7%	4.830	0.177
2017	390	11.6%	120	3.6%	8.000	0.306
2018	303	9.0%	78	2.3%	6.667	0.292
2019	277	8.2%	51	1.5%	6.696	0.315
2020	226	6.7%	32	0.9%	5.748	0.303
2021	245	7.3%	10	0.3%	6.963	0.371

Sentinel

Table 1bn. Aggregated Adjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Age Group: 21-49 Years

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
2022	12	0.4%	0	0.0%	NaN	NaN
CHADSVASC						
mean, std	1.1	1.0	1.1	1.0	-0.011	-0.011
0	1,148	34.0%	1,129	33.5%	0.563	0.012
1	1,264	37.5%	1,285	38.1%	-0.622	-0.013
2	675	20.0%	667	19.8%	0.237	0.006
3	232	6.9%	224	6.6%	0.237	0.009
4	48	1.4%	59	1.7%	-0.326	-0.026
>= 5	8	0.2%	11	0.3%	-0.089	-0.017
HASBLED						
mean, std	0.7	0.7	0.7	0.7	0.005	0.007
0	1,447	42.9%	1,461	43.3%	-0.415	-0.008
1	1,580	46.8%	1,562	46.3%	0.533	0.011
2	300	8.9%	309	9.2%	-0.267	-0.009
>= 3	48	1.4%	43	1.3%	0.148	0.013
Health Characteristics						
Diabetes	491	14.5%	515	15.3%	-0.711	-0.020
Hypercholesterolemia	568	16.8%	563	16.7%	0.148	0.004
Hypertension	1,769	52.4%	1,767	52.4%	0.059	0.001
Kidney failure (chronic)	74	2.2%	70	2.1%	0.119	0.008
Kidney failure (acute)	75	2.2%	79	2.3%	-0.119	-0.008
Obesity	871	25.8%	886	26.3%	-0.444	-0.010
Peptic ulcer disease	2	0.1%	5	0.1%	-0.089	-0.028
Nicotine dependency	591	17.5%	584	17.3%	0.207	0.005
Hospitalized acute myocardial infarction (past 0-30 days)	15	0.4%	19	0.6%	-0.119	-0.017
Hospitalized acute myocardial infarction (past 31-183 days)	8	0.2%	9	0.3%	-0.030	-0.006
Coronary revascularization	86	2.5%	89	2.6%	-0.089	-0.006
Hospitalized heart failure	325	9.6%	334	9.9%	-0.267	-0.009
Outpatient heart failure	309	9.2%	325	9.6%	-0.474	-0.016
Other ischemic heart disease	527	15.6%	491	14.5%	1.067	0.030
Hospitalized stroke (past 0-30 days)	15	0.4%	16	0.5%	-0.030	-0.004

Sentinel

Table 1bn. Aggregated Adjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Age Group: 21-49 Years

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Hospitalized stroke (past 31-183 days)	19	0.6%	17	0.5%	0.059	0.008
Transient ischemic attack	67	2.0%	61	1.8%	0.178	0.013
Other medical conditions (falls, fractures, syncope, walker use)	985	29.2%	975	28.9%	0.296	0.007
Cardioversion	784	23.2%	764	22.6%	0.593	0.014
Cardioablation	316	9.4%	326	9.7%	-0.296	-0.010
Hospitalized for bleeding	2	0.1%	5	0.1%	-0.089	-0.028
Medical Product Use						
Estrogen replacement	21	0.6%	19	0.6%	0.059	0.008
H2-antagonist	36	1.1%	41	1.2%	-0.148	-0.014
Non-steroidal anti-inflammatory drugs (NSAIDs)	455	13.5%	429	12.7%	0.770	0.023
Proton pump inhibitors	467	13.8%	458	13.6%	0.267	0.008
Selective serotonin reuptake inhibitor (SSRI)	322	9.5%	313	9.3%	0.267	0.009
Insulin	98	2.9%	102	3.0%	-0.119	-0.007
Metformin (Biguanide)	293	8.7%	299	8.9%	-0.178	-0.006
Sulfonylureas	112	3.3%	124	3.7%	-0.356	-0.019
Other diabetes medications	99	2.9%	112	3.3%	-0.385	-0.022
Angiotensin converting enzyme inhibitor (ACEI)/Angiotensin II receptor blocker (ARB)	1,107	32.8%	1,166	34.5%	-1.748	-0.037
Antiarrhythmics	1,215	36.0%	1,220	36.1%	-0.148	-0.003
Anti-coagulant (injectable)	321	9.5%	323	9.6%	-0.059	-0.002
Anti-platelets	133	3.9%	122	3.6%	0.326	0.017
Beta-blockers	2,208	65.4%	2,174	64.4%	1.007	0.021
Calcium channel blockers	933	27.6%	942	27.9%	-0.267	-0.006
Digoxin	305	9.0%	315	9.3%	-0.296	-0.010
Diuretics (loop)	340	10.1%	368	10.9%	-0.830	-0.027
Diuretics (potassium sparing)	155	4.6%	173	5.1%	-0.533	-0.025
Diuretics (thiazide)	183	5.4%	178	5.3%	0.148	0.007
Nitrates	78	2.3%	77	2.3%	0.030	0.002
Statins	743	22.0%	750	22.2%	-0.207	-0.005
Fibrates	88	2.6%	96	2.8%	-0.237	-0.015
Amiodarone	267	7.9%	262	7.8%	0.148	0.006
Dronedarone	208	6.2%	218	6.5%	-0.296	-0.012

Sentinel

Table 1bn. Aggregated Adjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Age Group: 21-49 Years

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Health Service Utilization Intensity Metrics						
No emergency department (ED) encounters (past 0-	2,190	64.9%	2,213	65.6%	-0.681	-0.014
No ED encounters (past 31-183 days)	2,750	81.5%	2,762	81.8%	-0.356	-0.009
At least 1 ED encounter (past 0-30 days)	1,185	35.1%	1,162	34.4%	0.681	0.014
At least 2 ED encounters (past 0-30 days)	199	5.9%	199	5.9%	0.000	0.000
At least 1 ED encounter (past 31-183 days)	625	18.5%	613	18.2%	0.356	0.009
At least 2 ED encounters (past 31-183 days)	175	5.2%	175	5.2%	0.000	0.000

[1]Value represents standard deviation where no % follows the value.

[2]Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

Sentinel

Table 1bo. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Age Group: 50-64 Years

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Unique patients	47,623	100.0%	16,689	100.0%	N/A	N/A
Demographic Characteristics						
Age (years)	59.0	4.0	58.9	4.1	0.071	0.017
Age						
21-49 years	0	0.0%	0	0.0%	NaN	NaN
50-64 years	47,623	100.0%	16,689	100.0%	0.000	NaN
Sex						
Female	12,774	26.8%	4,108	24.6%	2.208	0.051
Male	34,849	73.2%	12,581	75.4%	-2.208	-0.051
Race[2]						
American Indian or Alaska Native	42	0.1%	19	0.1%	-0.026	-0.008
Asian	128	0.3%	48	0.3%	-0.019	-0.004
Black or African American	1,105	2.3%	239	1.4%	0.888	0.065
Native Hawaiian or Other Pacific Islander	50	0.1%	13	0.1%	0.027	0.009
Unknown	38,458	80.8%	13,656	81.8%	-1.071	-0.027
White	7,840	16.5%	2,714	16.3%	0.200	0.005
Hispanic origin						
Yes	259	0.5%	87	0.5%	0.023	0.003
No	4,379	9.2%	1,161	7.0%	2.238	0.082
Unknown	42,985	90.3%	15,441	92.5%	-2.261	-0.081
Year						
2010	0	0.0%	403	2.4%	NaN	NaN
2011	43	0.1%	5,614	33.6%	-33.549	-1.002
2012	2,248	4.7%	3,784	22.7%	-17.953	-0.541
2013	4,782	10.0%	1,969	11.8%	-1.757	-0.056
2014	6,093	12.8%	1,256	7.5%	5.268	0.175
2015	5,457	11.5%	892	5.3%	6.114	0.222
2016	5,319	11.2%	1,076	6.4%	4.722	0.167
2017	5,539	11.6%	733	4.4%	7.239	0.269
2018	5,250	11.0%	475	2.8%	8.178	0.326
2019	4,608	9.7%	249	1.5%	8.184	0.362
2020	3,818	8.0%	136	0.8%	7.202	0.356
2021	4,136	8.7%	97	0.6%	8.104	0.393

Sentinel

Table 1bo. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Age Group: 50-64 Years

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
2022	330	0.7%	5	0.0%	0.663	0.111
CHADSVASC						
mean, std	1.6	1.2	1.5	1.1	0.107	0.093
0	7,594	15.9%	2,980	17.9%	-1.910	-0.051
1	16,602	34.9%	5,972	35.8%	-0.923	-0.019
2	13,119	27.5%	4,735	28.4%	-0.824	-0.018
3	6,695	14.1%	2,030	12.2%	1.895	0.056
4	2,776	5.8%	735	4.4%	1.425	0.065
>= 5	837	1.8%	237	1.4%	0.337	0.027
HASBLED						
mean, std	1.0	0.7	0.9	0.7	0.058	0.082
0	11,352	23.8%	4,317	25.9%	-2.030	-0.047
1	27,718	58.2%	9,839	59.0%	-0.752	-0.015
2	6,929	14.5%	2,111	12.6%	1.901	0.055
>= 3	1,624	3.4%	422	2.5%	0.882	0.052
Health Characteristics						
Diabetes	13,304	27.9%	4,512	27.0%	0.900	0.020
Hypercholesterolemia	13,230	27.8%	4,779	28.6%	-0.855	-0.019
Hypertension	34,972	73.4%	11,891	71.3%	2.185	0.049
Kidney failure (chronic)	2,396	5.0%	676	4.1%	0.981	0.047
Kidney failure (acute)	2,334	4.9%	584	3.5%	1.402	0.070
Obesity	15,508	32.6%	3,652	21.9%	10.681	0.242
Peptic ulcer disease	126	0.3%	45	0.3%	-0.005	-0.001
Nicotine dependency	10,938	23.0%	2,690	16.1%	6.849	0.173
Hospitalized acute myocardial infarction (past 0-30 days)	781	1.6%	206	1.2%	0.406	0.034
Hospitalized acute myocardial infarction (past 31-183 days)	399	0.8%	90	0.5%	0.299	0.036
Coronary revascularization	3,584	7.5%	1,184	7.1%	0.431	0.017
Hospitalized heart failure	6,164	12.9%	1,874	11.2%	1.714	0.053
Outpatient heart failure	6,465	13.6%	2,036	12.2%	1.376	0.041
Other ischemic heart disease	13,020	27.3%	4,537	27.2%	0.154	0.003
Hospitalized stroke (past 0-30 days)	480	1.0%	213	1.3%	-0.268	-0.025

Sentinel

Table 1bo. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Age Group: 50-64 Years

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Hospitalized stroke (past 31-183 days)	241	0.5%	88	0.5%	-0.021	-0.003
Transient ischemic attack	1,447	3.0%	592	3.5%	-0.509	-0.029
Other medical conditions (falls, fractures, syncope, walker use)	11,545	24.2%	4,053	24.3%	-0.043	-0.001
Cardioversion	7,194	15.1%	2,617	15.7%	-0.575	-0.016
Cardioablation	1,952	4.1%	931	5.6%	-1.480	-0.069
Hospitalized for bleeding	150	0.3%	71	0.4%	-0.110	-0.018
Medical Product Use						
Estrogen replacement	1,072	2.3%	400	2.4%	-0.146	-0.010
H2-antagonist	1,178	2.5%	330	2.0%	0.496	0.034
Non-steroidal anti-inflammatory drugs (NSAIDs)	7,618	16.0%	2,562	15.4%	0.645	0.018
Proton pump inhibitors	9,305	19.5%	3,034	18.2%	1.359	0.035
Selective serotonin reuptake inhibitor (SSRI)	5,479	11.5%	1,749	10.5%	1.025	0.033
Insulin	3,180	6.7%	1,054	6.3%	0.362	0.015
Metformin (Biguanide)	8,243	17.3%	2,571	15.4%	1.904	0.051
Sulfonylureas	3,126	6.6%	1,189	7.1%	-0.560	-0.022
Other diabetes medications	3,673	7.7%	1,218	7.3%	0.414	0.016
Angiotensin converting enzyme inhibitor (ACEI)/Angiotensin II receptor blocker (ARB)	24,374	51.2%	8,366	50.1%	1.052	0.021
Antiarrhythmics	13,562	28.5%	5,892	35.3%	-6.827	-0.147
Anti-coagulant (injectable)	4,815	10.1%	1,146	6.9%	3.244	0.117
Anti-platelets	5,091	10.7%	1,474	8.8%	1.858	0.063
Beta-blockers	32,482	68.2%	11,378	68.2%	0.030	0.001
Calcium channel blockers	14,576	30.6%	5,427	32.5%	-1.911	-0.041
Digoxin	3,314	7.0%	1,837	11.0%	-4.048	-0.142
Diuretics (loop)	7,992	16.8%	2,593	15.5%	1.245	0.034
Diuretics (potassium sparing)	3,483	7.3%	1,154	6.9%	0.399	0.016
Diuretics (thiazide)	4,687	9.8%	1,525	9.1%	0.704	0.024
Nitrates	2,345	4.9%	784	4.7%	0.226	0.011
Statins	21,560	45.3%	7,437	44.6%	0.710	0.014
Fibrates	1,977	4.2%	907	5.4%	-1.283	-0.060
Amiodarone	4,335	9.1%	1,520	9.1%	-0.005	-0.000
Dronedarone	1,430	3.0%	1,208	7.2%	-4.236	-0.193

Sentinel

Table 1bo. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Age Group: 50-64 Years

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Health Service Utilization Intensity Metrics						
No emergency department (ED) encounters (past 0-	34,062	71.5%	12,532	75.1%	-3.567	-0.081
No ED encounters (past 31-183 days)	39,118	82.1%	14,185	85.0%	-2.855	-0.077
At least 1 ED encounter (past 0-30 days)	13,561	28.5%	4,157	24.9%	3.567	0.081
At least 2 ED encounters (past 0-30 days)	2,949	6.2%	767	4.6%	1.597	0.071
At least 1 ED encounter (past 31-183 days)	8,505	17.9%	2,504	15.0%	2.855	0.077
At least 2 ED encounters (past 31-183 days)	2,684	5.6%	685	4.1%	1.531	0.071

[1]Value represents standard deviation where no % follows the value.

[2]Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

Sentinel

Table 1bp. Aggregated Adjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Age Group: 50-64 Years

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Unique patients	16,531	34.7%	16,531	99.1%	N/A	N/A
Demographic Characteristics						
Age (years)	58.9	4.0	58.9	4.1	0.035	0.009
Age						
21-49 years	0	0.0%	0	0.0%	NaN	NaN
50-64 years	16,531	100.0%	16,531	100.0%	0.000	NaN
Sex						
Female	4,106	24.8%	4,069	24.6%	0.224	0.005
Male	12,425	75.2%	12,462	75.4%	-0.224	-0.005
Race[2]						
American Indian or Alaska Native	13	0.1%	19	0.1%	-0.036	-0.012
Asian	42	0.3%	47	0.3%	-0.030	-0.006
Black or African American	298	1.8%	238	1.4%	0.363	0.029
Native Hawaiian or Other Pacific Islander	19	0.1%	13	0.1%	0.036	0.012
Unknown	13,565	82.1%	13,524	81.8%	0.248	0.006
White	2,594	15.7%	2,690	16.3%	-0.581	-0.016
Hispanic origin						
Yes	89	0.5%	85	0.5%	0.024	0.003
No	1,205	7.3%	1,148	6.9%	0.345	0.013
Unknown	15,237	92.2%	15,298	92.5%	-0.369	-0.014
Year						
2010	0	0.0%	400	2.4%	NaN	NaN
2011	24	0.1%	5,525	33.4%	-33.277	-0.994
2012	1,058	6.4%	3,746	22.7%	-16.260	-0.474
2013	2,026	12.3%	1,955	11.8%	0.429	0.013
2014	2,415	14.6%	1,250	7.6%	7.047	0.226
2015	2,052	12.4%	889	5.4%	7.035	0.249
2016	1,754	10.6%	1,074	6.5%	4.113	0.147
2017	1,735	10.5%	731	4.4%	6.073	0.233
2018	1,640	9.9%	474	2.9%	7.053	0.291
2019	1,398	8.5%	249	1.5%	6.951	0.324
2020	1,139	6.9%	136	0.8%	6.067	0.319
2021	1,212	7.3%	97	0.6%	6.745	0.351

Sentinel

Table 1bp. Aggregated Adjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Age Group: 50-64 Years

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
2022	78	0.5%	5	0.0%	0.442	0.088
CHADSVASC						
mean, std	1.5	1.1	1.5	1.1	-0.002	-0.002
0	2,984	18.1%	2,960	17.9%	0.145	0.004
1	5,944	36.0%	5,925	35.8%	0.115	0.002
2	4,645	28.1%	4,674	28.3%	-0.175	-0.004
3	2,001	12.1%	2,012	12.2%	-0.067	-0.002
4	716	4.3%	727	4.4%	-0.067	-0.003
>= 5	241	1.5%	233	1.4%	0.048	0.004
HASBLED						
mean, std	0.9	0.7	0.9	0.7	0.000	0.000
0	4,307	26.1%	4,287	25.9%	0.121	0.003
1	9,717	58.8%	9,737	58.9%	-0.121	-0.002
2	2,075	12.6%	2,090	12.6%	-0.091	-0.003
>= 3	432	2.6%	417	2.5%	0.091	0.006
Health Characteristics						
Diabetes	4,459	27.0%	4,450	26.9%	0.054	0.001
Hypercholesterolemia	4,692	28.4%	4,713	28.5%	-0.127	-0.003
Hypertension	11,738	71.0%	11,772	71.2%	-0.206	-0.005
Kidney failure (chronic)	700	4.2%	668	4.0%	0.194	0.010
Kidney failure (acute)	593	3.6%	580	3.5%	0.079	0.004
Obesity	3,592	21.7%	3,642	22.0%	-0.302	-0.007
Peptic ulcer disease	43	0.3%	44	0.3%	-0.006	-0.001
Nicotine dependency	2,588	15.7%	2,673	16.2%	-0.514	-0.014
Hospitalized acute myocardial infarction (past 0-30 days)	194	1.2%	206	1.2%	-0.073	-0.007
Hospitalized acute myocardial infarction (past 31-183 days)	76	0.5%	89	0.5%	-0.079	-0.011
Coronary revascularization	1,118	6.8%	1,167	7.1%	-0.296	-0.012
Hospitalized heart failure	1,818	11.0%	1,848	11.2%	-0.181	-0.006
Outpatient heart failure	2,032	12.3%	2,006	12.1%	0.157	0.005
Other ischemic heart disease	4,448	26.9%	4,467	27.0%	-0.115	-0.003
Hospitalized stroke (past 0-30 days)	216	1.3%	209	1.3%	0.042	0.004

Sentinel

Table 1bp. Aggregated Adjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Age Group: 50-64 Years

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Hospitalized stroke (past 31-183 days)	80	0.5%	86	0.5%	-0.036	-0.005
Transient ischemic attack	573	3.5%	581	3.5%	-0.048	-0.003
Other medical conditions (falls, fractures, syncope, walker use)	3,971	24.0%	3,992	24.1%	-0.127	-0.003
Cardioversion	2,542	15.4%	2,579	15.6%	-0.224	-0.006
Cardioablation	861	5.2%	889	5.4%	-0.169	-0.008
Hospitalized for bleeding	68	0.4%	67	0.4%	0.006	0.001
Medical Product Use						
Estrogen replacement	405	2.4%	394	2.4%	0.067	0.004
H2-antagonist	335	2.0%	325	2.0%	0.060	0.004
Non-steroidal anti-inflammatory drugs (NSAIDs)	2,575	15.6%	2,535	15.3%	0.242	0.007
Proton pump inhibitors	3,008	18.2%	2,996	18.1%	0.073	0.002
Selective serotonin reuptake inhibitor (SSRI)	1,784	10.8%	1,739	10.5%	0.272	0.009
Insulin	1,049	6.3%	1,040	6.3%	0.054	0.002
Metformin (Biguanide)	2,547	15.4%	2,543	15.4%	0.024	0.001
Sulfonylureas	1,135	6.9%	1,170	7.1%	-0.212	-0.008
Other diabetes medications	1,198	7.2%	1,208	7.3%	-0.060	-0.002
Angiotensin converting enzyme inhibitor (ACEI)/Angiotensin II receptor blocker (ARB)	8,311	50.3%	8,285	50.1%	0.157	0.003
Antiarrhythmics	5,733	34.7%	5,760	34.8%	-0.163	-0.003
Anti-coagulant (injectable)	1,126	6.8%	1,136	6.9%	-0.060	-0.002
Anti-platelets	1,439	8.7%	1,460	8.8%	-0.127	-0.004
Beta-blockers	11,298	68.3%	11,262	68.1%	0.218	0.005
Calcium channel blockers	5,321	32.2%	5,358	32.4%	-0.224	-0.005
Digoxin	1,787	10.8%	1,766	10.7%	0.127	0.004
Diuretics (loop)	2,585	15.6%	2,558	15.5%	0.163	0.005
Diuretics (potassium sparing)	1,128	6.8%	1,133	6.9%	-0.030	-0.001
Diuretics (thiazide)	1,514	9.2%	1,512	9.1%	0.012	0.000
Nitrates	773	4.7%	766	4.6%	0.042	0.002
Statins	7,386	44.7%	7,361	44.5%	0.151	0.003
Fibrates	885	5.4%	888	5.4%	-0.018	-0.001
Amiodarone	1,526	9.2%	1,503	9.1%	0.139	0.005
Dronedarone	1,054	6.4%	1,118	6.8%	-0.387	-0.016

Sentinel

Table 1bp. Aggregated Adjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Age Group: 50-64 Years

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Health Service Utilization Intensity Metrics						
No emergency department (ED) encounters (past 0-	12,446	75.3%	12,412	75.1%	0.206	0.005
No ED encounters (past 31-183 days)	14,066	85.1%	14,063	85.1%	0.018	0.001
At least 1 ED encounter (past 0-30 days)	4,085	24.7%	4,119	24.9%	-0.206	-0.005
At least 2 ED encounters (past 0-30 days)	739	4.5%	757	4.6%	-0.109	-0.005
At least 1 ED encounter (past 31-183 days)	2,465	14.9%	2,468	14.9%	-0.018	-0.001
At least 2 ED encounters (past 31-183 days)	667	4.0%	674	4.1%	-0.042	-0.002

[1]Value represents standard deviation where no % follows the value.

[2]Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

Sentinel

Table 1bq. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 0

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Unique patients	10,615	100.0%	4,137	100.0%	N/A	N/A
Demographic Characteristics						
Age (years)	53.4	9.1	53.5	8.7	-0.089	-0.010
Age						
21-49 years	3,021	28.5%	1,157	28.0%	0.493	0.011
50-64 years	7,594	71.5%	2,980	72.0%	-0.493	-0.011
Sex						
Female	0	0.0%	0	0.0%	NaN	NaN
Male	10,615	100.0%	4,137	100.0%	0.000	NaN
Race[2]						
American Indian or Alaska Native	10	0.1%	3	0.1%	0.022	0.008
Asian	31	0.3%	15	0.4%	-0.071	-0.012
Black or African American	64	0.6%	13	0.3%	0.289	0.043
Native Hawaiian or Other Pacific Islander	3	0.0%	2	0.0%	-0.020	-0.010
Unknown	9,207	86.7%	3,577	86.5%	0.272	0.008
White	1,300	12.2%	527	12.7%	-0.492	-0.015
Hispanic origin						
Yes	57	0.5%	17	0.4%	0.126	0.018
No	245	2.3%	78	1.9%	0.423	0.030
Unknown	10,313	97.2%	4,042	97.7%	-0.549	-0.035
Year						
2010	0	0.0%	113	2.7%	NaN	NaN
2011	11	0.1%	1,516	36.6%	-36.541	-1.070
2012	560	5.3%	1,025	24.8%	-19.501	-0.567
2013	1,196	11.3%	542	13.1%	-1.834	-0.056
2014	1,359	12.8%	255	6.2%	6.639	0.228
2015	1,316	12.4%	179	4.3%	8.071	0.295
2016	1,176	11.1%	197	4.8%	6.317	0.236
2017	1,139	10.7%	119	2.9%	7.854	0.316
2018	1,142	10.8%	98	2.4%	8.389	0.344
2019	972	9.2%	49	1.2%	7.972	0.366
2020	818	7.7%	29	0.7%	7.005	0.355
2021	843	7.9%	14	0.3%	7.603	0.389

Sentinel

Table 1bq. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 0

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
2022	83	0.8%	1	0.0%	0.758	0.120
CHADSVASC						
mean, std	0.0	NaN	0.0	NaN	NaN	NaN
0	10,615	100.0%	4,137	100.0%	0.000	NaN
1	0	0.0%	0	0.0%	NaN	NaN
2	0	0.0%	0	0.0%	NaN	NaN
3	0	0.0%	0	0.0%	NaN	NaN
4	0	0.0%	0	0.0%	NaN	NaN
>= 5	0	0.0%	0	0.0%	NaN	NaN
HASBLED						
mean, std	0.1	0.3	0.1	0.3	0.011	0.036
0	9,680	91.2%	3,808	92.0%	-0.856	-0.031
1	856	8.1%	307	7.4%	0.643	0.024
2	74	0.7%	22	0.5%	0.165	0.021
>= 3	5	0.0%	0	0.0%	NaN	NaN
Health Characteristics						
Diabetes	27	0.3%	9	0.2%	0.037	0.008
Hypercholesterolemia	1,435	13.5%	601	14.5%	-1.009	-0.029
Hypertension	257	2.4%	57	1.4%	1.043	0.076
Kidney failure (chronic)	78	0.7%	24	0.6%	0.155	0.019
Kidney failure (acute)	107	1.0%	31	0.7%	0.259	0.028
Obesity	1,530	14.4%	346	8.4%	6.050	0.191
Peptic ulcer disease	11	0.1%	4	0.1%	0.007	0.002
Nicotine dependency	1,593	15.0%	470	11.4%	3.646	0.108
Hospitalized acute myocardial infarction (past 0-30 days)	0	0.0%	0	0.0%	NaN	NaN
Hospitalized acute myocardial infarction (past 31-183 days)	0	0.0%	0	0.0%	NaN	NaN
Coronary revascularization	161	1.5%	66	1.6%	-0.079	-0.006
Hospitalized heart failure	0	0.0%	0	0.0%	NaN	NaN
Outpatient heart failure	426	4.0%	199	4.8%	-0.797	-0.039
Other ischemic heart disease	1,116	10.5%	482	11.7%	-1.138	-0.036
Hospitalized stroke (past 0-30 days)	0	0.0%	0	0.0%	NaN	NaN

Sentinel

Table 1bq. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 0

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Hospitalized stroke (past 31-183 days)	0	0.0%	0	0.0%	NaN	NaN
Transient ischemic attack	5	0.0%	0	0.0%	NaN	NaN
Other medical conditions (falls, fractures, syncope, walker use)	2,292	21.6%	892	21.6%	0.031	0.001
Cardioversion	1,739	16.4%	687	16.6%	-0.224	-0.006
Cardioablation	629	5.9%	372	9.0%	-3.066	-0.117
Hospitalized for bleeding	14	0.1%	8	0.2%	-0.061	-0.015
Medical Product Use						
Estrogen replacement	1	0.0%	0	0.0%	NaN	NaN
H2-antagonist	98	0.9%	28	0.7%	0.246	0.028
Non-steroidal anti-inflammatory drugs (NSAIDs)	1,131	10.7%	479	11.6%	-0.924	-0.029
Proton pump inhibitors	1,317	12.4%	468	11.3%	1.094	0.034
Selective serotonin reuptake inhibitor (SSRI)	628	5.9%	241	5.8%	0.091	0.004
Insulin	10	0.1%	4	0.1%	-0.002	-0.001
Metformin (Biguanide)	112	1.1%	33	0.8%	0.257	0.027
Sulfonylureas	22	0.2%	7	0.2%	0.038	0.009
Other diabetes medications	37	0.3%	12	0.3%	0.058	0.010
Angiotensin converting enzyme inhibitor (ACEI)/Angiotensin II receptor blocker (ARB)	1,063	10.0%	536	13.0%	-2.942	-0.092
Antiarrhythmics	3,124	29.4%	1,485	35.9%	-6.466	-0.138
Anti-coagulant (injectable)	1,028	9.7%	291	7.0%	2.650	0.096
Anti-platelets	424	4.0%	121	2.9%	1.070	0.059
Beta-blockers	5,694	53.6%	2,333	56.4%	-2.752	-0.055
Calcium channel blockers	2,010	18.9%	830	20.1%	-1.127	-0.028
Digoxin	422	4.0%	331	8.0%	-4.025	-0.170
Diuretics (loop)	393	3.7%	172	4.2%	-0.455	-0.023
Diuretics (potassium sparing)	170	1.6%	93	2.2%	-0.646	-0.047
Diuretics (thiazide)	112	1.1%	66	1.6%	-0.540	-0.047
Nitrates	95	0.9%	33	0.8%	0.097	0.011
Statins	2,191	20.6%	956	23.1%	-2.468	-0.060
Fibrates	158	1.5%	63	1.5%	-0.034	-0.003
Amiodarone	501	4.7%	232	5.6%	-0.888	-0.040
Dronedarone	361	3.4%	314	7.6%	-4.189	-0.185

Sentinel

Table 1bq. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 0

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Health Service Utilization Intensity Metrics						
No emergency department (ED) encounters (past 0-	7,782	73.3%	3,290	79.5%	-6.215	-0.147
No ED encounters (past 31-183 days)	9,443	89.0%	3,728	90.1%	-1.155	-0.038
At least 1 ED encounter (past 0-30 days)	2,833	26.7%	847	20.5%	6.215	0.147
At least 2 ED encounters (past 0-30 days)	421	4.0%	115	2.8%	1.186	0.066
At least 1 ED encounter (past 31-183 days)	1,172	11.0%	409	9.9%	1.155	0.038
At least 2 ED encounters (past 31-183 days)	271	2.6%	86	2.1%	0.474	0.032

[1]Value represents standard deviation where no % follows the value.

[2]Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

Sentinel

Table 1br. Aggregated Adjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 0

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Unique patients	4,004	37.7%	4,004	96.8%	N/A	N/A
Demographic Characteristics						
Age (years)	53.6	8.9	53.5	8.6	0.077	0.009
Age						
21-49 years	1,102	27.5%	1,117	27.9%	-0.375	-0.008
50-64 years	2,902	72.5%	2,887	72.1%	0.375	0.008
Sex						
Female	0	0.0%	0	0.0%	NaN	NaN
Male	4,004	100.0%	4,004	100.0%	0.000	NaN
Race[2]						
American Indian or Alaska Native	5	0.1%	3	0.1%	0.050	0.016
Asian	14	0.3%	14	0.3%	0.000	0.000
Black or African American	22	0.5%	12	0.3%	0.250	0.038
Native Hawaiian or Other Pacific Islander	1	0.0%	2	0.0%	-0.025	-0.013
Unknown	3,494	87.3%	3,472	86.7%	0.549	0.016
White	468	11.7%	501	12.5%	-0.824	-0.025
Hispanic origin						
Yes	24	0.6%	17	0.4%	0.175	0.024
No	80	2.0%	69	1.7%	0.275	0.020
Unknown	3,900	97.4%	3,918	97.9%	-0.450	-0.030
Year						
2010	0	0.0%	109	2.7%	NaN	NaN
2011	6	0.1%	1,451	36.2%	-36.089	-1.058
2012	239	6.0%	981	24.5%	-18.531	-0.534
2013	535	13.4%	531	13.3%	0.100	0.003
2014	567	14.2%	253	6.3%	7.842	0.261
2015	512	12.8%	175	4.4%	8.417	0.304
2016	407	10.2%	195	4.9%	5.295	0.202
2017	409	10.2%	119	3.0%	7.243	0.295
2018	445	11.1%	97	2.4%	8.691	0.351
2019	311	7.8%	49	1.2%	6.543	0.320
2020	281	7.0%	29	0.7%	6.294	0.331
2021	274	6.8%	14	0.3%	6.494	0.354

Sentinel

Table 1br. Aggregated Adjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 0

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
2022	18	0.4%	1	0.0%	0.425	0.087
CHADSVASC						
mean, std	0.0	NaN	0.0	NaN	NaN	NaN
0	4,004	100.0%	4,004	100.0%	0.000	NaN
1	0	0.0%	0	0.0%	NaN	NaN
2	0	0.0%	0	0.0%	NaN	NaN
3	0	0.0%	0	0.0%	NaN	NaN
4	0	0.0%	0	0.0%	NaN	NaN
>= 5	0	0.0%	0	0.0%	NaN	NaN
HASBLED						
mean, std	0.1	0.3	0.1	0.3	-0.005	-0.016
0	3,709	92.6%	3,689	92.1%	0.500	0.019
1	272	6.8%	293	7.3%	-0.524	-0.020
2	23	0.6%	22	0.5%	0.025	0.003
>= 3	0	0.0%	0	0.0%	NaN	NaN
Health Characteristics						
Diabetes	5	0.1%	7	0.2%	-0.050	-0.013
Hypercholesterolemia	589	14.7%	586	14.6%	0.075	0.002
Hypertension	51	1.3%	53	1.3%	-0.050	-0.004
Kidney failure (chronic)	22	0.5%	22	0.5%	0.000	0.000
Kidney failure (acute)	30	0.7%	30	0.7%	0.000	0.000
Obesity	329	8.2%	342	8.5%	-0.325	-0.012
Peptic ulcer disease	1	0.0%	2	0.0%	-0.025	-0.013
Nicotine dependency	470	11.7%	446	11.1%	0.599	0.019
Hospitalized acute myocardial infarction (past 0-30 days)	0	0.0%	0	0.0%	NaN	NaN
Hospitalized acute myocardial infarction (past 31-183 days)	0	0.0%	0	0.0%	NaN	NaN
Coronary revascularization	59	1.5%	60	1.5%	-0.025	-0.002
Hospitalized heart failure	0	0.0%	0	0.0%	NaN	NaN
Outpatient heart failure	190	4.7%	190	4.7%	0.000	0.000
Other ischemic heart disease	433	10.8%	450	11.2%	-0.425	-0.014
Hospitalized stroke (past 0-30 days)	0	0.0%	0	0.0%	NaN	NaN

Sentinel

Table 1br. Aggregated Adjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 0

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Hospitalized stroke (past 31-183 days)	0	0.0%	0	0.0%	NaN	NaN
Transient ischemic attack	0	0.0%	0	0.0%	NaN	NaN
Other medical conditions (falls, fractures, syncope, walker use)	857	21.4%	850	21.2%	0.175	0.004
Cardioversion	670	16.7%	656	16.4%	0.350	0.009
Cardioablation	300	7.5%	312	7.8%	-0.300	-0.011
Hospitalized for bleeding	8	0.2%	7	0.2%	0.025	0.006
Medical Product Use						
Estrogen replacement	0	0.0%	0	0.0%	NaN	NaN
H2-antagonist	25	0.6%	26	0.6%	-0.025	-0.003
Non-steroidal anti-inflammatory drugs (NSAIDs)	449	11.2%	449	11.2%	0.000	0.000
Proton pump inhibitors	412	10.3%	449	11.2%	-0.924	-0.030
Selective serotonin reuptake inhibitor (SSRI)	241	6.0%	226	5.6%	0.375	0.016
Insulin	3	0.1%	2	0.0%	0.025	0.010
Metformin (Biguanide)	34	0.8%	31	0.8%	0.075	0.008
Sulfonylureas	5	0.1%	5	0.1%	0.000	0.000
Other diabetes medications	9	0.2%	10	0.2%	-0.025	-0.005
Angiotensin converting enzyme inhibitor (ACEI)/Angiotensin II receptor blocker (ARB)	488	12.2%	500	12.5%	-0.300	-0.009
Antiarrhythmics	1,418	35.4%	1,398	34.9%	0.500	0.010
Anti-coagulant (injectable)	278	6.9%	280	7.0%	-0.050	-0.002
Anti-platelets	109	2.7%	114	2.8%	-0.125	-0.008
Beta-blockers	2,201	55.0%	2,254	56.3%	-1.324	-0.027
Calcium channel blockers	798	19.9%	789	19.7%	0.225	0.006
Digoxin	275	6.9%	293	7.3%	-0.450	-0.018
Diuretics (loop)	151	3.8%	161	4.0%	-0.250	-0.013
Diuretics (potassium sparing)	85	2.1%	89	2.2%	-0.100	-0.007
Diuretics (thiazide)	53	1.3%	58	1.4%	-0.125	-0.011
Nitrates	37	0.9%	31	0.8%	0.150	0.016
Statins	893	22.3%	918	22.9%	-0.624	-0.015
Fibrates	56	1.4%	62	1.5%	-0.150	-0.012
Amiodarone	219	5.5%	222	5.5%	-0.075	-0.003
Dronedarone	253	6.3%	265	6.6%	-0.300	-0.012

Sentinel

Table 1br. Aggregated Adjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 0

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Health Service Utilization Intensity Metrics						
No emergency department (ED) encounters (past 0-	3,173	79.2%	3,171	79.2%	0.050	0.001
No ED encounters (past 31-183 days)	3,617	90.3%	3,622	90.5%	-0.125	-0.004
At least 1 ED encounter (past 0-30 days)	831	20.8%	833	20.8%	-0.050	-0.001
At least 2 ED encounters (past 0-30 days)	118	2.9%	112	2.8%	0.150	0.009
At least 1 ED encounter (past 31-183 days)	387	9.7%	382	9.5%	0.125	0.004
At least 2 ED encounters (past 31-183 days)	82	2.0%	79	2.0%	0.075	0.005

[1]Value represents standard deviation where no % follows the value.

[2]Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

Sentinel

Table 1bs. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 1

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Unique patients	20,124	100.0%	7,308	100.0%	N/A	N/A
Demographic Characteristics						
Age (years)	56.1	7.4	56.0	7.4	0.155	0.021
Age						
21-49 years	3,522	17.5%	1,336	18.3%	-0.780	-0.020
50-64 years	16,602	82.5%	5,972	81.7%	0.780	0.020
Sex						
Female	3,428	17.0%	1,096	15.0%	2.037	0.056
Male	16,696	83.0%	6,212	85.0%	-2.037	-0.056
Race[2]						
American Indian or Alaska Native	12	0.1%	10	0.1%	-0.077	-0.025
Asian	50	0.2%	24	0.3%	-0.080	-0.015
Black or African American	217	1.1%	59	0.8%	0.271	0.028
Native Hawaiian or Other Pacific Islander	10	0.0%	6	0.1%	-0.032	-0.013
Unknown	17,163	85.3%	6,178	84.5%	0.749	0.021
White	2,672	13.3%	1,031	14.1%	-0.830	-0.024
Hispanic origin						
Yes	118	0.6%	28	0.4%	0.203	0.029
No	943	4.7%	277	3.8%	0.896	0.044
Unknown	19,063	94.7%	7,003	95.8%	-1.099	-0.052
Year						
2010	0	0.0%	181	2.5%	NaN	NaN
2011	17	0.1%	2,526	34.6%	-34.480	-1.023
2012	1,053	5.2%	1,708	23.4%	-18.139	-0.536
2013	2,043	10.2%	861	11.8%	-1.630	-0.052
2014	2,632	13.1%	576	7.9%	5.197	0.170
2015	2,311	11.5%	382	5.2%	6.257	0.228
2016	2,243	11.1%	442	6.0%	5.098	0.183
2017	2,331	11.6%	287	3.9%	7.656	0.289
2018	2,183	10.8%	178	2.4%	8.412	0.343
2019	1,918	9.5%	100	1.4%	8.163	0.366
2020	1,556	7.7%	41	0.6%	7.171	0.366
2021	1,702	8.5%	25	0.3%	8.115	0.404

Sentinel

Table 1bs. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 1

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
2022	135	0.7%	1	0.0%	0.657	0.113
CHADSVASC						
mean, std	1.0	0.0	1.0	0.0	0.000	NaN
0	0	0.0%	0	0.0%	NaN	NaN
1	20,124	100.0%	7,308	100.0%	0.000	NaN
2	0	0.0%	0	0.0%	NaN	NaN
3	0	0.0%	0	0.0%	NaN	NaN
4	0	0.0%	0	0.0%	NaN	NaN
>= 5	0	0.0%	0	0.0%	NaN	NaN
HASBLED						
mean, std	0.9	0.6	0.9	0.6	0.019	0.031
0	4,461	22.2%	1,604	21.9%	0.219	0.005
1	13,288	66.0%	4,958	67.8%	-1.813	-0.039
2	2,045	10.2%	659	9.0%	1.144	0.039
>= 3	330	1.6%	87	1.2%	0.449	0.038
Health Characteristics						
Diabetes	746	3.7%	322	4.4%	-0.699	-0.035
Hypercholesterolemia	4,891	24.3%	1,858	25.4%	-1.120	-0.026
Hypertension	15,028	74.7%	5,480	75.0%	-0.309	-0.007
Kidney failure (chronic)	494	2.5%	142	1.9%	0.512	0.035
Kidney failure (acute)	474	2.4%	118	1.6%	0.741	0.053
Obesity	5,663	28.1%	1,343	18.4%	9.763	0.233
Peptic ulcer disease	30	0.1%	16	0.2%	-0.070	-0.016
Nicotine dependency	4,211	20.9%	1,119	15.3%	5.613	0.146
Hospitalized acute myocardial infarction (past 0-30 days)	37	0.2%	8	0.1%	0.074	0.019
Hospitalized acute myocardial infarction (past 31-183 days)	19	0.1%	4	0.1%	0.040	0.015
Coronary revascularization	911	4.5%	346	4.7%	-0.208	-0.010
Hospitalized heart failure	654	3.2%	266	3.6%	-0.390	-0.021
Outpatient heart failure	1,376	6.8%	564	7.7%	-0.880	-0.034
Other ischemic heart disease	4,213	20.9%	1,568	21.5%	-0.521	-0.013
Hospitalized stroke (past 0-30 days)	0	0.0%	0	0.0%	NaN	NaN

Sentinel

Table 1bs. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 1

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Hospitalized stroke (past 31-183 days)	0	0.0%	0	0.0%	NaN	NaN
Transient ischemic attack	10	0.0%	5	0.1%	-0.019	-0.008
Other medical conditions (falls, fractures, syncope, walker use)	4,635	23.0%	1,756	24.0%	-0.996	-0.023
Cardioversion	3,346	16.6%	1,322	18.1%	-1.463	-0.039
Cardioablation	1,066	5.3%	506	6.9%	-1.627	-0.068
Hospitalized for bleeding	43	0.2%	22	0.3%	-0.087	-0.017
Medical Product Use						
Estrogen replacement	346	1.7%	146	2.0%	-0.278	-0.021
H2-antagonist	325	1.6%	110	1.5%	0.110	0.009
Non-steroidal anti-inflammatory drugs (NSAIDs)	2,936	14.6%	1,034	14.1%	0.441	0.013
Proton pump inhibitors	3,522	17.5%	1,171	16.0%	1.478	0.040
Selective serotonin reuptake inhibitor (SSRI)	1,864	9.3%	619	8.5%	0.792	0.028
Insulin	113	0.6%	61	0.8%	-0.273	-0.033
Metformin (Biguanide)	678	3.4%	258	3.5%	-0.161	-0.009
Sulfonylureas	150	0.7%	71	1.0%	-0.226	-0.025
Other diabetes medications	217	1.1%	77	1.1%	0.025	0.002
Angiotensin converting enzyme inhibitor (ACEI)/Angiotensin II receptor blocker (ARB)	9,527	47.3%	3,413	46.7%	0.639	0.013
Antiarrhythmics	5,931	29.5%	2,685	36.7%	-7.268	-0.155
Anti-coagulant (injectable)	2,034	10.1%	509	7.0%	3.142	0.113
Anti-platelets	1,445	7.2%	431	5.9%	1.283	0.052
Beta-blockers	13,460	66.9%	4,925	67.4%	-0.507	-0.011
Calcium channel blockers	6,134	30.5%	2,296	31.4%	-0.937	-0.020
Digoxin	1,166	5.8%	679	9.3%	-3.497	-0.133
Diuretics (loop)	1,792	8.9%	662	9.1%	-0.154	-0.005
Diuretics (potassium sparing)	916	4.6%	343	4.7%	-0.142	-0.007
Diuretics (thiazide)	1,683	8.4%	539	7.4%	0.988	0.037
Nitrates	583	2.9%	206	2.8%	0.078	0.005
Statins	7,248	36.0%	2,726	37.3%	-1.285	-0.027
Fibrates	640	3.2%	296	4.1%	-0.870	-0.047
Amiodarone	1,483	7.4%	541	7.4%	-0.034	-0.001
Dronedarone	711	3.5%	599	8.2%	-4.663	-0.199

Sentinel

Table 1bs. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 1

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Health Service Utilization Intensity Metrics						
No emergency department (ED) encounters (past 0-	15,004	74.6%	5,638	77.1%	-2.591	-0.061
No ED encounters (past 31-183 days)	17,089	84.9%	6,343	86.8%	-1.877	-0.054
At least 1 ED encounter (past 0-30 days)	5,120	25.4%	1,670	22.9%	2.591	0.061
At least 2 ED encounters (past 0-30 days)	969	4.8%	281	3.8%	0.970	0.048
At least 1 ED encounter (past 31-183 days)	3,035	15.1%	965	13.2%	1.877	0.054
At least 2 ED encounters (past 31-183 days)	773	3.8%	237	3.2%	0.598	0.032

[1]Value represents standard deviation where no % follows the value.

[2]Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

Sentinel

Table 1bt. Aggregated Adjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 1

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Unique patients	7,193	35.7%	7,193	98.4%	N/A	N/A
Demographic Characteristics						
Age (years)	56.0	7.5	56.0	7.4	0.003	0.000
Age						
21-49 years	1,252	17.4%	1,308	18.2%	-0.779	-0.020
50-64 years	5,941	82.6%	5,885	81.8%	0.779	0.020
Sex						
Female	1,096	15.2%	1,085	15.1%	0.153	0.004
Male	6,097	84.8%	6,108	84.9%	-0.153	-0.004
Race[2]						
American Indian or Alaska Native	4	0.1%	10	0.1%	-0.083	-0.027
Asian	19	0.3%	24	0.3%	-0.070	-0.013
Black or African American	64	0.9%	58	0.8%	0.083	0.009
Native Hawaiian or Other Pacific Islander	6	0.1%	6	0.1%	0.000	0.000
Unknown	6,105	84.9%	6,087	84.6%	0.250	0.007
White	995	13.8%	1,008	14.0%	-0.181	-0.005
Hispanic origin						
Yes	51	0.7%	27	0.4%	0.334	0.045
No	280	3.9%	267	3.7%	0.181	0.009
Unknown	6,862	95.4%	6,899	95.9%	-0.514	-0.025
Year						
2010	0	0.0%	174	2.4%	NaN	NaN
2011	7	0.1%	2,469	34.3%	-34.228	-1.017
2012	493	6.9%	1,684	23.4%	-16.558	-0.475
2013	889	12.4%	848	11.8%	0.570	0.017
2014	1,101	15.3%	571	7.9%	7.368	0.231
2015	842	11.7%	380	5.3%	6.423	0.232
2016	772	10.7%	440	6.1%	4.616	0.167
2017	789	11.0%	286	4.0%	6.993	0.268
2018	679	9.4%	175	2.4%	7.007	0.300
2019	596	8.3%	99	1.4%	6.909	0.327
2020	476	6.6%	41	0.6%	6.048	0.329
2021	508	7.1%	25	0.3%	6.715	0.361

Sentinel

Table 1bt. Aggregated Adjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 1

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
2022	41	0.6%	1	0.0%	0.556	0.103
CHADSVASC						
mean, std	1.0	0.0	1.0	0.0	0.000	NaN
0	0	0.0%	0	0.0%	NaN	NaN
1	7,193	100.0%	7,193	100.0%	0.000	NaN
2	0	0.0%	0	0.0%	NaN	NaN
3	0	0.0%	0	0.0%	NaN	NaN
4	0	0.0%	0	0.0%	NaN	NaN
>= 5	0	0.0%	0	0.0%	NaN	NaN
HASBLED						
mean, std	0.9	0.6	0.9	0.6	-0.002	-0.004
0	1,595	22.2%	1,576	21.9%	0.264	0.006
1	4,877	67.8%	4,882	67.9%	-0.070	-0.001
2	624	8.7%	650	9.0%	-0.361	-0.013
>= 3	97	1.3%	85	1.2%	0.167	0.015
Health Characteristics						
Diabetes	332	4.6%	313	4.4%	0.264	0.013
Hypercholesterolemia	1,833	25.5%	1,820	25.3%	0.181	0.004
Hypertension	5,374	74.7%	5,401	75.1%	-0.375	-0.009
Kidney failure (chronic)	136	1.9%	137	1.9%	-0.014	-0.001
Kidney failure (acute)	111	1.5%	117	1.6%	-0.083	-0.007
Obesity	1,313	18.3%	1,335	18.6%	-0.306	-0.008
Peptic ulcer disease	12	0.2%	14	0.2%	-0.028	-0.007
Nicotine dependency	1,092	15.2%	1,104	15.3%	-0.167	-0.005
Hospitalized acute myocardial infarction (past 0-30 days)	9	0.1%	8	0.1%	0.014	0.004
Hospitalized acute myocardial infarction (past 31-183 days)	1	0.0%	2	0.0%	-0.014	-0.010
Coronary revascularization	324	4.5%	336	4.7%	-0.167	-0.008
Hospitalized heart failure	275	3.8%	262	3.6%	0.181	0.010
Outpatient heart failure	530	7.4%	553	7.7%	-0.320	-0.012
Other ischemic heart disease	1,546	21.5%	1,532	21.3%	0.195	0.005
Hospitalized stroke (past 0-30 days)	0	0.0%	0	0.0%	NaN	NaN

Sentinel

Table 1bt. Aggregated Adjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 1

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Hospitalized stroke (past 31-183 days)	0	0.0%	0	0.0%	NaN	NaN
Transient ischemic attack	4	0.1%	5	0.1%	-0.014	-0.006
Other medical conditions (falls, fractures, syncope, walker use)	1,690	23.5%	1,706	23.7%	-0.222	-0.005
Cardioversion	1,292	18.0%	1,282	17.8%	0.139	0.004
Cardioablation	421	5.9%	481	6.7%	-0.834	-0.034
Hospitalized for bleeding	17	0.2%	21	0.3%	-0.056	-0.011
Medical Product Use						
Estrogen replacement	137	1.9%	138	1.9%	-0.014	-0.001
H2-antagonist	102	1.4%	105	1.5%	-0.042	-0.004
Non-steroidal anti-inflammatory drugs (NSAIDs)	1,007	14.0%	1,025	14.2%	-0.250	-0.007
Proton pump inhibitors	1,121	15.6%	1,154	16.0%	-0.459	-0.013
Selective serotonin reuptake inhibitor (SSRI)	597	8.3%	606	8.4%	-0.125	-0.005
Insulin	50	0.7%	58	0.8%	-0.111	-0.013
Metformin (Biguanide)	258	3.6%	250	3.5%	0.111	0.006
Sulfonylureas	70	1.0%	69	1.0%	0.014	0.001
Other diabetes medications	71	1.0%	77	1.1%	-0.083	-0.008
Angiotensin converting enzyme inhibitor (ACEI)/Angiotensin II receptor blocker (ARB)	3,296	45.8%	3,354	46.6%	-0.806	-0.016
Antiarrhythmics	2,542	35.3%	2,594	36.1%	-0.723	-0.015
Anti-coagulant (injectable)	480	6.7%	505	7.0%	-0.348	-0.014
Anti-platelets	410	5.7%	424	5.9%	-0.195	-0.008
Beta-blockers	4,828	67.1%	4,838	67.3%	-0.139	-0.003
Calcium channel blockers	2,262	31.4%	2,252	31.3%	0.139	0.003
Digoxin	655	9.1%	656	9.1%	-0.014	-0.000
Diuretics (loop)	664	9.2%	644	9.0%	0.278	0.010
Diuretics (potassium sparing)	325	4.5%	337	4.7%	-0.167	-0.008
Diuretics (thiazide)	511	7.1%	532	7.4%	-0.292	-0.011
Nitrates	201	2.8%	197	2.7%	0.056	0.003
Statins	2,655	36.9%	2,673	37.2%	-0.250	-0.005
Fibrates	295	4.1%	287	4.0%	0.111	0.006
Amiodarone	512	7.1%	535	7.4%	-0.320	-0.012
Dronedarone	526	7.3%	542	7.5%	-0.222	-0.008

Sentinel

Table 1bt. Aggregated Adjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 1

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Health Service Utilization Intensity Metrics						
No emergency department (ED) encounters (past 0-	5,577	77.5%	5,554	77.2%	0.320	0.008
No ED encounters (past 31-183 days)	6,264	87.1%	6,254	86.9%	0.139	0.004
At least 1 ED encounter (past 0-30 days)	1,616	22.5%	1,639	22.8%	-0.320	-0.008
At least 2 ED encounters (past 0-30 days)	278	3.9%	276	3.8%	0.028	0.001
At least 1 ED encounter (past 31-183 days)	929	12.9%	939	13.1%	-0.139	-0.004
At least 2 ED encounters (past 31-183 days)	222	3.1%	229	3.2%	-0.097	-0.006

[1]Value represents standard deviation where no % follows the value.

[2]Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

Sentinel

Table 1bu. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 2

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Unique patients	15,095	100.0%	5,427	100.0%	N/A	N/A
Demographic Characteristics						
Age (years)	57.2	6.5	57.5	6.2	-0.260	-0.041
Age						
21-49 years	1,976	13.1%	692	12.8%	0.339	0.010
50-64 years	13,119	86.9%	4,735	87.2%	-0.339	-0.010
Sex						
Female	5,850	38.8%	1,915	35.3%	3.468	0.072
Male	9,245	61.2%	3,512	64.7%	-3.468	-0.072
Race[2]						
American Indian or Alaska Native	15	0.1%	6	0.1%	-0.011	-0.003
Asian	50	0.3%	14	0.3%	0.073	0.014
Black or African American	377	2.5%	92	1.7%	0.802	0.056
Native Hawaiian or Other Pacific Islander	19	0.1%	2	0.0%	0.089	0.031
Unknown	12,255	81.2%	4,424	81.5%	-0.333	-0.009
White	2,379	15.8%	889	16.4%	-0.621	-0.017
Hispanic origin						
Yes	86	0.6%	38	0.7%	-0.130	-0.016
No	1,371	9.1%	422	7.8%	1.307	0.047
Unknown	13,638	90.3%	4,967	91.5%	-1.176	-0.041
Year						
2010	0	0.0%	123	2.3%	NaN	NaN
2011	15	0.1%	1,838	33.9%	-33.768	-1.007
2012	731	4.8%	1,223	22.5%	-17.693	-0.533
2013	1,616	10.7%	618	11.4%	-0.682	-0.022
2014	2,071	13.7%	444	8.2%	5.538	0.178
2015	1,839	12.2%	272	5.0%	7.171	0.258
2016	1,651	10.9%	341	6.3%	4.654	0.166
2017	1,659	11.0%	254	4.7%	6.310	0.236
2018	1,564	10.4%	153	2.8%	7.542	0.308
2019	1,441	9.5%	82	1.5%	8.035	0.357
2020	1,170	7.8%	43	0.8%	6.959	0.349
2021	1,245	8.2%	35	0.6%	7.603	0.375

Sentinel

Table 1bu. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 2

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
2022	93	0.6%	1	0.0%	0.598	0.106
CHADSVASC						
mean, std	2.0	0.0	2.0	0.0	0.000	NaN
0	0	0.0%	0	0.0%	NaN	NaN
1	0	0.0%	0	0.0%	NaN	NaN
2	15,095	100.0%	5,427	100.0%	0.000	NaN
3	0	0.0%	0	0.0%	NaN	NaN
4	0	0.0%	0	0.0%	NaN	NaN
>= 5	0	0.0%	0	0.0%	NaN	NaN
HASBLED						
mean, std	1.2	0.6	1.1	0.6	0.043	0.075
0	900	6.0%	333	6.1%	-0.174	-0.007
1	11,024	73.0%	4,128	76.1%	-3.033	-0.070
2	2,664	17.6%	833	15.3%	2.299	0.062
>= 3	507	3.4%	133	2.5%	0.908	0.054
Health Characteristics						
Diabetes	5,580	37.0%	2,380	43.9%	-6.889	-0.141
Hypercholesterolemia	4,360	28.9%	1,721	31.7%	-2.828	-0.062
Hypertension	13,921	92.2%	4,997	92.1%	0.146	0.005
Kidney failure (chronic)	772	5.1%	235	4.3%	0.784	0.037
Kidney failure (acute)	786	5.2%	207	3.8%	1.393	0.067
Obesity	5,947	39.4%	1,574	29.0%	10.394	0.220
Peptic ulcer disease	47	0.3%	15	0.3%	0.035	0.006
Nicotine dependency	3,734	24.7%	952	17.5%	7.195	0.177
Hospitalized acute myocardial infarction (past 0-30 days)	222	1.5%	61	1.1%	0.347	0.031
Hospitalized acute myocardial infarction (past 31-183 days)	77	0.5%	22	0.4%	0.105	0.016
Coronary revascularization	1,125	7.5%	389	7.2%	0.285	0.011
Hospitalized heart failure	2,511	16.6%	786	14.5%	2.152	0.059
Outpatient heart failure	2,345	15.5%	778	14.3%	1.199	0.034
Other ischemic heart disease	4,297	28.5%	1,647	30.3%	-1.882	-0.041
Hospitalized stroke (past 0-30 days)	41	0.3%	25	0.5%	-0.189	-0.031

Sentinel

Table 1bu. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 2

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Hospitalized stroke (past 31-183 days)	23	0.2%	6	0.1%	0.042	0.012
Transient ischemic attack	199	1.3%	90	1.7%	-0.340	-0.028
Other medical conditions (falls, fractures, syncope, walker use)	3,838	25.4%	1,392	25.6%	-0.224	-0.005
Cardioversion	2,508	16.6%	905	16.7%	-0.061	-0.002
Cardioablation	591	3.9%	284	5.2%	-1.318	-0.063
Hospitalized for bleeding	44	0.3%	14	0.3%	0.034	0.006
Medical Product Use						
Estrogen replacement	471	3.1%	164	3.0%	0.098	0.006
H2-antagonist	422	2.8%	112	2.1%	0.732	0.048
Non-steroidal anti-inflammatory drugs (NSAIDs)	2,627	17.4%	921	17.0%	0.432	0.011
Proton pump inhibitors	3,029	20.1%	1,078	19.9%	0.203	0.005
Selective serotonin reuptake inhibitor (SSRI)	1,972	13.1%	653	12.0%	1.031	0.031
Insulin	921	6.1%	441	8.1%	-2.025	-0.079
Metformin (Biguanide)	3,443	22.8%	1,353	24.9%	-2.122	-0.050
Sulfonylureas	1,240	8.2%	634	11.7%	-3.468	-0.116
Other diabetes medications	1,447	9.6%	629	11.6%	-2.004	-0.065
Angiotensin converting enzyme inhibitor (ACEI)/Angiotensin II receptor blocker (ARB)	9,230	61.1%	3,335	61.5%	-0.306	-0.006
Antiarrhythmics	4,313	28.6%	1,860	34.3%	-5.701	-0.123
Anti-coagulant (injectable)	1,559	10.3%	387	7.1%	3.197	0.113
Anti-platelets	1,600	10.6%	479	8.8%	1.773	0.060
Beta-blockers	10,939	72.5%	3,893	71.7%	0.734	0.016
Calcium channel blockers	5,029	33.3%	1,975	36.4%	-3.076	-0.065
Digoxin	1,243	8.2%	678	12.5%	-4.259	-0.140
Diuretics (loop)	3,028	20.1%	1,040	19.2%	0.896	0.023
Diuretics (potassium sparing)	1,447	9.6%	473	8.7%	0.870	0.030
Diuretics (thiazide)	1,862	12.3%	644	11.9%	0.469	0.014
Nitrates	760	5.0%	286	5.3%	-0.235	-0.011
Statins	6,958	46.1%	2,603	48.0%	-1.869	-0.037
Fibrates	719	4.8%	369	6.8%	-2.036	-0.087
Amiodarone	1,518	10.1%	554	10.2%	-0.152	-0.005
Dronedarone	438	2.9%	380	7.0%	-4.100	-0.190

Sentinel

Table 1bu. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 2

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Health Service Utilization Intensity Metrics						
No emergency department (ED) encounters (past 0-	10,363	68.7%	3,825	70.5%	-1.829	-0.040
No ED encounters (past 31-183 days)	12,130	80.4%	4,520	83.3%	-2.930	-0.076
At least 1 ED encounter (past 0-30 days)	4,732	31.3%	1,602	29.5%	1.829	0.040
At least 2 ED encounters (past 0-30 days)	1,033	6.8%	291	5.4%	1.481	0.062
At least 1 ED encounter (past 31-183 days)	2,965	19.6%	907	16.7%	2.930	0.076
At least 2 ED encounters (past 31-183 days)	855	5.7%	231	4.3%	1.408	0.065

[1]Value represents standard deviation where no % follows the value.

[2]Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

Sentinel

Table 1bv. Aggregated Adjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 2

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Unique patients	5,320	35.2%	5,320	98.0%	N/A	N/A
Demographic Characteristics						
Age (years)	57.4	6.4	57.5	6.3	-0.054	-0.008
Age						
21-49 years	645	12.1%	685	12.9%	-0.752	-0.023
50-64 years	4,675	87.9%	4,635	87.1%	0.752	0.023
Sex						
Female	1,900	35.7%	1,888	35.5%	0.226	0.005
Male	3,420	64.3%	3,432	64.5%	-0.226	-0.005
Race[2]						
American Indian or Alaska Native	4	0.1%	6	0.1%	-0.038	-0.012
Asian	15	0.3%	14	0.3%	0.019	0.004
Black or African American	103	1.9%	90	1.7%	0.244	0.018
Native Hawaiian or Other Pacific Islander	7	0.1%	2	0.0%	0.094	0.032
Unknown	4,366	82.1%	4,342	81.6%	0.451	0.012
White	825	15.5%	866	16.3%	-0.771	-0.021
Hispanic origin						
Yes	35	0.7%	36	0.7%	-0.019	-0.002
No	406	7.6%	410	7.7%	-0.075	-0.003
Unknown	4,879	91.7%	4,874	91.6%	0.094	0.003
Year						
2010	0	0.0%	120	2.3%	NaN	NaN
2011	8	0.2%	1,791	33.7%	-33.515	-1.000
2012	364	6.8%	1,187	22.3%	-15.470	-0.449
2013	697	13.1%	611	11.5%	1.617	0.049
2014	820	15.4%	440	8.3%	7.143	0.222
2015	686	12.9%	266	5.0%	7.895	0.279
2016	558	10.5%	339	6.4%	4.117	0.149
2017	530	10.0%	253	4.8%	5.207	0.200
2018	482	9.1%	153	2.9%	6.184	0.263
2019	432	8.1%	82	1.5%	6.579	0.311
2020	337	6.3%	42	0.8%	5.545	0.303
2021	379	7.1%	35	0.7%	6.466	0.339

Sentinel

Table 1bv. Aggregated Adjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 2

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
2022	27	0.5%	1	0.0%	0.489	0.096
CHADSVASC						
mean, std	2.0	0.0	2.0	0.0	0.000	NaN
0	0	0.0%	0	0.0%	NaN	NaN
1	0	0.0%	0	0.0%	NaN	NaN
2	5,320	100.0%	5,320	100.0%	0.000	NaN
3	0	0.0%	0	0.0%	NaN	NaN
4	0	0.0%	0	0.0%	NaN	NaN
>= 5	0	0.0%	0	0.0%	NaN	NaN
HASBLED						
mean, std	1.1	0.6	1.1	0.6	0.001	0.002
0	331	6.2%	326	6.1%	0.094	0.004
1	4,031	75.8%	4,043	76.0%	-0.226	-0.005
2	820	15.4%	819	15.4%	0.019	0.001
>= 3	138	2.6%	132	2.5%	0.113	0.007
Health Characteristics						
Diabetes	2,319	43.6%	2,319	43.6%	0.000	0.000
Hypercholesterolemia	1,707	32.1%	1,672	31.4%	0.658	0.014
Hypertension	4,888	91.9%	4,898	92.1%	-0.188	-0.007
Kidney failure (chronic)	227	4.3%	233	4.4%	-0.113	-0.006
Kidney failure (acute)	186	3.5%	205	3.9%	-0.357	-0.019
Obesity	1,557	29.3%	1,560	29.3%	-0.056	-0.001
Peptic ulcer disease	13	0.2%	15	0.3%	-0.038	-0.007
Nicotine dependency	947	17.8%	942	17.7%	0.094	0.002
Hospitalized acute myocardial infarction (past 0-30 days)	62	1.2%	61	1.1%	0.019	0.002
Hospitalized acute myocardial infarction (past 31-183 days)	23	0.4%	21	0.4%	0.038	0.006
Coronary revascularization	393	7.4%	376	7.1%	0.320	0.012
Hospitalized heart failure	770	14.5%	775	14.6%	-0.094	-0.003
Outpatient heart failure	764	14.4%	764	14.4%	0.000	0.000
Other ischemic heart disease	1,611	30.3%	1,600	30.1%	0.207	0.005
Hospitalized stroke (past 0-30 days)	27	0.5%	25	0.5%	0.038	0.005

Sentinel

Table 1bv. Aggregated Adjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 2

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Hospitalized stroke (past 31-183 days)	7	0.1%	6	0.1%	0.019	0.005
Transient ischemic attack	78	1.5%	86	1.6%	-0.150	-0.012
Other medical conditions (falls, fractures, syncope, walker use)	1,359	25.5%	1,353	25.4%	0.113	0.003
Cardioversion	887	16.7%	881	16.6%	0.113	0.003
Cardioablation	256	4.8%	262	4.9%	-0.113	-0.005
Hospitalized for bleeding	11	0.2%	12	0.2%	-0.019	-0.004
Medical Product Use						
Estrogen replacement	161	3.0%	158	3.0%	0.056	0.003
H2-antagonist	129	2.4%	109	2.0%	0.376	0.025
Non-steroidal anti-inflammatory drugs (NSAIDs)	892	16.8%	896	16.8%	-0.075	-0.002
Proton pump inhibitors	1,078	20.3%	1,053	19.8%	0.470	0.012
Selective serotonin reuptake inhibitor (SSRI)	632	11.9%	637	12.0%	-0.094	-0.003
Insulin	415	7.8%	428	8.0%	-0.244	-0.009
Metformin (Biguanide)	1,325	24.9%	1,317	24.8%	0.150	0.003
Sulfonylureas	620	11.7%	604	11.4%	0.301	0.009
Other diabetes medications	580	10.9%	607	11.4%	-0.508	-0.016
Angiotensin converting enzyme inhibitor (ACEI)/Angiotensin II receptor blocker (ARB)	3,232	60.8%	3,260	61.3%	-0.526	-0.011
Antiarrhythmics	1,771	33.3%	1,782	33.5%	-0.207	-0.004
Anti-coagulant (injectable)	371	7.0%	381	7.2%	-0.188	-0.007
Anti-platelets	471	8.9%	469	8.8%	0.038	0.001
Beta-blockers	3,807	71.6%	3,818	71.8%	-0.207	-0.005
Calcium channel blockers	1,929	36.3%	1,932	36.3%	-0.056	-0.001
Digoxin	624	11.7%	634	11.9%	-0.188	-0.006
Diuretics (loop)	1,003	18.9%	1,015	19.1%	-0.226	-0.006
Diuretics (potassium sparing)	454	8.5%	462	8.7%	-0.150	-0.005
Diuretics (thiazide)	615	11.6%	629	11.8%	-0.263	-0.008
Nitrates	286	5.4%	274	5.2%	0.226	0.010
Statins	2,513	47.2%	2,544	47.8%	-0.583	-0.012
Fibrates	361	6.8%	352	6.6%	0.169	0.007
Amiodarone	550	10.3%	543	10.2%	0.132	0.004
Dronedarone	317	6.0%	326	6.1%	-0.169	-0.007

Sentinel

Table 1bv. Aggregated Adjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 2

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Health Service Utilization Intensity Metrics						
No emergency department (ED) encounters (past 0-	3,726	70.0%	3,752	70.5%	-0.489	-0.011
No ED encounters (past 31-183 days)	4,444	83.5%	4,436	83.4%	0.150	0.004
At least 1 ED encounter (past 0-30 days)	1,594	30.0%	1,568	29.5%	0.489	0.011
At least 2 ED encounters (past 0-30 days)	275	5.2%	283	5.3%	-0.150	-0.007
At least 1 ED encounter (past 31-183 days)	876	16.5%	884	16.6%	-0.150	-0.004
At least 2 ED encounters (past 31-183 days)	207	3.9%	222	4.2%	-0.282	-0.014

[1]Value represents standard deviation where no % follows the value.

[2]Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

Sentinel

Table 1bw. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 3

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Unique patients	7,559	100.0%	2,267	100.0%	N/A	N/A
Demographic Characteristics						
Age (years)	57.7	6.1	57.8	6.2	-0.193	-0.031
Age						
21-49 years	864	11.4%	237	10.5%	0.976	0.031
50-64 years	6,695	88.6%	2,030	89.5%	-0.976	-0.031
Sex						
Female	3,174	42.0%	1,082	47.7%	-5.739	-0.116
Male	4,385	58.0%	1,185	52.3%	5.739	0.116
Race[2]						
American Indian or Alaska Native	6	0.1%	3	0.1%	-0.053	-0.016
Asian	23	0.3%	6	0.3%	0.040	0.007
Black or African American	372	4.9%	72	3.2%	1.745	0.089
Native Hawaiian or Other Pacific Islander	13	0.2%	0	0.0%	NaN	NaN
Unknown	5,638	74.6%	1,777	78.4%	-3.799	-0.090
White	1,507	19.9%	409	18.0%	1.895	0.048
Hispanic origin						
Yes	71	0.9%	18	0.8%	0.145	0.016
No	1,229	16.3%	270	11.9%	4.349	0.125
Unknown	6,259	82.8%	1,979	87.3%	-4.494	-0.126
Year						
2010	0	0.0%	47	2.1%	NaN	NaN
2011	5	0.1%	699	30.8%	-30.768	-0.941
2012	286	3.8%	496	21.9%	-18.096	-0.562
2013	661	8.7%	253	11.2%	-2.416	-0.081
2014	880	11.6%	170	7.5%	4.143	0.141
2015	852	11.3%	147	6.5%	4.787	0.169
2016	862	11.4%	187	8.2%	3.155	0.106
2017	960	12.7%	110	4.9%	7.848	0.280
2018	893	11.8%	58	2.6%	9.255	0.364
2019	771	10.2%	45	2.0%	8.215	0.349
2020	627	8.3%	35	1.5%	6.751	0.316
2021	715	9.5%	19	0.8%	8.621	0.398

Sentinel

Table 1bw. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 3

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
2022	47	0.6%	1	0.0%	0.578	0.100
CHADSVASC						
mean, std	3.0	0.0	3.0	0.0	0.000	NaN
0	0	0.0%	0	0.0%	NaN	NaN
1	0	0.0%	0	0.0%	NaN	NaN
2	0	0.0%	0	0.0%	NaN	NaN
3	7,559	100.0%	2,267	100.0%	0.000	NaN
4	0	0.0%	0	0.0%	NaN	NaN
>= 5	0	0.0%	0	0.0%	NaN	NaN
HASBLED						
mean, std	1.4	0.7	1.3	0.6	0.036	0.057
0	235	3.1%	62	2.7%	0.374	0.022
1	4,945	65.4%	1,551	68.4%	-2.998	-0.064
2	1,914	25.3%	539	23.8%	1.545	0.036
>= 3	465	6.2%	115	5.1%	1.079	0.047
Health Characteristics						
Diabetes	5,312	70.3%	1,549	68.3%	1.946	0.042
Hypercholesterolemia	2,564	33.9%	807	35.6%	-1.678	-0.035
Hypertension	7,226	95.6%	2,166	95.5%	0.050	0.002
Kidney failure (chronic)	697	9.2%	192	8.5%	0.751	0.026
Kidney failure (acute)	719	9.5%	174	7.7%	1.836	0.066
Obesity	3,629	48.0%	844	37.2%	10.779	0.219
Peptic ulcer disease	32	0.4%	7	0.3%	0.115	0.019
Nicotine dependency	2,224	29.4%	498	22.0%	7.455	0.171
Hospitalized acute myocardial infarction (past 0-30 days)	333	4.4%	78	3.4%	0.965	0.050
Hospitalized acute myocardial infarction (past 31-183 days)	171	2.3%	36	1.6%	0.674	0.049
Coronary revascularization	883	11.7%	281	12.4%	-0.714	-0.022
Hospitalized heart failure	2,118	28.0%	703	31.0%	-2.991	-0.066
Outpatient heart failure	1,747	23.1%	501	22.1%	1.012	0.024
Other ischemic heart disease	2,821	37.3%	856	37.8%	-0.439	-0.009
Hospitalized stroke (past 0-30 days)	195	2.6%	81	3.6%	-0.993	-0.058

Sentinel

Table 1bw. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 3

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Hospitalized stroke (past 31-183 days)	83	1.1%	33	1.5%	-0.358	-0.032
Transient ischemic attack	583	7.7%	235	10.4%	-2.653	-0.093
Other medical conditions (falls, fractures, syncope, walker use)	2,121	28.1%	689	30.4%	-2.333	-0.051
Cardioversion	1,118	14.8%	378	16.7%	-1.884	-0.052
Cardioablation	216	2.9%	106	4.7%	-1.818	-0.096
Hospitalized for bleeding	41	0.5%	15	0.7%	-0.119	-0.015
Medical Product Use						
Estrogen replacement	217	2.9%	69	3.0%	-0.173	-0.010
H2-antagonist	282	3.7%	72	3.2%	0.555	0.030
Non-steroidal anti-inflammatory drugs (NSAIDs)	1,485	19.6%	385	17.0%	2.663	0.069
Proton pump inhibitors	1,837	24.3%	509	22.5%	1.850	0.044
Selective serotonin reuptake inhibitor (SSRI)	1,206	16.0%	385	17.0%	-1.028	-0.028
Insulin	1,313	17.4%	386	17.0%	0.343	0.009
Metformin (Biguanide)	3,189	42.2%	833	36.7%	5.444	0.112
Sulfonylureas	1,230	16.3%	395	17.4%	-1.152	-0.031
Other diabetes medications	1,481	19.6%	417	18.4%	1.198	0.031
Angiotensin converting enzyme inhibitor (ACEI)/Angiotensin II receptor blocker (ARB)	5,198	68.8%	1,563	68.9%	-0.180	-0.004
Antiarrhythmics	2,125	28.1%	800	35.3%	-7.177	-0.155
Anti-coagulant (injectable)	888	11.7%	180	7.9%	3.808	0.128
Anti-platelets	1,203	15.9%	327	14.4%	1.490	0.042
Beta-blockers	5,607	74.2%	1,698	74.9%	-0.724	-0.017
Calcium channel blockers	2,634	34.8%	896	39.5%	-4.678	-0.097
Digoxin	683	9.0%	332	14.6%	-5.609	-0.174
Diuretics (loop)	2,244	29.7%	696	30.7%	-1.015	-0.022
Diuretics (potassium sparing)	880	11.6%	268	11.8%	-0.180	-0.006
Diuretics (thiazide)	1,028	13.6%	313	13.8%	-0.207	-0.006
Nitrates	622	8.2%	207	9.1%	-0.902	-0.032
Statins	4,550	60.2%	1,269	56.0%	4.216	0.086
Fibrates	484	6.4%	188	8.3%	-1.890	-0.072
Amiodarone	931	12.3%	300	13.2%	-0.917	-0.027
Dronedarone	177	2.3%	126	5.6%	-3.216	-0.166

Sentinel

Table 1bw. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 3

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Health Service Utilization Intensity Metrics						
No emergency department (ED) encounters (past 0-	4,769	63.1%	1,467	64.7%	-1.621	-0.034
No ED encounters (past 31-183 days)	5,642	74.6%	1,759	77.6%	-2.952	-0.069
At least 1 ED encounter (past 0-30 days)	2,790	36.9%	800	35.3%	1.621	0.034
At least 2 ED encounters (past 0-30 days)	700	9.3%	167	7.4%	1.894	0.069
At least 1 ED encounter (past 31-183 days)	1,917	25.4%	508	22.4%	2.952	0.069
At least 2 ED encounters (past 31-183 days)	741	9.8%	172	7.6%	2.216	0.079

[1]Value represents standard deviation where no % follows the value.

[2]Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

Sentinel

Table 1bx. Aggregated Adjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 3

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Unique patients	2,200	29.1%	2,200	97.0%	N/A	N/A
Demographic Characteristics						
Age (years)	57.8	6.0	57.9	6.2	-0.029	-0.005
Age						
21-49 years	241	11.0%	226	10.3%	0.682	0.022
50-64 years	1,959	89.0%	1,974	89.7%	-0.682	-0.022
Sex						
Female	1,034	47.0%	1,045	47.5%	-0.500	-0.010
Male	1,166	53.0%	1,155	52.5%	0.500	0.010
Race[2]						
American Indian or Alaska Native	2	0.1%	3	0.1%	-0.045	-0.013
Asian	1	0.0%	6	0.3%	-0.227	-0.057
Black or African American	86	3.9%	69	3.1%	0.773	0.042
Native Hawaiian or Other Pacific Islander	2	0.1%	0	0.0%	NaN	NaN
Unknown	1,740	79.1%	1,730	78.6%	0.455	0.011
White	369	16.8%	392	17.8%	-1.045	-0.028
Hispanic origin						
Yes	23	1.0%	17	0.8%	0.273	0.029
No	265	12.0%	256	11.6%	0.409	0.013
Unknown	1,912	86.9%	1,927	87.6%	-0.682	-0.020
Year						
2010	0	0.0%	44	2.0%	NaN	NaN
2011	1	0.0%	671	30.5%	-30.455	-0.934
2012	130	5.9%	478	21.7%	-15.818	-0.471
2013	278	12.6%	247	11.2%	1.409	0.043
2014	322	14.6%	165	7.5%	7.136	0.229
2015	272	12.4%	146	6.6%	5.727	0.196
2016	246	11.2%	186	8.5%	2.727	0.092
2017	220	10.0%	107	4.9%	5.136	0.197
2018	225	10.2%	57	2.6%	7.636	0.316
2019	191	8.7%	44	2.0%	6.682	0.301
2020	153	7.0%	35	1.6%	5.364	0.268
2021	157	7.1%	19	0.9%	6.273	0.324

Sentinel

Table 1bx. Aggregated Adjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 3

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
2022	5	0.2%	1	0.0%	0.182	0.049
CHADSVASC						
mean, std	3.0	0.0	3.0	0.0	0.000	NaN
0	0	0.0%	0	0.0%	NaN	NaN
1	0	0.0%	0	0.0%	NaN	NaN
2	0	0.0%	0	0.0%	NaN	NaN
3	2,200	100.0%	2,200	100.0%	0.000	NaN
4	0	0.0%	0	0.0%	NaN	NaN
>= 5	0	0.0%	0	0.0%	NaN	NaN
HASBLED						
mean, std	1.3	0.6	1.3	0.6	0.021	0.034
0	50	2.3%	61	2.8%	-0.500	-0.032
1	1,506	68.5%	1,508	68.5%	-0.091	-0.002
2	519	23.6%	521	23.7%	-0.091	-0.002
>= 3	125	5.7%	110	5.0%	0.682	0.030
Health Characteristics						
Diabetes	1,510	68.6%	1,501	68.2%	0.409	0.009
Hypercholesterolemia	749	34.0%	767	34.9%	-0.818	-0.017
Hypertension	2,111	96.0%	2,101	95.5%	0.455	0.022
Kidney failure (chronic)	200	9.1%	184	8.4%	0.727	0.026
Kidney failure (acute)	185	8.4%	167	7.6%	0.818	0.030
Obesity	823	37.4%	829	37.7%	-0.273	-0.006
Peptic ulcer disease	7	0.3%	7	0.3%	0.000	0.000
Nicotine dependency	490	22.3%	489	22.2%	0.045	0.001
Hospitalized acute myocardial infarction (past 0-30 days)	76	3.5%	77	3.5%	-0.045	-0.002
Hospitalized acute myocardial infarction (past 31-183 days)	27	1.2%	36	1.6%	-0.409	-0.034
Coronary revascularization	260	11.8%	262	11.9%	-0.091	-0.003
Hospitalized heart failure	691	31.4%	679	30.9%	0.545	0.012
Outpatient heart failure	513	23.3%	480	21.8%	1.500	0.036
Other ischemic heart disease	817	37.1%	824	37.5%	-0.318	-0.007
Hospitalized stroke (past 0-30 days)	72	3.3%	77	3.5%	-0.227	-0.013

Sentinel

Table 1bx. Aggregated Adjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 3

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Hospitalized stroke (past 31-183 days)	35	1.6%	31	1.4%	0.182	0.015
Transient ischemic attack	220	10.0%	225	10.2%	-0.227	-0.008
Other medical conditions (falls, fractures, syncope, walker use)	667	30.3%	660	30.0%	0.318	0.007
Cardioversion	380	17.3%	363	16.5%	0.773	0.021
Cardioablation	102	4.6%	96	4.4%	0.273	0.013
Hospitalized for bleeding	11	0.5%	14	0.6%	-0.136	-0.018
Medical Product Use						
Estrogen replacement	69	3.1%	68	3.1%	0.045	0.003
H2-antagonist	67	3.0%	69	3.1%	-0.091	-0.005
Non-steroidal anti-inflammatory drugs (NSAIDs)	360	16.4%	376	17.1%	-0.727	-0.019
Proton pump inhibitors	504	22.9%	493	22.4%	0.500	0.012
Selective serotonin reuptake inhibitor (SSRI)	371	16.9%	369	16.8%	0.091	0.002
Insulin	371	16.9%	376	17.1%	-0.227	-0.006
Metformin (Biguanide)	811	36.9%	819	37.2%	-0.364	-0.008
Sulfonylureas	384	17.5%	383	17.4%	0.045	0.001
Other diabetes medications	424	19.3%	408	18.5%	0.727	0.019
Angiotensin converting enzyme inhibitor (ACEI)/Angiotensin II receptor blocker (ARB)	1,518	69.0%	1,515	68.9%	0.136	0.003
Antiarrhythmics	770	35.0%	756	34.4%	0.636	0.013
Anti-coagulant (injectable)	169	7.7%	172	7.8%	-0.136	-0.005
Anti-platelets	297	13.5%	306	13.9%	-0.409	-0.012
Beta-blockers	1,650	75.0%	1,649	75.0%	0.045	0.001
Calcium channel blockers	854	38.8%	859	39.0%	-0.227	-0.005
Digoxin	313	14.2%	315	14.3%	-0.091	-0.003
Diuretics (loop)	678	30.8%	671	30.5%	0.318	0.007
Diuretics (potassium sparing)	251	11.4%	261	11.9%	-0.455	-0.014
Diuretics (thiazide)	306	13.9%	304	13.8%	0.091	0.003
Nitrates	176	8.0%	190	8.6%	-0.636	-0.023
Statins	1,205	54.8%	1,224	55.6%	-0.864	-0.017
Fibrates	174	7.9%	177	8.0%	-0.136	-0.005
Amiodarone	307	14.0%	291	13.2%	0.727	0.021
Dronedarone	102	4.6%	106	4.8%	-0.182	-0.009

Sentinel

Table 1bx. Aggregated Adjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 3

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Health Service Utilization Intensity Metrics						
No emergency department (ED) encounters (past 0-	1,441	65.5%	1,425	64.8%	0.727	0.015
No ED encounters (past 31-183 days)	1,714	77.9%	1,711	77.8%	0.136	0.003
At least 1 ED encounter (past 0-30 days)	759	34.5%	775	35.2%	-0.727	-0.015
At least 2 ED encounters (past 0-30 days)	160	7.3%	163	7.4%	-0.136	-0.005
At least 1 ED encounter (past 31-183 days)	486	22.1%	489	22.2%	-0.136	-0.003
At least 2 ED encounters (past 31-183 days)	162	7.4%	164	7.5%	-0.091	-0.003

[1]Value represents standard deviation where no % follows the value.

[2]Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

Sentinel

Table 1by. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 4

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Unique patients	3,094	100.0%	800	100.0%	N/A	N/A
Demographic Characteristics						
Age (years)	57.9	5.8	58.6	5.2	-0.653	-0.119
Age						
21-49 years	318	10.3%	65	8.1%	2.153	0.075
50-64 years	2,776	89.7%	735	91.9%	-2.153	-0.075
Sex						
Female	1,600	51.7%	423	52.9%	-1.162	-0.023
Male	1,494	48.3%	377	47.1%	1.162	0.023
Race[2]						
American Indian or Alaska Native	4	0.1%	0	0.0%	NaN	NaN
Asian	12	0.4%	4	0.5%	-0.112	-0.017
Black or African American	206	6.7%	32	4.0%	2.658	0.119
Native Hawaiian or Other Pacific Islander	6	0.2%	3	0.4%	-0.181	-0.034
Unknown	2,140	69.2%	582	72.8%	-3.584	-0.079
White	726	23.5%	179	22.4%	1.090	0.026
Hispanic origin						
Yes	32	1.0%	6	0.8%	0.284	0.030
No	716	23.1%	159	19.9%	3.267	0.080
Unknown	2,346	75.8%	635	79.4%	-3.551	-0.085
Year						
2010	0	0.0%	13	1.6%	NaN	NaN
2011	1	0.0%	202	25.3%	-25.218	-0.820
2012	73	2.4%	151	18.9%	-16.516	-0.556
2013	196	6.3%	93	11.6%	-5.290	-0.186
2014	286	9.2%	49	6.1%	3.119	0.117
2015	271	8.8%	44	5.5%	3.259	0.127
2016	376	12.2%	79	9.9%	2.278	0.073
2017	432	14.0%	67	8.4%	5.588	0.178
2018	411	13.3%	53	6.6%	6.659	0.224
2019	347	11.2%	24	3.0%	8.215	0.324
2020	331	10.7%	15	1.9%	8.823	0.370
2021	349	11.3%	9	1.1%	10.155	0.431

Sentinel

Table 1by. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 4

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
2022	21	0.7%	1	0.1%	0.554	0.088
CHADSVASC						
mean, std	4.0	0.0	4.0	0.0	0.000	NaN
0	0	0.0%	0	0.0%	NaN	NaN
1	0	0.0%	0	0.0%	NaN	NaN
2	0	0.0%	0	0.0%	NaN	NaN
3	0	0.0%	0	0.0%	NaN	NaN
4	3,094	100.0%	800	100.0%	0.000	NaN
>= 5	0	0.0%	0	0.0%	NaN	NaN
HASBLED						
mean, std	1.5	0.7	1.6	0.7	-0.038	-0.053
0	30	1.0%	8	1.0%	-0.030	-0.003
1	1,740	56.2%	418	52.3%	3.988	0.080
2	987	31.9%	285	35.6%	-3.725	-0.079
>= 3	337	10.9%	89	11.1%	-0.233	-0.007
Health Characteristics						
Diabetes	2,521	81.5%	592	74.0%	7.480	0.181
Hypercholesterolemia	1,141	36.9%	288	36.0%	0.878	0.018
Hypertension	3,030	97.9%	781	97.6%	0.306	0.021
Kidney failure (chronic)	440	14.2%	118	14.8%	-0.529	-0.015
Kidney failure (acute)	483	15.6%	95	11.9%	3.736	0.109
Obesity	1,733	56.0%	342	42.8%	13.262	0.268
Peptic ulcer disease	13	0.4%	6	0.8%	-0.330	-0.043
Nicotine dependency	1,107	35.8%	204	25.5%	10.279	0.224
Hospitalized acute myocardial infarction (past 0-30 days)	240	7.8%	61	7.6%	0.132	0.005
Hospitalized acute myocardial infarction (past 31-183 days)	143	4.6%	23	2.9%	1.747	0.092
Coronary revascularization	574	18.6%	157	19.6%	-1.073	-0.027
Hospitalized heart failure	1,481	47.9%	369	46.1%	1.742	0.035
Outpatient heart failure	1,147	37.1%	267	33.4%	3.697	0.077
Other ischemic heart disease	1,477	47.7%	389	48.6%	-0.887	-0.018
Hospitalized stroke (past 0-30 days)	176	5.7%	73	9.1%	-3.437	-0.132

Sentinel

Table 1by. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 4

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Hospitalized stroke (past 31-183 days)	86	2.8%	41	5.1%	-2.345	-0.121
Transient ischemic attack	493	15.9%	197	24.6%	-8.691	-0.217
Other medical conditions (falls, fractures, syncope, walker use)	1,102	35.6%	254	31.8%	3.867	0.082
Cardioversion	495	16.0%	106	13.3%	2.749	0.078
Cardioablation	130	4.2%	27	3.4%	0.827	0.043
Hospitalized for bleeding	23	0.7%	10	1.3%	-0.507	-0.051
Medical Product Use						
Estrogen replacement	74	2.4%	30	3.8%	-1.358	-0.079
H2-antagonist	163	5.3%	35	4.4%	0.893	0.042
Non-steroidal anti-inflammatory drugs (NSAIDs)	611	19.7%	142	17.8%	1.998	0.051
Proton pump inhibitors	862	27.9%	227	28.4%	-0.515	-0.011
Selective serotonin reuptake inhibitor (SSRI)	572	18.5%	139	17.4%	1.112	0.029
Insulin	873	28.2%	207	25.9%	2.341	0.053
Metformin (Biguanide)	1,432	46.3%	295	36.9%	9.408	0.192
Sulfonylureas	618	20.0%	156	19.5%	0.474	0.012
Other diabetes medications	701	22.7%	151	18.9%	3.782	0.093
Angiotensin converting enzyme inhibitor (ACEI)/Angiotensin II receptor blocker (ARB)	2,234	72.2%	566	70.8%	1.454	0.032
Antiarrhythmics	879	28.4%	289	36.1%	-7.715	-0.166
Anti-coagulant (injectable)	417	13.5%	84	10.5%	2.978	0.092
Anti-platelets	714	23.1%	172	21.5%	1.577	0.038
Beta-blockers	2,343	75.7%	620	77.5%	-1.773	-0.042
Calcium channel blockers	1,028	33.2%	316	39.5%	-6.274	-0.131
Digoxin	297	9.6%	118	14.8%	-5.151	-0.158
Diuretics (loop)	1,266	40.9%	319	39.9%	1.043	0.021
Diuretics (potassium sparing)	505	16.3%	125	15.6%	0.697	0.019
Diuretics (thiazide)	470	15.2%	113	14.1%	1.066	0.030
Nitrates	359	11.6%	116	14.5%	-2.897	-0.086
Statins	2,080	67.2%	514	64.3%	2.977	0.063
Fibrates	183	5.9%	69	8.6%	-2.710	-0.105
Amiodarone	512	16.5%	134	16.8%	-0.202	-0.005
Dronedarone	40	1.3%	36	4.5%	-3.207	-0.192

Sentinel

Table 1by. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 4

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Health Service Utilization Intensity Metrics						
No emergency department (ED) encounters (past 0-	1,765	57.0%	468	58.5%	-1.454	-0.029
No ED encounters (past 31-183 days)	1,978	63.9%	522	65.3%	-1.320	-0.028
At least 1 ED encounter (past 0-30 days)	1,329	43.0%	332	41.5%	1.454	0.029
At least 2 ED encounters (past 0-30 days)	407	13.2%	95	11.9%	1.279	0.039
At least 1 ED encounter (past 31-183 days)	1,116	36.1%	278	34.8%	1.320	0.028
At least 2 ED encounters (past 31-183 days)	503	16.3%	100	12.5%	3.757	0.107

[1]Value represents standard deviation where no % follows the value.

[2]Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

Sentinel

Table 1bz. Aggregated Adjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 4

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Unique patients	709	22.9%	709	88.6%	N/A	N/A
Demographic Characteristics						
Age (years)	58.8	5.1	58.7	5.2	0.101	0.020
Age						
21-49 years	41	5.8%	55	7.8%	-1.975	-0.079
50-64 years	668	94.2%	654	92.2%	1.975	0.079
Sex						
Female	372	52.5%	371	52.3%	0.141	0.003
Male	337	47.5%	338	47.7%	-0.141	-0.003
Race[2]						
American Indian or Alaska Native	1	0.1%	0	0.0%	NaN	NaN
Asian	2	0.3%	4	0.6%	-0.282	-0.043
Black or African American	39	5.5%	26	3.7%	1.834	0.088
Native Hawaiian or Other Pacific Islander	1	0.1%	3	0.4%	-0.282	-0.053
Unknown	514	72.5%	525	74.0%	-1.551	-0.035
White	152	21.4%	151	21.3%	0.141	0.003
Hispanic origin						
Yes	9	1.3%	5	0.7%	0.564	0.057
No	139	19.6%	132	18.6%	0.987	0.025
Unknown	561	79.1%	572	80.7%	-1.551	-0.039
Year						
2010	0	0.0%	12	1.7%	NaN	NaN
2011	0	0.0%	172	24.3%	NaN	NaN
2012	32	4.5%	137	19.3%	-14.810	-0.470
2013	74	10.4%	82	11.6%	-1.128	-0.036
2014	75	10.6%	44	6.2%	4.372	0.158
2015	75	10.6%	37	5.2%	5.360	0.200
2016	85	12.0%	73	10.3%	1.693	0.054
2017	97	13.7%	63	8.9%	4.795	0.152
2018	84	11.8%	46	6.5%	5.360	0.187
2019	61	8.6%	22	3.1%	5.501	0.236
2020	52	7.3%	12	1.7%	5.642	0.274
2021	70	9.9%	8	1.1%	8.745	0.391

Sentinel

Table 1bz. Aggregated Adjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 4

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
2022	4	0.6%	1	0.1%	0.423	0.071
CHADSVASC						
mean, std	4.0	0.0	4.0	0.0	0.000	NaN
0	0	0.0%	0	0.0%	NaN	NaN
1	0	0.0%	0	0.0%	NaN	NaN
2	0	0.0%	0	0.0%	NaN	NaN
3	0	0.0%	0	0.0%	NaN	NaN
4	709	100.0%	709	100.0%	0.000	NaN
>= 5	0	0.0%	0	0.0%	NaN	NaN
HASBLED						
mean, std	1.5	0.7	1.5	0.7	0.001	0.002
0	5	0.7%	8	1.1%	-0.423	-0.044
1	394	55.6%	390	55.0%	0.564	0.011
2	244	34.4%	239	33.7%	0.705	0.015
>= 3	66	9.3%	72	10.2%	-0.846	-0.029
Health Characteristics						
Diabetes	534	75.3%	527	74.3%	0.987	0.023
Hypercholesterolemia	249	35.1%	252	35.5%	-0.423	-0.009
Hypertension	696	98.2%	693	97.7%	0.423	0.030
Kidney failure (chronic)	89	12.6%	98	13.8%	-1.269	-0.038
Kidney failure (acute)	85	12.0%	81	11.4%	0.564	0.018
Obesity	308	43.4%	312	44.0%	-0.564	-0.011
Peptic ulcer disease	2	0.3%	2	0.3%	0.000	0.000
Nicotine dependency	199	28.1%	183	25.8%	2.257	0.051
Hospitalized acute myocardial infarction (past 0-30 days)	50	7.1%	55	7.8%	-0.705	-0.027
Hospitalized acute myocardial infarction (past 31-183 days)	17	2.4%	22	3.1%	-0.705	-0.043
Coronary revascularization	138	19.5%	138	19.5%	0.000	0.000
Hospitalized heart failure	330	46.5%	324	45.7%	0.846	0.017
Outpatient heart failure	239	33.7%	243	34.3%	-0.564	-0.012
Other ischemic heart disease	339	47.8%	344	48.5%	-0.705	-0.014
Hospitalized stroke (past 0-30 days)	66	9.3%	59	8.3%	0.987	0.035

Sentinel

Table 1bz. Aggregated Adjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 4

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Hospitalized stroke (past 31-183 days)	27	3.8%	30	4.2%	-0.423	-0.022
Transient ischemic attack	165	23.3%	173	24.4%	-1.128	-0.026
Other medical conditions (falls, fractures, syncope, walker use)	227	32.0%	225	31.7%	0.282	0.006
Cardioversion	92	13.0%	96	13.5%	-0.564	-0.017
Cardioablation	27	3.8%	22	3.1%	0.705	0.039
Hospitalized for bleeding	6	0.8%	7	1.0%	-0.141	-0.015
Medical Product Use						
Estrogen replacement	26	3.7%	26	3.7%	0.000	0.000
H2-antagonist	25	3.5%	28	3.9%	-0.423	-0.022
Non-steroidal anti-inflammatory drugs (NSAIDs)	126	17.8%	125	17.6%	0.141	0.004
Proton pump inhibitors	210	29.6%	197	27.8%	1.834	0.041
Selective serotonin reuptake inhibitor (SSRI)	120	16.9%	122	17.2%	-0.282	-0.007
Insulin	190	26.8%	184	26.0%	0.846	0.019
Metformin (Biguanide)	265	37.4%	270	38.1%	-0.705	-0.015
Sulfonylureas	134	18.9%	141	19.9%	-0.987	-0.025
Other diabetes medications	133	18.8%	136	19.2%	-0.423	-0.011
Angiotensin converting enzyme inhibitor (ACEI)/Angiotensin II receptor blocker (ARB)	502	70.8%	507	71.5%	-0.705	-0.016
Antiarrhythmics	234	33.0%	240	33.9%	-0.846	-0.018
Anti-coagulant (injectable)	67	9.4%	78	11.0%	-1.551	-0.051
Anti-platelets	166	23.4%	154	21.7%	1.693	0.040
Beta-blockers	558	78.7%	545	76.9%	1.834	0.044
Calcium channel blockers	287	40.5%	274	38.6%	1.834	0.038
Digoxin	94	13.3%	96	13.5%	-0.282	-0.008
Diuretics (loop)	287	40.5%	277	39.1%	1.410	0.029
Diuretics (potassium sparing)	108	15.2%	112	15.8%	-0.564	-0.016
Diuretics (thiazide)	91	12.8%	102	14.4%	-1.551	-0.045
Nitrates	104	14.7%	102	14.4%	0.282	0.008
Statins	446	62.9%	453	63.9%	-0.987	-0.020
Fibrates	54	7.6%	53	7.5%	0.141	0.005
Amiodarone	115	16.2%	117	16.5%	-0.282	-0.008
Dronedarone	20	2.8%	20	2.8%	0.000	0.000

Sentinel

Table 1bz. Aggregated Adjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 4

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Health Service Utilization Intensity Metrics						
No emergency department (ED) encounters (past 0-	420	59.2%	421	59.4%	-0.141	-0.003
No ED encounters (past 31-183 days)	479	67.6%	470	66.3%	1.269	0.027
At least 1 ED encounter (past 0-30 days)	289	40.8%	288	40.6%	0.141	0.003
At least 2 ED encounters (past 0-30 days)	77	10.9%	80	11.3%	-0.423	-0.013
At least 1 ED encounter (past 31-183 days)	230	32.4%	239	33.7%	-1.269	-0.027
At least 2 ED encounters (past 31-183 days)	74	10.4%	84	11.8%	-1.410	-0.045

[1]Value represents standard deviation where no % follows the value.

[2]Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

Sentinel

Table 1ca. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 5+

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Unique patients	912	100.0%	249	100.0%	N/A	N/A
Demographic Characteristics						
Age (years)	58.7	5.7	59.2	5.2	-0.522	-0.096
Age						
21-49 years	75	8.2%	12	4.8%	3.404	0.138
50-64 years	837	91.8%	237	95.2%	-3.404	-0.138
Sex						
Female	659	72.3%	183	73.5%	-1.235	-0.028
Male	253	27.7%	66	26.5%	1.235	0.028
Race[2]						
American Indian or Alaska Native	2	0.2%	0	0.0%	NaN	NaN
Asian	3	0.3%	2	0.8%	-0.474	-0.063
Black or African American	93	10.2%	16	6.4%	3.772	0.137
Native Hawaiian or Other Pacific Islander	6	0.7%	0	0.0%	NaN	NaN
Unknown	567	62.2%	177	71.1%	-8.913	-0.190
White	241	26.4%	54	21.7%	4.739	0.111
Hispanic origin						
Yes	9	1.0%	5	2.0%	-1.021	-0.084
No	271	29.7%	49	19.7%	10.036	0.234
Unknown	632	69.3%	195	78.3%	-9.015	-0.206
Year						
2010	0	0.0%	5	2.0%	NaN	NaN
2011	0	0.0%	66	26.5%	NaN	NaN
2012	24	2.6%	47	18.9%	-16.244	-0.543
2013	53	5.8%	26	10.4%	-4.630	-0.170
2014	70	7.7%	9	3.6%	4.061	0.177
2015	65	7.1%	18	7.2%	-0.102	-0.004
2016	117	12.8%	25	10.0%	2.789	0.088
2017	125	13.7%	19	7.6%	6.076	0.198
2018	128	14.0%	17	6.8%	7.208	0.237
2019	102	11.2%	4	1.6%	9.578	0.399
2020	111	12.2%	8	3.2%	8.958	0.341
2021	108	11.8%	5	2.0%	9.834	0.395

Sentinel

Table 1ca. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 5+

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
2022	9	1.0%	0	0.0%	NaN	NaN
CHADSVASC						
mean, std	5.3	0.5	5.2	0.5	0.072	0.144
0	0	0.0%	0	0.0%	NaN	NaN
1	0	0.0%	0	0.0%	NaN	NaN
2	0	0.0%	0	0.0%	NaN	NaN
3	0	0.0%	0	0.0%	NaN	NaN
4	0	0.0%	0	0.0%	NaN	NaN
>= 5	912	100.0%	249	100.0%	0.000	NaN
HASBLED						
mean, std	1.8	0.8	1.8	0.8	0.049	0.060
0	3	0.3%	3	1.2%	-0.876	-0.101
1	378	41.4%	104	41.8%	-0.320	-0.006
2	346	37.9%	97	39.0%	-1.017	-0.021
>= 3	185	20.3%	45	18.1%	2.213	0.056
Health Characteristics						
Diabetes	809	88.7%	210	84.3%	4.369	0.128
Hypercholesterolemia	375	41.1%	101	40.6%	0.556	0.011
Hypertension	908	99.6%	246	98.8%	0.766	0.085
Kidney failure (chronic)	182	20.0%	40	16.1%	3.892	0.101
Kidney failure (acute)	194	21.3%	39	15.7%	5.609	0.145
Obesity	506	55.5%	108	43.4%	12.109	0.244
Peptic ulcer disease	6	0.7%	3	1.2%	-0.547	-0.057
Nicotine dependency	372	40.8%	64	25.7%	15.087	0.324
Hospitalized acute myocardial infarction (past 0-30 days)	67	7.3%	18	7.2%	0.118	0.005
Hospitalized acute myocardial infarction (past 31-183 days)	44	4.8%	15	6.0%	-1.200	-0.053
Coronary revascularization	192	21.1%	45	18.1%	2.980	0.075
Hospitalized heart failure	532	58.3%	108	43.4%	14.960	0.303
Outpatient heart failure	430	47.1%	80	32.1%	15.021	0.311
Other ischemic heart disease	502	55.0%	133	53.4%	1.630	0.033
Hospitalized stroke (past 0-30 days)	144	15.8%	51	20.5%	-4.692	-0.122

Sentinel

Table 1ca. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 5+

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Hospitalized stroke (past 31-183 days)	93	10.2%	27	10.8%	-0.646	-0.021
Transient ischemic attack	374	41.0%	129	51.8%	-10.798	-0.218
Other medical conditions (falls, fractures, syncope, walker use)	355	38.9%	96	38.6%	0.371	0.008
Cardioversion	95	10.4%	21	8.4%	1.983	0.068
Cardioablation	23	2.5%	9	3.6%	-1.093	-0.063
Hospitalized for bleeding	8	0.9%	7	2.8%	-1.934	-0.144
Medical Product Use						
Estrogen replacement	28	3.1%	10	4.0%	-0.946	-0.051
H2-antagonist	64	7.0%	18	7.2%	-0.211	-0.008
Non-steroidal anti-inflammatory drugs (NSAIDs)	196	21.5%	48	19.3%	2.214	0.055
Proton pump inhibitors	314	34.4%	69	27.7%	6.719	0.146
Selective serotonin reuptake inhibitor (SSRI)	234	25.7%	48	19.3%	6.381	0.153
Insulin	331	36.3%	69	27.7%	8.583	0.185
Metformin (Biguanide)	437	47.9%	107	43.0%	4.945	0.099
Sulfonylureas	190	20.8%	57	22.9%	-2.058	-0.050
Other diabetes medications	222	24.3%	46	18.5%	5.868	0.143
Angiotensin converting enzyme inhibitor (ACEI)/Angiotensin II receptor blocker (ARB)	668	73.2%	162	65.1%	8.185	0.178
Antiarrhythmics	235	25.8%	79	31.7%	-5.959	-0.132
Anti-coagulant (injectable)	137	15.0%	28	11.2%	3.777	0.112
Anti-platelets	284	31.1%	77	30.9%	0.217	0.005
Beta-blockers	701	76.9%	180	72.3%	4.575	0.105
Calcium channel blockers	339	37.2%	92	36.9%	0.223	0.005
Digoxin	95	10.4%	40	16.1%	-5.648	-0.167
Diuretics (loop)	431	47.3%	95	38.2%	9.106	0.185
Diuretics (potassium sparing)	160	17.5%	38	15.3%	2.283	0.062
Diuretics (thiazide)	144	15.8%	36	14.5%	1.332	0.037
Nitrates	135	14.8%	23	9.2%	5.566	0.172
Statins	702	77.0%	163	65.5%	11.512	0.256
Fibrates	52	5.7%	24	9.6%	-3.937	-0.148
Amiodarone	140	15.4%	29	11.6%	3.704	0.109
Dronedarone	10	1.1%	12	4.8%	-3.723	-0.221

Sentinel

Table 1ca. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 5+

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Health Service Utilization Intensity Metrics						
No emergency department (ED) encounters (past 0-	470	51.5%	130	52.2%	-0.674	-0.013
No ED encounters (past 31-183 days)	485	53.2%	146	58.6%	-5.455	-0.110
At least 1 ED encounter (past 0-30 days)	442	48.5%	119	47.8%	0.674	0.013
At least 2 ED encounters (past 0-30 days)	164	18.0%	28	11.2%	6.737	0.192
At least 1 ED encounter (past 31-183 days)	427	46.8%	103	41.4%	5.455	0.110
At least 2 ED encounters (past 31-183 days)	217	23.8%	47	18.9%	4.918	0.120

[1]Value represents standard deviation where no % follows the value.

[2]Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

Sentinel

Table 1cb. Aggregated Adjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 5+

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Unique patients	164	18.0%	164	65.9%	N/A	N/A
Demographic Characteristics						
Age (years)	59.5	5.5	59.3	5.4	0.214	0.039
Age						
21-49 years	11	6.7%	7	4.3%	2.439	0.107
50-64 years	153	93.3%	157	95.7%	-2.439	-0.107
Sex						
Female	117	71.3%	120	73.2%	-1.829	-0.041
Male	47	28.7%	44	26.8%	1.829	0.041
Race[2]						
American Indian or Alaska Native	0	0.0%	0	0.0%	NaN	NaN
Asian	0	0.0%	1	0.6%	NaN	NaN
Black or African American	8	4.9%	12	7.3%	-2.439	-0.102
Native Hawaiian or Other Pacific Islander	1	0.6%	0	0.0%	NaN	NaN
Unknown	116	70.7%	112	68.3%	2.439	0.053
White	39	23.8%	39	23.8%	0.000	0.000
Hispanic origin						
Yes	2	1.2%	2	1.2%	0.000	0.000
No	38	23.2%	37	22.6%	0.610	0.015
Unknown	124	75.6%	125	76.2%	-0.610	-0.014
Year						
2010	0	0.0%	4	2.4%	NaN	NaN
2011	0	0.0%	33	20.1%	NaN	NaN
2012	5	3.0%	31	18.9%	-15.854	-0.524
2013	13	7.9%	18	11.0%	-3.049	-0.104
2014	32	19.5%	7	4.3%	15.244	0.485
2015	12	7.3%	16	9.8%	-2.439	-0.087
2016	21	12.8%	18	11.0%	1.829	0.057
2017	16	9.8%	13	7.9%	1.829	0.064
2018	22	13.4%	11	6.7%	6.707	0.224
2019	15	9.1%	4	2.4%	6.707	0.290
2020	14	8.5%	5	3.0%	5.488	0.237
2021	12	7.3%	4	2.4%	4.878	0.228

Sentinel

Table 1cb. Aggregated Adjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 5+

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
2022	2	1.2%	0	0.0%	NaN	NaN
CHADSVASC						
mean, std	5.2	0.5	5.2	0.4	0.043	0.092
0	0	0.0%	0	0.0%	NaN	NaN
1	0	0.0%	0	0.0%	NaN	NaN
2	0	0.0%	0	0.0%	NaN	NaN
3	0	0.0%	0	0.0%	NaN	NaN
4	0	0.0%	0	0.0%	NaN	NaN
>= 5	164	100.0%	164	100.0%	0.000	NaN
HASBLED						
mean, std	1.6	0.7	1.7	0.7	-0.049	-0.065
0	2	1.2%	2	1.2%	0.000	0.000
1	77	47.0%	71	43.3%	3.659	0.074
2	65	39.6%	69	42.1%	-2.439	-0.050
>= 3	20	12.2%	22	13.4%	-1.220	-0.037
Health Characteristics						
Diabetes	143	87.2%	141	86.0%	1.220	0.036
Hypercholesterolemia	63	38.4%	71	43.3%	-4.878	-0.099
Hypertension	162	98.8%	163	99.4%	-0.610	-0.064
Kidney failure (chronic)	32	19.5%	29	17.7%	1.829	0.047
Kidney failure (acute)	25	15.2%	26	15.9%	-0.610	-0.017
Obesity	76	46.3%	77	47.0%	-0.610	-0.012
Peptic ulcer disease	1	0.6%	1	0.6%	0.000	0.000
Nicotine dependency	43	26.2%	41	25.0%	1.220	0.028
Hospitalized acute myocardial infarction (past 0-30 days)	12	7.3%	14	8.5%	-1.220	-0.045
Hospitalized acute myocardial infarction (past 31-183 days)	5	3.0%	5	3.0%	0.000	0.000
Coronary revascularization	33	20.1%	32	19.5%	0.610	0.015
Hospitalized heart failure	79	48.2%	81	49.4%	-1.220	-0.024
Outpatient heart failure	54	32.9%	59	36.0%	-3.049	-0.064
Other ischemic heart disease	94	57.3%	93	56.7%	0.610	0.012
Hospitalized stroke (past 0-30 days)	32	19.5%	31	18.9%	0.610	0.015

Sentinel

Table 1cb. Aggregated Adjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 5+

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Hospitalized stroke (past 31-183 days)	11	6.7%	13	7.9%	-1.220	-0.047
Transient ischemic attack	88	53.7%	81	49.4%	4.268	0.085
Other medical conditions (falls, fractures, syncope, walker use)	55	33.5%	60	36.6%	-3.049	-0.064
Cardioversion	17	10.4%	15	9.1%	1.220	0.041
Cardioablation	8	4.9%	7	4.3%	0.610	0.029
Hospitalized for bleeding	1	0.6%	3	1.8%	-1.220	-0.111
Medical Product Use						
Estrogen replacement	6	3.7%	4	2.4%	1.220	0.071
H2-antagonist	14	8.5%	12	7.3%	1.220	0.045
Non-steroidal anti-inflammatory drugs (NSAIDs)	24	14.6%	25	15.2%	-0.610	-0.017
Proton pump inhibitors	47	28.7%	48	29.3%	-0.610	-0.013
Selective serotonin reuptake inhibitor (SSRI)	43	26.2%	34	20.7%	5.488	0.130
Insulin	51	31.1%	49	29.9%	1.220	0.026
Metformin (Biguanide)	76	46.3%	73	44.5%	1.829	0.037
Sulfonylureas	42	25.6%	39	23.8%	1.829	0.042
Other diabetes medications	35	21.3%	34	20.7%	0.610	0.015
Angiotensin converting enzyme inhibitor (ACEI)/Angiotensin II receptor blocker (ARB)	111	67.7%	111	67.7%	0.000	0.000
Antiarrhythmics	41	25.0%	43	26.2%	-1.220	-0.028
Anti-coagulant (injectable)	19	11.6%	20	12.2%	-0.610	-0.019
Anti-platelets	43	26.2%	49	29.9%	-3.659	-0.082
Beta-blockers	122	74.4%	123	75.0%	-0.610	-0.014
Calcium channel blockers	62	37.8%	57	34.8%	3.049	0.063
Digoxin	25	15.2%	28	17.1%	-1.829	-0.050
Diuretics (loop)	65	39.6%	69	42.1%	-2.439	-0.050
Diuretics (potassium sparing)	24	14.6%	30	18.3%	-3.659	-0.099
Diuretics (thiazide)	17	10.4%	23	14.0%	-3.659	-0.112
Nitrates	16	9.8%	18	11.0%	-1.220	-0.040
Statins	114	69.5%	119	72.6%	-3.049	-0.067
Fibrates	10	6.1%	9	5.5%	0.610	0.026
Amiodarone	20	12.2%	22	13.4%	-1.220	-0.037
Dronedarone	5	3.0%	2	1.2%	1.829	0.127

Sentinel

Table 1cb. Aggregated Adjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 5+

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Health Service Utilization Intensity Metrics						
No emergency department (ED) encounters (past 0-	87	53.0%	89	54.3%	-1.220	-0.024
No ED encounters (past 31-183 days)	104	63.4%	103	62.8%	0.610	0.013
At least 1 ED encounter (past 0-30 days)	77	47.0%	75	45.7%	1.220	0.024
At least 2 ED encounters (past 0-30 days)	18	11.0%	17	10.4%	0.610	0.020
At least 1 ED encounter (past 31-183 days)	60	36.6%	61	37.2%	-0.610	-0.013
At least 2 ED encounters (past 31-183 days)	22	13.4%	30	18.3%	-4.878	-0.134

[1]Value represents standard deviation where no % follows the value.

[2]Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

Sentinel

Table 1cc. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 0

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Unique patients	15,309	100.0%	5,818	100.0%	N/A	N/A
Demographic Characteristics						
Age (years)	54.0	8.8	54.0	8.4	-0.010	-0.001
Age						
21-49 years	3,957	25.8%	1,501	25.8%	0.048	0.001
50-64 years	11,352	74.2%	4,317	74.2%	-0.048	-0.001
Sex						
Female	3,708	24.2%	1,203	20.7%	3.544	0.085
Male	11,601	75.8%	4,615	79.3%	-3.544	-0.085
Race[2]						
American Indian or Alaska Native	12	0.1%	7	0.1%	-0.042	-0.013
Asian	47	0.3%	27	0.5%	-0.157	-0.025
Black or African American	124	0.8%	23	0.4%	0.415	0.054
Native Hawaiian or Other Pacific Islander	5	0.0%	2	0.0%	-0.002	-0.001
Unknown	13,149	85.9%	4,959	85.2%	0.655	0.019
White	1,972	12.9%	800	13.8%	-0.869	-0.026
Hispanic origin						
Yes	77	0.5%	28	0.5%	0.022	0.003
No	497	3.2%	155	2.7%	0.582	0.034
Unknown	14,735	96.3%	5,635	96.9%	-0.604	-0.033
Year						
2010	0	0.0%	138	2.4%	NaN	NaN
2011	9	0.1%	2,124	36.5%	-36.449	-1.069
2012	835	5.5%	1,430	24.6%	-19.125	-0.556
2013	1,686	11.0%	758	13.0%	-2.015	-0.062
2014	2,008	13.1%	372	6.4%	6.723	0.228
2015	1,877	12.3%	256	4.4%	7.861	0.287
2016	1,671	10.9%	295	5.1%	5.845	0.217
2017	1,675	10.9%	184	3.2%	7.779	0.307
2018	1,638	10.7%	128	2.2%	8.500	0.351
2019	1,384	9.0%	75	1.3%	7.751	0.356
2020	1,168	7.6%	37	0.6%	6.994	0.357
2021	1,249	8.2%	20	0.3%	7.815	0.395

Sentinel

Table 1cc. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 0

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
2022	109	0.7%	1	0.0%	0.695	0.115
CHADSVASC						
mean, std	0.5	0.7	0.4	0.7	0.034	0.049
0	9,680	63.2%	3,808	65.5%	-2.221	-0.046
1	4,461	29.1%	1,604	27.6%	1.570	0.035
2	900	5.9%	333	5.7%	0.155	0.007
3	235	1.5%	62	1.1%	0.469	0.041
4	30	0.2%	8	0.1%	0.058	0.014
>= 5	3	0.0%	3	0.1%	-0.032	-0.017
HASBLED						
mean, std	0.0	NaN	0.0	NaN	NaN	NaN
0	15,309	100.0%	5,818	100.0%	0.000	NaN
1	0	0.0%	0	0.0%	NaN	NaN
2	0	0.0%	0	0.0%	NaN	NaN
>= 3	0	0.0%	0	0.0%	NaN	NaN
Health Characteristics						
Diabetes	1,200	7.8%	472	8.1%	-0.274	-0.010
Hypercholesterolemia	2,052	13.4%	817	14.0%	-0.639	-0.019
Hypertension	415	2.7%	98	1.7%	1.026	0.070
Kidney failure (chronic)	9	0.1%	2	0.0%	0.024	0.011
Kidney failure (acute)	224	1.5%	56	1.0%	0.501	0.046
Obesity	2,673	17.5%	618	10.6%	6.838	0.198
Peptic ulcer disease	0	0.0%	0	0.0%	NaN	NaN
Nicotine dependency	2,458	16.1%	718	12.3%	3.715	0.107
Hospitalized acute myocardial infarction (past 0-30 days)	99	0.6%	34	0.6%	0.062	0.008
Hospitalized acute myocardial infarction (past 31-183 days)	25	0.2%	7	0.1%	0.043	0.011
Coronary revascularization	310	2.0%	131	2.3%	-0.227	-0.016
Hospitalized heart failure	809	5.3%	368	6.3%	-1.041	-0.045
Outpatient heart failure	988	6.5%	408	7.0%	-0.559	-0.022
Other ischemic heart disease	1,921	12.5%	789	13.6%	-1.013	-0.030
Hospitalized stroke (past 0-30 days)	0	0.0%	0	0.0%	NaN	NaN

Sentinel

Table 1cc. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 0

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Hospitalized stroke (past 31-183 days)	0	0.0%	0	0.0%	NaN	NaN
Transient ischemic attack	276	1.8%	89	1.5%	0.273	0.021
Other medical conditions (falls, fractures, syncope, walker use)	3,449	22.5%	1,334	22.9%	-0.400	-0.010
Cardioversion	2,511	16.4%	996	17.1%	-0.717	-0.019
Cardioablation	938	6.1%	524	9.0%	-2.879	-0.109
Hospitalized for bleeding	0	0.0%	0	0.0%	NaN	NaN
Medical Product Use						
Estrogen replacement	353	2.3%	147	2.5%	-0.221	-0.014
H2-antagonist	146	1.0%	47	0.8%	0.146	0.016
Non-steroidal anti-inflammatory drugs (NSAIDs)	1,746	11.4%	694	11.9%	-0.523	-0.016
Proton pump inhibitors	1,950	12.7%	674	11.6%	1.153	0.035
Selective serotonin reuptake inhibitor (SSRI)	1,231	8.0%	445	7.6%	0.392	0.015
Insulin	233	1.5%	84	1.4%	0.078	0.006
Metformin (Biguanide)	797	5.2%	303	5.2%	-0.002	-0.000
Sulfonylureas	240	1.6%	112	1.9%	-0.357	-0.027
Other diabetes medications	310	2.0%	117	2.0%	0.014	0.001
Angiotensin converting enzyme inhibitor (ACEI)/Angiotensin II receptor blocker (ARB)	2,054	13.4%	974	16.7%	-3.324	-0.093
Antiarrhythmics	4,598	30.0%	2,131	36.6%	-6.593	-0.140
Anti-coagulant (injectable)	1,501	9.8%	414	7.1%	2.689	0.097
Anti-platelets	749	4.9%	223	3.8%	1.060	0.052
Beta-blockers	8,696	56.8%	3,408	58.6%	-1.774	-0.036
Calcium channel blockers	2,903	19.0%	1,197	20.6%	-1.611	-0.040
Digoxin	845	5.5%	540	9.3%	-3.762	-0.144
Diuretics (loop)	1,093	7.1%	468	8.0%	-0.904	-0.034
Diuretics (potassium sparing)	456	3.0%	221	3.8%	-0.820	-0.045
Diuretics (thiazide)	223	1.5%	103	1.8%	-0.314	-0.025
Nitrates	225	1.5%	91	1.6%	-0.094	-0.008
Statins	3,479	22.7%	1,432	24.6%	-1.888	-0.044
Fibrates	225	1.5%	103	1.8%	-0.301	-0.024
Amiodarone	876	5.7%	401	6.9%	-1.170	-0.048
Dronedarone	509	3.3%	421	7.2%	-3.911	-0.176

Sentinel

Table 1cc. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 0

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Health Service Utilization Intensity Metrics						
No emergency department (ED) encounters (past 0-	11,041	72.1%	4,479	77.0%	-4.864	-0.112
No ED encounters (past 31-183 days)	13,390	87.5%	5,182	89.1%	-1.604	-0.050
At least 1 ED encounter (past 0-30 days)	4,268	27.9%	1,339	23.0%	4.864	0.112
At least 2 ED encounters (past 0-30 days)	708	4.6%	198	3.4%	1.221	0.062
At least 1 ED encounter (past 31-183 days)	1,919	12.5%	636	10.9%	1.604	0.050
At least 2 ED encounters (past 31-183 days)	442	2.9%	127	2.2%	0.704	0.045

[1]Value represents standard deviation where no % follows the value.

[2]Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

Sentinel

Table 1cd. Aggregated Adjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 0

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Unique patients	5,668	37.0%	5,668	97.4%	N/A	N/A
Demographic Characteristics						
Age (years)	54.1	8.7	54.1	8.4	-0.007	-0.001
Age						
21-49 years	1,445	25.5%	1,454	25.7%	-0.159	-0.004
50-64 years	4,223	74.5%	4,214	74.3%	0.159	0.004
Sex						
Female	1,155	20.4%	1,171	20.7%	-0.282	-0.007
Male	4,513	79.6%	4,497	79.3%	0.282	0.007
Race[2]						
American Indian or Alaska Native	2	0.0%	7	0.1%	-0.088	-0.031
Asian	22	0.4%	27	0.5%	-0.088	-0.013
Black or African American	35	0.6%	21	0.4%	0.247	0.035
Native Hawaiian or Other Pacific Islander	3	0.1%	2	0.0%	0.018	0.008
Unknown	4,915	86.7%	4,850	85.6%	1.147	0.033
White	691	12.2%	761	13.4%	-1.235	-0.037
Hispanic origin						
Yes	27	0.5%	27	0.5%	0.000	0.000
No	122	2.2%	135	2.4%	-0.229	-0.015
Unknown	5,519	97.4%	5,506	97.1%	0.229	0.014
Year						
2010	0	0.0%	138	2.4%	NaN	NaN
2011	5	0.1%	2,051	36.2%	-36.097	-1.060
2012	414	7.3%	1,383	24.4%	-17.096	-0.481
2013	739	13.0%	747	13.2%	-0.141	-0.004
2014	821	14.5%	367	6.5%	8.010	0.264
2015	722	12.7%	251	4.4%	8.310	0.300
2016	612	10.8%	294	5.2%	5.610	0.208
2017	583	10.3%	181	3.2%	7.092	0.286
2018	512	9.0%	126	2.2%	6.810	0.299
2019	449	7.9%	74	1.3%	6.616	0.319
2020	395	7.0%	36	0.6%	6.334	0.336
2021	382	6.7%	19	0.3%	6.404	0.352

Sentinel

Table 1cd. Aggregated Adjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 0

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
2022	34	0.6%	1	0.0%	0.582	0.105
CHADSVASC						
mean, std	0.4	0.7	0.4	0.7	-0.001	-0.002
0	3,740	66.0%	3,725	65.7%	0.265	0.006
1	1,531	27.0%	1,554	27.4%	-0.406	-0.009
2	325	5.7%	318	5.6%	0.124	0.005
3	59	1.0%	60	1.1%	-0.018	-0.002
4	12	0.2%	8	0.1%	0.071	0.017
>= 5	1	0.0%	3	0.1%	-0.035	-0.019
HASBLED						
mean, std	0.0	NaN	0.0	NaN	NaN	NaN
0	5,668	100.0%	5,668	100.0%	0.000	NaN
1	0	0.0%	0	0.0%	NaN	NaN
2	0	0.0%	0	0.0%	NaN	NaN
>= 3	0	0.0%	0	0.0%	NaN	NaN
Health Characteristics						
Diabetes	439	7.7%	450	7.9%	-0.194	-0.007
Hypercholesterolemia	802	14.1%	794	14.0%	0.141	0.004
Hypertension	91	1.6%	94	1.7%	-0.053	-0.004
Kidney failure (chronic)	1	0.0%	2	0.0%	-0.018	-0.011
Kidney failure (acute)	59	1.0%	56	1.0%	0.053	0.005
Obesity	617	10.9%	612	10.8%	0.088	0.003
Peptic ulcer disease	0	0.0%	0	0.0%	NaN	NaN
Nicotine dependency	703	12.4%	695	12.3%	0.141	0.004
Hospitalized acute myocardial infarction (past 0-30 days)	36	0.6%	33	0.6%	0.053	0.007
Hospitalized acute myocardial infarction (past 31-183 days)	6	0.1%	4	0.1%	0.035	0.012
Coronary revascularization	121	2.1%	120	2.1%	0.018	0.001
Hospitalized heart failure	364	6.4%	349	6.2%	0.265	0.011
Outpatient heart failure	386	6.8%	392	6.9%	-0.106	-0.004
Other ischemic heart disease	754	13.3%	748	13.2%	0.106	0.003
Hospitalized stroke (past 0-30 days)	0	0.0%	0	0.0%	NaN	NaN

Sentinel

Table 1cd. Aggregated Adjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 0

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Hospitalized stroke (past 31-183 days)	0	0.0%	0	0.0%	NaN	NaN
Transient ischemic attack	90	1.6%	88	1.6%	0.035	0.003
Other medical conditions (falls, fractures, syncope, walker use)	1,322	23.3%	1,283	22.6%	0.688	0.016
Cardioversion	1,008	17.8%	961	17.0%	0.829	0.022
Cardioablation	422	7.4%	458	8.1%	-0.635	-0.024
Hospitalized for bleeding	0	0.0%	0	0.0%	NaN	NaN
Medical Product Use						
Estrogen replacement	130	2.3%	140	2.5%	-0.176	-0.012
H2-antagonist	36	0.6%	42	0.7%	-0.106	-0.013
Non-steroidal anti-inflammatory drugs (NSAIDs)	643	11.3%	670	11.8%	-0.476	-0.015
Proton pump inhibitors	658	11.6%	646	11.4%	0.212	0.007
Selective serotonin reuptake inhibitor (SSRI)	398	7.0%	426	7.5%	-0.494	-0.019
Insulin	77	1.4%	78	1.4%	-0.018	-0.002
Metformin (Biguanide)	288	5.1%	291	5.1%	-0.053	-0.002
Sulfonylureas	99	1.7%	105	1.9%	-0.106	-0.008
Other diabetes medications	114	2.0%	112	2.0%	0.035	0.003
Angiotensin converting enzyme inhibitor (ACEI)/Angiotensin II receptor blocker (ARB)	971	17.1%	934	16.5%	0.653	0.017
Antiarrhythmics	2,072	36.6%	2,027	35.8%	0.794	0.017
Anti-coagulant (injectable)	390	6.9%	405	7.1%	-0.265	-0.010
Anti-platelets	213	3.8%	212	3.7%	0.018	0.001
Beta-blockers	3,274	57.8%	3,309	58.4%	-0.618	-0.013
Calcium channel blockers	1,154	20.4%	1,153	20.3%	0.018	0.000
Digoxin	534	9.4%	499	8.8%	0.618	0.021
Diuretics (loop)	439	7.7%	437	7.7%	0.035	0.001
Diuretics (potassium sparing)	225	4.0%	207	3.7%	0.318	0.017
Diuretics (thiazide)	100	1.8%	95	1.7%	0.088	0.007
Nitrates	83	1.5%	85	1.5%	-0.035	-0.003
Statins	1,393	24.6%	1,384	24.4%	0.159	0.004
Fibrates	97	1.7%	94	1.7%	0.053	0.004
Amiodarone	410	7.2%	385	6.8%	0.441	0.017
Dronedarone	372	6.6%	361	6.4%	0.194	0.008

Sentinel

Table 1cd. Aggregated Adjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 0

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Health Service Utilization Intensity Metrics						
No emergency department (ED) encounters (past 0-	4,336	76.5%	4,363	77.0%	-0.476	-0.011
No ED encounters (past 31-183 days)	5,037	88.9%	5,070	89.4%	-0.582	-0.019
At least 1 ED encounter (past 0-30 days)	1,332	23.5%	1,305	23.0%	0.476	0.011
At least 2 ED encounters (past 0-30 days)	210	3.7%	190	3.4%	0.353	0.019
At least 1 ED encounter (past 31-183 days)	631	11.1%	598	10.6%	0.582	0.019
At least 2 ED encounters (past 31-183 days)	129	2.3%	119	2.1%	0.176	0.012

[1]Value represents standard deviation where no % follows the value.

[2]Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

Sentinel

Table 1ce. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 1

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Unique patients	32,231	100.0%	11,466	100.0%	N/A	N/A
Demographic Characteristics						
Age (years)	57.0	6.7	57.0	6.7	-0.041	-0.006
Age						
21-49 years	4,513	14.0%	1,627	14.2%	-0.188	-0.005
50-64 years	27,718	86.0%	9,839	85.8%	0.188	0.005
Sex						
Female	8,339	25.9%	2,692	23.5%	2.394	0.056
Male	23,892	74.1%	8,774	76.5%	-2.394	-0.056
Race[2]						
American Indian or Alaska Native	28	0.1%	11	0.1%	-0.009	-0.003
Asian	95	0.3%	31	0.3%	0.024	0.005
Black or African American	727	2.3%	168	1.5%	0.790	0.059
Native Hawaiian or Other Pacific Islander	39	0.1%	8	0.1%	0.051	0.017
Unknown	26,451	82.1%	9,488	82.7%	-0.682	-0.018
White	4,891	15.2%	1,760	15.3%	-0.175	-0.005
Hispanic origin						
Yes	213	0.7%	59	0.5%	0.146	0.019
No	2,661	8.3%	724	6.3%	1.942	0.075
Unknown	29,357	91.1%	10,683	93.2%	-2.088	-0.078
Year						
2010	0	0.0%	287	2.5%	NaN	NaN
2011	34	0.1%	3,897	34.0%	-33.882	-1.009
2012	1,572	4.9%	2,603	22.7%	-17.825	-0.535
2013	3,275	10.2%	1,312	11.4%	-1.282	-0.041
2014	4,201	13.0%	923	8.0%	4.984	0.163
2015	3,757	11.7%	608	5.3%	6.354	0.230
2016	3,668	11.4%	742	6.5%	4.909	0.173
2017	3,724	11.6%	483	4.2%	7.342	0.275
2018	3,489	10.8%	299	2.6%	8.217	0.333
2019	3,081	9.6%	156	1.4%	8.199	0.367
2020	2,487	7.7%	88	0.8%	6.949	0.350
2021	2,727	8.5%	65	0.6%	7.894	0.387

Sentinel

Table 1ce. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 1

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
2022	216	0.7%	3	0.0%	0.644	0.109
CHADSVASC						
mean, std	1.8	1.0	1.8	0.9	0.082	0.087
0	856	2.7%	307	2.7%	-0.022	-0.001
1	13,288	41.2%	4,958	43.2%	-2.013	-0.041
2	11,024	34.2%	4,128	36.0%	-1.799	-0.038
3	4,945	15.3%	1,551	13.5%	1.815	0.052
4	1,740	5.4%	418	3.6%	1.753	0.084
>= 5	378	1.2%	104	0.9%	0.266	0.026
HASBLED						
mean, std	1.0	0.0	1.0	0.0	0.000	NaN
0	0	0.0%	0	0.0%	NaN	NaN
1	32,231	100.0%	11,466	100.0%	0.000	NaN
2	0	0.0%	0	0.0%	NaN	NaN
>= 3	0	0.0%	0	0.0%	NaN	NaN
Health Characteristics						
Diabetes	9,604	29.8%	3,375	29.4%	0.363	0.008
Hypercholesterolemia	9,432	29.3%	3,552	31.0%	-1.715	-0.037
Hypertension	30,301	94.0%	10,789	94.1%	-0.084	-0.004
Kidney failure (chronic)	210	0.7%	61	0.5%	0.120	0.016
Kidney failure (acute)	1,016	3.2%	239	2.1%	1.068	0.067
Obesity	11,855	36.8%	2,908	25.4%	11.419	0.249
Peptic ulcer disease	20	0.1%	11	0.1%	-0.034	-0.012
Nicotine dependency	7,387	22.9%	1,841	16.1%	6.863	0.174
Hospitalized acute myocardial infarction (past 0-30 days)	509	1.6%	133	1.2%	0.419	0.036
Hospitalized acute myocardial infarction (past 31-183 days)	228	0.7%	49	0.4%	0.280	0.037
Coronary revascularization	2,330	7.2%	786	6.9%	0.374	0.015
Hospitalized heart failure	3,977	12.3%	1,214	10.6%	1.751	0.055
Outpatient heart failure	4,192	13.0%	1,367	11.9%	1.084	0.033
Other ischemic heart disease	8,744	27.1%	3,152	27.5%	-0.361	-0.008
Hospitalized stroke (past 0-30 days)	90	0.3%	40	0.3%	-0.070	-0.012

Sentinel

Table 1ce. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 1

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Hospitalized stroke (past 31-183 days)	35	0.1%	15	0.1%	-0.022	-0.006
Transient ischemic attack	805	2.5%	350	3.1%	-0.555	-0.034
Other medical conditions (falls, fractures, syncope, walker use)	7,686	23.8%	2,795	24.4%	-0.530	-0.012
Cardioversion	5,163	16.0%	1,916	16.7%	-0.692	-0.019
Cardioablation	1,334	4.1%	614	5.4%	-1.216	-0.057
Hospitalized for bleeding	15	0.0%	13	0.1%	-0.067	-0.024
Medical Product Use						
Estrogen replacement	607	1.9%	228	2.0%	-0.105	-0.008
H2-antagonist	722	2.2%	219	1.9%	0.330	0.023
Non-steroidal anti-inflammatory drugs (NSAIDs)	5,408	16.8%	1,809	15.8%	1.002	0.027
Proton pump inhibitors	5,916	18.4%	1,970	17.2%	1.174	0.031
Selective serotonin reuptake inhibitor (SSRI)	3,624	11.2%	1,208	10.5%	0.708	0.023
Insulin	2,094	6.5%	739	6.4%	0.052	0.002
Metformin (Biguanide)	6,183	19.2%	2,021	17.6%	1.557	0.040
Sulfonylureas	2,272	7.0%	916	8.0%	-0.940	-0.036
Other diabetes medications	2,713	8.4%	925	8.1%	0.350	0.013
Angiotensin converting enzyme inhibitor (ACEI)/Angiotensin II receptor blocker (ARB)	19,420	60.3%	6,728	58.7%	1.575	0.032
Antiarrhythmics	9,146	28.4%	4,044	35.3%	-6.893	-0.148
Anti-coagulant (injectable)	3,353	10.4%	787	6.9%	3.539	0.126
Anti-platelets	3,358	10.4%	953	8.3%	2.107	0.072
Beta-blockers	22,709	70.5%	8,110	70.7%	-0.274	-0.006
Calcium channel blockers	10,607	32.9%	4,026	35.1%	-2.203	-0.047
Digoxin	2,224	6.9%	1,254	10.9%	-4.036	-0.142
Diuretics (loop)	5,264	16.3%	1,729	15.1%	1.253	0.034
Diuretics (potassium sparing)	2,446	7.6%	765	6.7%	0.917	0.036
Diuretics (thiazide)	3,833	11.9%	1,229	10.7%	1.174	0.037
Nitrates	1,507	4.7%	539	4.7%	-0.025	-0.001
Statins	14,927	46.3%	5,349	46.7%	-0.338	-0.007
Fibrates	1,449	4.5%	671	5.9%	-1.356	-0.061
Amiodarone	2,859	8.9%	993	8.7%	0.210	0.007
Dronedarone	1,008	3.1%	861	7.5%	-4.382	-0.196

Sentinel

Table 1ce. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 1

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Health Service Utilization Intensity Metrics						
No emergency department (ED) encounters (past 0-	22,996	71.3%	8,461	73.8%	-2.445	-0.055
No ED encounters (past 31-183 days)	26,539	82.3%	9,723	84.8%	-2.459	-0.066
At least 1 ED encounter (past 0-30 days)	9,235	28.7%	3,005	26.2%	2.445	0.055
At least 2 ED encounters (past 0-30 days)	1,920	6.0%	518	4.5%	1.439	0.065
At least 1 ED encounter (past 31-183 days)	5,692	17.7%	1,743	15.2%	2.459	0.066
At least 2 ED encounters (past 31-183 days)	1,641	5.1%	432	3.8%	1.324	0.064

[1]Value represents standard deviation where no % follows the value.

[2]Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

Sentinel

Table 1cf. Aggregated Adjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 1

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Unique patients	11,319	35.1%	11,319	98.7%	N/A	N/A
Demographic Characteristics						
Age (years)	57.0	6.7	57.0	6.7	0.025	0.004
Age						
21-49 years	1,540	13.6%	1,603	14.2%	-0.557	-0.016
50-64 years	9,779	86.4%	9,716	85.8%	0.557	0.016
Sex						
Female	2,683	23.7%	2,667	23.6%	0.141	0.003
Male	8,636	76.3%	8,652	76.4%	-0.141	-0.003
Race[2]						
American Indian or Alaska Native	13	0.1%	11	0.1%	0.018	0.005
Asian	35	0.3%	31	0.3%	0.035	0.007
Black or African American	189	1.7%	166	1.5%	0.203	0.016
Native Hawaiian or Other Pacific Islander	13	0.1%	8	0.1%	0.044	0.015
Unknown	9,376	82.8%	9,370	82.8%	0.053	0.001
White	1,693	15.0%	1,733	15.3%	-0.353	-0.010
Hispanic origin						
Yes	70	0.6%	57	0.5%	0.115	0.015
No	739	6.5%	705	6.2%	0.300	0.012
Unknown	10,510	92.9%	10,557	93.3%	-0.415	-0.016
Year						
2010	0	0.0%	278	2.5%	NaN	NaN
2011	17	0.2%	3,815	33.7%	-33.554	-1.001
2012	779	6.9%	2,573	22.7%	-15.849	-0.458
2013	1,402	12.4%	1,298	11.5%	0.919	0.028
2014	1,693	15.0%	915	8.1%	6.873	0.217
2015	1,387	12.3%	606	5.4%	6.900	0.245
2016	1,274	11.3%	741	6.5%	4.709	0.166
2017	1,170	10.3%	483	4.3%	6.069	0.235
2018	1,081	9.6%	298	2.6%	6.918	0.292
2019	957	8.5%	156	1.4%	7.077	0.332
2020	711	6.3%	88	0.8%	5.504	0.302
2021	784	6.9%	65	0.6%	6.352	0.339

Sentinel

Table 1cf. Aggregated Adjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 1

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
2022	64	0.6%	3	0.0%	0.539	0.099
CHADSVASC						
mean, std	1.7	0.9	1.7	0.9	-0.005	-0.006
0	279	2.5%	301	2.7%	-0.194	-0.012
1	4,963	43.8%	4,905	43.3%	0.512	0.010
2	4,066	35.9%	4,071	36.0%	-0.044	-0.001
3	1,504	13.3%	1,527	13.5%	-0.203	-0.006
4	416	3.7%	414	3.7%	0.018	0.001
>= 5	91	0.8%	101	0.9%	-0.088	-0.010
HASBLED						
mean, std	1.0	0.0	1.0	0.0	0.000	NaN
0	0	0.0%	0	0.0%	NaN	NaN
1	11,319	100.0%	11,319	100.0%	0.000	NaN
2	0	0.0%	0	0.0%	NaN	NaN
>= 3	0	0.0%	0	0.0%	NaN	NaN
Health Characteristics						
Diabetes	3,240	28.6%	3,317	29.3%	-0.680	-0.015
Hypercholesterolemia	3,474	30.7%	3,490	30.8%	-0.141	-0.003
Hypertension	10,682	94.4%	10,655	94.1%	0.239	0.010
Kidney failure (chronic)	57	0.5%	60	0.5%	-0.027	-0.004
Kidney failure (acute)	241	2.1%	237	2.1%	0.035	0.002
Obesity	2,891	25.5%	2,896	25.6%	-0.044	-0.001
Peptic ulcer disease	4	0.0%	9	0.1%	-0.044	-0.018
Nicotine dependency	1,816	16.0%	1,831	16.2%	-0.133	-0.004
Hospitalized acute myocardial infarction (past 0-30 days)	127	1.1%	133	1.2%	-0.053	-0.005
Hospitalized acute myocardial infarction (past 31-183 days)	49	0.4%	49	0.4%	0.000	0.000
Coronary revascularization	784	6.9%	770	6.8%	0.124	0.005
Hospitalized heart failure	1,203	10.6%	1,199	10.6%	0.035	0.001
Outpatient heart failure	1,345	11.9%	1,348	11.9%	-0.027	-0.001
Other ischemic heart disease	3,026	26.7%	3,089	27.3%	-0.557	-0.013
Hospitalized stroke (past 0-30 days)	38	0.3%	40	0.4%	-0.018	-0.003

Sentinel

Table 1cf. Aggregated Adjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 1

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Hospitalized stroke (past 31-183 days)	19	0.2%	13	0.1%	0.053	0.014
Transient ischemic attack	330	2.9%	335	3.0%	-0.044	-0.003
Other medical conditions (falls, fractures, syncope, walker use)	2,790	24.6%	2,734	24.2%	0.495	0.012
Cardioversion	1,926	17.0%	1,879	16.6%	0.415	0.011
Cardioablation	574	5.1%	578	5.1%	-0.035	-0.002
Hospitalized for bleeding	7	0.1%	9	0.1%	-0.018	-0.007
Medical Product Use						
Estrogen replacement	237	2.1%	226	2.0%	0.097	0.007
H2-antagonist	219	1.9%	213	1.9%	0.053	0.004
Non-steroidal anti-inflammatory drugs (NSAIDs)	1,836	16.2%	1,781	15.7%	0.486	0.013
Proton pump inhibitors	1,926	17.0%	1,932	17.1%	-0.053	-0.001
Selective serotonin reuptake inhibitor (SSRI)	1,166	10.3%	1,191	10.5%	-0.221	-0.007
Insulin	713	6.3%	724	6.4%	-0.097	-0.004
Metformin (Biguanide)	1,924	17.0%	1,993	17.6%	-0.610	-0.016
Sulfonylureas	862	7.6%	892	7.9%	-0.265	-0.010
Other diabetes medications	883	7.8%	907	8.0%	-0.212	-0.008
Angiotensin converting enzyme inhibitor (ACEI)/Angiotensin II receptor blocker (ARB)	6,657	58.8%	6,643	58.7%	0.124	0.003
Antiarrhythmics	3,915	34.6%	3,918	34.6%	-0.027	-0.001
Anti-coagulant (injectable)	742	6.6%	777	6.9%	-0.309	-0.012
Anti-platelets	935	8.3%	939	8.3%	-0.035	-0.001
Beta-blockers	8,021	70.9%	8,007	70.7%	0.124	0.003
Calcium channel blockers	3,924	34.7%	3,960	35.0%	-0.318	-0.007
Digoxin	1,167	10.3%	1,205	10.6%	-0.336	-0.011
Diuretics (loop)	1,701	15.0%	1,707	15.1%	-0.053	-0.001
Diuretics (potassium sparing)	768	6.8%	754	6.7%	0.124	0.005
Diuretics (thiazide)	1,244	11.0%	1,219	10.8%	0.221	0.007
Nitrates	516	4.6%	525	4.6%	-0.080	-0.004
Statins	5,227	46.2%	5,269	46.6%	-0.371	-0.007
Fibrates	667	5.9%	655	5.8%	0.106	0.005
Amiodarone	1,011	8.9%	987	8.7%	0.212	0.007
Dronedarone	737	6.5%	766	6.8%	-0.256	-0.010

Sentinel

Table 1cf. Aggregated Adjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 1

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Health Service Utilization Intensity Metrics						
No emergency department (ED) encounters (past 0-	8,376	74.0%	8,350	73.8%	0.230	0.005
No ED encounters (past 31-183 days)	9,657	85.3%	9,609	84.9%	0.424	0.012
At least 1 ED encounter (past 0-30 days)	2,943	26.0%	2,969	26.2%	-0.230	-0.005
At least 2 ED encounters (past 0-30 days)	534	4.7%	510	4.5%	0.212	0.010
At least 1 ED encounter (past 31-183 days)	1,662	14.7%	1,710	15.1%	-0.424	-0.012
At least 2 ED encounters (past 31-183 days)	400	3.5%	420	3.7%	-0.177	-0.009

[1]Value represents standard deviation where no % follows the value.

[2]Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

Sentinel

Table 1cg. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 2

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Unique patients	8,030	100.0%	2,435	100.0%	N/A	N/A
Demographic Characteristics						
Age (years)	57.2	6.5	57.3	6.5	-0.142	-0.022
Age						
21-49 years	1,101	13.7%	324	13.3%	0.405	0.012
50-64 years	6,929	86.3%	2,111	86.7%	-0.405	-0.012
Sex						
Female	2,186	27.2%	673	27.6%	-0.416	-0.009
Male	5,844	72.8%	1,762	72.4%	0.416	0.009
Race[2]						
American Indian or Alaska Native	8	0.1%	3	0.1%	-0.024	-0.007
Asian	24	0.3%	7	0.3%	0.011	0.002
Black or African American	356	4.4%	74	3.0%	1.394	0.074
Native Hawaiian or Other Pacific Islander	9	0.1%	3	0.1%	-0.011	-0.003
Unknown	6,121	76.2%	1,924	79.0%	-2.788	-0.067
White	1,512	18.8%	424	17.4%	1.417	0.037
Hispanic origin						
Yes	68	0.8%	22	0.9%	-0.057	-0.006
No	1,184	14.7%	287	11.8%	2.958	0.087
Unknown	6,778	84.4%	2,126	87.3%	-2.902	-0.083
Year						
2010	0	0.0%	48	2.0%	NaN	NaN
2011	5	0.1%	701	28.8%	-28.726	-0.896
2012	279	3.5%	544	22.3%	-18.866	-0.586
2013	680	8.5%	277	11.4%	-2.908	-0.097
2014	919	11.4%	186	7.6%	3.806	0.130
2015	867	10.8%	150	6.2%	4.637	0.167
2016	875	10.9%	187	7.7%	3.217	0.111
2017	1,006	12.5%	144	5.9%	6.614	0.230
2018	961	12.0%	94	3.9%	8.107	0.304
2019	859	10.7%	57	2.3%	8.357	0.343
2020	765	9.5%	30	1.2%	8.295	0.374
2021	766	9.5%	16	0.7%	8.882	0.412

Sentinel

Table 1cg. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 2

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
2022	48	0.6%	1	0.0%	0.557	0.099
CHADSVASC						
mean, std	2.4	1.2	2.3	1.1	0.056	0.048
0	74	0.9%	22	0.9%	0.018	0.002
1	2,045	25.5%	659	27.1%	-1.597	-0.036
2	2,664	33.2%	833	34.2%	-1.034	-0.022
3	1,914	23.8%	539	22.1%	1.700	0.040
4	987	12.3%	285	11.7%	0.587	0.018
>= 5	346	4.3%	97	4.0%	0.325	0.016
HASBLED						
mean, std	2.0	0.0	2.0	0.0	0.000	NaN
0	0	0.0%	0	0.0%	NaN	NaN
1	0	0.0%	0	0.0%	NaN	NaN
2	8,030	100.0%	2,435	100.0%	0.000	NaN
>= 3	0	0.0%	0	0.0%	NaN	NaN
Health Characteristics						
Diabetes	3,294	41.0%	987	40.5%	0.487	0.010
Hypercholesterolemia	2,642	32.9%	843	34.6%	-1.719	-0.036
Hypertension	7,839	97.6%	2,374	97.5%	0.127	0.008
Kidney failure (chronic)	1,622	20.2%	464	19.1%	1.144	0.029
Kidney failure (acute)	1,002	12.5%	241	9.9%	2.581	0.082
Obesity	3,591	44.7%	844	34.7%	10.059	0.207
Peptic ulcer disease	75	0.9%	28	1.1%	-0.216	-0.021
Nicotine dependency	2,647	33.0%	586	24.1%	8.898	0.198
Hospitalized acute myocardial infarction (past 0-30 days)	242	3.0%	49	2.0%	1.001	0.064
Hospitalized acute myocardial infarction (past 31-183 days)	134	1.7%	31	1.3%	0.396	0.033
Coronary revascularization	942	11.7%	290	11.9%	-0.179	-0.006
Hospitalized heart failure	1,868	23.3%	502	20.6%	2.647	0.064
Outpatient heart failure	1,703	21.2%	470	19.3%	1.906	0.047
Other ischemic heart disease	2,970	37.0%	916	37.6%	-0.632	-0.013
Hospitalized stroke (past 0-30 days)	342	4.3%	140	5.7%	-1.490	-0.068

Sentinel

Table 1cg. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 2

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Hospitalized stroke (past 31-183 days)	155	1.9%	63	2.6%	-0.657	-0.044
Transient ischemic attack	425	5.3%	174	7.1%	-1.853	-0.077
Other medical conditions (falls, fractures, syncope, walker use)	2,536	31.6%	765	31.4%	0.165	0.004
Cardioversion	1,356	16.9%	440	18.1%	-1.183	-0.031
Cardioablation	315	3.9%	138	5.7%	-1.745	-0.082
Hospitalized for bleeding	94	1.2%	42	1.7%	-0.554	-0.046
Medical Product Use						
Estrogen replacement	145	1.8%	38	1.6%	0.245	0.019
H2-antagonist	350	4.4%	81	3.3%	1.032	0.054
Non-steroidal anti-inflammatory drugs (NSAIDs)	1,519	18.9%	429	17.6%	1.298	0.034
Proton pump inhibitors	2,296	28.6%	693	28.5%	0.133	0.003
Selective serotonin reuptake inhibitor (SSRI)	1,248	15.5%	348	14.3%	1.250	0.035
Insulin	919	11.4%	276	11.3%	0.110	0.003
Metformin (Biguanide)	1,894	23.6%	461	18.9%	4.654	0.114
Sulfonylureas	730	9.1%	240	9.9%	-0.765	-0.026
Other diabetes medications	859	10.7%	241	9.9%	0.800	0.026
Angiotensin converting enzyme inhibitor (ACEI)/Angiotensin II receptor blocker (ARB)	5,189	64.6%	1,569	64.4%	0.185	0.004
Antiarrhythmics	2,373	29.6%	869	35.7%	-6.136	-0.131
Anti-coagulant (injectable)	987	12.3%	228	9.4%	2.928	0.094
Anti-platelets	1,226	15.3%	349	14.3%	0.935	0.026
Beta-blockers	5,924	73.8%	1,770	72.7%	1.083	0.024
Calcium channel blockers	2,953	36.8%	967	39.7%	-2.938	-0.060
Digoxin	652	8.1%	319	13.1%	-4.981	-0.162
Diuretics (loop)	2,118	26.4%	608	25.0%	1.407	0.032
Diuretics (potassium sparing)	887	11.0%	267	11.0%	0.081	0.003
Diuretics (thiazide)	1,003	12.5%	314	12.9%	-0.405	-0.012
Nitrates	638	7.9%	198	8.1%	-0.186	-0.007
Statins	4,298	53.5%	1,199	49.2%	4.284	0.086
Fibrates	451	5.6%	186	7.6%	-2.022	-0.081
Amiodarone	1,069	13.3%	319	13.1%	0.212	0.006
Dronedarone	193	2.4%	167	6.9%	-4.455	-0.213

Sentinel

Table 1cg. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 2

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Health Service Utilization Intensity Metrics						
No emergency department (ED) encounters (past 0-	5,013	62.4%	1,603	65.8%	-3.403	-0.071
No ED encounters (past 31-183 days)	5,778	72.0%	1,832	75.2%	-3.281	-0.074
At least 1 ED encounter (past 0-30 days)	3,017	37.6%	832	34.2%	3.403	0.071
At least 2 ED encounters (past 0-30 days)	805	10.0%	209	8.6%	1.442	0.050
At least 1 ED encounter (past 31-183 days)	2,252	28.0%	603	24.8%	3.281	0.074
At least 2 ED encounters (past 31-183 days)	897	11.2%	223	9.2%	2.012	0.067

[1]Value represents standard deviation where no % follows the value.

[2]Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

Sentinel

Table 1ch. Aggregated Adjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 2

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Unique patients	2,368	29.5%	2,368	97.2%	N/A	N/A
Demographic Characteristics						
Age (years)	57.3	6.3	57.3	6.5	-0.088	-0.014
Age						
21-49 years	320	13.5%	312	13.2%	0.338	0.010
50-64 years	2,048	86.5%	2,056	86.8%	-0.338	-0.010
Sex						
Female	641	27.1%	643	27.2%	-0.084	-0.002
Male	1,727	72.9%	1,725	72.8%	0.084	0.002
Race[2]						
American Indian or Alaska Native	3	0.1%	3	0.1%	0.000	0.000
Asian	6	0.3%	7	0.3%	-0.042	-0.008
Black or African American	94	4.0%	70	3.0%	1.014	0.055
Native Hawaiian or Other Pacific Islander	3	0.1%	3	0.1%	0.000	0.000
Unknown	1,857	78.4%	1,881	79.4%	-1.014	-0.025
White	405	17.1%	404	17.1%	0.042	0.001
Hispanic origin						
Yes	16	0.7%	20	0.8%	-0.169	-0.019
No	284	12.0%	274	11.6%	0.422	0.013
Unknown	2,068	87.3%	2,074	87.6%	-0.253	-0.008
Year						
2010	0	0.0%	47	2.0%	NaN	NaN
2011	2	0.1%	683	28.8%	-28.758	-0.896
2012	123	5.2%	524	22.1%	-16.934	-0.509
2013	239	10.1%	271	11.4%	-1.351	-0.044
2014	330	13.9%	179	7.6%	6.377	0.207
2015	298	12.6%	145	6.1%	6.461	0.223
2016	271	11.4%	185	7.8%	3.632	0.123
2017	250	10.6%	140	5.9%	4.645	0.170
2018	259	10.9%	92	3.9%	7.052	0.272
2019	218	9.2%	55	2.3%	6.883	0.299
2020	193	8.2%	30	1.3%	6.883	0.329
2021	172	7.3%	16	0.7%	6.588	0.342

Sentinel

Table 1ch. Aggregated Adjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 2

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
2022	13	0.5%	1	0.0%	0.507	0.093
CHADSVASC						
mean, std	2.3	1.1	2.3	1.1	-0.004	-0.004
0	25	1.1%	22	0.9%	0.127	0.013
1	635	26.8%	648	27.4%	-0.549	-0.012
2	831	35.1%	810	34.2%	0.887	0.019
3	520	22.0%	528	22.3%	-0.338	-0.008
4	275	11.6%	271	11.4%	0.169	0.005
>= 5	82	3.5%	89	3.8%	-0.296	-0.016
HASBLED						
mean, std	2.0	0.0	2.0	0.0	0.000	NaN
0	0	0.0%	0	0.0%	NaN	NaN
1	0	0.0%	0	0.0%	NaN	NaN
2	2,368	100.0%	2,368	100.0%	0.000	NaN
>= 3	0	0.0%	0	0.0%	NaN	NaN
Health Characteristics						
Diabetes	923	39.0%	950	40.1%	-1.140	-0.023
Hypercholesterolemia	804	34.0%	813	34.3%	-0.380	-0.008
Hypertension	2,306	97.4%	2,309	97.5%	-0.127	-0.008
Kidney failure (chronic)	459	19.4%	454	19.2%	0.211	0.005
Kidney failure (acute)	220	9.3%	236	10.0%	-0.676	-0.023
Obesity	837	35.3%	831	35.1%	0.253	0.005
Peptic ulcer disease	18	0.8%	26	1.1%	-0.338	-0.035
Nicotine dependency	546	23.1%	571	24.1%	-1.056	-0.025
Hospitalized acute myocardial infarction (past 0-30 days)	51	2.2%	47	2.0%	0.169	0.012
Hospitalized acute myocardial infarction (past 31-183 days)	20	0.8%	27	1.1%	-0.296	-0.030
Coronary revascularization	289	12.2%	275	11.6%	0.591	0.018
Hospitalized heart failure	490	20.7%	491	20.7%	-0.042	-0.001
Outpatient heart failure	455	19.2%	456	19.3%	-0.042	-0.001
Other ischemic heart disease	893	37.7%	885	37.4%	0.338	0.007
Hospitalized stroke (past 0-30 days)	138	5.8%	133	5.6%	0.211	0.009

Sentinel

Table 1ch. Aggregated Adjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 2

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Hospitalized stroke (past 31-183 days)	59	2.5%	60	2.5%	-0.042	-0.003
Transient ischemic attack	165	7.0%	161	6.8%	0.169	0.007
Other medical conditions (falls, fractures, syncope, walker use)	745	31.5%	744	31.4%	0.042	0.001
Cardioversion	409	17.3%	427	18.0%	-0.760	-0.020
Cardioablation	129	5.4%	125	5.3%	0.169	0.007
Hospitalized for bleeding	40	1.7%	37	1.6%	0.127	0.010
Medical Product Use						
Estrogen replacement	31	1.3%	35	1.5%	-0.169	-0.014
H2-antagonist	83	3.5%	77	3.3%	0.253	0.014
Non-steroidal anti-inflammatory drugs (NSAIDs)	413	17.4%	419	17.7%	-0.253	-0.007
Proton pump inhibitors	671	28.3%	669	28.3%	0.084	0.002
Selective serotonin reuptake inhibitor (SSRI)	341	14.4%	344	14.5%	-0.127	-0.004
Insulin	278	11.7%	266	11.2%	0.507	0.016
Metformin (Biguanide)	441	18.6%	451	19.0%	-0.422	-0.011
Sulfonylureas	233	9.8%	233	9.8%	0.000	0.000
Other diabetes medications	250	10.6%	237	10.0%	0.549	0.018
Angiotensin converting enzyme inhibitor (ACEI)/Angiotensin II receptor blocker (ARB)	1,530	64.6%	1,527	64.5%	0.127	0.003
Antiarrhythmics	835	35.3%	820	34.6%	0.633	0.013
Anti-coagulant (injectable)	216	9.1%	215	9.1%	0.042	0.001
Anti-platelets	343	14.5%	340	14.4%	0.127	0.004
Beta-blockers	1,727	72.9%	1,717	72.5%	0.422	0.009
Calcium channel blockers	930	39.3%	944	39.9%	-0.591	-0.012
Digoxin	311	13.1%	303	12.8%	0.338	0.010
Diuretics (loop)	586	24.7%	588	24.8%	-0.084	-0.002
Diuretics (potassium sparing)	241	10.2%	260	11.0%	-0.802	-0.026
Diuretics (thiazide)	323	13.6%	308	13.0%	0.633	0.019
Nitrates	179	7.6%	191	8.1%	-0.507	-0.019
Statins	1,179	49.8%	1,170	49.4%	0.380	0.008
Fibrates	183	7.7%	176	7.4%	0.296	0.011
Amiodarone	324	13.7%	308	13.0%	0.676	0.020
Dronedarone	145	6.1%	141	6.0%	0.169	0.007

Sentinel

Table 1ch. Aggregated Adjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 2

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Health Service Utilization Intensity Metrics						
No emergency department (ED) encounters (past 0-	1,558	65.8%	1,562	66.0%	-0.169	-0.004
No ED encounters (past 31-183 days)	1,804	76.2%	1,794	75.8%	0.422	0.010
At least 1 ED encounter (past 0-30 days)	810	34.2%	806	34.0%	0.169	0.004
At least 2 ED encounters (past 0-30 days)	200	8.4%	203	8.6%	-0.127	-0.005
At least 1 ED encounter (past 31-183 days)	564	23.8%	574	24.2%	-0.422	-0.010
At least 2 ED encounters (past 31-183 days)	214	9.0%	210	8.9%	0.169	0.006

[1]Value represents standard deviation where no % follows the value.

[2]Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

Sentinel

Table 1ci. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 3+

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Unique patients	1,829	100.0%	469	100.0%	N/A	N/A
Demographic Characteristics						
Age (years)	57.8	6.2	57.9	5.7	-0.181	-0.030
Age						
21-49 years	205	11.2%	47	10.0%	1.187	0.039
50-64 years	1,624	88.8%	422	90.0%	-1.187	-0.039
Sex						
Female	478	26.1%	131	27.9%	-1.797	-0.040
Male	1,351	73.9%	338	72.1%	1.797	0.040
Race[2]						
American Indian or Alaska Native	1	0.1%	1	0.2%	-0.159	-0.043
Asian	3	0.2%	0	0.0%	NaN	NaN
Black or African American	122	6.7%	19	4.1%	2.619	0.116
Native Hawaiian or Other Pacific Islander	4	0.2%	0	0.0%	NaN	NaN
Unknown	1,249	68.3%	344	73.3%	-5.059	-0.111
White	450	24.6%	105	22.4%	2.216	0.052
Hispanic origin						
Yes	15	0.8%	3	0.6%	0.180	0.021
No	433	23.7%	89	19.0%	4.698	0.115
Unknown	1,381	75.5%	377	80.4%	-4.878	-0.118
Year						
2010	0	0.0%	9	1.9%	NaN	NaN
2011	1	0.1%	125	26.7%	-26.598	-0.850
2012	41	2.2%	73	15.6%	-13.323	-0.481
2013	124	6.8%	46	9.8%	-3.028	-0.110
2014	170	9.3%	22	4.7%	4.604	0.181
2015	153	8.4%	28	6.0%	2.395	0.093
2016	211	11.5%	47	10.0%	1.515	0.049
2017	241	13.2%	45	9.6%	3.582	0.113
2018	233	12.7%	36	7.7%	5.063	0.168
2019	227	12.4%	16	3.4%	9.000	0.338
2020	193	10.6%	16	3.4%	7.141	0.283
2021	220	12.0%	6	1.3%	10.749	0.442

Sentinel

Table 1ci. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 3+

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
2022	15	0.8%	0	0.0%	NaN	NaN
CHADSVASC						
mean, std	2.8	1.3	2.7	1.3	0.039	0.030
0	5	0.3%	0	0.0%	NaN	NaN
1	330	18.0%	87	18.6%	-0.507	-0.013
2	507	27.7%	133	28.4%	-0.638	-0.014
3	465	25.4%	115	24.5%	0.903	0.021
4	337	18.4%	89	19.0%	-0.551	-0.014
>= 5	185	10.1%	45	9.6%	0.520	0.017
HASBLED						
mean, std	3.1	0.3	3.1	0.3	0.014	0.048
0	0	0.0%	0	0.0%	NaN	NaN
1	0	0.0%	0	0.0%	NaN	NaN
2	0	0.0%	0	0.0%	NaN	NaN
>= 3	1,829	100.0%	469	100.0%	0.000	NaN
Health Characteristics						
Diabetes	897	49.0%	228	48.6%	0.429	0.009
Hypercholesterolemia	640	35.0%	164	35.0%	0.024	0.000
Hypertension	1,815	99.2%	466	99.4%	-0.126	-0.015
Kidney failure (chronic)	822	44.9%	224	47.8%	-2.819	-0.057
Kidney failure (acute)	521	28.5%	128	27.3%	1.193	0.027
Obesity	889	48.6%	187	39.9%	8.734	0.177
Peptic ulcer disease	44	2.4%	12	2.6%	-0.153	-0.010
Nicotine dependency	749	41.0%	162	34.5%	6.410	0.133
Hospitalized acute myocardial infarction (past 0-30 days)	49	2.7%	10	2.1%	0.547	0.036
Hospitalized acute myocardial infarction (past 31-183 days)	67	3.7%	13	2.8%	0.891	0.051
Coronary revascularization	264	14.4%	77	16.4%	-1.984	-0.055
Hospitalized heart failure	642	35.1%	148	31.6%	3.545	0.075
Outpatient heart failure	588	32.1%	144	30.7%	1.445	0.031
Other ischemic heart disease	791	43.2%	218	46.5%	-3.234	-0.065
Hospitalized stroke (past 0-30 days)	124	6.8%	50	10.7%	-3.881	-0.138

Sentinel

Table 1ci. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 3+

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Hospitalized stroke (past 31-183 days)	95	5.2%	29	6.2%	-0.989	-0.043
Transient ischemic attack	158	8.6%	43	9.2%	-0.530	-0.019
Other medical conditions (falls, fractures, syncope, walker use)	672	36.7%	185	39.4%	-2.704	-0.056
Cardioversion	271	14.8%	67	14.3%	0.531	0.015
Cardioablation	68	3.7%	28	6.0%	-2.252	-0.105
Hospitalized for bleeding	64	3.5%	21	4.5%	-0.978	-0.050
Medical Product Use						
Estrogen replacement	32	1.7%	6	1.3%	0.470	0.039
H2-antagonist	136	7.4%	28	6.0%	1.466	0.059
Non-steroidal anti-inflammatory drugs (NSAIDs)	313	17.1%	77	16.4%	0.695	0.019
Proton pump inhibitors	719	39.3%	185	39.4%	-0.135	-0.003
Selective serotonin reuptake inhibitor (SSRI)	373	20.4%	84	17.9%	2.483	0.063
Insulin	315	17.2%	69	14.7%	2.510	0.069
Metformin (Biguanide)	417	22.8%	94	20.0%	2.757	0.067
Sulfonylureas	208	11.4%	52	11.1%	0.285	0.009
Other diabetes medications	223	12.2%	49	10.4%	1.745	0.055
Angiotensin converting enzyme inhibitor (ACEI)/Angiotensin II receptor blocker (ARB)	1,257	68.7%	304	64.8%	3.907	0.083
Antiarrhythmics	490	26.8%	154	32.8%	-6.045	-0.132
Anti-coagulant (injectable)	222	12.1%	50	10.7%	1.477	0.046
Anti-platelets	337	18.4%	82	17.5%	0.941	0.025
Beta-blockers	1,415	77.4%	361	77.0%	0.392	0.009
Calcium channel blockers	711	38.9%	215	45.8%	-6.969	-0.141
Digoxin	185	10.1%	65	13.9%	-3.744	-0.115
Diuretics (loop)	679	37.1%	179	38.2%	-1.042	-0.022
Diuretics (potassium sparing)	289	15.8%	87	18.6%	-2.749	-0.073
Diuretics (thiazide)	240	13.1%	65	13.9%	-0.737	-0.022
Nitrates	184	10.1%	43	9.2%	0.892	0.030
Statins	1,025	56.0%	251	53.5%	2.523	0.051
Fibrates	111	6.1%	49	10.4%	-4.379	-0.160
Amiodarone	281	15.4%	77	16.4%	-1.054	-0.029
Dronedarone	27	1.5%	18	3.8%	-2.362	-0.147

Sentinel

Table 1ci. Aggregated Unadjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 3+

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Health Service Utilization Intensity Metrics						
No emergency department (ED) encounters (past 0-	1,103	60.3%	275	58.6%	1.671	0.034
No ED encounters (past 31-183 days)	1,060	58.0%	281	59.9%	-1.960	-0.040
At least 1 ED encounter (past 0-30 days)	726	39.7%	194	41.4%	-1.671	-0.034
At least 2 ED encounters (past 0-30 days)	261	14.3%	52	11.1%	3.183	0.096
At least 1 ED encounter (past 31-183 days)	769	42.0%	188	40.1%	1.960	0.040
At least 2 ED encounters (past 31-183 days)	380	20.8%	91	19.4%	1.373	0.034

[1]Value represents standard deviation where no % follows the value.

[2]Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

Sentinel

Table 1cj. Aggregated Adjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 3+

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Unique patients	408	22.3%	408	87.0%	N/A	N/A
Demographic Characteristics						
Age (years)	57.6	6.6	58.1	5.7	-0.436	-0.071
Age						
21-49 years	46	11.3%	38	9.3%	1.961	0.065
50-64 years	362	88.7%	370	90.7%	-1.961	-0.065
Sex						
Female	113	27.7%	107	26.2%	1.471	0.033
Male	295	72.3%	301	73.8%	-1.471	-0.033
Race[2]						
American Indian or Alaska Native	0	0.0%	1	0.2%	NaN	NaN
Asian	1	0.2%	0	0.0%	NaN	NaN
Black or African American	16	3.9%	16	3.9%	0.000	0.000
Native Hawaiian or Other Pacific Islander	1	0.2%	0	0.0%	NaN	NaN
Unknown	292	71.6%	305	74.8%	-3.186	-0.072
White	98	24.0%	86	21.1%	2.941	0.070
Hispanic origin						
Yes	0	0.0%	3	0.7%	NaN	NaN
No	80	19.6%	76	18.6%	0.980	0.025
Unknown	328	80.4%	329	80.6%	-0.245	-0.006
Year						
2010	0	0.0%	9	2.2%	NaN	NaN
2011	0	0.0%	98	24.0%	NaN	NaN
2012	14	3.4%	63	15.4%	-12.010	-0.420
2013	30	7.4%	42	10.3%	-2.941	-0.104
2014	49	12.0%	20	4.9%	7.108	0.258
2015	46	11.3%	26	6.4%	4.902	0.173
2016	44	10.8%	44	10.8%	0.000	0.000
2017	46	11.3%	42	10.3%	0.980	0.032
2018	49	12.0%	29	7.1%	4.902	0.167
2019	48	11.8%	16	3.9%	7.843	0.295
2020	36	8.8%	14	3.4%	5.392	0.226
2021	45	11.0%	5	1.2%	9.804	0.418

Sentinel

Table 1cj. Aggregated Adjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 3+

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
2022	1	0.2%	0	0.0%	NaN	NaN
CHADSVASC						
mean, std	2.7	1.3	2.7	1.2	-0.002	-0.002
0	0	0.0%	0	0.0%	NaN	NaN
1	77	18.9%	81	19.9%	-0.980	-0.025
2	125	30.6%	111	27.2%	3.431	0.076
3	97	23.8%	106	26.0%	-2.206	-0.051
4	74	18.1%	77	18.9%	-0.735	-0.019
>= 5	35	8.6%	33	8.1%	0.490	0.018
HASBLED						
mean, std	3.1	0.3	3.1	0.3	-0.007	-0.028
0	0	0.0%	0	0.0%	NaN	NaN
1	0	0.0%	0	0.0%	NaN	NaN
2	0	0.0%	0	0.0%	NaN	NaN
>= 3	408	100.0%	408	100.0%	0.000	NaN
Health Characteristics						
Diabetes	182	44.6%	195	47.8%	-3.186	-0.064
Hypercholesterolemia	132	32.4%	137	33.6%	-1.225	-0.026
Hypertension	408	100.0%	406	99.5%	0.490	0.099
Kidney failure (chronic)	186	45.6%	196	48.0%	-2.451	-0.049
Kidney failure (acute)	98	24.0%	112	27.5%	-3.431	-0.079
Obesity	164	40.2%	165	40.4%	-0.245	-0.005
Peptic ulcer disease	15	3.7%	11	2.7%	0.980	0.056
Nicotine dependency	147	36.0%	135	33.1%	2.941	0.062
Hospitalized acute myocardial infarction (past 0-30 days)	11	2.7%	8	2.0%	0.735	0.049
Hospitalized acute myocardial infarction (past 31-183 days)	11	2.7%	11	2.7%	0.000	0.000
Coronary revascularization	49	12.0%	63	15.4%	-3.431	-0.100
Hospitalized heart failure	131	32.1%	127	31.1%	0.980	0.021
Outpatient heart failure	119	29.2%	129	31.6%	-2.451	-0.053
Other ischemic heart disease	182	44.6%	182	44.6%	0.000	0.000
Hospitalized stroke (past 0-30 days)	41	10.0%	44	10.8%	-0.735	-0.024

Sentinel

Table 1cj. Aggregated Adjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 3+

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Hospitalized stroke (past 31-183 days)	23	5.6%	22	5.4%	0.245	0.011
Transient ischemic attack	33	8.1%	36	8.8%	-0.735	-0.026
Other medical conditions (falls, fractures, syncope, walker use)	149	36.5%	156	38.2%	-1.716	-0.035
Cardioversion	64	15.7%	56	13.7%	1.961	0.055
Cardioablation	27	6.6%	22	5.4%	1.225	0.052
Hospitalized for bleeding	18	4.4%	17	4.2%	0.245	0.012
Medical Product Use						
Estrogen replacement	5	1.2%	4	1.0%	0.245	0.023
H2-antagonist	28	6.9%	22	5.4%	1.471	0.061
Non-steroidal anti-inflammatory drugs (NSAIDs)	70	17.2%	65	15.9%	1.225	0.033
Proton pump inhibitors	165	40.4%	161	39.5%	0.980	0.020
Selective serotonin reuptake inhibitor (SSRI)	73	17.9%	68	16.7%	1.225	0.032
Insulin	56	13.7%	64	15.7%	-1.961	-0.055
Metformin (Biguanide)	78	19.1%	78	19.1%	0.000	0.000
Sulfonylureas	35	8.6%	41	10.0%	-1.471	-0.051
Other diabetes medications	48	11.8%	42	10.3%	1.471	0.047
Angiotensin converting enzyme inhibitor (ACEI)/Angiotensin II receptor blocker (ARB)	263	64.5%	269	65.9%	-1.471	-0.031
Antiarrhythmics	122	29.9%	128	31.4%	-1.471	-0.032
Anti-coagulant (injectable)	42	10.3%	46	11.3%	-0.980	-0.032
Anti-platelets	65	15.9%	71	17.4%	-1.471	-0.039
Beta-blockers	311	76.2%	314	77.0%	-0.735	-0.017
Calcium channel blockers	184	45.1%	180	44.1%	0.980	0.020
Digoxin	49	12.0%	51	12.5%	-0.490	-0.015
Diuretics (loop)	146	35.8%	154	37.7%	-1.961	-0.041
Diuretics (potassium sparing)	65	15.9%	74	18.1%	-2.206	-0.059
Diuretics (thiazide)	60	14.7%	57	14.0%	0.735	0.021
Nitrates	33	8.1%	39	9.6%	-1.471	-0.052
Statins	220	53.9%	220	53.9%	0.000	0.000
Fibrates	37	9.1%	37	9.1%	0.000	0.000
Amiodarone	62	15.2%	67	16.4%	-1.225	-0.034
Dronedarone	10	2.5%	12	2.9%	-0.490	-0.030

Sentinel

Table 1cj. Aggregated Adjusted Characteristics of Rivaroxaban and Dabigatran Users, Propensity Score Matched (Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.05) in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 3+

	Direct Oral Anticoagulant				Covariate Balance	
	Rivaroxaban Users		Dabigatran Users			
Patient Characteristics	Number/Mean	Percent/Standard Deviation[1]	Number/Mean	Percent/Standard Deviation[1]	Absolute Difference	Standardized Difference
Health Service Utilization Intensity Metrics						
No emergency department (ED) encounters (past 0-	245	60.0%	244	59.8%	0.245	0.005
No ED encounters (past 31-183 days)	252	61.8%	252	61.8%	0.000	0.000
At least 1 ED encounter (past 0-30 days)	163	40.0%	164	40.2%	-0.245	-0.005
At least 2 ED encounters (past 0-30 days)	52	12.7%	45	11.0%	1.716	0.053
At least 1 ED encounter (past 31-183 days)	156	38.2%	156	38.2%	0.000	0.000
At least 2 ED encounters (past 31-183 days)	71	17.4%	76	18.6%	-1.225	-0.032

[1]Value represents standard deviation where no % follows the value.

[2]Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

Sentinel

Table 2a. Effect Estimates for Stroke, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type

Direct Oral Anticoagulant	Number of New Users	Person Years at Risk	Average Person Days at Risk	Average Person Years at Risk	Number of Events	Incidence Rate per 1,000 Person Years	Risk per 1,000 New Users	Incidence Rate Difference per 1,000 Person Years	Risk Difference per 1,000 New Users	Hazard Ratio (95% Confidence Interval)	Wald P-Value
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	57,399	19,029.95	121.09	0.33	67	3.52	1.17	-2.54	-0.42	0.67 (0.44, 1.03)	0.065
Dabigatran Users	20,188	5,276.74	95.47	0.26	32	6.06	1.59				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	57,228	18,982.92	121.16	0.33	66	3.48	1.15	-2.59	-0.43	N/A	N/A
Dabigatran Users	20,180	5,275.50	95.48	0.26	32	6.07	1.59				
Inverse Probability of Treatment Weighted Analysis[1]; Weight = ATES, Trimmed[2]											
Rivaroxaban Users	57,127	18,968.22	121.28	0.33	64	3.38	1.12	-3.09	-0.58	0.61 (0.39, 0.94)	N/A
Dabigatran Users	19,679	5,177.43	96.10	0.26	33	6.46	1.70				

[1]All values in this section are weighted.

[2]ATES = Average Treatment Effect, Stabilized.

Sentinel

Table 2b. Effect Estimates for Stroke, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and Age Group

Direct Oral Anticoagulant	Number of New Users	Person Years at Risk	Average Person Days at Risk	Average Person Years at Risk	Number of Events	Incidence Rate per 1,000 Person Years	Risk per 1,000 New Users	Incidence Rate Difference per 1,000 Person Years	Risk Difference per 1,000 New Users	Hazard Ratio (95% Confidence Interval)	Wald P-Value
Stroke, TruncWeight = 2.5, ATES weights											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	57,399	19,029.95	121.09	0.33	67	3.52	1.17	-2.54	-0.42	0.67 (0.44, 1.03)	0.065
Dabigatran Users	20,188	5,276.74	95.47	0.26	32	6.06	1.59				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	57,228	18,982.92	121.16	0.33	66	3.48	1.15	-2.59	-0.43	N/A	N/A
Dabigatran Users	20,180	5,275.50	95.48	0.26	32	6.07	1.59				
Inverse Probability of Treatment Weighted Analysis [1] ; Weight = ATES, Trimmed [2]											
Rivaroxaban Users	57,127	18,968.22	121.28	0.33	64	3.38	1.12	-3.09	-0.58	0.61 (0.39, 0.94)	N/A
Dabigatran Users	19,679	5,177.43	96.10	0.26	33	6.46	1.70				
Stroke, TruncWeight = 2.5, ATES weights, Age Group: 21-49 years											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	9,757	2,394.65	89.64	0.25	7	2.92	0.72	-3.02	-0.43	0.50 (0.15, 1.73)	0.276
Dabigatran Users	3,496	672.75	70.29	0.19	4	5.95	1.14				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	9,604	2,361.16	89.80	0.25	6	2.54	0.62	-3.45	-0.53	N/A	N/A
Dabigatran Users	3,478	667.96	70.15	0.19	4	5.99	1.15				
Inverse Probability of Treatment Weighted Analysis [1] ; Weight = ATES, Trimmed [2]											
Rivaroxaban Users	9,571	2,355.23	89.88	0.25	6	2.35	0.58	-3.09	-0.48	0.43 (0.11, 1.65)	N/A
Dabigatran Users	3,360	653.30	71.02	0.19	4	5.44	1.06				
Stroke, TruncWeight = 2.5, ATES weights, Age Group: 50-64 years											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	47,471	16,588.27	127.63	0.35	59	3.56	1.24	-2.53	-0.44	0.69 (0.44, 1.09)	0.11
Dabigatran Users	16,684	4,602.75	100.76	0.28	28	6.08	1.68				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	47,385	16,572.74	127.74	0.35	59	3.56	1.25	-2.52	-0.43	N/A	N/A
Dabigatran Users	16,676	4,601.79	100.79	0.28	28	6.08	1.68				
Inverse Probability of Treatment Weighted Analysis [1] ; Weight = ATES, Trimmed [2]											
Rivaroxaban Users	47,312	16,561.78	127.86	0.35	58	3.48	1.22	-3.07	-0.60	0.63 (0.39, 1.00)	N/A
Dabigatran Users	16,268	4,514.12	101.35	0.28	30	6.55	1.82				

[1]All values in this section are weighted.[2]ATES = Average Treatment Effect, Stabilized.

Sentinel

Table 2c. Effect Estimates for Stroke, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and CHADSVASC

Direct Oral Anticoagulant	Number of New Users	Person Years at Risk	Average Person Days at Risk	Average Person Years at Risk	Number of Events	Incidence Rate per 1,000 Person Years	Risk per 1,000 New Users	Incidence Rate Difference per 1,000 Person Years	Risk Difference per 1,000 New Users	Hazard Ratio (95% Confidence Interval)	Wald P-Value
Stroke, TruncWeight = 2.5, ATES weights											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	57,399	19,029.95	121.09	0.33	67	3.52	1.17	-2.54	-0.42	0.67 (0.44, 1.03)	0.065
Dabigatran Users	20,188	5,276.74	95.47	0.26	32	6.06	1.59				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	57,228	18,982.92	121.16	0.33	66	3.48	1.15	-2.59	-0.43	N/A	N/A
Dabigatran Users	20,180	5,275.50	95.48	0.26	32	6.07	1.59				
Inverse Probability of Treatment Weighted Analysis [1] ; Weight = ATES, Trimmed [2]											
Rivaroxaban Users	57,127	18,968.22	121.28	0.33	64	3.38	1.12	-3.09	-0.58	0.61 (0.39, 0.94)	N/A
Dabigatran Users	19,679	5,177.43	96.10	0.26	33	6.46	1.70				
Stroke, TruncWeight = 2.5, ATES weights, CHADSVASC: 0											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	10,614	2,741.75	94.35	0.26	7	2.55	0.66	-1.95	-0.31	0.59 (0.17, 2.03)	0.402
Dabigatran Users	4,136	889.12	78.52	0.21	4	4.50	0.97				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	10,445	2,702.58	94.51	0.26	7	2.59	0.67	-1.94	-0.30	N/A	N/A
Dabigatran Users	4,104	883.55	78.63	0.22	4	4.53	0.97				
Inverse Probability of Treatment Weighted Analysis [1] ; Weight = ATES, Trimmed [2]											
Rivaroxaban Users	10,412	2,699.89	94.71	0.26	7	2.49	0.64	-2.62	-0.43	0.51 (0.14, 1.86)	N/A
Dabigatran Users	4,012	845.16	76.95	0.21	4	5.11	1.08				
Stroke, TruncWeight = 2.5, ATES weights, CHADSVASC: 1											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	20,120	6,615.89	120.10	0.33	12	1.81	0.60	-1.42	-0.22	0.67 (0.25, 1.81)	0.432
Dabigatran Users	7,308	1,855.17	92.72	0.25	6	3.23	0.82				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	20,030	6,598.40	120.32	0.33	12	1.82	0.60	-1.42	-0.22	N/A	N/A
Dabigatran Users	7,298	1,853.68	92.77	0.25	6	3.24	0.82				
Inverse Probability of Treatment Weighted Analysis [1] ; Weight = ATES, Trimmed [2]											
Rivaroxaban Users	19,990	6,583.78	120.30	0.33	11	1.74	0.57	-1.36	-0.22	0.67 (0.25, 1.78)	N/A
Dabigatran Users	7,110	1,820.47	93.53	0.26	6	3.10	0.79				
Stroke, TruncWeight = 2.5, ATES weights, CHADSVASC: 2											

Table 2c. Effect Estimates for Stroke, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and CHADSVASC

Direct Oral Anticoagulant	Number of New Users	Person Years at Risk	Average Person Days at Risk	Average Person Years at Risk	Number of Events	Incidence Rate per 1,000 Person Years	Risk per 1,000 New Users	Incidence Rate Difference per 1,000 Person Years	Risk Difference per 1,000 New Users	Hazard Ratio (95% Confidence Interval)	Wald P-Value
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	15,074	5,625.28	136.30	0.37	17	3.02	1.13	-0.20	0.21	1.13 (0.42, 3.09)	0.805
Dabigatran Users	5,422	1,549.82	104.40	0.29	5	3.23	0.92				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	14,982	5,598.77	136.49	0.37	17	3.04	1.13	-0.19	0.21	N/A	N/A
Dabigatran Users	5,415	1,548.49	104.45	0.29	5	3.23	0.92				
Inverse Probability of Treatment Weighted Analysis [1] ; Weight = ATES, Trimmed [2]											
Rivaroxaban Users	14,950	5,592.01	136.62	0.37	17	2.97	1.11	-0.61	0.09	1.01 (0.37, 2.70)	N/A
Dabigatran Users	5,282	1,509.18	104.36	0.29	5	3.58	1.02				
Stroke, TruncWeight = 2.5, ATES weights, CHADSVASC: 3											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	7,490	2,717.85	132.54	0.36	12	4.42	1.60	-4.57	-1.05	0.56 (0.21, 1.50)	0.251
Dabigatran Users	2,266	667.82	107.64	0.29	6	8.98	2.65				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	7,325	2,664.62	132.87	0.36	12	4.50	1.64	-4.52	-1.03	N/A	N/A
Dabigatran Users	2,247	664.66	108.04	0.30	6	9.03	2.67				
Inverse Probability of Treatment Weighted Analysis [1] ; Weight = ATES, Trimmed [2]											
Rivaroxaban Users	7,320	2,687.71	134.10	0.37	12	4.39	1.61	-8.58	-2.25	0.39 (0.14, 1.08)	N/A
Dabigatran Users	2,153	641.17	108.75	0.30	8	12.97	3.86				
Stroke, TruncWeight = 2.5, ATES weights, CHADSVASC: 4											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	3,045	1,033.24	123.94	0.34	10	9.68	3.28	-16.67	-4.23	0.39 (0.14, 1.08)	0.07
Dabigatran Users	799	227.75	104.11	0.29	6	26.34	7.51				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	2,766	956.11	126.25	0.35	10	10.46	3.62	-11.95	-2.81	N/A	N/A
Dabigatran Users	778	223.08	104.73	0.29	5	22.41	6.43				
Inverse Probability of Treatment Weighted Analysis [1] ; Weight = ATES, Trimmed [2]											
Rivaroxaban Users	373,646	33,438.84	32.69	0.09	10	0.31	0.03	0.29	0.03	0.59 (0.18, 1.90)	N/A
Dabigatran Users	1,814,198	251,472.22	50.63	0.14	4	0.02	0.00				
Stroke, TruncWeight = 2.5, ATES weights, CHADSVASC: 5+											
Site-Adjusted Analysis, Unweighted											

Sentinel

Table 2c. Effect Estimates for Stroke, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and CHADSVASC

Direct Oral Anticoagulant	Number of New Users	Person Years at Risk	Average Person Days at Risk	Average Person Years at Risk	Number of Events	Incidence Rate per 1,000 Person Years	Risk per 1,000 New Users	Incidence Rate Difference per 1,000 Person Years	Risk Difference per 1,000 New Users	Hazard Ratio (95% Confidence Interval)	Wald P-Value
Rivaroxaban Users	885	248.92	102.73	0.28	8	32.14	9.04	-26.12	-11.04	0.50 (0.16, 1.54)	0.228
Dabigatran Users	249	85.83	125.90	0.34	5	58.25	20.08				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	602	174.75	106.02	0.29	8	45.78	13.29	-17.09	-8.57	N/A	N/A
Dabigatran Users	183	63.62	126.97	0.35	4	62.87	21.86				
Inverse Probability of Treatment Weighted Analysis[1] ; Weight = ATES, Trimmed[2]											
Rivaroxaban Users	615	178.88	106.32	0.29	10	57.12	16.63	-32.97	-12.37	0.60 (0.13, 2.81)	N/A
Dabigatran Users	184	59.14	117.56	0.32	5	90.08	28.99				

[1]All values in this section are weighted.[2]ATES = Average Treatment Effect, Stabilized.

Sentinel

Table 2d. Effect Estimates for Stroke, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and HASBLED

Direct Oral Anticoagulant	Number of New Users	Person Years at Risk	Average Person Days at Risk	Average Person Years at Risk	Number of Events	Incidence Rate per 1,000 Person Years	Risk per 1,000 New Users	Incidence Rate Difference per 1,000 Person Years	Risk Difference per 1,000 New Users	Hazard Ratio (95% Confidence Interval)	Wald P-Value
Stroke, TruncWeight = 2.5, ATES weights											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	57,399	19,029.95	121.09	0.33	67	3.52	1.17	-2.54	-0.42	0.67 (0.44, 1.03)	0.065
Dabigatran Users	20,188	5,276.74	95.47	0.26	32	6.06	1.59				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	57,228	18,982.92	121.16	0.33	66	3.48	1.15	-2.59	-0.43	N/A	N/A
Dabigatran Users	20,180	5,275.50	95.48	0.26	32	6.07	1.59				
Inverse Probability of Treatment Weighted Analysis [1]; Weight = ATES, Trimmed [2]											
Rivaroxaban Users	57,127	18,968.22	121.28	0.33	64	3.38	1.12	-3.09	-0.58	0.61 (0.39, 0.94)	N/A
Dabigatran Users	19,679	5,177.43	96.10	0.26	33	6.46	1.70				
Stroke, TruncWeight = 2.5, ATES weights, HASBLED: 0											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	15,304	4,265.20	101.79	0.28	13	3.05	0.85	-0.66	-0.01	0.89 (0.32, 2.50)	0.821
Dabigatran Users	5,817	1,348.33	84.66	0.23	5	3.71	0.86				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	15,150	4,223.15	101.82	0.28	13	3.08	0.86	-0.65	-0.01	N/A	N/A
Dabigatran Users	5,780	1,339.72	84.66	0.23	5	3.73	0.87				
Inverse Probability of Treatment Weighted Analysis [1]; Weight = ATES, Trimmed [2]											
Rivaroxaban Users	15,119	4,215.34	101.84	0.28	13	3.02	0.84	-0.93	-0.07	0.83 (0.28, 2.43)	N/A
Dabigatran Users	5,640	1,296.50	83.97	0.23	5	3.95	0.91				
Stroke, TruncWeight = 2.5, ATES weights, HASBLED: 1											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	32,170	11,549.50	131.13	0.36	27	2.34	0.84	-3.36	-0.73	0.48 (0.26, 0.87)	0.016
Dabigatran Users	11,460	3,157.64	100.64	0.28	18	5.70	1.57				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	32,064	11,522.16	131.25	0.36	27	2.34	0.84	-3.36	-0.73	N/A	N/A
Dabigatran Users	11,451	3,155.56	100.65	0.28	18	5.70	1.57				
Inverse Probability of Treatment Weighted Analysis [1]; Weight = ATES, Trimmed [2]											
Rivaroxaban Users	32,007	11,519.85	131.46	0.36	26	2.26	0.81	-3.49	-0.78	0.46 (0.25, 0.84)	N/A
Dabigatran Users	11,126	3,086.56	101.33	0.28	18	5.75	1.60				
Stroke, TruncWeight = 2.5, ATES weights, HASBLED: 2											
Site-Adjusted Analysis, Unweighted											

Sentinel

Table 2d. Effect Estimates for Stroke, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and HASBLED

Direct Oral Anticoagulant	Number of New Users	Person Years at Risk	Average Person Days at Risk	Average Person Years at Risk	Number of Events	Incidence Rate per 1,000 Person Years	Risk per 1,000 New Users	Incidence Rate Difference per 1,000 Person Years	Risk Difference per 1,000 New Users	Hazard Ratio (95% Confidence Interval)	Wald P-Value
Rivaroxaban Users	7,964	2,661.02	122.04	0.33	16	6.01	2.01	-1.70	-0.05	0.93 (0.34, 2.56)	0.891
Dabigatran Users	2,434	648.44	97.31	0.27	5	7.71	2.05				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	7,809	2,624.23	122.74	0.34	16	6.10	2.05	-1.64	-0.02	N/A	N/A
Dabigatran Users	2,417	646.64	97.72	0.27	5	7.73	2.07				
Inverse Probability of Treatment Weighted Analysis [1] ; Weight = ATES, Trimmed [2]											
Rivaroxaban Users	7,791	2,631.26	123.35	0.34	15	5.85	1.98	-3.39	-0.53	0.76 (0.27, 2.16)	N/A
Dabigatran Users	2,340	635.33	99.17	0.27	6	9.24	2.51				
Stroke, TruncWeight = 2.5, ATES weights, HASBLED: 3+											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	1,790	507.21	103.50	0.28	10	19.72	5.59	-13.31	-2.94	0.68 (0.21, 2.19)	0.523
Dabigatran Users	469	121.10	94.31	0.26	4	33.03	8.53				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	1,598	459.32	104.98	0.29	10	21.77	6.26	4.31	1.64	N/A	N/A
Dabigatran Users	433	114.53	96.61	0.26	2	17.46	4.62				
Inverse Probability of Treatment Weighted Analysis [1] ; Weight = ATES, Trimmed [2]											
Rivaroxaban Users	1,600	460.69	105.17	0.29	10	21.81	6.28	-1.62	-0.01	0.94 (0.16, 5.43)	N/A
Dabigatran Users	402	107.98	98.01	0.27	3	23.43	6.29				

[1]All values in this section are weighted.[2]ATES = Average Treatment Effect, Stabilized.

Sentinel

Table 2e. Effect Estimates for Stroke, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and Sex

Direct Oral Anticoagulant	Number of New Users	Person Years at Risk	Average Person Days at Risk	Average Person Years at Risk	Number of Events	Incidence Rate per 1,000 Person Years	Risk per 1,000 New Users	Incidence Rate Difference per 1,000 Person Years	Risk Difference per 1,000 New Users	Hazard Ratio (95% Confidence Interval)	Wald P-Value
Stroke, TruncWeight = 2.5, ATES weights											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	57,399	19,029.95	121.09	0.33	67	3.52	1.17	-2.54	-0.42	0.67 (0.44, 1.03)	0.065
Dabigatran Users	20,188	5,276.74	95.47	0.26	32	6.06	1.59				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	57,228	18,982.92	121.16	0.33	66	3.48	1.15	-2.59	-0.43	N/A	N/A
Dabigatran Users	20,180	5,275.50	95.48	0.26	32	6.07	1.59				
Inverse Probability of Treatment Weighted Analysis [1] ; Weight = ATES, Trimmed [2]											
Rivaroxaban Users	57,127	18,968.22	121.28	0.33	64	3.38	1.12	-3.09	-0.58	0.61 (0.39, 0.94)	N/A
Dabigatran Users	19,679	5,177.43	96.10	0.26	33	6.46	1.70				
Stroke, TruncWeight = 2.5, ATES weights, Sex: Female											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	14,631	5,205.45	129.95	0.36	18	3.46	1.23	-4.91	-1.11	0.48 (0.22, 1.02)	0.055
Dabigatran Users	4,696	1,315.25	102.30	0.28	11	8.36	2.34				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	14,543	5,179.48	130.08	0.36	18	3.48	1.24	-4.93	-1.11	N/A	N/A
Dabigatran Users	4,678	1,308.34	102.15	0.28	11	8.41	2.35				
Inverse Probability of Treatment Weighted Analysis [1] ; Weight = ATES, Trimmed [2]											
Rivaroxaban Users	14,522	5,184.57	130.40	0.36	18	3.45	1.23	-3.56	-0.75	0.58 (0.26, 1.28)	N/A
Dabigatran Users	4,533	1,279.18	103.08	0.28	9	7.01	1.98				
Stroke, TruncWeight = 2.5, ATES weights, Sex: Male											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	42,597	13,777.47	118.14	0.32	48	3.48	1.13	-1.82	-0.23	0.76 (0.46, 1.28)	0.304
Dabigatran Users	15,484	3,960.25	93.42	0.26	21	5.30	1.36				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	42,542	13,767.18	118.20	0.32	48	3.49	1.13	-1.82	-0.23	N/A	N/A
Dabigatran Users	15,475	3,959.05	93.44	0.26	21	5.30	1.36				
Inverse Probability of Treatment Weighted Analysis [1] ; Weight = ATES, Trimmed [2]											
Rivaroxaban Users	42,463	13,759.08	118.35	0.32	46	3.35	1.09	-2.59	-0.44	0.66 (0.39, 1.12)	N/A
Dabigatran Users	15,062	3,866.16	93.75	0.26	23	5.95	1.53				

[1]All values in this section are weighted.[2]ATES = Average Treatment Effect, Stabilized.

Table 3a. Effect Estimates for Major Extracranial Bleeding, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type

Direct Oral Anticoagulant	Number of New Users	Person Years at Risk	Average Person Days at Risk	Average Person Years at Risk	Number of Events	Incidence Rate per 1,000 Person Years	Risk per 1,000 New Users	Incidence Rate Difference per 1,000 Person Years	Risk Difference per 1,000 New Users	Hazard Ratio (95% Confidence Interval)	Wald P-Value
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	57,399	19,029.95	121.09	0.33	196	10.30	3.41	3.48	1.63	1.58 (1.11, 2.26)	0.012
Dabigatran Users	20,188	5,276.74	95.47	0.26	36	6.82	1.78				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	57,228	18,982.92	121.16	0.33	193	10.17	3.37	3.34	1.59	N/A	N/A
Dabigatran Users	20,180	5,275.50	95.48	0.26	36	6.82	1.78				
Inverse Probability of Treatment Weighted Analysis[1]; Weight = ATES, Trimmed[2]											
Rivaroxaban Users	57,127	18,968.22	121.28	0.33	188	9.93	3.30	2.64	1.38	1.42 (0.98, 2.07)	N/A
Dabigatran Users	19,679	5,177.43	96.10	0.26	38	7.28	1.92				

[1]All values in this section are weighted.[2]ATES = Average Treatment Effect, Stabilized.

Sentinel

Table 3b. Effect Estimates for Major Extracranial Bleeding, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and Age Group

Direct Oral Anticoagulant	Number of New Users	Person Years at Risk	Average Person Days at Risk	Average Person Years at Risk	Number of Events	Incidence Rate per 1,000 Person Years	Risk per 1,000 New Users	Incidence Rate Difference per 1,000 Person Years	Risk Difference per 1,000 New Users	Hazard Ratio (95% Confidence Interval)	Wald P-Value
Major Extracranial Bleeding, TruncWeight = 2.5, ATES weights											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	57,399	19,029.95	121.09	0.33	196	10.30	3.41	3.48	1.63	1.58 (1.11, 2.26)	0.012
Dabigatran Users	20,188	5,276.74	95.47	0.26	36	6.82	1.78				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	57,228	18,982.92	121.16	0.33	193	10.17	3.37	3.34	1.59	N/A	N/A
Dabigatran Users	20,180	5,275.50	95.48	0.26	36	6.82	1.78				
Inverse Probability of Treatment Weighted Analysis [1] ; Weight = ATES, Trimmed [2]											
Rivaroxaban Users	57,127	18,968.22	121.28	0.33	188	9.93	3.30	2.64	1.38	1.42 (0.98, 2.07)	N/A
Dabigatran Users	19,679	5,177.43	96.10	0.26	38	7.28	1.92				
Major Extracranial Bleeding, TruncWeight = 2.5, ATES weights, Age Group: 21-49 years											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	9,757	2,394.65	89.64	0.25	14	5.85	1.43	-3.07	-0.28	0.70 (0.27, 1.83)	0.467
Dabigatran Users	3,496	672.75	70.29	0.19	6	8.92	1.72				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	9,604	2,361.16	89.80	0.25	13	5.51	1.35	-3.48	-0.37	N/A	N/A
Dabigatran Users	3,478	667.96	70.15	0.19	6	8.98	1.73				
Inverse Probability of Treatment Weighted Analysis [1] ; Weight = ATES, Trimmed [2]											
Rivaroxaban Users	9,571	2,355.23	89.88	0.25	12	5.23	1.29	-1.16	0.04	0.89 (0.33, 2.42)	N/A
Dabigatran Users	3,360	653.30	71.02	0.19	4	6.39	1.24				
Major Extracranial Bleeding, TruncWeight = 2.5, ATES weights, Age Group: 50-64 years											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	47,471	16,588.27	127.63	0.35	179	10.79	3.77	4.27	1.97	1.74 (1.18, 2.56)	0.005
Dabigatran Users	16,684	4,602.75	100.76	0.28	30	6.52	1.80				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	47,385	16,572.74	127.74	0.35	179	10.80	3.78	4.28	1.98	N/A	N/A
Dabigatran Users	16,676	4,601.79	100.79	0.28	30	6.52	1.80				

Table 3b. Effect Estimates for Major Extracranial Bleeding, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and Age Group

Inverse Probability of Treatment Weighted Analysis [1] ; Weight = ATES, Trimmed [2]											
Rivaroxaban Users	47,312	16,561.78	127.86	0.35	175	10.57	3.70	3.32	1.69	1.53 (1.02, 2.29)	N/A
Dabigatran Users	16,268	4,514.12	101.35	0.28	33	7.25	2.01				

[1]All values in this section are weighted.

[2]ATES = Average Treatment Effect, Stabilized.

Sentinel

Table 3c. Effect Estimates for Major Extracranial Bleeding, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and CHADSVASC

Direct Oral Anticoagulant	Number of New Users	Person Years at Risk	Average Person Days at Risk	Average Person Years at Risk	Number of Events	Incidence Rate per 1,000 Person Years	Risk per 1,000 New Users	Incidence Rate Difference per 1,000 Person Years	Risk Difference per 1,000 New Users	Hazard Ratio (95% Confidence Interval)	Wald P-Value
Major Extracranial Bleeding, TruncWeight = 2.5, ATES weights											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	57,399	19,029.95	121.09	0.33	196	10.30	3.41	3.48	1.63	1.58 (1.11, 2.26)	0.012
Dabigatran Users	20,188	5,276.74	95.47	0.26	36	6.82	1.78				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	57,228	18,982.92	121.16	0.33	193	10.17	3.37	3.34	1.59	N/A	N/A
Dabigatran Users	20,180	5,275.50	95.48	0.26	36	6.82	1.78				
Inverse Probability of Treatment Weighted Analysis [1] ; Weight = ATES, Trimmed [2]											
Rivaroxaban Users	57,127	18,968.22	121.28	0.33	188	9.93	3.30	2.64	1.38	1.42 (0.98, 2.07)	N/A
Dabigatran Users	19,679	5,177.43	96.10	0.26	38	7.28	1.92				
Major Extracranial Bleeding, TruncWeight = 2.5, ATES weights, CHADSVASC: 0											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	10,614	2,741.75	94.35	0.26	12	4.38	1.13	-4.62	-0.80	0.51 (0.21, 1.25)	0.142
Dabigatran Users	4,136	889.12	78.52	0.21	8	9.00	1.93				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	10,445	2,702.58	94.51	0.26	12	4.44	1.15	-4.61	-0.80	N/A	N/A
Dabigatran Users	4,104	883.55	78.63	0.22	8	9.05	1.95				
Inverse Probability of Treatment Weighted Analysis [1] ; Weight = ATES, Trimmed [2]											
Rivaroxaban Users	10,412	2,699.89	94.71	0.26	12	4.31	1.12	-3.87	-0.60	0.55 (0.21, 1.43)	N/A
Dabigatran Users	4,012	845.16	76.95	0.21	7	8.18	1.72				
Major Extracranial Bleeding, TruncWeight = 2.5, ATES weights, CHADSVASC: 1											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	20,120	6,615.89	120.10	0.33	48	7.26	2.39	4.02	1.56	2.37 (1.01, 5.54)	0.048
Dabigatran Users	7,308	1,855.17	92.72	0.25	6	3.23	0.82				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	20,030	6,598.40	120.32	0.33	48	7.27	2.40	4.04	1.57	N/A	N/A
Dabigatran Users	7,298	1,853.68	92.77	0.25	6	3.24	0.82				
Inverse Probability of Treatment Weighted Analysis [1] ; Weight = ATES, Trimmed [2]											
Rivaroxaban Users	19,990	6,583.78	120.30	0.33	48	7.23	2.38	4.11	1.58	2.44 (1.00, 5.94)	N/A
Dabigatran Users	7,110	1,820.47	93.53	0.26	6	3.12	0.80				
Major Extracranial Bleeding, TruncWeight = 2.5, ATES weights, CHADSVASC: 2											

Sentinel

Table 3c. Effect Estimates for Major Extracranial Bleeding, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and CHADSVASC

Direct Oral Anticoagulant	Number of New Users	Person Years at Risk	Average Person Days at Risk	Average Person Years at Risk	Number of Events	Incidence Rate per 1,000 Person Years	Risk per 1,000 New Users	Incidence Rate Difference per 1,000 Person Years	Risk Difference per 1,000 New Users	Hazard Ratio (95% Confidence Interval)	Wald P-Value
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	15,074	5,625.28	136.30	0.37	53	9.42	3.52	4.91	2.22	2.23 (1.01, 4.92)	0.047
Dabigatran Users	5,422	1,549.82	104.40	0.29	7	4.52	1.29				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	14,982	5,598.77	136.49	0.37	53	9.47	3.54	4.95	2.24	N/A	N/A
Dabigatran Users	5,415	1,548.49	104.45	0.29	7	4.52	1.29				
Inverse Probability of Treatment Weighted Analysis [1]; Weight = ATES, Trimmed [2]											
Rivaroxaban Users	14,950	5,592.01	136.62	0.37	52	9.24	3.46	3.82	1.91	1.82 (0.82, 4.05)	N/A
Dabigatran Users	5,282	1,509.18	104.36	0.29	8	5.43	1.55				
Major Extracranial Bleeding, TruncWeight = 2.5, ATES weights, CHADSVASC: 3											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	7,490	2,717.85	132.54	0.36	42	15.45	5.61	-2.52	0.31	0.89 (0.47, 1.70)	0.732
Dabigatran Users	2,266	667.82	107.64	0.29	12	17.97	5.30				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	7,325	2,664.62	132.87	0.36	41	15.39	5.60	-2.67	0.26	N/A	N/A
Dabigatran Users	2,247	664.66	108.04	0.30	12	18.05	5.34				
Inverse Probability of Treatment Weighted Analysis [1]; Weight = ATES, Trimmed [2]											
Rivaroxaban Users	7,320	2,687.71	134.10	0.37	43	15.96	5.86	1.94	1.68	1.20 (0.61, 2.35)	N/A
Dabigatran Users	2,153	641.17	108.75	0.30	9	14.02	4.17				
Major Extracranial Bleeding, TruncWeight = 2.5, ATES weights, CHADSVASC: 4											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	3,045	1,033.24	123.94	0.34	30	29.03	9.85	15.86	6.10	2.16 (0.66, 7.10)	0.203
Dabigatran Users	799	227.75	104.11	0.29	3	13.17	3.75				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	2,766	956.11	126.25	0.35	30	31.38	10.85	17.93	6.99	N/A	N/A
Dabigatran Users	778	223.08	104.73	0.29	3	13.45	3.86				
Inverse Probability of Treatment Weighted Analysis [1]; Weight = ATES, Trimmed [2]											
Rivaroxaban Users	373,646	33,438.84	32.69	0.09	32	0.94	0.08	0.93	0.08	2.08 (0.58, 7.44)	N/A
Dabigatran Users	1,814,198	251,472.22	50.63	0.14	3	0.01	0.00				
Major Extracranial Bleeding, TruncWeight = 2.5, ATES weights, CHADSVASC: 5+											
Site-Adjusted Analysis, Unweighted											

Sentinel

Table 3c. Effect Estimates for Major Extracranial Bleeding, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and CHADSVASC

Direct Oral Anticoagulant	Number of New Users	Person Years at Risk	Average Person Days at Risk	Average Person Years at Risk	Number of Events	Incidence Rate per 1,000 Person Years	Risk per 1,000 New Users	Incidence Rate Difference per 1,000 Person Years	Risk Difference per 1,000 New Users	Hazard Ratio (95% Confidence Interval)	Wald P-Value
Rivaroxaban Users	885	248.92	102.73	0.28	8	32.14	9.04	32.14	9.04	NaN	N/A
Dabigatran Users	249	85.83	125.90	0.34	0	0.00	0.00				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	602	174.75	106.02	0.29	4	22.89	6.64	22.89	6.64	N/A	N/A
Dabigatran Users	183	63.62	126.97	0.35	0	0.00	0.00				
Inverse Probability of Treatment Weighted Analysis [1] ; Weight = ATES, Trimmed [2]											
Rivaroxaban Users	615	178.88	106.32	0.29	4	21.20	6.17	21.20	6.17	NaN	N/A
Dabigatran Users	184	59.14	117.56	0.32	0	0.00	0.00				

[1]All values in this section are weighted.

[2]ATES = Average Treatment Effect, Stabilized.

Sentinel

Table 3d. Effect Estimates for Major Extracranial Bleeding, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and HASBLED

Direct Oral Anticoagulant	Number of New Users	Person Years at Risk	Average Person Days at Risk	Average Person Years at Risk	Number of Events	Incidence Rate per 1,000 Person Years	Risk per 1,000 New Users	Incidence Rate Difference per 1,000 Person Years	Risk Difference per 1,000 New Users	Hazard Ratio (95% Confidence Interval)	Wald P-Value
Major Extracranial Bleeding, TruncWeight = 2.5, ATES weights											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	57,399	19,029.95	121.09	0.33	196	10.30	3.41	3.48	1.63	1.58 (1.11, 2.26)	0.012
Dabigatran Users	20,188	5,276.74	95.47	0.26	36	6.82	1.78				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	57,228	18,982.92	121.16	0.33	193	10.17	3.37	3.34	1.59	N/A	N/A
Dabigatran Users	20,180	5,275.50	95.48	0.26	36	6.82	1.78				
Inverse Probability of Treatment Weighted Analysis [1] ; Weight = ATES, Trimmed [2]											
Rivaroxaban Users	57,127	18,968.22	121.28	0.33	188	9.93	3.30	2.64	1.38	1.42 (0.98, 2.07)	N/A
Dabigatran Users	19,679	5,177.43	96.10	0.26	38	7.28	1.92				
Major Extracranial Bleeding, TruncWeight = 2.5, ATES weights, HASBLED: 0											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	15,304	4,265.20	101.79	0.28	21	4.92	1.37	-2.49	-0.35	0.68 (0.32, 1.44)	0.314
Dabigatran Users	5,817	1,348.33	84.66	0.23	10	7.42	1.72				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	15,150	4,223.15	101.82	0.28	21	4.97	1.39	-2.49	-0.34	N/A	N/A
Dabigatran Users	5,780	1,339.72	84.66	0.23	10	7.46	1.73				
Inverse Probability of Treatment Weighted Analysis [1] ; Weight = ATES, Trimmed [2]											
Rivaroxaban Users	15,119	4,215.34	101.84	0.28	21	4.89	1.36	-1.57	-0.12	0.77 (0.36, 1.66)	N/A
Dabigatran Users	5,640	1,296.50	83.97	0.23	8	6.46	1.49				
Major Extracranial Bleeding, TruncWeight = 2.5, ATES weights, HASBLED: 1											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	32,170	11,549.50	131.13	0.36	104	9.00	3.23	3.94	1.84	1.87 (1.10, 3.17)	0.02
Dabigatran Users	11,460	3,157.64	100.64	0.28	16	5.07	1.40				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	32,064	11,522.16	131.25	0.36	104	9.03	3.24	3.96	1.85	N/A	N/A
Dabigatran Users	11,451	3,155.56	100.65	0.28	16	5.07	1.40				
Inverse Probability of Treatment Weighted Analysis [1] ; Weight = ATES, Trimmed [2]											
Rivaroxaban Users	32,007	11,519.85	131.46	0.36	103	8.98	3.23	3.46	1.70	1.72 (0.99, 2.99)	N/A
Dabigatran Users	11,126	3,086.56	101.33	0.28	17	5.52	1.53				
Major Extracranial Bleeding, TruncWeight = 2.5, ATES weights, HASBLED: 2											

Sentinel

Table 3d. Effect Estimates for Major Extracranial Bleeding, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and HASBLED

Direct Oral Anticoagulant	Number of New Users	Person Years at Risk	Average Person Days at Risk	Average Person Years at Risk	Number of Events	Incidence Rate per 1,000 Person Years	Risk per 1,000 New Users	Incidence Rate Difference per 1,000 Person Years	Risk Difference per 1,000 New Users	Hazard Ratio (95% Confidence Interval)	Wald P-Value
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	7,964	2,661.02	122.04	0.33	48	18.04	6.03	5.70	2.74	1.61 (0.76, 3.41)	0.213
Dabigatran Users	2,434	648.44	97.31	0.27	8	12.34	3.29				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	7,809	2,624.23	122.74	0.34	45	17.15	5.76	4.78	2.45	N/A	N/A
Dabigatran Users	2,417	646.64	97.72	0.27	8	12.37	3.31				
Inverse Probability of Treatment Weighted Analysis [1] ; Weight = ATES, Trimmed [2]											
Rivaroxaban Users	7,791	2,631.26	123.35	0.34	43	16.49	5.57	3.31	1.99	1.35 (0.61, 2.98)	N/A
Dabigatran Users	2,340	635.33	99.17	0.27	8	13.18	3.58				
Major Extracranial Bleeding, TruncWeight = 2.5, ATES weights, HASBLED: 3+											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	1,790	507.21	103.50	0.28	20	39.43	11.17	22.92	6.91	2.18 (0.51, 9.39)	0.295
Dabigatran Users	469	121.10	94.31	0.26	2	16.52	4.26				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	1,598	459.32	104.98	0.29	18	39.19	11.26	21.73	6.65	N/A	N/A
Dabigatran Users	433	114.53	96.61	0.26	2	17.46	4.62				
Inverse Probability of Treatment Weighted Analysis [1] ; Weight = ATES, Trimmed [2]											
Rivaroxaban Users	1,600	460.69	105.17	0.29	16	35.08	10.10	24.61	7.29	2.87 (0.64, 12.75)	N/A
Dabigatran Users	402	107.98	98.01	0.27	1	10.47	2.81				

[1]All values in this section are weighted.[2]ATES = Average Treatment Effect, Stabilized.

Sentinel

Table 3e. Effect Estimates for Major Extracranial Bleeding, TruncWeight = 2.5, ATES weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and Sex

Direct Oral Anticoagulant	Number of New Users	Person Years at Risk	Average Person Days at Risk	Average Person Years at Risk	Number of Events	Incidence Rate per 1,000 Person Years	Risk per 1,000 New Users	Incidence Rate Difference per 1,000 Person Years	Risk Difference per 1,000 New Users	Hazard Ratio (95% Confidence Interval)	Wald P-Value
Major Extracranial Bleeding, TruncWeight = 2.5, ATES weights											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	57,399	19,029.95	121.09	0.33	196	10.30	3.41	3.48	1.63	1.58 (1.11, 2.26)	0.012
Dabigatran Users	20,188	5,276.74	95.47	0.26	36	6.82	1.78				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	57,228	18,982.92	121.16	0.33	193	10.17	3.37	3.34	1.59	N/A	N/A
Dabigatran Users	20,180	5,275.50	95.48	0.26	36	6.82	1.78				
Inverse Probability of Treatment Weighted Analysis [1] ; Weight = ATES, Trimmed [2]											
Rivaroxaban Users	57,127	18,968.22	121.28	0.33	188	9.93	3.30	2.64	1.38	1.42 (0.98, 2.07)	N/A
Dabigatran Users	19,679	5,177.43	96.10	0.26	38	7.28	1.92				
Major Extracranial Bleeding, TruncWeight = 2.5, ATES weights, Sex: Female											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	14,631	5,205.45	129.95	0.36	69	13.26	4.72	3.37	1.95	1.36 (0.75, 2.47)	0.306
Dabigatran Users	4,696	1,315.25	102.30	0.28	13	9.88	2.77				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	14,543	5,179.48	130.08	0.36	68	13.13	4.68	3.19	1.90	N/A	N/A
Dabigatran Users	4,678	1,308.34	102.15	0.28	13	9.94	2.78				
Inverse Probability of Treatment Weighted Analysis [1] ; Weight = ATES, Trimmed [2]											
Rivaroxaban Users	14,522	5,184.57	130.40	0.36	69	13.30	4.75	4.23	2.19	1.50 (0.80, 2.80)	N/A
Dabigatran Users	4,533	1,279.18	103.08	0.28	12	9.07	2.56				
Major Extracranial Bleeding, TruncWeight = 2.5, ATES weights, Sex: Male											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	42,597	13,777.47	118.14	0.32	124	9.00	2.91	3.19	1.43	1.64 (1.05, 2.57)	0.029
Dabigatran Users	15,484	3,960.25	93.42	0.26	23	5.81	1.49				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	42,542	13,767.18	118.20	0.32	124	9.01	2.91	3.20	1.43	N/A	N/A
Dabigatran Users	15,475	3,959.05	93.44	0.26	23	5.81	1.49				
Inverse Probability of Treatment Weighted Analysis [1] ; Weight = ATES, Trimmed [2]											
Rivaroxaban Users	42,463	13,759.08	118.35	0.32	120	8.70	2.82	2.69	1.28	1.54 (0.97, 2.43)	N/A
Dabigatran Users	15,062	3,866.16	93.75	0.26	23	6.02	1.54				

[1]All values in this section are weighted.[2]ATES = Average Treatment Effect, Stabilized.

Sentinel

Table 4a. Effect Estimates for Gastrointestinal Hemorrhage, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type

Direct Oral Anticoagulant	Number of New Users	Person Years at Risk	Average Person Days at Risk	Average Person Years at Risk	Number of Events	Incidence Rate per 1,000 Person Years	Risk per 1,000 New Users	Incidence Rate Difference per 1,000 Person Years	Risk Difference per 1,000 New Users	Hazard Ratio (95% Confidence Interval)	Wald P-Value
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	57,399	19,029.95	121.09	0.33	165	8.67	2.87	2.61	1.29	1.51 (1.03, 2.21)	0.034
Dabigatran Users	20,188	5,276.74	95.47	0.26	32	6.06	1.59				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	57,228	18,982.92	121.16	0.33	162	8.53	2.83	2.47	1.25	N/A	N/A
Dabigatran Users	20,180	5,275.50	95.48	0.26	32	6.07	1.59				
Inverse Probability of Treatment Weighted Analysis[1]; Weight = ATES, Trimmed[2]											
Rivaroxaban Users	57,127	18,968.22	121.28	0.33	157	8.29	2.75	1.66	1.01	1.32 (0.89, 1.96)	N/A
Dabigatran Users	19,679	5,177.43	96.10	0.26	34	6.63	1.74				

[1]All values in this section are weighted.[2]ATES = Average Treatment Effect, Stabilized.

Sentinel

Table 4b. Effect Estimates for Gastrointestinal Hemorrhage, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and Age Group

Direct Oral Anticoagulant	Number of New Users	Person Years at Risk	Average Person Days at Risk	Average Person Years at Risk	Number of Events	Incidence Rate per 1,000 Person Years	Risk per 1,000 New Users	Incidence Rate Difference per 1,000 Person Years	Risk Difference per 1,000 New Users	Hazard Ratio (95% Confidence Interval)	Wald P-Value
Gastrointestinal Hemorrhage, TruncWeight = 2.5, ATES weights											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	57,399	19,029.95	121.09	0.33	165	8.67	2.87	2.61	1.29	1.51 (1.03, 2.21)	0.034
Dabigatran Users	20,188	5,276.74	95.47	0.26	32	6.06	1.59				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	57,228	18,982.92	121.16	0.33	162	8.53	2.83	2.47	1.25	N/A	N/A
Dabigatran Users	20,180	5,275.50	95.48	0.26	32	6.07	1.59				
Inverse Probability of Treatment Weighted Analysis[1] ; Weight = ATES, Trimmed[2]											
Rivaroxaban Users	57,127	18,968.22	121.28	0.33	157	8.29	2.75	1.66	1.01	1.32 (0.89, 1.96)	N/A
Dabigatran Users	19,679	5,177.43	96.10	0.26	34	6.63	1.74				
Gastrointestinal Hemorrhage, TruncWeight = 2.5, ATES weights, Age Group: 21-49 years											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	9,757	2,394.65	89.64	0.25	7	2.92	0.72	-3.02	-0.43	0.48 (0.14, 1.66)	0.244
Dabigatran Users	3,496	672.75	70.29	0.19	4	5.95	1.14				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	9,604	2,361.16	89.80	0.25	6	2.54	0.62	-3.45	-0.53	N/A	N/A
Dabigatran Users	3,478	667.96	70.15	0.19	4	5.99	1.15				
Inverse Probability of Treatment Weighted Analysis[1] ; Weight = ATES, Trimmed[2]											
Rivaroxaban Users	9,571	2,355.23	89.88	0.25	6	2.51	0.62	-1.74	-0.21	0.59 (0.16, 2.21)	N/A
Dabigatran Users	3,360	653.30	71.02	0.19	3	4.24	0.83				
Gastrointestinal Hemorrhage, TruncWeight = 2.5, ATES weights, Age Group: 50-64 years											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	47,471	16,588.27	127.63	0.35	155	9.34	3.27	3.26	1.59	1.64 (1.09, 2.45)	0.016
Dabigatran Users	16,684	4,602.75	100.76	0.28	28	6.08	1.68				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	47,385	16,572.74	127.74	0.35	155	9.35	3.27	3.27	1.59	N/A	N/A
Dabigatran Users	16,676	4,601.79	100.79	0.28	28	6.08	1.68				
Inverse Probability of Treatment Weighted Analysis[1] ; Weight = ATES, Trimmed[2]											
Rivaroxaban Users	47,312	16,561.78	127.86	0.35	150	9.08	3.18	2.25	1.28	1.42 (0.93, 2.16)	N/A
Dabigatran Users	16,268	4,514.12	101.35	0.28	31	6.83	1.89				

[1]All values in this section are weighted.[2]ATES = Average Treatment Effect, Stabilized.

Sentinel

Table 4c. Effect Estimates for Gastrointestinal Hemorrhage, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and CHADSVASC

Direct Oral Anticoagulant	Number of New Users	Person Years at Risk	Average Person Days at Risk	Average Person Years at Risk	Number of Events	Incidence Rate per 1,000 Person Years	Risk per 1,000 New Users	Incidence Rate Difference per 1,000 Person Years	Risk Difference per 1,000 New Users	Hazard Ratio (95% Confidence Interval)	Wald P-Value
Gastrointestinal Hemorrhage, TruncWeight = 2.5, ATES weights											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	57,399	19,029.95	121.09	0.33	165	8.67	2.87	2.61	1.29	1.51 (1.03, 2.21)	0.034
Dabigatran Users	20,188	5,276.74	95.47	0.26	32	6.06	1.59				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	57,228	18,982.92	121.16	0.33	162	8.53	2.83	2.47	1.25	N/A	N/A
Dabigatran Users	20,180	5,275.50	95.48	0.26	32	6.07	1.59				
Inverse Probability of Treatment Weighted Analysis [1] ; Weight = ATES, Trimmed [2]											
Rivaroxaban Users	57,127	18,968.22	121.28	0.33	157	8.29	2.75	1.66	1.01	1.32 (0.89, 1.96)	N/A
Dabigatran Users	19,679	5,177.43	96.10	0.26	34	6.63	1.74				
Gastrointestinal Hemorrhage, TruncWeight = 2.5, ATES weights, CHADSVASC: 0											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	10,614	2,741.75	94.35	0.26	10	3.65	0.94	-4.23	-0.75	0.48 (0.18, 1.26)	0.137
Dabigatran Users	4,136	889.12	78.52	0.21	7	7.87	1.69				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	10,445	2,702.58	94.51	0.26	10	3.70	0.96	-4.22	-0.75	N/A	N/A
Dabigatran Users	4,104	883.55	78.63	0.22	7	7.92	1.71				
Inverse Probability of Treatment Weighted Analysis [1] ; Weight = ATES, Trimmed [2]											
Rivaroxaban Users	10,412	2,699.89	94.71	0.26	9	3.35	0.87	-4.07	-0.69	0.46 (0.17, 1.28)	N/A
Dabigatran Users	4,012	845.16	76.95	0.21	6	7.42	1.56				
Gastrointestinal Hemorrhage, TruncWeight = 2.5, ATES weights, CHADSVASC: 1											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	20,120	6,615.89	120.10	0.33	39	5.89	1.94	3.20	1.25	2.32 (0.91, 5.91)	0.077
Dabigatran Users	7,308	1,855.17	92.72	0.25	5	2.70	0.68				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	20,030	6,598.40	120.32	0.33	39	5.91	1.95	3.21	1.26	N/A	N/A
Dabigatran Users	7,298	1,853.68	92.77	0.25	5	2.70	0.69				
Inverse Probability of Treatment Weighted Analysis [1] ; Weight = ATES, Trimmed [2]											
Rivaroxaban Users	19,990	6,583.78	120.30	0.33	39	5.90	1.94	3.17	1.24	2.30 (0.86, 6.10)	N/A
Dabigatran Users	7,110	1,820.47	93.53	0.26	5	2.73	0.70				
Gastrointestinal Hemorrhage, TruncWeight = 2.5, ATES weights, CHADSVASC: 2											

Sentinel

Table 4c. Effect Estimates for Gastrointestinal Hemorrhage, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and CHADSVASC

Direct Oral Anticoagulant	Number of New Users	Person Years at Risk	Average Person Days at Risk	Average Person Years at Risk	Number of Events	Incidence Rate per 1,000 Person Years	Risk per 1,000 New Users	Incidence Rate Difference per 1,000 Person Years	Risk Difference per 1,000 New Users	Hazard Ratio (95% Confidence Interval)	Wald P-Value
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	15,074	5,625.28	136.30	0.37	45	8.00	2.99	4.13	1.88	2.20 (0.94, 5.18)	0.07
Dabigatran Users	5,422	1,549.82	104.40	0.29	6	3.87	1.11				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	14,982	5,598.77	136.49	0.37	45	8.04	3.00	4.16	1.90	N/A	N/A
Dabigatran Users	5,415	1,548.49	104.45	0.29	6	3.87	1.11				
Inverse Probability of Treatment Weighted Analysis [1] ; Weight = ATES, Trimmed [2]											
Rivaroxaban Users	14,950	5,592.01	136.62	0.37	44	7.85	2.94	3.06	1.57	1.75 (0.74, 4.15)	N/A
Dabigatran Users	5,282	1,509.18	104.36	0.29	7	4.79	1.37				
Gastrointestinal Hemorrhage, TruncWeight = 2.5, ATES weights, CHADSVASC: 3											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	7,490	2,717.85	132.54	0.36	34	12.51	4.54	-3.96	-0.31	0.80 (0.40, 1.59)	0.526
Dabigatran Users	2,266	667.82	107.64	0.29	11	16.47	4.85				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	7,325	2,664.62	132.87	0.36	33	12.38	4.51	-4.17	-0.39	N/A	N/A
Dabigatran Users	2,247	664.66	108.04	0.30	11	16.55	4.90				
Inverse Probability of Treatment Weighted Analysis [1] ; Weight = ATES, Trimmed [2]											
Rivaroxaban Users	7,320	2,687.71	134.10	0.37	34	12.55	4.61	0.24	0.94	1.10 (0.53, 2.26)	N/A
Dabigatran Users	2,153	641.17	108.75	0.30	8	12.31	3.67				
Gastrointestinal Hemorrhage, TruncWeight = 2.5, ATES weights, CHADSVASC: 4											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	3,045	1,033.24	123.94	0.34	26	25.16	8.54	11.99	4.78	1.97 (0.59, 6.51)	0.268
Dabigatran Users	799	227.75	104.11	0.29	3	13.17	3.75				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	2,766	956.11	126.25	0.35	26	27.19	9.40	13.75	5.54	N/A	N/A
Dabigatran Users	778	223.08	104.73	0.29	3	13.45	3.86				
Inverse Probability of Treatment Weighted Analysis [1] ; Weight = ATES, Trimmed [2]											
Rivaroxaban Users	373,646	33,438.84	32.69	0.09	27	0.79	0.07	0.78	0.07	1.85 (0.51, 6.72)	N/A
Dabigatran Users	1,814,198	251,472.22	50.63	0.14	3	0.01	0.00				
Gastrointestinal Hemorrhage, TruncWeight = 2.5, ATES weights, CHADSVASC: 5+											
Site-Adjusted Analysis, Unweighted											

Sentinel

Table 4c. Effect Estimates for Gastrointestinal Hemorrhage, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and CHADSVASC

Direct Oral Anticoagulant	Number of New Users	Person Years at Risk	Average Person Days at Risk	Average Person Years at Risk	Number of Events	Incidence Rate per 1,000 Person Years	Risk per 1,000 New Users	Incidence Rate Difference per 1,000 Person Years	Risk Difference per 1,000 New Users	Hazard Ratio (95% Confidence Interval)	Wald P-Value
Rivaroxaban Users	885	248.92	102.73	0.28	8	32.14	9.04	32.14	9.04	NaN	N/A
Dabigatran Users	249	85.83	125.90	0.34	0	0.00	0.00				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	602	174.75	106.02	0.29	4	22.89	6.64	22.89	6.64	N/A	N/A
Dabigatran Users	183	63.62	126.97	0.35	0	0.00	0.00				
Inverse Probability of Treatment Weighted Analysis [1] ; Weight = ATES, Trimmed [2]											
Rivaroxaban Users	615	178.88	106.32	0.29	4	21.20	6.17	21.20	6.17	NaN	N/A
Dabigatran Users	184	59.14	117.56	0.32	0	0.00	0.00				

[1]All values in this section are weighted.[2]ATES = Average Treatment Effect, Stabilized.

Sentinel

Table 4d. Effect Estimates for Gastrointestinal Hemorrhage, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and HASBLED

Direct Oral Anticoagulant	Number of New Users	Person Years at Risk	Average Person Days at Risk	Average Person Years at Risk	Number of Events	Incidence Rate per 1,000 Person Years	Risk per 1,000 New Users	Incidence Rate Difference per 1,000 Person Years	Risk Difference per 1,000 New Users	Hazard Ratio (95% Confidence Interval)	Wald P-Value
Gastrointestinal Hemorrhage, TruncWeight = 2.5, ATES weights											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	57,399	19,029.95	121.09	0.33	165	8.67	2.87	2.61	1.29	1.51 (1.03, 2.21)	0.034
Dabigatran Users	20,188	5,276.74	95.47	0.26	32	6.06	1.59				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	57,228	18,982.92	121.16	0.33	162	8.53	2.83	2.47	1.25	N/A	N/A
Dabigatran Users	20,180	5,275.50	95.48	0.26	32	6.07	1.59				
Inverse Probability of Treatment Weighted Analysis [1] ; Weight = ATES, Trimmed [2]											
Rivaroxaban Users	57,127	18,968.22	121.28	0.33	157	8.29	2.75	1.66	1.01	1.32 (0.89, 1.96)	N/A
Dabigatran Users	19,679	5,177.43	96.10	0.26	34	6.63	1.74				
Gastrointestinal Hemorrhage, TruncWeight = 2.5, ATES weights, HASBLED: 0											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	15,304	4,265.20	101.79	0.28	16	3.75	1.05	-2.92	-0.50	0.57 (0.25, 1.30)	0.18
Dabigatran Users	5,817	1,348.33	84.66	0.23	9	6.67	1.55				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	15,150	4,223.15	101.82	0.28	16	3.79	1.06	-2.93	-0.50	N/A	N/A
Dabigatran Users	5,780	1,339.72	84.66	0.23	9	6.72	1.56				
Inverse Probability of Treatment Weighted Analysis [1] ; Weight = ATES, Trimmed [2]											
Rivaroxaban Users	15,119	4,215.34	101.84	0.28	15	3.64	1.02	-2.33	-0.36	0.62 (0.27, 1.42)	N/A
Dabigatran Users	5,640	1,296.50	83.97	0.23	8	5.97	1.37				
Gastrointestinal Hemorrhage, TruncWeight = 2.5, ATES weights, HASBLED: 1											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	32,170	11,549.50	131.13	0.36	90	7.79	2.80	3.36	1.58	1.88 (1.07, 3.30)	0.029
Dabigatran Users	11,460	3,157.64	100.64	0.28	14	4.43	1.22				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	32,064	11,522.16	131.25	0.36	90	7.81	2.81	3.37	1.58	N/A	N/A
Dabigatran Users	11,451	3,155.56	100.65	0.28	14	4.44	1.22				
Inverse Probability of Treatment Weighted Analysis [1] ; Weight = ATES, Trimmed [2]											
Rivaroxaban Users	32,007	11,519.85	131.46	0.36	88	7.67	2.76	2.71	1.38	1.66 (0.91, 3.00)	N/A
Dabigatran Users	11,126	3,086.56	101.33	0.28	15	4.96	1.38				

Sentinel

Table 4d. Effect Estimates for Gastrointestinal Hemorrhage, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and HASBLED

Direct Oral Anticoagulant	Number of New Users	Person Years at Risk	Average Person Days at Risk	Average Person Years at Risk	Number of Events	Incidence Rate per 1,000 Person Years	Risk per 1,000 New Users	Incidence Rate Difference per 1,000 Person Years	Risk Difference per 1,000 New Users	Hazard Ratio (95% Confidence Interval)	Wald P-Value
Gastrointestinal Hemorrhage, TruncWeight = 2.5, ATES weights, HASBLED: 2											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	7,964	2,661.02	122.04	0.33	40	15.03	5.02	4.24	2.15	1.54 (0.69, 3.44)	0.295
Dabigatran Users	2,434	648.44	97.31	0.27	7	10.80	2.88				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	7,809	2,624.23	122.74	0.34	37	14.10	4.74	3.27	1.84	N/A	N/A
Dabigatran Users	2,417	646.64	97.72	0.27	7	10.83	2.90				
Inverse Probability of Treatment Weighted Analysis[1]; Weight = ATES, Trimmed[2]											
Rivaroxaban Users	7,791	2,631.26	123.35	0.34	36	13.54	4.57	1.48	1.30	1.21 (0.52, 2.84)	N/A
Dabigatran Users	2,340	635.33	99.17	0.27	8	12.06	3.27				
Gastrointestinal Hemorrhage, TruncWeight = 2.5, ATES weights, HASBLED: 3+											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	1,790	507.21	103.50	0.28	16	31.55	8.94	15.03	4.67	1.69 (0.39, 7.41)	0.486
Dabigatran Users	469	121.10	94.31	0.26	2	16.52	4.26				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	1,598	459.32	104.98	0.29	15	32.66	9.39	15.19	4.77	N/A	N/A
Dabigatran Users	433	114.53	96.61	0.26	2	17.46	4.62				
Inverse Probability of Treatment Weighted Analysis[1]; Weight = ATES, Trimmed[2]											
Rivaroxaban Users	1,600	460.69	105.17	0.29	13	29.21	8.41	18.74	5.60	2.33 (0.52, 10.52)	N/A
Dabigatran Users	402	107.98	98.01	0.27	1	10.47	2.81				

[1]All values in this section are weighted.[2]ATES = Average Treatment Effect, Stabilized.

Sentinel

Table 4e. Effect Estimates for Gastrointestinal Hemorrhage, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and Sex

Direct Oral Anticoagulant	Number of New Users	Person Years at Risk	Average Person Days at Risk	Average Person Years at Risk	Number of Events	Incidence Rate per 1,000 Person Years	Risk per 1,000 New Users	Incidence Rate Difference per 1,000 Person Years	Risk Difference per 1,000 New Users	Hazard Ratio (95% Confidence Interval)	Wald P-Value
Gastrointestinal Hemorrhage, TruncWeight = 2.5, ATES weights											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	57,399	19,029.95	121.09	0.33	165	8.67	2.87	2.61	1.29	1.51 (1.03, 2.21)	0.034
Dabigatran Users	20,188	5,276.74	95.47	0.26	32	6.06	1.59				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	57,228	18,982.92	121.16	0.33	162	8.53	2.83	2.47	1.25	N/A	N/A
Dabigatran Users	20,180	5,275.50	95.48	0.26	32	6.07	1.59				
Inverse Probability of Treatment Weighted Analysis [1] ; Weight = ATES, Trimmed [2]											
Rivaroxaban Users	57,127	18,968.22	121.28	0.33	157	8.29	2.75	1.66	1.01	1.32 (0.89, 1.96)	N/A
Dabigatran Users	19,679	5,177.43	96.10	0.26	34	6.63	1.74				
Gastrointestinal Hemorrhage, TruncWeight = 2.5, ATES weights, Sex: Female											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	14,631	5,205.45	129.95	0.36	53	10.18	3.62	1.82	1.28	1.26 (0.66, 2.41)	0.491
Dabigatran Users	4,696	1,315.25	102.30	0.28	11	8.36	2.34				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	14,543	5,179.48	130.08	0.36	52	10.04	3.58	1.63	1.22	N/A	N/A
Dabigatran Users	4,678	1,308.34	102.15	0.28	11	8.41	2.35				
Inverse Probability of Treatment Weighted Analysis [1] ; Weight = ATES, Trimmed [2]											
Rivaroxaban Users	14,522	5,184.57	130.40	0.36	53	10.13	3.62	2.05	1.34	1.31 (0.66, 2.60)	N/A
Dabigatran Users	4,533	1,279.18	103.08	0.28	10	8.08	2.28				
Gastrointestinal Hemorrhage, TruncWeight = 2.5, ATES weights, Sex: Male											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	42,597	13,777.47	118.14	0.32	109	7.91	2.56	2.61	1.20	1.59 (1.00, 2.54)	0.052
Dabigatran Users	15,484	3,960.25	93.42	0.26	21	5.30	1.36				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	42,542	13,767.18	118.20	0.32	109	7.92	2.56	2.61	1.21	N/A	N/A
Dabigatran Users	15,475	3,959.05	93.44	0.26	21	5.30	1.36				
Inverse Probability of Treatment Weighted Analysis [1] ; Weight = ATES, Trimmed [2]											
Rivaroxaban Users	42,463	13,759.08	118.35	0.32	105	7.61	2.47	2.10	1.05	1.47 (0.91, 2.38)	N/A
Dabigatran Users	15,062	3,866.16	93.75	0.26	21	5.51	1.41				

[1]All values in this section are weighted.[2]ATES = Average Treatment Effect, Stabilized.

Sentinel

Table 5a. Effect Estimates for Intracranial Hemorrhage, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type

Direct Oral Anticoagulant	Number of New Users	Person Years at Risk	Average Person Days at Risk	Average Person Years at Risk	Number of Events	Incidence Rate per 1,000 Person Years	Risk per 1,000 New Users	Incidence Rate Difference per 1,000 Person Years	Risk Difference per 1,000 New Users	Hazard Ratio (95% Confidence Interval)	Wald P-Value
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	57,399	19,029.95	121.09	0.33	30	1.58	0.52	0.06	0.13	1.14 (0.52, 2.50)	0.745
Dabigatran Users	20,188	5,276.74	95.47	0.26	8	1.52	0.40				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	57,228	18,982.92	121.16	0.33	30	1.58	0.52	0.06	0.13	N/A	N/A
Dabigatran Users	20,180	5,275.50	95.48	0.26	8	1.52	0.40				
Inverse Probability of Treatment Weighted Analysis[1]; Weight = ATES, Trimmed[2]											
Rivaroxaban Users	57,127	18,968.22	121.28	0.33	29	1.53	0.51	0.10	0.13	1.18 (0.52, 2.67)	N/A
Dabigatran Users	19,679	5,177.43	96.10	0.26	7	1.43	0.38				

[1]All values in this section are weighted.[2]ATES = Average Treatment Effect, Stabilized.

Sentinel

Table 5b. Effect Estimates for Intracranial Hemorrhage, TruncWeight = 2.5, ATES weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and Age Group

Direct Oral Anticoagulant	Number of New Users	Person Years at Risk	Average Person Days at Risk	Average Person Years at Risk	Number of Events	Incidence Rate per 1,000 Person Years	Risk per 1,000 New Users	Incidence Rate Difference per 1,000 Person Years	Risk Difference per 1,000 New Users	Hazard Ratio (95% Confidence Interval)	Wald P-Value
Intracranial Hemorrhage, TruncWeight = 2.5, ATES weights											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	57,399	19,029.95	121.09	0.33	30	1.58	0.52	0.06	0.13	1.14 (0.52, 2.50)	0.745
Dabigatran Users	20,188	5,276.74	95.47	0.26	8	1.52	0.40				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	57,228	18,982.92	121.16	0.33	30	1.58	0.52	0.06	0.13	N/A	N/A
Dabigatran Users	20,180	5,275.50	95.48	0.26	8	1.52	0.40				
Inverse Probability of Treatment Weighted Analysis [1] ; Weight = ATES, Trimmed [2]											
Rivaroxaban Users	57,127	18,968.22	121.28	0.33	29	1.53	0.51	0.10	0.13	1.18 (0.52, 2.67)	N/A
Dabigatran Users	19,679	5,177.43	96.10	0.26	7	1.43	0.38				
Intracranial Hemorrhage, TruncWeight = 2.5, ATES weights, Age Group: 21-49 years											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	9,757	2,394.65	89.64	0.25	3	1.25	0.31	1.25	0.31	NaN	N/A
Dabigatran Users	3,496	672.75	70.29	0.19	0	0.00	0.00				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	9,604	2,361.16	89.80	0.25	3	1.27	0.31	1.27	0.31	N/A	N/A
Dabigatran Users	3,478	667.96	70.15	0.19	0	0.00	0.00				
Inverse Probability of Treatment Weighted Analysis [1] ; Weight = ATES, Trimmed [2]											
Rivaroxaban Users	9,571	2,355.23	89.88	0.25	3	1.17	0.29	1.17	0.29	NaN	N/A
Dabigatran Users	3,360	653.30	71.02	0.19	0	0.00	0.00				
Intracranial Hemorrhage, TruncWeight = 2.5, ATES weights, Age Group: 50-64 years											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	47,471	16,588.27	127.63	0.35	27	1.63	0.57	-0.11	0.09	1.02 (0.46, 2.25)	0.964
Dabigatran Users	16,684	4,602.75	100.76	0.28	8	1.74	0.48				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	47,385	16,572.74	127.74	0.35	27	1.63	0.57	-0.11	0.09	N/A	N/A
Dabigatran Users	16,676	4,601.79	100.79	0.28	8	1.74	0.48				
Inverse Probability of Treatment Weighted Analysis [1] ; Weight = ATES, Trimmed [2]											
Rivaroxaban Users	47,312	16,561.78	127.86	0.35	26	1.59	0.56	-0.02	0.11	1.08 (0.48, 2.44)	N/A
Dabigatran Users	16,268	4,514.12	101.35	0.28	7	1.62	0.45				

[1]All values in this section are weighted.[2]ATES = Average Treatment Effect, Stabilized.

Table 5c. Effect Estimates for Intracranial Hemorrhage, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and CHADSVASC

Direct Oral Anticoagulant	Number of New Users	Person Years at Risk	Average Person Days at Risk	Average Person Years at Risk	Number of Events	Incidence Rate per 1,000 Person Years	Risk per 1,000 New Users	Incidence Rate Difference per 1,000 Person Years	Risk Difference per 1,000 New Users	Hazard Ratio (95% Confidence Interval)	Wald P-Value
Intracranial Hemorrhage, TruncWeight = 2.5, ATES weights											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	57,399	19,029.95	121.09	0.33	30	1.58	0.52	0.06	0.13	1.14 (0.52, 2.50)	0.745
Dabigatran Users	20,188	5,276.74	95.47	0.26	8	1.52	0.40				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	57,228	18,982.92	121.16	0.33	30	1.58	0.52	0.06	0.13	N/A	N/A
Dabigatran Users	20,180	5,275.50	95.48	0.26	8	1.52	0.40				
Inverse Probability of Treatment Weighted Analysis [1] ; Weight = ATES, Trimmed [2]											
Rivaroxaban Users	57,127	18,968.22	121.28	0.33	29	1.53	0.51	0.10	0.13	1.18 (0.52, 2.67)	N/A
Dabigatran Users	19,679	5,177.43	96.10	0.26	7	1.43	0.38				
Intracranial Hemorrhage, TruncWeight = 2.5, ATES weights, CHADSVASC: 0											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	10,614	2,741.75	94.35	0.26	2	0.73	0.19	-1.52	-0.30	0.33 (0.05, 2.38)	0.271
Dabigatran Users	4,136	889.12	78.52	0.21	2	2.25	0.48				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	10,445	2,702.58	94.51	0.26	1	0.37	0.10	-1.89	-0.39	N/A	N/A
Dabigatran Users	4,104	883.55	78.63	0.22	2	2.26	0.49				
Inverse Probability of Treatment Weighted Analysis [1] ; Weight = ATES, Trimmed [2]											
Rivaroxaban Users	10,412	2,699.89	94.71	0.26	1	0.36	0.09	-1.39	-0.28	0.24 (0.02, 2.80)	N/A
Dabigatran Users	4,012	845.16	76.95	0.21	1	1.76	0.37				
Intracranial Hemorrhage, TruncWeight = 2.5, ATES weights, CHADSVASC: 1											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	20,120	6,615.89	120.10	0.33	6	0.91	0.30	0.37	0.16	2.10 (0.25, 17.46)	0.493
Dabigatran Users	7,308	1,855.17	92.72	0.25	1	0.54	0.14				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	20,030	6,598.40	120.32	0.33	6	0.91	0.30	0.37	0.16	N/A	N/A
Dabigatran Users	7,298	1,853.68	92.77	0.25	1	0.54	0.14				
Inverse Probability of Treatment Weighted Analysis [1] ; Weight = ATES, Trimmed [2]											
Rivaroxaban Users	19,990	6,583.78	120.30	0.33	6	0.88	0.29	0.49	0.19	2.75 (0.34, 22.24)	N/A
Dabigatran Users	7,110	1,820.47	93.53	0.26	1	0.39	0.10				
Intracranial Hemorrhage, TruncWeight = 2.5, ATES weights, CHADSVASC: 2											
Site-Adjusted Analysis, Unweighted											

Sentinel

Table 5c. Effect Estimates for Intracranial Hemorrhage, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and CHADSVASC

Direct Oral Anticoagulant	Number of New Users	Person Years at Risk	Average Person Days at Risk	Average Person Years at Risk	Number of Events	Incidence Rate per 1,000 Person Years	Risk per 1,000 New Users	Incidence Rate Difference per 1,000 Person Years	Risk Difference per 1,000 New Users	Hazard Ratio (95% Confidence Interval)	Wald P-Value
Rivaroxaban Users	15,074	5,625.28	136.30	0.37	10	1.78	0.66	1.78	0.66	NaN	N/A
Dabigatran Users	5,422	1,549.82	104.40	0.29	0	0.00	0.00				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	14,982	5,598.77	136.49	0.37	10	1.79	0.67	1.79	0.67	N/A	N/A
Dabigatran Users	5,415	1,548.49	104.45	0.29	0	0.00	0.00				
Inverse Probability of Treatment Weighted Analysis [1] ; Weight = ATES, Trimmed [2]											
Rivaroxaban Users	14,950	5,592.01	136.62	0.37	9	1.69	0.63	1.69	0.63	NaN	N/A
Dabigatran Users	5,282	1,509.18	104.36	0.29	0	0.00	0.00				
Intracranial Hemorrhage, TruncWeight = 2.5, ATES weights, CHADSVASC: 3											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	7,490	2,717.85	132.54	0.36	6	2.21	0.80	-0.79	-0.08	0.85 (0.17, 4.21)	0.837
Dabigatran Users	2,266	667.82	107.64	0.29	2	2.99	0.88				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	7,325	2,664.62	132.87	0.36	6	2.25	0.82	-0.76	-0.07	N/A	N/A
Dabigatran Users	2,247	664.66	108.04	0.30	2	3.01	0.89				
Inverse Probability of Treatment Weighted Analysis [1] ; Weight = ATES, Trimmed [2]											
Rivaroxaban Users	7,320	2,687.71	134.10	0.37	6	2.22	0.81	-1.21	-0.21	0.77 (0.14, 4.30)	N/A
Dabigatran Users	2,153	641.17	108.75	0.30	2	3.43	1.02				
Intracranial Hemorrhage, TruncWeight = 2.5, ATES weights, CHADSVASC: 4											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	3,045	1,033.24	123.94	0.34	3	2.90	0.99	-10.27	-2.77	0.20 (0.04, 1.04)	0.055
Dabigatran Users	799	227.75	104.11	0.29	3	13.17	3.75				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	2,766	956.11	126.25	0.35	2	2.09	0.72	-11.36	-3.13	N/A	N/A
Dabigatran Users	778	223.08	104.73	0.29	3	13.45	3.86				
Inverse Probability of Treatment Weighted Analysis [1] ; Weight = ATES, Trimmed [2]											
Rivaroxaban Users	373,646	33,438.84	32.69	0.09	2	0.06	0.01	0.04	0.00	0.11 (0.02, 0.64)	N/A
Dabigatran Users	1,814,198	251,472.22	50.63	0.14	4	0.02	0.00				
Intracranial Hemorrhage, TruncWeight = 2.5, ATES weights, CHADSVASC: 5+											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	885	248.92	102.73	0.28	3	12.05	3.39	12.05	3.39	NaN	N/A
Dabigatran Users	249	85.83	125.90	0.34	0	0.00	0.00				

Sentinel

Table 5c. Effect Estimates for Intracranial Hemorrhage, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and CHADSVASC

Direct Oral Anticoagulant	Number of New Users	Person Years at Risk	Average Person Days at Risk	Average Person Years at Risk	Number of Events	Incidence Rate per 1,000 Person Years	Risk per 1,000 New Users	Incidence Rate Difference per 1,000 Person Years	Risk Difference per 1,000 New Users	Hazard Ratio (95% Confidence Interval)	Wald P-Value
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	602	174.75	106.02	0.29	0	0.00	0.00	0.00	0.00	N/A	N/A
Dabigatran Users	183	63.62	126.97	0.35	0	0.00	0.00				
Inverse Probability of Treatment Weighted Analysis[1] ; Weight = ATES, Trimmed[2]											
Rivaroxaban Users	615	178.88	106.32	0.29	0	0.00	0.00	0.00	0.00	NaN	N/A
Dabigatran Users	184	59.14	117.56	0.32	0	0.00	0.00				

[1]All values in this section are weighted.[2]ATES = Average Treatment Effect, Stabilized.

Sentinel

Table 5d. Effect Estimates for Intracranial Hemorrhage, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and HASBLED

Direct Oral Anticoagulant	Number of New Users	Person Years at Risk	Average Person Days at Risk	Average Person Years at Risk	Number of Events	Incidence Rate per 1,000 Person Years	Risk per 1,000 New Users	Incidence Rate Difference per 1,000 Person Years	Risk Difference per 1,000 New Users	Hazard Ratio (95% Confidence Interval)	Wald P-Value
Intracranial Hemorrhage, TruncWeight = 2.5, ATES weights											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	57,399	19,029.95	121.09	0.33	30	1.58	0.52	0.06	0.13	1.14 (0.52, 2.50)	0.745
Dabigatran Users	20,188	5,276.74	95.47	0.26	8	1.52	0.40				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	57,228	18,982.92	121.16	0.33	30	1.58	0.52	0.06	0.13	N/A	N/A
Dabigatran Users	20,180	5,275.50	95.48	0.26	8	1.52	0.40				
Inverse Probability of Treatment Weighted Analysis [1] ; Weight = ATES, Trimmed [2]											
Rivaroxaban Users	57,127	18,968.22	121.28	0.33	29	1.53	0.51	0.10	0.13	1.18 (0.52, 2.67)	N/A
Dabigatran Users	19,679	5,177.43	96.10	0.26	7	1.43	0.38				
Intracranial Hemorrhage, TruncWeight = 2.5, ATES weights, HASBLED: 0											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	15,304	4,265.20	101.79	0.28	3	0.70	0.20	-1.52	-0.32	0.33 (0.07, 1.65)	0.177
Dabigatran Users	5,817	1,348.33	84.66	0.23	3	2.22	0.52				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	15,150	4,223.15	101.82	0.28	3	0.71	0.20	-1.53	-0.32	N/A	N/A
Dabigatran Users	5,780	1,339.72	84.66	0.23	3	2.24	0.52				
Inverse Probability of Treatment Weighted Analysis [1] ; Weight = ATES, Trimmed [2]											
Rivaroxaban Users	15,119	4,215.34	101.84	0.28	3	0.66	0.18	-0.88	-0.17	0.45 (0.09, 2.12)	N/A
Dabigatran Users	5,640	1,296.50	83.97	0.23	2	1.53	0.35				
Intracranial Hemorrhage, TruncWeight = 2.5, ATES weights, HASBLED: 1											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	32,170	11,549.50	131.13	0.36	12	1.04	0.37	0.09	0.11	1.24 (0.35, 4.41)	0.741
Dabigatran Users	11,460	3,157.64	100.64	0.28	3	0.95	0.26				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	32,064	11,522.16	131.25	0.36	12	1.04	0.37	0.09	0.11	N/A	N/A
Dabigatran Users	11,451	3,155.56	100.65	0.28	3	0.95	0.26				
Inverse Probability of Treatment Weighted Analysis [1] ; Weight = ATES, Trimmed [2]											
Rivaroxaban Users	32,007	11,519.85	131.46	0.36	11	0.97	0.35	-0.13	0.04	1.00 (0.26, 3.77)	N/A
Dabigatran Users	11,126	3,086.56	101.33	0.28	3	1.10	0.30				
Intracranial Hemorrhage, TruncWeight = 2.5, ATES weights, HASBLED: 2											
Site-Adjusted Analysis, Unweighted											

Sentinel

Table 5d. Effect Estimates for Intracranial Hemorrhage, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and HASBLED

Direct Oral Anticoagulant	Number of New Users	Person Years at Risk	Average Person Days at Risk	Average Person Years at Risk	Number of Events	Incidence Rate per 1,000 Person Years	Risk per 1,000 New Users	Incidence Rate Difference per 1,000 Person Years	Risk Difference per 1,000 New Users	Hazard Ratio (95% Confidence Interval)	Wald P-Value
Rivaroxaban Users	7,964	2,661.02	122.04	0.33	9	3.38	1.13	1.84	0.72	2.00 (0.25, 16.12)	0.514
Dabigatran Users	2,434	648.44	97.31	0.27	1	1.54	0.41				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	7,809	2,624.23	122.74	0.34	8	3.05	1.02	1.50	0.61	N/A	N/A
Dabigatran Users	2,417	646.64	97.72	0.27	1	1.55	0.41				
Inverse Probability of Treatment Weighted Analysis [1] ; Weight = ATES, Trimmed [2]											
Rivaroxaban Users	7,791	2,631.26	123.35	0.34	8	3.12	1.05	1.93	0.73	2.77 (0.33, 23.05)	N/A
Dabigatran Users	2,340	635.33	99.17	0.27	1	1.18	0.32				
Intracranial Hemorrhage, TruncWeight = 2.5, ATES weights, HASBLED: 3+											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	1,790	507.21	103.50	0.28	6	11.83	3.35	3.57	1.22	1.84 (0.22, 15.35)	0.575
Dabigatran Users	469	121.10	94.31	0.26	1	8.26	2.13				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	1,598	459.32	104.98	0.29	6	13.06	3.75	4.33	1.45	N/A	N/A
Dabigatran Users	433	114.53	96.61	0.26	1	8.73	2.31				
Inverse Probability of Treatment Weighted Analysis [1] ; Weight = ATES, Trimmed [2]											
Rivaroxaban Users	1,600	460.69	105.17	0.29	7	14.41	4.15	-0.88	0.05	1.27 (0.16, 10.28)	N/A
Dabigatran Users	402	107.98	98.01	0.27	2	15.28	4.10				

[1]All values in this section are weighted.[2]ATES = Average Treatment Effect, Stabilized.

Sentinel

Table 5e. Effect Estimates for Intracranial Hemorrhage, TruncWeight = 2.5, ATES weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and Sex

Direct Oral Anticoagulant	Number of New Users	Person Years at Risk	Average Person Days at Risk	Average Person Years at Risk	Number of Events	Incidence Rate per 1,000 Person Years	Risk per 1,000 New Users	Incidence Rate Difference per 1,000 Person Years	Risk Difference per 1,000 New Users	Hazard Ratio (95% Confidence Interval)	Wald P-Value
Intracranial Hemorrhage, TruncWeight = 2.5, ATES weights											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	57,399	19,029.95	121.09	0.33	30	1.58	0.52	0.06	0.13	1.14 (0.52, 2.50)	0.745
Dabigatran Users	20,188	5,276.74	95.47	0.26	8	1.52	0.40				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	57,228	18,982.92	121.16	0.33	30	1.58	0.52	0.06	0.13	N/A	N/A
Dabigatran Users	20,180	5,275.50	95.48	0.26	8	1.52	0.40				
Inverse Probability of Treatment Weighted Analysis [1] ; Weight = ATES, Trimmed [2]											
Rivaroxaban Users	57,127	18,968.22	121.28	0.33	29	1.53	0.51	0.10	0.13	1.18 (0.52, 2.67)	N/A
Dabigatran Users	19,679	5,177.43	96.10	0.26	7	1.43	0.38				
Intracranial Hemorrhage, TruncWeight = 2.5, ATES weights, Sex: Female											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	14,631	5,205.45	129.95	0.36	7	1.34	0.48	0.58	0.27	1.72 (0.21, 14.07)	0.613
Dabigatran Users	4,696	1,315.25	102.30	0.28	1	0.76	0.21				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	14,543	5,179.48	130.08	0.36	7	1.35	0.48	0.59	0.27	N/A	N/A
Dabigatran Users	4,678	1,308.34	102.15	0.28	1	0.76	0.21				
Inverse Probability of Treatment Weighted Analysis [1] ; Weight = ATES, Trimmed [2]											
Rivaroxaban Users	14,522	5,184.57	130.40	0.36	7	1.31	0.47	0.88	0.35	2.95 (0.38, 23.04)	N/A
Dabigatran Users	4,533	1,279.18	103.08	0.28	1	0.43	0.12				
Intracranial Hemorrhage, TruncWeight = 2.5, ATES weights, Sex: Male											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	42,597	13,777.47	118.14	0.32	23	1.67	0.54	-0.10	0.09	1.04 (0.44, 2.45)	0.923
Dabigatran Users	15,484	3,960.25	93.42	0.26	7	1.77	0.45				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	42,542	13,767.18	118.20	0.32	23	1.67	0.54	-0.10	0.09	N/A	N/A
Dabigatran Users	15,475	3,959.05	93.44	0.26	7	1.77	0.45				
Inverse Probability of Treatment Weighted Analysis [1] ; Weight = ATES, Trimmed [2]											
Rivaroxaban Users	42,463	13,759.08	118.35	0.32	22	1.60	0.52	-0.19	0.06	0.99 (0.41, 2.41)	N/A
Dabigatran Users	15,062	3,866.16	93.75	0.26	7	1.79	0.46				

[1]All values in this section are weighted.[2]ATES = Average Treatment Effect, Stabilized.

Sentinel

Table 6a. Effect Estimates for Stroke, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type

Direct Oral Anticoagulant	Number of New Users	Person Years at Risk	Average Person Days at Risk	Average Person Years at Risk	Number of Events	Incidence Rate per 1,000 Person Years	Risk per 1,000 New Users	Incidence Rate Difference per 1,000 Person Years	Risk Difference per 1,000 New Users	Hazard Ratio (95% Confidence Interval)	Wald P-Value
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	57,399	19,029.95	121.09	0.33	67	3.52	1.17	-2.54	-0.42	0.67 (0.44, 1.03)	0.065
Dabigatran Users	20,188	5,276.74	95.47	0.26	32	6.06	1.59				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	57,228	18,982.92	121.16	0.33	66	3.48	1.15	-2.59	-0.43	N/A	N/A
Dabigatran Users	20,180	5,275.50	95.48	0.26	32	6.07	1.59				
Inverse Probability of Treatment Weighted Analysis[1]; Weight = ATT, Trimmed[2]											
Rivaroxaban Users	57,228	18,982.92	121.16	0.33	66	3.48	1.15	-3.04	-0.57	0.59 (0.38, 0.93)	N/A
Dabigatran Users	54,275	14,316.35	96.34	0.26	93	6.52	1.72				

[1]All values in this section are weighted.[2]ATT = Average Treatment Effect in the Treated.

Sentinel

Table 6b. Effect Estimates for Stroke, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and Age Group

Direct Oral Anticoagulant	Number of New Users	Person Years at Risk	Average Person Days at Risk	Average Person Years at Risk	Number of Events	Incidence Rate per 1,000 Person Years	Risk per 1,000 New Users	Incidence Rate Difference per 1,000 Person Years	Risk Difference per 1,000 New Users	Hazard Ratio (95% Confidence Interval)	Wald P-Value
Stroke, TruncWeight = 2.5, ATT weights											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	57,399	19,029.95	121.09	0.33	67	3.52	1.17	-2.54	-0.42	0.67 (0.44, 1.03)	0.065
Dabigatran Users	20,188	5,276.74	95.47	0.26	32	6.06	1.59				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	57,228	18,982.92	121.16	0.33	66	3.48	1.15	-2.59	-0.43	N/A	N/A
Dabigatran Users	20,180	5,275.50	95.48	0.26	32	6.07	1.59				
Inverse Probability of Treatment Weighted Analysis[1]; Weight = ATT, Trimmed[2]											
Rivaroxaban Users	57,228	18,982.92	121.16	0.33	66	3.48	1.15	-3.04	-0.57	0.59 (0.38, 0.93)	N/A
Dabigatran Users	54,275	14,316.35	96.34	0.26	93	6.52	1.72				
Stroke, TruncWeight = 2.5, ATT weights, Age Group: 21-49 years											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	9,757	2,394.65	89.64	0.25	7	2.92	0.72	-3.02	-0.43	0.50 (0.15, 1.73)	0.276
Dabigatran Users	3,496	672.75	70.29	0.19	4	5.95	1.14				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	9,604	2,361.16	89.80	0.25	6	2.54	0.62	-3.45	-0.53	N/A	N/A
Dabigatran Users	3,478	667.96	70.15	0.19	4	5.99	1.15				
Inverse Probability of Treatment Weighted Analysis[1]; Weight = ATT, Trimmed[2]											
Rivaroxaban Users	9,604	2,361.16	89.80	0.25	6	2.54	0.62	-2.90	-0.44	0.44 (0.12, 1.66)	N/A
Dabigatran Users	8,970	1,763.86	71.82	0.20	10	5.44	1.07				
Stroke, TruncWeight = 2.5, ATT weights, Age Group: 50-64 years											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	47,471	16,588.27	127.63	0.35	59	3.56	1.24	-2.53	-0.44	0.69 (0.44, 1.09)	0.11
Dabigatran Users	16,684	4,602.75	100.76	0.28	28	6.08	1.68				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	47,385	16,572.74	127.74	0.35	59	3.56	1.25	-2.52	-0.43	N/A	N/A
Dabigatran Users	16,676	4,601.79	100.79	0.28	28	6.08	1.68				
Inverse Probability of Treatment Weighted Analysis[1]; Weight = ATT, Trimmed[2]											
Rivaroxaban Users	47,385	16,572.74	127.74	0.35	59	3.56	1.25	-2.94	-0.56	0.62 (0.39, 1.00)	N/A
Dabigatran Users	44,995	12,486.69	101.36	0.28	81	6.50	1.80				

[1]All values in this section are weighted.[2]ATT = Average Treatment Effect in the Treated.

Sentinel

Table 6c. Effect Estimates for Stroke, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and CHADSVASC

Direct Oral Anticoagulant	Number of New Users	Person Years at Risk	Average Person Days at Risk	Average Person Years at Risk	Number of Events	Incidence Rate per 1,000 Person Years	Risk per 1,000 New Users	Incidence Rate Difference per 1,000 Person Years	Risk Difference per 1,000 New Users	Hazard Ratio (95% Confidence Interval)	Wald P-Value
Stroke, TruncWeight = 2.5, ATT weights											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	57,399	19,029.95	121.09	0.33	67	3.52	1.17	-2.54	-0.42	0.67 (0.44, 1.03)	0.065
Dabigatran Users	20,188	5,276.74	95.47	0.26	32	6.06	1.59				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	57,228	18,982.92	121.16	0.33	66	3.48	1.15	-2.59	-0.43	N/A	N/A
Dabigatran Users	20,180	5,275.50	95.48	0.26	32	6.07	1.59				
Inverse Probability of Treatment Weighted Analysis [1] ; Weight = ATT, Trimmed [2]											
Rivaroxaban Users	57,228	18,982.92	121.16	0.33	66	3.48	1.15	-3.04	-0.57	0.59 (0.38, 0.93)	N/A
Dabigatran Users	54,275	14,316.35	96.34	0.26	93	6.52	1.72				
Stroke, TruncWeight = 2.5, ATT weights, CHADSVASC: 0											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	10,614	2,741.75	94.35	0.26	7	2.55	0.66	-1.95	-0.31	0.59 (0.17, 2.03)	0.402
Dabigatran Users	4,136	889.12	78.52	0.21	4	4.50	0.97				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	10,445	2,702.58	94.51	0.26	7	2.59	0.67	-1.94	-0.30	N/A	N/A
Dabigatran Users	4,104	883.55	78.63	0.22	4	4.53	0.97				
Inverse Probability of Treatment Weighted Analysis [1] ; Weight = ATT, Trimmed [2]											
Rivaroxaban Users	10,445	2,702.58	94.51	0.26	7	2.59	0.67	-2.93	-0.49	0.47 (0.13, 1.76)	N/A
Dabigatran Users	9,928	2,081.37	76.57	0.21	11	5.52	1.16				
Stroke, TruncWeight = 2.5, ATT weights, CHADSVASC: 1											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	20,120	6,615.89	120.10	0.33	12	1.81	0.60	-1.42	-0.22	0.67 (0.25, 1.81)	0.432
Dabigatran Users	7,308	1,855.17	92.72	0.25	6	3.23	0.82				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	20,030	6,598.40	120.32	0.33	12	1.82	0.60	-1.42	-0.22	N/A	N/A
Dabigatran Users	7,298	1,853.68	92.77	0.25	6	3.24	0.82				
Inverse Probability of Treatment Weighted Analysis [1] ; Weight = ATT, Trimmed [2]											
Rivaroxaban Users	20,030	6,598.40	120.32	0.33	12	1.82	0.60	-1.05	-0.14	0.73 (0.27, 1.97)	N/A
Dabigatran Users	18,959	4,893.40	94.28	0.26	14	2.87	0.74				

Table 6c. Effect Estimates for Stroke, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and CHADSVASC

Direct Oral Anticoagulant	Number of New Users	Person Years at Risk	Average Person Days at Risk	Average Person Years at Risk	Number of Events	Incidence Rate per 1,000 Person Years	Risk per 1,000 New Users	Incidence Rate Difference per 1,000 Person Years	Risk Difference per 1,000 New Users	Hazard Ratio (95% Confidence Interval)	Wald P-Value
Stroke, TruncWeight = 2.5, ATT weights, CHADSVASC: 2											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	15,074	5,625.28	136.30	0.37	17	3.02	1.13	-0.20	0.21	1.13 (0.42, 3.09)	0.805
Dabigatran Users	5,422	1,549.82	104.40	0.29	5	3.23	0.92				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	14,982	5,598.77	136.49	0.37	17	3.04	1.13	-0.19	0.21	N/A	N/A
Dabigatran Users	5,415	1,548.49	104.45	0.29	5	3.23	0.92				
Inverse Probability of Treatment Weighted Analysis [1] ; Weight = ATT, Trimmed [2]											
Rivaroxaban Users	14,982	5,598.77	136.49	0.37	17	3.04	1.13	-0.31	0.18	1.06 (0.39, 2.93)	N/A
Dabigatran Users	14,211	4,055.37	104.23	0.29	14	3.34	0.95				
Stroke, TruncWeight = 2.5, ATT weights, CHADSVASC: 3											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	7,490	2,717.85	132.54	0.36	12	4.42	1.60	-4.57	-1.05	0.56 (0.21, 1.50)	0.251
Dabigatran Users	2,266	667.82	107.64	0.29	6	8.98	2.65				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	7,325	2,664.62	132.87	0.36	12	4.50	1.64	-4.52	-1.03	N/A	N/A
Dabigatran Users	2,247	664.66	108.04	0.30	6	9.03	2.67				
Inverse Probability of Treatment Weighted Analysis [1] ; Weight = ATT, Trimmed [2]											
Rivaroxaban Users	7,325	2,664.62	132.87	0.36	12	4.50	1.64	-8.83	-2.32	0.38 (0.13, 1.09)	N/A
Dabigatran Users	6,772	2,008.83	108.34	0.30	27	13.33	3.95				
Stroke, TruncWeight = 2.5, ATT weights, CHADSVASC: 4											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	3,045	1,033.24	123.94	0.34	10	9.68	3.28	-16.67	-4.23	0.39 (0.14, 1.08)	0.07
Dabigatran Users	799	227.75	104.11	0.29	6	26.34	7.51				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	2,766	956.11	126.25	0.35	10	10.46	3.62	-11.95	-2.81	N/A	N/A
Dabigatran Users	778	223.08	104.73	0.29	5	22.41	6.43				
Inverse Probability of Treatment Weighted Analysis [1] ; Weight = ATT, Trimmed [2]											
Rivaroxaban Users	2,766	956.11	126.25	0.35	10	10.46	3.62	10.43	3.61	0.54 (0.16, 1.83)	N/A
Dabigatran Users	3,438,572	476,799.74	50.65	0.14	13	0.03	0.00				
Stroke, TruncWeight = 2.5, ATT weights, CHADSVASC: 5+											

Sentinel

Table 6c. Effect Estimates for Stroke, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and CHADSVASC

Direct Oral Anticoagulant	Number of New Users	Person Years at Risk	Average Person Days at Risk	Average Person Years at Risk	Number of Events	Incidence Rate per 1,000 Person Years	Risk per 1,000 New Users	Incidence Rate Difference per 1,000 Person Years	Risk Difference per 1,000 New Users	Hazard Ratio (95% Confidence Interval)	Wald P-Value
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	885	248.92	102.73	0.28	8	32.14	9.04	-26.12	-11.04	0.50 (0.16, 1.54)	0.228
Dabigatran Users	249	85.83	125.90	0.34	5	58.25	20.08				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	602	174.75	106.02	0.29	8	45.78	13.29	-17.09	-8.57	N/A	N/A
Dabigatran Users	183	63.62	126.97	0.35	4	62.87	21.86				
Inverse Probability of Treatment Weighted Analysis[1] ; Weight = ATT, Trimmed[2]											
Rivaroxaban Users	602	174.75	106.02	0.29	8	45.78	13.29	-51.23	-17.50	0.44 (0.10, 2.06)	N/A
Dabigatran Users	588	186.61	115.92	0.32	18	97.01	30.79				

[1]All values in this section are weighted.[2]ATT = Average Treatment Effect in the Treated.

Sentinel

Table 6d. Effect Estimates for Stroke, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and HASBLED

Direct Oral Anticoagulant	Number of New Users	Person Years at Risk	Average Person Days at Risk	Average Person Years at Risk	Number of Events	Incidence Rate per 1,000 Person Years	Risk per 1,000 New Users	Incidence Rate Difference per 1,000 Person Years	Risk Difference per 1,000 New Users	Hazard Ratio (95% Confidence Interval)	Wald P-Value
Stroke, TruncWeight = 2.5, ATT weights											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	57,399	19,029.95	121.09	0.33	67	3.52	1.17	-2.54	-0.42	0.67 (0.44, 1.03)	0.065
Dabigatran Users	20,188	5,276.74	95.47	0.26	32	6.06	1.59				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	57,228	18,982.92	121.16	0.33	66	3.48	1.15	-2.59	-0.43	N/A	N/A
Dabigatran Users	20,180	5,275.50	95.48	0.26	32	6.07	1.59				
Inverse Probability of Treatment Weighted Analysis [1] ; Weight = ATT, Trimmed [2]											
Rivaroxaban Users	57,228	18,982.92	121.16	0.33	66	3.48	1.15	-3.04	-0.57	0.59 (0.38, 0.93)	N/A
Dabigatran Users	54,275	14,316.35	96.34	0.26	93	6.52	1.72				
Stroke, TruncWeight = 2.5, ATT weights, HASBLED: 0											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	15,304	4,265.20	101.79	0.28	13	3.05	0.85	-0.66	-0.01	0.89 (0.32, 2.50)	0.821
Dabigatran Users	5,817	1,348.33	84.66	0.23	5	3.71	0.86				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	15,150	4,223.15	101.82	0.28	13	3.08	0.86	-0.65	-0.01	N/A	N/A
Dabigatran Users	5,780	1,339.72	84.66	0.23	5	3.73	0.87				
Inverse Probability of Treatment Weighted Analysis [1] ; Weight = ATT, Trimmed [2]											
Rivaroxaban Users	15,150	4,223.15	101.82	0.28	13	3.08	0.86	-1.02	-0.09	0.78 (0.26, 2.35)	N/A
Dabigatran Users	14,376	3,310.69	84.11	0.23	14	4.10	0.94				
Stroke, TruncWeight = 2.5, ATT weights, HASBLED: 1											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	32,170	11,549.50	131.13	0.36	27	2.34	0.84	-3.36	-0.73	0.48 (0.26, 0.87)	0.016
Dabigatran Users	11,460	3,157.64	100.64	0.28	18	5.70	1.57				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	32,064	11,522.16	131.25	0.36	27	2.34	0.84	-3.36	-0.73	N/A	N/A
Dabigatran Users	11,451	3,155.56	100.65	0.28	18	5.70	1.57				
Inverse Probability of Treatment Weighted Analysis [1] ; Weight = ATT, Trimmed [2]											
Rivaroxaban Users	32,064	11,522.16	131.25	0.36	27	2.34	0.84	-3.32	-0.73	0.47 (0.25, 0.86)	N/A
Dabigatran Users	30,246	8,412.30	101.59	0.28	48	5.66	1.58				

Sentinel

Table 6d. Effect Estimates for Stroke, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and HASBLED

Direct Oral Anticoagulant	Number of New Users	Person Years at Risk	Average Person Days at Risk	Average Person Years at Risk	Number of Events	Incidence Rate per 1,000 Person Years	Risk per 1,000 New Users	Incidence Rate Difference per 1,000 Person Years	Risk Difference per 1,000 New Users	Hazard Ratio (95% Confidence Interval)	Wald P-Value
Stroke, TruncWeight = 2.5, ATT weights, HASBLED: 2											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	7,964	2,661.02	122.04	0.33	16	6.01	2.01	-1.70	-0.05	0.93 (0.34, 2.56)	0.891
Dabigatran Users	2,434	648.44	97.31	0.27	5	7.71	2.05				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	7,809	2,624.23	122.74	0.34	16	6.10	2.05	-1.64	-0.02	N/A	N/A
Dabigatran Users	2,417	646.64	97.72	0.27	5	7.73	2.07				
Inverse Probability of Treatment Weighted Analysis [1] ; Weight = ATT, Trimmed [2]											
Rivaroxaban Users	7,809	2,624.23	122.74	0.34	16	6.10	2.05	-2.99	-0.43	0.76 (0.27, 2.12)	N/A
Dabigatran Users	7,311	1,996.79	99.75	0.27	18	9.09	2.48				
Stroke, TruncWeight = 2.5, ATT weights, HASBLED: 3+											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	1,790	507.21	103.50	0.28	10	19.72	5.59	-13.31	-2.94	0.68 (0.21, 2.19)	0.523
Dabigatran Users	469	121.10	94.31	0.26	4	33.03	8.53				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	1,598	459.32	104.98	0.29	10	21.77	6.26	4.31	1.64	N/A	N/A
Dabigatran Users	433	114.53	96.61	0.26	2	17.46	4.62				
Inverse Probability of Treatment Weighted Analysis [1] ; Weight = ATT, Trimmed [2]											
Rivaroxaban Users	1,598	459.32	104.98	0.29	10	21.77	6.26	-2.17	0.03	1.00 (0.17, 6.06)	N/A
Dabigatran Users	1,379	358.69	95.00	0.26	9	23.94	6.23				

[1]All values in this section are weighted.[2]ATT = Average Treatment Effect in the Treated.

Sentinel

Table 6e. Effect Estimates for Stroke, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and Sex

Direct Oral Anticoagulant	Number of New Users	Person Years at Risk	Average Person Days at Risk	Average Person Years at Risk	Number of Events	Incidence Rate per 1,000 Person Years	Risk per 1,000 New Users	Incidence Rate Difference per 1,000 Person Years	Risk Difference per 1,000 New Users	Hazard Ratio (95% Confidence Interval)	Wald P-Value
Stroke, TruncWeight = 2.5, ATT weights											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	57,399	19,029.95	121.09	0.33	67	3.52	1.17	-2.54	-0.42	0.67 (0.44, 1.03)	0.065
Dabigatran Users	20,188	5,276.74	95.47	0.26	32	6.06	1.59				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	57,228	18,982.92	121.16	0.33	66	3.48	1.15	-2.59	-0.43	N/A	N/A
Dabigatran Users	20,180	5,275.50	95.48	0.26	32	6.07	1.59				
Inverse Probability of Treatment Weighted Analysis [1] ; Weight = ATT, Trimmed [2]											
Rivaroxaban Users	57,228	18,982.92	121.16	0.33	66	3.48	1.15	-3.04	-0.57	0.59 (0.38, 0.93)	N/A
Dabigatran Users	54,275	14,316.35	96.34	0.26	93	6.52	1.72				
Stroke, TruncWeight = 2.5, ATT weights, Sex: Female											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	14,631	5,205.45	129.95	0.36	18	3.46	1.23	-4.91	-1.11	0.48 (0.22, 1.02)	0.055
Dabigatran Users	4,696	1,315.25	102.30	0.28	11	8.36	2.34				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	14,543	5,179.48	130.08	0.36	18	3.48	1.24	-4.93	-1.11	N/A	N/A
Dabigatran Users	4,678	1,308.34	102.15	0.28	11	8.41	2.35				
Inverse Probability of Treatment Weighted Analysis [1] ; Weight = ATT, Trimmed [2]											
Rivaroxaban Users	14,543	5,179.48	130.08	0.36	18	3.48	1.24	-3.03	-0.61	0.59 (0.26, 1.30)	N/A
Dabigatran Users	13,579	3,859.21	103.80	0.28	25	6.51	1.85				
Stroke, TruncWeight = 2.5, ATT weights, Sex: Male											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	42,597	13,777.47	118.14	0.32	48	3.48	1.13	-1.82	-0.23	0.76 (0.46, 1.28)	0.304
Dabigatran Users	15,484	3,960.25	93.42	0.26	21	5.30	1.36				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	42,542	13,767.18	118.20	0.32	48	3.49	1.13	-1.82	-0.23	N/A	N/A
Dabigatran Users	15,475	3,959.05	93.44	0.26	21	5.30	1.36				
Inverse Probability of Treatment Weighted Analysis [1] ; Weight = ATT, Trimmed [2]											
Rivaroxaban Users	42,542	13,767.18	118.20	0.32	48	3.49	1.13	-2.42	-0.39	0.66 (0.39, 1.14)	N/A
Dabigatran Users	40,283	10,351.84	93.86	0.26	61	5.90	1.52				

[1]All values in this section are weighted. [2]ATT = Average Treatment Effect in the Treated.

Sentinel

Table 7a. Effect Estimates for Major Extracranial Bleeding, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type

Direct Oral Anticoagulant	Number of New Users	Person Years at Risk	Average Person Days at Risk	Average Person Years at Risk	Number of Events	Incidence Rate per 1,000 Person Years	Risk per 1,000 New Users	Incidence Rate Difference per 1,000 Person Years	Risk Difference per 1,000 New Users	Hazard Ratio (95% Confidence Interval)	Wald P-Value
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	57,399	19,029.95	121.09	0.33	196	10.30	3.41	3.48	1.63	1.58 (1.11, 2.26)	0.012
Dabigatran Users	20,188	5,276.74	95.47	0.26	36	6.82	1.78				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	57,228	18,982.92	121.16	0.33	193	10.17	3.37	3.34	1.59	N/A	N/A
Dabigatran Users	20,180	5,275.50	95.48	0.26	36	6.82	1.78				
Inverse Probability of Treatment Weighted Analysis[1]; Weight = ATT, Trimmed[2]											
Rivaroxaban Users	57,228	18,982.92	121.16	0.33	193	10.17	3.37	2.40	1.32	1.41 (0.96, 2.06)	N/A
Dabigatran Users	54,275	14,316.35	96.34	0.26	111	7.77	2.05				

[1]All values in this section are weighted.[2]ATT = Average Treatment Effect in the Treated.

Sentinel

Table 7b. Effect Estimates for Major Extracranial Bleeding, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and Age Group

Direct Oral Anticoagulant	Number of New Users	Person Years at Risk	Average Person Days at Risk	Average Person Years at Risk	Number of Events	Incidence Rate per 1,000 Person Years	Risk per 1,000 New Users	Incidence Rate Difference per 1,000 Person Years	Risk Difference per 1,000 New Users	Hazard Ratio (95% Confidence Interval)	Wald P-Value
Major Extracranial Bleeding, TruncWeight = 2.5, ATT weights											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	57,399	19,029.95	121.09	0.33	196	10.30	3.41	3.48	1.63	1.58 (1.11, 2.26)	0.012
Dabigatran Users	20,188	5,276.74	95.47	0.26	36	6.82	1.78				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	57,228	18,982.92	121.16	0.33	193	10.17	3.37	3.34	1.59	N/A	N/A
Dabigatran Users	20,180	5,275.50	95.48	0.26	36	6.82	1.78				
Inverse Probability of Treatment Weighted Analysis [1] ; Weight = ATT, Trimmed [2]											
Rivaroxaban Users	57,228	18,982.92	121.16	0.33	193	10.17	3.37	2.40	1.32	1.41 (0.96, 2.06)	N/A
Dabigatran Users	54,275	14,316.35	96.34	0.26	111	7.77	2.05				
Major Extracranial Bleeding, TruncWeight = 2.5, ATT weights, Age Group: 21-49 years											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	9,757	2,394.65	89.64	0.25	14	5.85	1.43	-3.07	-0.28	0.70 (0.27, 1.83)	0.467
Dabigatran Users	3,496	672.75	70.29	0.19	6	8.92	1.72				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	9,604	2,361.16	89.80	0.25	13	5.51	1.35	-3.48	-0.37	N/A	N/A
Dabigatran Users	3,478	667.96	70.15	0.19	6	8.98	1.73				
Inverse Probability of Treatment Weighted Analysis [1] ; Weight = ATT, Trimmed [2]											
Rivaroxaban Users	9,604	2,361.16	89.80	0.25	13	5.51	1.35	-0.12	0.25	1.07 (0.39, 2.92)	N/A
Dabigatran Users	8,970	1,763.86	71.82	0.20	10	5.62	1.11				
Major Extracranial Bleeding, TruncWeight = 2.5, ATT weights, Age Group: 50-64 years											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	47,471	16,588.27	127.63	0.35	179	10.79	3.77	4.27	1.97	1.74 (1.18, 2.56)	0.005
Dabigatran Users	16,684	4,602.75	100.76	0.28	30	6.52	1.80				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	47,385	16,572.74	127.74	0.35	179	10.80	3.78	4.28	1.98	N/A	N/A
Dabigatran Users	16,676	4,601.79	100.79	0.28	30	6.52	1.80				
Inverse Probability of Treatment Weighted Analysis [1] ; Weight = ATT, Trimmed [2]											
Rivaroxaban Users	47,385	16,572.74	127.74	0.35	179	10.80	3.78	2.89	1.58	1.48 (0.98, 2.22)	N/A
Dabigatran Users	44,995	12,486.69	101.36	0.28	99	7.91	2.19				

[1]All values in this section are weighted.[2]ATT = Average Treatment Effect in the Treated.

Sentinel

Table 7c. Effect Estimates for Major Extracranial Bleeding, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and CHADSVASC

Direct Oral Anticoagulant	Number of New Users	Person Years at Risk	Average Person Days at Risk	Average Person Years at Risk	Number of Events	Incidence Rate per 1,000 Person Years	Risk per 1,000 New Users	Incidence Rate Difference per 1,000 Person Years	Risk Difference per 1,000 New Users	Hazard Ratio (95% Confidence Interval)	Wald P-Value
Major Extracranial Bleeding, TruncWeight = 2.5, ATT weights											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	57,399	19,029.95	121.09	0.33	196	10.30	3.41	3.48	1.63	1.58 (1.11, 2.26)	0.012
Dabigatran Users	20,188	5,276.74	95.47	0.26	36	6.82	1.78				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	57,228	18,982.92	121.16	0.33	193	10.17	3.37	3.34	1.59	N/A	N/A
Dabigatran Users	20,180	5,275.50	95.48	0.26	36	6.82	1.78				
Inverse Probability of Treatment Weighted Analysis [1] ; Weight = ATT, Trimmed [2]											
Rivaroxaban Users	57,228	18,982.92	121.16	0.33	193	10.17	3.37	2.40	1.32	1.41 (0.96, 2.06)	N/A
Dabigatran Users	54,275	14,316.35	96.34	0.26	111	7.77	2.05				
Major Extracranial Bleeding, TruncWeight = 2.5, ATT weights, CHADSVASC: 0											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	10,614	2,741.75	94.35	0.26	12	4.38	1.13	-4.62	-0.80	0.51 (0.21, 1.25)	0.142
Dabigatran Users	4,136	889.12	78.52	0.21	8	9.00	1.93				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	10,445	2,702.58	94.51	0.26	12	4.44	1.15	-4.61	-0.80	N/A	N/A
Dabigatran Users	4,104	883.55	78.63	0.22	8	9.05	1.95				
Inverse Probability of Treatment Weighted Analysis [1] ; Weight = ATT, Trimmed [2]											
Rivaroxaban Users	10,445	2,702.58	94.51	0.26	12	4.44	1.15	-3.66	-0.55	0.56 (0.21, 1.49)	N/A
Dabigatran Users	9,928	2,081.37	76.57	0.21	17	8.10	1.70				
Major Extracranial Bleeding, TruncWeight = 2.5, ATT weights, CHADSVASC: 1											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	20,120	6,615.89	120.10	0.33	48	7.26	2.39	4.02	1.56	2.37 (1.01, 5.54)	0.048
Dabigatran Users	7,308	1,855.17	92.72	0.25	6	3.23	0.82				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	20,030	6,598.40	120.32	0.33	48	7.27	2.40	4.04	1.57	N/A	N/A
Dabigatran Users	7,298	1,853.68	92.77	0.25	6	3.24	0.82				
Inverse Probability of Treatment Weighted Analysis [1] ; Weight = ATT, Trimmed [2]											
Rivaroxaban Users	20,030	6,598.40	120.32	0.33	48	7.27	2.40	3.91	1.53	2.28 (0.90, 5.76)	N/A
Dabigatran Users	18,959	4,893.40	94.28	0.26	16	3.36	0.87				
Major Extracranial Bleeding, TruncWeight = 2.5, ATT weights, CHADSVASC: 2											
Site-Adjusted Analysis, Unweighted											

Sentinel

Table 7c. Effect Estimates for Major Extracranial Bleeding, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and CHADSVASC

Direct Oral Anticoagulant	Number of New Users	Person Years at Risk	Average Person Days at Risk	Average Person Years at Risk	Number of Events	Incidence Rate per 1,000 Person Years	Risk per 1,000 New Users	Incidence Rate Difference per 1,000 Person Years	Risk Difference per 1,000 New Users	Hazard Ratio (95% Confidence Interval)	Wald P-Value
Rivaroxaban Users	15,074	5,625.28	136.30	0.37	53	9.42	3.52	4.91	2.22	2.23 (1.01, 4.92)	0.047
Dabigatran Users	5,422	1,549.82	104.40	0.29	7	4.52	1.29				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	14,982	5,598.77	136.49	0.37	53	9.47	3.54	4.95	2.24	N/A	N/A
Dabigatran Users	5,415	1,548.49	104.45	0.29	7	4.52	1.29				
Inverse Probability of Treatment Weighted Analysis [1] ; Weight = ATT, Trimmed [2]											
Rivaroxaban Users	14,982	5,598.77	136.49	0.37	53	9.47	3.54	3.53	1.84	1.77 (0.80, 3.93)	N/A
Dabigatran Users	14,211	4,055.37	104.23	0.29	24	5.94	1.69				
Major Extracranial Bleeding, TruncWeight = 2.5, ATT weights, CHADSVASC: 3											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	7,490	2,717.85	132.54	0.36	42	15.45	5.61	-2.52	0.31	0.89 (0.47, 1.70)	0.732
Dabigatran Users	2,266	667.82	107.64	0.29	12	17.97	5.30				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	7,325	2,664.62	132.87	0.36	41	15.39	5.60	-2.67	0.26	N/A	N/A
Dabigatran Users	2,247	664.66	108.04	0.30	12	18.05	5.34				
Inverse Probability of Treatment Weighted Analysis [1] ; Weight = ATT, Trimmed [2]											
Rivaroxaban Users	7,325	2,664.62	132.87	0.36	41	15.39	5.60	1.29	1.42	1.19 (0.61, 2.34)	N/A
Dabigatran Users	6,772	2,008.83	108.34	0.30	28	14.10	4.18				
Major Extracranial Bleeding, TruncWeight = 2.5, ATT weights, CHADSVASC: 4											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	3,045	1,033.24	123.94	0.34	30	29.03	9.85	15.86	6.10	2.16 (0.66, 7.10)	0.203
Dabigatran Users	799	227.75	104.11	0.29	3	13.17	3.75				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	2,766	956.11	126.25	0.35	30	31.38	10.85	17.93	6.99	N/A	N/A
Dabigatran Users	778	223.08	104.73	0.29	3	13.45	3.86				
Inverse Probability of Treatment Weighted Analysis [1] ; Weight = ATT, Trimmed [2]											
Rivaroxaban Users	2,766	956.11	126.25	0.35	30	31.38	10.85	31.35	10.84	2.00 (0.56, 7.13)	N/A
Dabigatran Users	3,438,572	476,799.74	50.65	0.14	11	0.02	0.00				
Major Extracranial Bleeding, TruncWeight = 2.5, ATT weights, CHADSVASC: 5+											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	885	248.92	102.73	0.28	8	32.14	9.04	32.14	9.04	NaN	N/A
Dabigatran Users	249	85.83	125.90	0.34	0	0.00	0.00				

Sentinel

Table 7c. Effect Estimates for Major Extracranial Bleeding, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and CHADSVASC

Direct Oral Anticoagulant	Number of New Users	Person Years at Risk	Average Person Days at Risk	Average Person Years at Risk	Number of Events	Incidence Rate per 1,000 Person Years	Risk per 1,000 New Users	Incidence Rate Difference per 1,000 Person Years	Risk Difference per 1,000 New Users	Hazard Ratio (95% Confidence Interval)	Wald P-Value
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	602	174.75	106.02	0.29	4	22.89	6.64	22.89	6.64	N/A	N/A
Dabigatran Users	183	63.62	126.97	0.35	0	0.00	0.00				
Inverse Probability of Treatment Weighted Analysis [1] ; Weight = ATT, Trimmed [2]											
Rivaroxaban Users	602	174.75	106.02	0.29	4	22.89	6.64	22.89	6.64	NaN	N/A
Dabigatran Users	588	186.61	115.92	0.32	0	0.00	0.00				

[1]All values in this section are weighted.[2]ATT = Average Treatment Effect in the Treated.

Sentinel

Table 7d. Effect Estimates for Major Extracranial Bleeding, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and HASBLED

Direct Oral Anticoagulant	Number of New Users	Person Years at Risk	Average Person Days at Risk	Average Person Years at Risk	Number of Events	Incidence Rate per 1,000 Person Years	Risk per 1,000 New Users	Incidence Rate Difference per 1,000 Person Years	Risk Difference per 1,000 New Users	Hazard Ratio (95% Confidence Interval)	Wald P-Value
Major Extracranial Bleeding, TruncWeight = 2.5, ATT weights											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	57,399	19,029.95	121.09	0.33	196	10.30	3.41	3.48	1.63	1.58 (1.11, 2.26)	0.012
Dabigatran Users	20,188	5,276.74	95.47	0.26	36	6.82	1.78				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	57,228	18,982.92	121.16	0.33	193	10.17	3.37	3.34	1.59	N/A	N/A
Dabigatran Users	20,180	5,275.50	95.48	0.26	36	6.82	1.78				
Inverse Probability of Treatment Weighted Analysis[1]; Weight = ATT, Trimmed[2]											
Rivaroxaban Users	57,228	18,982.92	121.16	0.33	193	10.17	3.37	2.40	1.32	1.41 (0.96, 2.06)	N/A
Dabigatran Users	54,275	14,316.35	96.34	0.26	111	7.77	2.05				
Major Extracranial Bleeding, TruncWeight = 2.5, ATT weights, HASBLED: 0											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	15,304	4,265.20	101.79	0.28	21	4.92	1.37	-2.49	-0.35	0.68 (0.32, 1.44)	0.314
Dabigatran Users	5,817	1,348.33	84.66	0.23	10	7.42	1.72				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	15,150	4,223.15	101.82	0.28	21	4.97	1.39	-2.49	-0.34	N/A	N/A
Dabigatran Users	5,780	1,339.72	84.66	0.23	10	7.46	1.73				
Inverse Probability of Treatment Weighted Analysis[1]; Weight = ATT, Trimmed[2]											
Rivaroxaban Users	15,150	4,223.15	101.82	0.28	21	4.97	1.39	-1.23	-0.04	0.82 (0.38, 1.78)	N/A
Dabigatran Users	14,376	3,310.69	84.11	0.23	21	6.21	1.43				
Major Extracranial Bleeding, TruncWeight = 2.5, ATT weights, HASBLED: 1											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	32,170	11,549.50	131.13	0.36	104	9.00	3.23	3.94	1.84	1.87 (1.10, 3.17)	0.02
Dabigatran Users	11,460	3,157.64	100.64	0.28	16	5.07	1.40				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	32,064	11,522.16	131.25	0.36	104	9.03	3.24	3.96	1.85	N/A	N/A
Dabigatran Users	11,451	3,155.56	100.65	0.28	16	5.07	1.40				
Inverse Probability of Treatment Weighted Analysis[1]; Weight = ATT, Trimmed[2]											
Rivaroxaban Users	32,064	11,522.16	131.25	0.36	104	9.03	3.24	3.10	1.59	1.64 (0.93, 2.89)	N/A
Dabigatran Users	30,246	8,412.30	101.59	0.28	50	5.93	1.65				

Sentinel

Table 7d. Effect Estimates for Major Extracranial Bleeding, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and HASBLED

Direct Oral Anticoagulant	Number of New Users	Person Years at Risk	Average Person Days at Risk	Average Person Years at Risk	Number of Events	Incidence Rate per 1,000 Person Years	Risk per 1,000 New Users	Incidence Rate Difference per 1,000 Person Years	Risk Difference per 1,000 New Users	Hazard Ratio (95% Confidence Interval)	Wald P-Value
Major Extracranial Bleeding, TruncWeight = 2.5, ATT weights, HASBLED: 2											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	7,964	2,661.02	122.04	0.33	48	18.04	6.03	5.70	2.74	1.61 (0.76, 3.41)	0.213
Dabigatran Users	2,434	648.44	97.31	0.27	8	12.34	3.29				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	7,809	2,624.23	122.74	0.34	45	17.15	5.76	4.78	2.45	N/A	N/A
Dabigatran Users	2,417	646.64	97.72	0.27	8	12.37	3.31				
Inverse Probability of Treatment Weighted Analysis[1]; Weight = ATT, Trimmed[2]											
Rivaroxaban Users	7,809	2,624.23	122.74	0.34	45	17.15	5.76	3.00	1.90	1.31 (0.59, 2.93)	N/A
Dabigatran Users	7,311	1,996.79	99.75	0.27	28	14.15	3.86				
Major Extracranial Bleeding, TruncWeight = 2.5, ATT weights, HASBLED: 3+											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	1,790	507.21	103.50	0.28	20	39.43	11.17	22.92	6.91	2.18 (0.51, 9.39)	0.295
Dabigatran Users	469	121.10	94.31	0.26	2	16.52	4.26				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	1,598	459.32	104.98	0.29	18	39.19	11.26	21.73	6.65	N/A	N/A
Dabigatran Users	433	114.53	96.61	0.26	2	17.46	4.62				
Inverse Probability of Treatment Weighted Analysis[1]; Weight = ATT, Trimmed[2]											
Rivaroxaban Users	1,598	459.32	104.98	0.29	18	39.19	11.26	28.23	8.41	3.43 (0.77, 15.18)	N/A
Dabigatran Users	1,379	358.69	95.00	0.26	4	10.95	2.85				

[1]All values in this section are weighted.[2]ATT = Average Treatment Effect in the Treated.

Sentinel

Table 7e. Effect Estimates for Major Extracranial Bleeding, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and Sex

Direct Oral Anticoagulant	Number of New Users	Person Years at Risk	Average Person Days at Risk	Average Person Years at Risk	Number of Events	Incidence Rate per 1,000 Person Years	Risk per 1,000 New Users	Incidence Rate Difference per 1,000 Person Years	Risk Difference per 1,000 New Users	Hazard Ratio (95% Confidence Interval)	Wald P-Value
Major Extracranial Bleeding, TruncWeight = 2.5, ATT weights											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	57,399	19,029.95	121.09	0.33	196	10.30	3.41	3.48	1.63	1.58 (1.11, 2.26)	0.012
Dabigatran Users	20,188	5,276.74	95.47	0.26	36	6.82	1.78				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	57,228	18,982.92	121.16	0.33	193	10.17	3.37	3.34	1.59	N/A	N/A
Dabigatran Users	20,180	5,275.50	95.48	0.26	36	6.82	1.78				
Inverse Probability of Treatment Weighted Analysis[1]; Weight = ATT, Trimmed[2]											
Rivaroxaban Users	57,228	18,982.92	121.16	0.33	193	10.17	3.37	2.40	1.32	1.41 (0.96, 2.06)	N/A
Dabigatran Users	54,275	14,316.35	96.34	0.26	111	7.77	2.05				
Major Extracranial Bleeding, TruncWeight = 2.5, ATT weights, Sex: Female											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	14,631	5,205.45	129.95	0.36	69	13.26	4.72	3.37	1.95	1.36 (0.75, 2.47)	0.306
Dabigatran Users	4,696	1,315.25	102.30	0.28	13	9.88	2.77				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	14,543	5,179.48	130.08	0.36	68	13.13	4.68	3.19	1.90	N/A	N/A
Dabigatran Users	4,678	1,308.34	102.15	0.28	13	9.94	2.78				
Inverse Probability of Treatment Weighted Analysis[1]; Weight = ATT, Trimmed[2]											
Rivaroxaban Users	14,543	5,179.48	130.08	0.36	68	13.13	4.68	3.86	2.04	1.49 (0.78, 2.83)	N/A
Dabigatran Users	13,579	3,859.21	103.80	0.28	36	9.27	2.63				
Major Extracranial Bleeding, TruncWeight = 2.5, ATT weights, Sex: Male											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	42,597	13,777.47	118.14	0.32	124	9.00	2.91	3.19	1.43	1.64 (1.05, 2.57)	0.029
Dabigatran Users	15,484	3,960.25	93.42	0.26	23	5.81	1.49				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	42,542	13,767.18	118.20	0.32	124	9.01	2.91	3.20	1.43	N/A	N/A
Dabigatran Users	15,475	3,959.05	93.44	0.26	23	5.81	1.49				
Inverse Probability of Treatment Weighted Analysis[1]; Weight = ATT, Trimmed[2]											
Rivaroxaban Users	42,542	13,767.18	118.20	0.32	124	9.01	2.91	2.68	1.29	1.54 (0.97, 2.44)	N/A
Dabigatran Users	40,283	10,351.84	93.86	0.26	66	6.33	1.63				

[1]All values in this section are weighted. [2]ATT = Average Treatment Effect in the Treated.

Sentinel

Table 8a. Effect Estimates for Gastrointestinal Hemorrhage, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type

Direct Oral Anticoagulant	Number of New Users	Person Years at Risk	Average Person Days at Risk	Average Person Years at Risk	Number of Events	Incidence Rate per 1,000 Person Years	Risk per 1,000 New Users	Incidence Rate Difference per 1,000 Person Years	Risk Difference per 1,000 New Users	Hazard Ratio (95% Confidence Interval)	Wald P-Value
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	57,399	19,029.95	121.09	0.33	165	8.67	2.87	2.61	1.29	1.51 (1.03, 2.21)	0.034
Dabigatran Users	20,188	5,276.74	95.47	0.26	32	6.06	1.59				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	57,228	18,982.92	121.16	0.33	162	8.53	2.83	2.47	1.25	N/A	N/A
Dabigatran Users	20,180	5,275.50	95.48	0.26	32	6.07	1.59				
Inverse Probability of Treatment Weighted Analysis[1]; Weight = ATT, Trimmed[2]											
Rivaroxaban Users	57,228	18,982.92	121.16	0.33	162	8.53	2.83	1.33	0.93	1.28 (0.85, 1.92)	N/A
Dabigatran Users	54,275	14,316.35	96.34	0.26	103	7.20	1.90				

[1]All values in this section are weighted.[2]ATT = Average Treatment Effect in the Treated.

Sentinel

Table 8b. Effect Estimates for Gastrointestinal Hemorrhage, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and Age Group

Direct Oral Anticoagulant	Number of New Users	Person Years at Risk	Average Person Days at Risk	Average Person Years at Risk	Number of Events	Incidence Rate per 1,000 Person Years	Risk per 1,000 New Users	Incidence Rate Difference per 1,000 Person Years	Risk Difference per 1,000 New Users	Hazard Ratio (95% Confidence Interval)	Wald P-Value
Gastrointestinal Hemorrhage, TruncWeight = 2.5, ATT weights											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	57,399	19,029.95	121.09	0.33	165	8.67	2.87	2.61	1.29	1.51 (1.03, 2.21)	0.034
Dabigatran Users	20,188	5,276.74	95.47	0.26	32	6.06	1.59				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	57,228	18,982.92	121.16	0.33	162	8.53	2.83	2.47	1.25	N/A	N/A
Dabigatran Users	20,180	5,275.50	95.48	0.26	32	6.07	1.59				
Inverse Probability of Treatment Weighted Analysis[1]; Weight = ATT, Trimmed[2]											
Rivaroxaban Users	57,228	18,982.92	121.16	0.33	162	8.53	2.83	1.33	0.93	1.28 (0.85, 1.92)	N/A
Dabigatran Users	54,275	14,316.35	96.34	0.26	103	7.20	1.90				
Gastrointestinal Hemorrhage, TruncWeight = 2.5, ATT weights, Age Group: 21-49 years											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	9,757	2,394.65	89.64	0.25	7	2.92	0.72	-3.02	-0.43	0.48 (0.14, 1.66)	0.244
Dabigatran Users	3,496	672.75	70.29	0.19	4	5.95	1.14				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	9,604	2,361.16	89.80	0.25	6	2.54	0.62	-3.45	-0.53	N/A	N/A
Dabigatran Users	3,478	667.96	70.15	0.19	4	5.99	1.15				
Inverse Probability of Treatment Weighted Analysis[1]; Weight = ATT, Trimmed[2]											
Rivaroxaban Users	9,604	2,361.16	89.80	0.25	6	2.54	0.62	-1.18	-0.11	0.69 (0.19, 2.47)	N/A
Dabigatran Users	8,970	1,763.86	71.82	0.20	7	3.72	0.73				
Gastrointestinal Hemorrhage, TruncWeight = 2.5, ATT weights, Age Group: 50-64 years											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	47,471	16,588.27	127.63	0.35	155	9.34	3.27	3.26	1.59	1.64 (1.09, 2.45)	0.016
Dabigatran Users	16,684	4,602.75	100.76	0.28	28	6.08	1.68				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	47,385	16,572.74	127.74	0.35	155	9.35	3.27	3.27	1.59	N/A	N/A
Dabigatran Users	16,676	4,601.79	100.79	0.28	28	6.08	1.68				
Inverse Probability of Treatment Weighted Analysis[1]; Weight = ATT, Trimmed[2]											
Rivaroxaban Users	47,385	16,572.74	127.74	0.35	155	9.35	3.27	1.82	1.18	1.35 (0.88, 2.07)	N/A
Dabigatran Users	44,995	12,486.69	101.36	0.28	94	7.53	2.09				

[1]All values in this section are weighted.[2]ATT = Average Treatment Effect in the Treated.

Table 8c. Effect Estimates for Gastrointestinal Hemorrhage, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and CHADSVASC

Direct Oral Anticoagulant	Number of New Users	Person Years at Risk	Average Person Days at Risk	Average Person Years at Risk	Number of Events	Incidence Rate per 1,000 Person Years	Risk per 1,000 New Users	Incidence Rate Difference per 1,000 Person Years	Risk Difference per 1,000 New Users	Hazard Ratio (95% Confidence Interval)	Wald P-Value
Gastrointestinal Hemorrhage, TruncWeight = 2.5, ATT weights											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	57,399	19,029.95	121.09	0.33	165	8.67	2.87	2.61	1.29	1.51 (1.03, 2.21)	0.034
Dabigatran Users	20,188	5,276.74	95.47	0.26	32	6.06	1.59				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	57,228	18,982.92	121.16	0.33	162	8.53	2.83	2.47	1.25	N/A	N/A
Dabigatran Users	20,180	5,275.50	95.48	0.26	32	6.07	1.59				
Inverse Probability of Treatment Weighted Analysis [1] ; Weight = ATT, Trimmed [2]											
Rivaroxaban Users	57,228	18,982.92	121.16	0.33	162	8.53	2.83	1.33	0.93	1.28 (0.85, 1.92)	N/A
Dabigatran Users	54,275	14,316.35	96.34	0.26	103	7.20	1.90				
Gastrointestinal Hemorrhage, TruncWeight = 2.5, ATT weights, CHADSVASC: 0											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	10,614	2,741.75	94.35	0.26	10	3.65	0.94	-4.23	-0.75	0.48 (0.18, 1.26)	0.137
Dabigatran Users	4,136	889.12	78.52	0.21	7	7.87	1.69				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	10,445	2,702.58	94.51	0.26	10	3.70	0.96	-4.22	-0.75	N/A	N/A
Dabigatran Users	4,104	883.55	78.63	0.22	7	7.92	1.71				
Inverse Probability of Treatment Weighted Analysis [1] ; Weight = ATT, Trimmed [2]											
Rivaroxaban Users	10,445	2,702.58	94.51	0.26	10	3.70	0.96	-3.86	-0.63	0.49 (0.17, 1.38)	N/A
Dabigatran Users	9,928	2,081.37	76.57	0.21	16	7.56	1.59				
Gastrointestinal Hemorrhage, TruncWeight = 2.5, ATT weights, CHADSVASC: 1											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	20,120	6,615.89	120.10	0.33	39	5.89	1.94	3.20	1.25	2.32 (0.91, 5.91)	0.077
Dabigatran Users	7,308	1,855.17	92.72	0.25	5	2.70	0.68				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	20,030	6,598.40	120.32	0.33	39	5.91	1.95	3.21	1.26	N/A	N/A
Dabigatran Users	7,298	1,853.68	92.77	0.25	5	2.70	0.69				
Inverse Probability of Treatment Weighted Analysis [1] ; Weight = ATT, Trimmed [2]											
Rivaroxaban Users	20,030	6,598.40	120.32	0.33	39	5.91	1.95	2.97	1.19	2.12 (0.76, 5.87)	N/A
Dabigatran Users	18,959	4,893.40	94.28	0.26	14	2.94	0.76				
Gastrointestinal Hemorrhage, TruncWeight = 2.5, ATT weights, CHADSVASC: 2											
Site-Adjusted Analysis, Unweighted											

Sentinel

Table 8c. Effect Estimates for Gastrointestinal Hemorrhage, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and CHADSVASC

Direct Oral Anticoagulant	Number of New Users	Person Years at Risk	Average Person Days at Risk	Average Person Years at Risk	Number of Events	Incidence Rate per 1,000 Person Years	Risk per 1,000 New Users	Incidence Rate Difference per 1,000 Person Years	Risk Difference per 1,000 New Users	Hazard Ratio (95% Confidence Interval)	Wald P-Value
Rivaroxaban Users	15,074	5,625.28	136.30	0.37	45	8.00	2.99	4.13	1.88	2.20 (0.94, 5.18)	0.07
Dabigatran Users	5,422	1,549.82	104.40	0.29	6	3.87	1.11				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	14,982	5,598.77	136.49	0.37	45	8.04	3.00	4.16	1.90	N/A	N/A
Dabigatran Users	5,415	1,548.49	104.45	0.29	6	3.87	1.11				
Inverse Probability of Treatment Weighted Analysis [1] ; Weight = ATT, Trimmed [2]											
Rivaroxaban Users	14,982	5,598.77	136.49	0.37	45	8.04	3.00	2.70	1.48	1.70 (0.72, 4.00)	N/A
Dabigatran Users	14,211	4,055.37	104.23	0.29	22	5.34	1.52				
Gastrointestinal Hemorrhage, TruncWeight = 2.5, ATT weights, CHADSVASC: 3											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	7,490	2,717.85	132.54	0.36	34	12.51	4.54	-3.96	-0.31	0.80 (0.40, 1.59)	0.526
Dabigatran Users	2,266	667.82	107.64	0.29	11	16.47	4.85				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	7,325	2,664.62	132.87	0.36	33	12.38	4.51	-4.17	-0.39	N/A	N/A
Dabigatran Users	2,247	664.66	108.04	0.30	11	16.55	4.90				
Inverse Probability of Treatment Weighted Analysis [1] ; Weight = ATT, Trimmed [2]											
Rivaroxaban Users	7,325	2,664.62	132.87	0.36	33	12.38	4.51	-0.28	0.75	1.07 (0.52, 2.19)	N/A
Dabigatran Users	6,772	2,008.83	108.34	0.30	25	12.66	3.76				
Gastrointestinal Hemorrhage, TruncWeight = 2.5, ATT weights, CHADSVASC: 4											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	3,045	1,033.24	123.94	0.34	26	25.16	8.54	11.99	4.78	1.97 (0.59, 6.51)	0.268
Dabigatran Users	799	227.75	104.11	0.29	3	13.17	3.75				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	2,766	956.11	126.25	0.35	26	27.19	9.40	13.75	5.54	N/A	N/A
Dabigatran Users	778	223.08	104.73	0.29	3	13.45	3.86				
Inverse Probability of Treatment Weighted Analysis [1] ; Weight = ATT, Trimmed [2]											
Rivaroxaban Users	2,766	956.11	126.25	0.35	26	27.19	9.40	27.17	9.40	1.78 (0.49, 6.48)	N/A
Dabigatran Users	3,438,572	476,799.74	50.65	0.14	11	0.02	0.00				
Gastrointestinal Hemorrhage, TruncWeight = 2.5, ATT weights, CHADSVASC: 5+											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	885	248.92	102.73	0.28	8	32.14	9.04	32.14	9.04	NaN	N/A
Dabigatran Users	249	85.83	125.90	0.34	0	0.00	0.00				

Sentinel

Table 8c. Effect Estimates for Gastrointestinal Hemorrhage, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and CHADSVASC

Direct Oral Anticoagulant	Number of New Users	Person Years at Risk	Average Person Days at Risk	Average Person Years at Risk	Number of Events	Incidence Rate per 1,000 Person Years	Risk per 1,000 New Users	Incidence Rate Difference per 1,000 Person Years	Risk Difference per 1,000 New Users	Hazard Ratio (95% Confidence Interval)	Wald P-Value
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	602	174.75	106.02	0.29	4	22.89	6.64	22.89	6.64	N/A	N/A
Dabigatran Users	183	63.62	126.97	0.35	0	0.00	0.00				
Inverse Probability of Treatment Weighted Analysis [1] ; Weight = ATT, Trimmed [2]											
Rivaroxaban Users	602	174.75	106.02	0.29	4	22.89	6.64	22.89	6.64	NaN	N/A
Dabigatran Users	588	186.61	115.92	0.32	0	0.00	0.00				

[1]All values in this section are weighted.[2]ATT = Average Treatment Effect in the Treated.

Sentinel

Table 8d. Effect Estimates for Gastrointestinal Hemorrhage, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and HASBLED

Direct Oral Anticoagulant	Number of New Users	Person Years at Risk	Average Person Days at Risk	Average Person Years at Risk	Number of Events	Incidence Rate per 1,000 Person Years	Risk per 1,000 New Users	Incidence Rate Difference per 1,000 Person Years	Risk Difference per 1,000 New Users	Hazard Ratio (95% Confidence Interval)	Wald P-Value
Gastrointestinal Hemorrhage, TruncWeight = 2.5, ATT weights											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	57,399	19,029.95	121.09	0.33	165	8.67	2.87	2.61	1.29	1.51 (1.03, 2.21)	0.034
Dabigatran Users	20,188	5,276.74	95.47	0.26	32	6.06	1.59				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	57,228	18,982.92	121.16	0.33	162	8.53	2.83	2.47	1.25	N/A	N/A
Dabigatran Users	20,180	5,275.50	95.48	0.26	32	6.07	1.59				
Inverse Probability of Treatment Weighted Analysis [1] ; Weight = ATT, Trimmed [2]											
Rivaroxaban Users	57,228	18,982.92	121.16	0.33	162	8.53	2.83	1.33	0.93	1.28 (0.85, 1.92)	N/A
Dabigatran Users	54,275	14,316.35	96.34	0.26	103	7.20	1.90				
Gastrointestinal Hemorrhage, TruncWeight = 2.5, ATT weights, HASBLED: 0											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	15,304	4,265.20	101.79	0.28	16	3.75	1.05	-2.92	-0.50	0.57 (0.25, 1.30)	0.18
Dabigatran Users	5,817	1,348.33	84.66	0.23	9	6.67	1.55				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	15,150	4,223.15	101.82	0.28	16	3.79	1.06	-2.93	-0.50	N/A	N/A
Dabigatran Users	5,780	1,339.72	84.66	0.23	9	6.72	1.56				
Inverse Probability of Treatment Weighted Analysis [1] ; Weight = ATT, Trimmed [2]											
Rivaroxaban Users	15,150	4,223.15	101.82	0.28	16	3.79	1.06	-2.10	-0.30	0.65 (0.28, 1.50)	N/A
Dabigatran Users	14,376	3,310.69	84.11	0.23	19	5.89	1.36				
Gastrointestinal Hemorrhage, TruncWeight = 2.5, ATT weights, HASBLED: 1											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	32,170	11,549.50	131.13	0.36	90	7.79	2.80	3.36	1.58	1.88 (1.07, 3.30)	0.029
Dabigatran Users	11,460	3,157.64	100.64	0.28	14	4.43	1.22				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	32,064	11,522.16	131.25	0.36	90	7.81	2.81	3.37	1.58	N/A	N/A
Dabigatran Users	11,451	3,155.56	100.65	0.28	14	4.44	1.22				
Inverse Probability of Treatment Weighted Analysis [1] ; Weight = ATT, Trimmed [2]											
Rivaroxaban Users	32,064	11,522.16	131.25	0.36	90	7.81	2.81	2.39	1.30	1.56 (0.85, 2.86)	N/A
Dabigatran Users	30,246	8,412.30	101.59	0.28	46	5.42	1.51				

Sentinel

Table 8d. Effect Estimates for Gastrointestinal Hemorrhage, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and HASBLED

Direct Oral Anticoagulant	Number of New Users	Person Years at Risk	Average Person Days at Risk	Average Person Years at Risk	Number of Events	Incidence Rate per 1,000 Person Years	Risk per 1,000 New Users	Incidence Rate Difference per 1,000 Person Years	Risk Difference per 1,000 New Users	Hazard Ratio (95% Confidence Interval)	Wald P-Value
Gastrointestinal Hemorrhage, TruncWeight = 2.5, ATT weights, HASBLED: 2											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	7,964	2,661.02	122.04	0.33	40	15.03	5.02	4.24	2.15	1.54 (0.69, 3.44)	0.295
Dabigatran Users	2,434	648.44	97.31	0.27	7	10.80	2.88				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	7,809	2,624.23	122.74	0.34	37	14.10	4.74	3.27	1.84	N/A	N/A
Dabigatran Users	2,417	646.64	97.72	0.27	7	10.83	2.90				
Inverse Probability of Treatment Weighted Analysis[1]; Weight = ATT, Trimmed[2]											
Rivaroxaban Users	7,809	2,624.23	122.74	0.34	37	14.10	4.74	0.90	1.13	1.16 (0.49, 2.73)	N/A
Dabigatran Users	7,311	1,996.79	99.75	0.27	26	13.20	3.60				
Gastrointestinal Hemorrhage, TruncWeight = 2.5, ATT weights, HASBLED: 3+											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	1,790	507.21	103.50	0.28	16	31.55	8.94	15.03	4.67	1.69 (0.39, 7.41)	0.486
Dabigatran Users	469	121.10	94.31	0.26	2	16.52	4.26				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	1,598	459.32	104.98	0.29	15	32.66	9.39	15.19	4.77	N/A	N/A
Dabigatran Users	433	114.53	96.61	0.26	2	17.46	4.62				
Inverse Probability of Treatment Weighted Analysis[1]; Weight = ATT, Trimmed[2]											
Rivaroxaban Users	1,598	459.32	104.98	0.29	15	32.66	9.39	21.70	6.54	2.78 (0.63, 12.37)	N/A
Dabigatran Users	1,379	358.69	95.00	0.26	4	10.95	2.85				

[1]All values in this section are weighted.[2]ATT = Average Treatment Effect in the Treated.

Sentinel

Table 8e. Effect Estimates for Gastrointestinal Hemorrhage, TruncWeight = 2.5, ATT weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and Sex

Direct Oral Anticoagulant	Number of New Users	Person Years at Risk	Average Person Days at Risk	Average Person Years at Risk	Number of Events	Incidence Rate per 1,000 Person Years	Risk per 1,000 New Users	Incidence Rate Difference per 1,000 Person Years	Risk Difference per 1,000 New Users	Hazard Ratio (95% Confidence Interval)	Wald P-Value
Gastrointestinal Hemorrhage, TruncWeight = 2.5, ATT weights											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	57,399	19,029.95	121.09	0.33	165	8.67	2.87	2.61	1.29	1.51 (1.03, 2.21)	0.034
Dabigatran Users	20,188	5,276.74	95.47	0.26	32	6.06	1.59				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	57,228	18,982.92	121.16	0.33	162	8.53	2.83	2.47	1.25	N/A	N/A
Dabigatran Users	20,180	5,275.50	95.48	0.26	32	6.07	1.59				
Inverse Probability of Treatment Weighted Analysis [1] ; Weight = ATT, Trimmed [2]											
Rivaroxaban Users	57,228	18,982.92	121.16	0.33	162	8.53	2.83	1.33	0.93	1.28 (0.85, 1.92)	N/A
Dabigatran Users	54,275	14,316.35	96.34	0.26	103	7.20	1.90				
Gastrointestinal Hemorrhage, TruncWeight = 2.5, ATT weights, Sex: Female											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	14,631	5,205.45	129.95	0.36	53	10.18	3.62	1.82	1.28	1.26 (0.66, 2.41)	0.491
Dabigatran Users	4,696	1,315.25	102.30	0.28	11	8.36	2.34				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	14,543	5,179.48	130.08	0.36	52	10.04	3.58	1.63	1.22	N/A	N/A
Dabigatran Users	4,678	1,308.34	102.15	0.28	11	8.41	2.35				
Inverse Probability of Treatment Weighted Analysis [1] ; Weight = ATT, Trimmed [2]											
Rivaroxaban Users	14,543	5,179.48	130.08	0.36	52	10.04	3.58	1.58	1.17	1.25 (0.62, 2.52)	N/A
Dabigatran Users	13,579	3,859.21	103.80	0.28	33	8.46	2.40				
Gastrointestinal Hemorrhage, TruncWeight = 2.5, ATT weights, Sex: Male											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	42,597	13,777.47	118.14	0.32	109	7.91	2.56	2.61	1.20	1.59 (1.00, 2.54)	0.052
Dabigatran Users	15,484	3,960.25	93.42	0.26	21	5.30	1.36				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	42,542	13,767.18	118.20	0.32	109	7.92	2.56	2.61	1.21	N/A	N/A
Dabigatran Users	15,475	3,959.05	93.44	0.26	21	5.30	1.36				
Inverse Probability of Treatment Weighted Analysis [1] ; Weight = ATT, Trimmed [2]											
Rivaroxaban Users	42,542	13,767.18	118.20	0.32	109	7.92	2.56	2.01	1.04	1.46 (0.90, 2.36)	N/A
Dabigatran Users	40,283	10,351.84	93.86	0.26	61	5.91	1.52				

[1]All values in this section are weighted.

[2]ATT = Average Treatment Effect in the Treated.

Sentinel

Table 9a. Effect Estimates for Intracranial Hemorrhage, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type

Direct Oral Anticoagulant	Number of New Users	Person Years at Risk	Average Person Days at Risk	Average Person Years at Risk	Number of Events	Incidence Rate per 1,000 Person Years	Risk per 1,000 New Users	Incidence Rate Difference per 1,000 Person Years	Risk Difference per 1,000 New Users	Hazard Ratio (95% Confidence Interval)	Wald P-Value
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	57,399	19,029.95	121.09	0.33	30	1.58	0.52	0.06	0.13	1.14 (0.52, 2.50)	0.745
Dabigatran Users	20,188	5,276.74	95.47	0.26	8	1.52	0.40				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	57,228	18,982.92	121.16	0.33	30	1.58	0.52	0.06	0.13	N/A	N/A
Dabigatran Users	20,180	5,275.50	95.48	0.26	8	1.52	0.40				
Inverse Probability of Treatment Weighted Analysis[1]; Weight = ATT, Trimmed[2]											
Rivaroxaban Users	57,228	18,982.92	121.16	0.33	30	1.58	0.52	0.38	0.21	1.43 (0.60, 3.39)	N/A
Dabigatran Users	54,275	14,316.35	96.34	0.26	17	1.20	0.32				

[1]All values in this section are weighted.[2]ATT = Average Treatment Effect in the Treated.

Sentinel

Table 9b. Effect Estimates for Intracranial Hemorrhage, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and Age Group

Direct Oral Anticoagulant	Number of New Users	Person Years at Risk	Average Person Days at Risk	Average Person Years at Risk	Number of Events	Incidence Rate per 1,000 Person Years	Risk per 1,000 New Users	Incidence Rate Difference per 1,000 Person Years	Risk Difference per 1,000 New Users	Hazard Ratio (95% Confidence Interval)	Wald P-Value
Intracranial Hemorrhage, TruncWeight = 2.5, ATT weights											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	57,399	19,029.95	121.09	0.33	30	1.58	0.52	0.06	0.13	1.14 (0.52, 2.50)	0.745
Dabigatran Users	20,188	5,276.74	95.47	0.26	8	1.52	0.40				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	57,228	18,982.92	121.16	0.33	30	1.58	0.52	0.06	0.13	N/A	N/A
Dabigatran Users	20,180	5,275.50	95.48	0.26	8	1.52	0.40				
Inverse Probability of Treatment Weighted Analysis [1] ; Weight = ATT, Trimmed [2]											
Rivaroxaban Users	57,228	18,982.92	121.16	0.33	30	1.58	0.52	0.38	0.21	1.43 (0.60, 3.39)	N/A
Dabigatran Users	54,275	14,316.35	96.34	0.26	17	1.20	0.32				
Intracranial Hemorrhage, TruncWeight = 2.5, ATT weights, Age Group: 21-49 years											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	9,757	2,394.65	89.64	0.25	3	1.25	0.31	1.25	0.31	NaN	N/A
Dabigatran Users	3,496	672.75	70.29	0.19	0	0.00	0.00				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	9,604	2,361.16	89.80	0.25	3	1.27	0.31	1.27	0.31	N/A	N/A
Dabigatran Users	3,478	667.96	70.15	0.19	0	0.00	0.00				
Inverse Probability of Treatment Weighted Analysis [1] ; Weight = ATT, Trimmed [2]											
Rivaroxaban Users	9,604	2,361.16	89.80	0.25	3	1.27	0.31	1.27	0.31	NaN	N/A
Dabigatran Users	8,970	1,763.86	71.82	0.20	0	0.00	0.00				
Intracranial Hemorrhage, TruncWeight = 2.5, ATT weights, Age Group: 50-64 years											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	47,471	16,588.27	127.63	0.35	27	1.63	0.57	-0.11	0.09	1.02 (0.46, 2.25)	0.964
Dabigatran Users	16,684	4,602.75	100.76	0.28	8	1.74	0.48				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	47,385	16,572.74	127.74	0.35	27	1.63	0.57	-0.11	0.09	N/A	N/A
Dabigatran Users	16,676	4,601.79	100.79	0.28	8	1.74	0.48				
Inverse Probability of Treatment Weighted Analysis [1] ; Weight = ATT, Trimmed [2]											
Rivaroxaban Users	47,385	16,572.74	127.74	0.35	27	1.63	0.57	0.28	0.19	1.30 (0.55, 3.07)	N/A
Dabigatran Users	44,995	12,486.69	101.36	0.28	17	1.35	0.37				

[1]All values in this section are weighted.[2]ATT = Average Treatment Effect in the Treated.

Sentinel

Table 9c. Effect Estimates for Intracranial Hemorrhage, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and CHADSVASC

Direct Oral Anticoagulant	Number of New Users	Person Years at Risk	Average Person Days at Risk	Average Person Years at Risk	Number of Events	Incidence Rate per 1,000 Person Years	Risk per 1,000 New Users	Incidence Rate Difference per 1,000 Person Years	Risk Difference per 1,000 New Users	Hazard Ratio (95% Confidence Interval)	Wald P-Value
Intracranial Hemorrhage, TruncWeight = 2.5, ATT weights											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	57,399	19,029.95	121.09	0.33	30	1.58	0.52	0.06	0.13	1.14 (0.52, 2.50)	0.745
Dabigatran Users	20,188	5,276.74	95.47	0.26	8	1.52	0.40				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	57,228	18,982.92	121.16	0.33	30	1.58	0.52	0.06	0.13	N/A	N/A
Dabigatran Users	20,180	5,275.50	95.48	0.26	8	1.52	0.40				
Inverse Probability of Treatment Weighted Analysis [1] ; Weight = ATT, Trimmed [2]											
Rivaroxaban Users	57,228	18,982.92	121.16	0.33	30	1.58	0.52	0.38	0.21	1.43 (0.60, 3.39)	N/A
Dabigatran Users	54,275	14,316.35	96.34	0.26	17	1.20	0.32				
Intracranial Hemorrhage, TruncWeight = 2.5, ATT weights, CHADSVASC: 0											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	10,614	2,741.75	94.35	0.26	2	0.73	0.19	-1.52	-0.30	0.33 (0.05, 2.38)	0.271
Dabigatran Users	4,136	889.12	78.52	0.21	2	2.25	0.48				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	10,445	2,702.58	94.51	0.26	1	0.37	0.10	-1.89	-0.39	N/A	N/A
Dabigatran Users	4,104	883.55	78.63	0.22	2	2.26	0.49				
Inverse Probability of Treatment Weighted Analysis [1] ; Weight = ATT, Trimmed [2]											
Rivaroxaban Users	10,445	2,702.58	94.51	0.26	1	0.37	0.10	-1.18	-0.23	0.28 (0.02, 3.11)	N/A
Dabigatran Users	9,928	2,081.37	76.57	0.21	3	1.55	0.32				
Intracranial Hemorrhage, TruncWeight = 2.5, ATT weights, CHADSVASC: 1											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	20,120	6,615.89	120.10	0.33	6	0.91	0.30	0.37	0.16	2.10 (0.25, 17.46)	0.493
Dabigatran Users	7,308	1,855.17	92.72	0.25	1	0.54	0.14				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	20,030	6,598.40	120.32	0.33	6	0.91	0.30	0.37	0.16	N/A	N/A
Dabigatran Users	7,298	1,853.68	92.77	0.25	1	0.54	0.14				
Inverse Probability of Treatment Weighted Analysis [1] ; Weight = ATT, Trimmed [2]											
Rivaroxaban Users	20,030	6,598.40	120.32	0.33	6	0.91	0.30	0.61	0.22	3.49 (0.43, 28.36)	N/A
Dabigatran Users	18,959	4,893.40	94.28	0.26	1	0.30	0.08				
Intracranial Hemorrhage, TruncWeight = 2.5, ATT weights, CHADSVASC: 2											
Site-Adjusted Analysis, Unweighted											

Sentinel

Table 9c. Effect Estimates for Intracranial Hemorrhage, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and CHADSVASC

Direct Oral Anticoagulant	Number of New Users	Person Years at Risk	Average Person Days at Risk	Average Person Years at Risk	Number of Events	Incidence Rate per 1,000 Person Years	Risk per 1,000 New Users	Incidence Rate Difference per 1,000 Person Years	Risk Difference per 1,000 New Users	Hazard Ratio (95% Confidence Interval)	Wald P-Value
Rivaroxaban Users	15,074	5,625.28	136.30	0.37	10	1.78	0.66	1.78	0.66	NaN	N/A
Dabigatran Users	5,422	1,549.82	104.40	0.29	0	0.00	0.00				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	14,982	5,598.77	136.49	0.37	10	1.79	0.67	1.79	0.67	N/A	N/A
Dabigatran Users	5,415	1,548.49	104.45	0.29	0	0.00	0.00				
Inverse Probability of Treatment Weighted Analysis [1] ; Weight = ATT, Trimmed [2]											
Rivaroxaban Users	14,982	5,598.77	136.49	0.37	10	1.79	0.67	1.79	0.67	NaN	N/A
Dabigatran Users	14,211	4,055.37	104.23	0.29	0	0.00	0.00				
Intracranial Hemorrhage, TruncWeight = 2.5, ATT weights, CHADSVASC: 3											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	7,490	2,717.85	132.54	0.36	6	2.21	0.80	-0.79	-0.08	0.85 (0.17, 4.21)	0.837
Dabigatran Users	2,266	667.82	107.64	0.29	2	2.99	0.88				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	7,325	2,664.62	132.87	0.36	6	2.25	0.82	-0.76	-0.07	N/A	N/A
Dabigatran Users	2,247	664.66	108.04	0.30	2	3.01	0.89				
Inverse Probability of Treatment Weighted Analysis [1] ; Weight = ATT, Trimmed [2]											
Rivaroxaban Users	7,325	2,664.62	132.87	0.36	6	2.25	0.82	-0.75	-0.07	0.81 (0.13, 5.18)	N/A
Dabigatran Users	6,772	2,008.83	108.34	0.30	6	3.00	0.89				
Intracranial Hemorrhage, TruncWeight = 2.5, ATT weights, CHADSVASC: 4											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	3,045	1,033.24	123.94	0.34	3	2.90	0.99	-10.27	-2.77	0.20 (0.04, 1.04)	0.055
Dabigatran Users	799	227.75	104.11	0.29	3	13.17	3.75				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	2,766	956.11	126.25	0.35	2	2.09	0.72	-11.36	-3.13	N/A	N/A
Dabigatran Users	778	223.08	104.73	0.29	3	13.45	3.86				
Inverse Probability of Treatment Weighted Analysis [1] ; Weight = ATT, Trimmed [2]											
Rivaroxaban Users	2,766	956.11	126.25	0.35	2	2.09	0.72	2.06	0.72	0.12 (0.02, 0.74)	N/A
Dabigatran Users	3,438,572	476,799.74	50.65	0.14	14	0.03	0.00				
Intracranial Hemorrhage, TruncWeight = 2.5, ATT weights, CHADSVASC: 5+											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	885	248.92	102.73	0.28	3	12.05	3.39	12.05	3.39	NaN	N/A
Dabigatran Users	249	85.83	125.90	0.34	0	0.00	0.00				

Sentinel

Table 9c. Effect Estimates for Intracranial Hemorrhage, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and CHADSVASC

Direct Oral Anticoagulant	Number of New Users	Person Years at Risk	Average Person Days at Risk	Average Person Years at Risk	Number of Events	Incidence Rate per 1,000 Person Years	Risk per 1,000 New Users	Incidence Rate Difference per 1,000 Person Years	Risk Difference per 1,000 New Users	Hazard Ratio (95% Confidence Interval)	Wald P-Value
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	602	174.75	106.02	0.29	0	0.00	0.00	0.00	0.00	N/A	N/A
Dabigatran Users	183	63.62	126.97	0.35	0	0.00	0.00				
Inverse Probability of Treatment Weighted Analysis[1] ; Weight = ATT, Trimmed[2]											
Rivaroxaban Users	602	174.75	106.02	0.29	0	0.00	0.00	0.00	0.00	NaN	N/A
Dabigatran Users	588	186.61	115.92	0.32	0	0.00	0.00				

[1]All values in this section are weighted.[2]ATT = Average Treatment Effect in the Treated.

Sentinel

Table 9d. Effect Estimates for Intracranial Hemorrhage, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and HASBLED

Direct Oral Anticoagulant	Number of New Users	Person Years at Risk	Average Person Days at Risk	Average Person Years at Risk	Number of Events	Incidence Rate per 1,000 Person Years	Risk per 1,000 New Users	Incidence Rate Difference per 1,000 Person Years	Risk Difference per 1,000 New Users	Hazard Ratio (95% Confidence Interval)	Wald P-Value
Intracranial Hemorrhage, TruncWeight = 2.5, ATT weights											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	57,399	19,029.95	121.09	0.33	30	1.58	0.52	0.06	0.13	1.14 (0.52, 2.50)	0.745
Dabigatran Users	20,188	5,276.74	95.47	0.26	8	1.52	0.40				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	57,228	18,982.92	121.16	0.33	30	1.58	0.52	0.06	0.13	N/A	N/A
Dabigatran Users	20,180	5,275.50	95.48	0.26	8	1.52	0.40				
Inverse Probability of Treatment Weighted Analysis [1] ; Weight = ATT, Trimmed [2]											
Rivaroxaban Users	57,228	18,982.92	121.16	0.33	30	1.58	0.52	0.38	0.21	1.43 (0.60, 3.39)	N/A
Dabigatran Users	54,275	14,316.35	96.34	0.26	17	1.20	0.32				
Intracranial Hemorrhage, TruncWeight = 2.5, ATT weights, HASBLED: 0											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	15,304	4,265.20	101.79	0.28	3	0.70	0.20	-1.52	-0.32	0.33 (0.07, 1.65)	0.177
Dabigatran Users	5,817	1,348.33	84.66	0.23	3	2.22	0.52				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	15,150	4,223.15	101.82	0.28	3	0.71	0.20	-1.53	-0.32	N/A	N/A
Dabigatran Users	5,780	1,339.72	84.66	0.23	3	2.24	0.52				
Inverse Probability of Treatment Weighted Analysis [1] ; Weight = ATT, Trimmed [2]											
Rivaroxaban Users	15,150	4,223.15	101.82	0.28	3	0.71	0.20	-0.45	-0.07	0.65 (0.14, 3.04)	N/A
Dabigatran Users	14,376	3,310.69	84.11	0.23	4	1.16	0.27				
Intracranial Hemorrhage, TruncWeight = 2.5, ATT weights, HASBLED: 1											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	32,170	11,549.50	131.13	0.36	12	1.04	0.37	0.09	0.11	1.24 (0.35, 4.41)	0.741
Dabigatran Users	11,460	3,157.64	100.64	0.28	3	0.95	0.26				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	32,064	11,522.16	131.25	0.36	12	1.04	0.37	0.09	0.11	N/A	N/A
Dabigatran Users	11,451	3,155.56	100.65	0.28	3	0.95	0.26				
Inverse Probability of Treatment Weighted Analysis [1] ; Weight = ATT, Trimmed [2]											
Rivaroxaban Users	32,064	11,522.16	131.25	0.36	12	1.04	0.37	0.12	0.12	1.18 (0.29, 4.83)	N/A
Dabigatran Users	30,246	8,412.30	101.59	0.28	8	0.92	0.26				
Intracranial Hemorrhage, TruncWeight = 2.5, ATT weights, HASBLED: 2											

Sentinel

Table 9d. Effect Estimates for Intracranial Hemorrhage, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and HASBLED

Direct Oral Anticoagulant	Number of New Users	Person Years at Risk	Average Person Days at Risk	Average Person Years at Risk	Number of Events	Incidence Rate per 1,000 Person Years	Risk per 1,000 New Users	Incidence Rate Difference per 1,000 Person Years	Risk Difference per 1,000 New Users	Hazard Ratio (95% Confidence Interval)	Wald P-Value
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	7,964	2,661.02	122.04	0.33	9	3.38	1.13	1.84	0.72	2.00 (0.25, 16.12)	0.514
Dabigatran Users	2,434	648.44	97.31	0.27	1	1.54	0.41				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	7,809	2,624.23	122.74	0.34	8	3.05	1.02	1.50	0.61	N/A	N/A
Dabigatran Users	2,417	646.64	97.72	0.27	1	1.55	0.41				
Inverse Probability of Treatment Weighted Analysis [1] ; Weight = ATT, Trimmed [2]											
Rivaroxaban Users	7,809	2,624.23	122.74	0.34	8	3.05	1.02	1.84	0.69	2.65 (0.31, 22.92)	N/A
Dabigatran Users	7,311	1,996.79	99.75	0.27	2	1.21	0.33				
Intracranial Hemorrhage, TruncWeight = 2.5, ATT weights, HASBLED: 3+											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	1,790	507.21	103.50	0.28	6	11.83	3.35	3.57	1.22	1.84 (0.22, 15.35)	0.575
Dabigatran Users	469	121.10	94.31	0.26	1	8.26	2.13				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	1,598	459.32	104.98	0.29	6	13.06	3.75	4.33	1.45	N/A	N/A
Dabigatran Users	433	114.53	96.61	0.26	1	8.73	2.31				
Inverse Probability of Treatment Weighted Analysis [1] ; Weight = ATT, Trimmed [2]											
Rivaroxaban Users	1,598	459.32	104.98	0.29	6	13.06	3.75	-0.65	0.19	1.10 (0.14, 8.79)	N/A
Dabigatran Users	1,379	358.69	95.00	0.26	5	13.71	3.57				

[1]All values in this section are weighted.[2]ATT = Average Treatment Effect in the Treated.

Sentinel

Table 9e. Effect Estimates for Intracranial Hemorrhage, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and Sex

Direct Oral Anticoagulant	Number of New Users	Person Years at Risk	Average Person Days at Risk	Average Person Years at Risk	Number of Events	Incidence Rate per 1,000 Person Years	Risk per 1,000 New Users	Incidence Rate Difference per 1,000 Person Years	Risk Difference per 1,000 New Users	Hazard Ratio (95% Confidence Interval)	Wald P-Value
Intracranial Hemorrhage, TruncWeight = 2.5, ATT weights											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	57,399	19,029.95	121.09	0.33	30	1.58	0.52	0.06	0.13	1.14 (0.52, 2.50)	0.745
Dabigatran Users	20,188	5,276.74	95.47	0.26	8	1.52	0.40				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	57,228	18,982.92	121.16	0.33	30	1.58	0.52	0.06	0.13	N/A	N/A
Dabigatran Users	20,180	5,275.50	95.48	0.26	8	1.52	0.40				
Inverse Probability of Treatment Weighted Analysis [1] ; Weight = ATT, Trimmed [2]											
Rivaroxaban Users	57,228	18,982.92	121.16	0.33	30	1.58	0.52	0.38	0.21	1.43 (0.60, 3.39)	N/A
Dabigatran Users	54,275	14,316.35	96.34	0.26	17	1.20	0.32				
Intracranial Hemorrhage, TruncWeight = 2.5, ATT weights, Sex: Female											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	14,631	5,205.45	129.95	0.36	7	1.34	0.48	0.58	0.27	1.72 (0.21, 14.07)	0.613
Dabigatran Users	4,696	1,315.25	102.30	0.28	1	0.76	0.21				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	14,543	5,179.48	130.08	0.36	7	1.35	0.48	0.59	0.27	N/A	N/A
Dabigatran Users	4,678	1,308.34	102.15	0.28	1	0.76	0.21				
Inverse Probability of Treatment Weighted Analysis [1] ; Weight = ATT, Trimmed [2]											
Rivaroxaban Users	14,543	5,179.48	130.08	0.36	7	1.35	0.48	1.09	0.41	5.21 (0.67, 40.58)	N/A
Dabigatran Users	13,579	3,859.21	103.80	0.28	1	0.26	0.07				
Intracranial Hemorrhage, TruncWeight = 2.5, ATT weights, Sex: Male											
Site-Adjusted Analysis, Unweighted											
Rivaroxaban Users	42,597	13,777.47	118.14	0.32	23	1.67	0.54	-0.10	0.09	1.04 (0.44, 2.45)	0.923
Dabigatran Users	15,484	3,960.25	93.42	0.26	7	1.77	0.45				
Inverse Probability of Treatment Weighted Analysis; Unweighted, Trimmed											
Rivaroxaban Users	42,542	13,767.18	118.20	0.32	23	1.67	0.54	-0.10	0.09	N/A	N/A
Dabigatran Users	15,475	3,959.05	93.44	0.26	7	1.77	0.45				
Inverse Probability of Treatment Weighted Analysis [1] ; Weight = ATT, Trimmed [2]											
Rivaroxaban Users	42,542	13,767.18	118.20	0.32	23	1.67	0.54	0.11	0.14	1.15 (0.45, 2.90)	N/A
Dabigatran Users	40,283	10,351.84	93.86	0.26	16	1.56	0.40				

[1]All values in this section are weighted.[2]ATT = Average Treatment Effect in the Treated.

Sentinel

Table 10a. Effect Estimates for Stroke, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type

Direct Oral Anticoagulant	Number of New Users	Person Years at Risk	Average Person Days at Risk	Average Person Years at Risk	Number of Events	Incidence Rate per 1,000 Person Years	Risk per 1,000 New Users	Incidence Rate Difference per 1,000 Person Years	Risk Difference per 1,000 New Users	Hazard Ratio (95% Confidence Interval)	Wald P-Value
Site-Adjusted Analysis											
Rivaroxaban Users	57,399	19,029.95	121.09	0.33	67	3.52	1.17	-2.54	-0.42	0.67 (0.44, 1.03)	0.065
Dabigatran Users	20,188	5,276.74	95.47	0.26	32	6.06	1.59				
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05											
Rivaroxaban Users	19,994	2,656.86	48.54	0.13	15	5.65	0.75	-0.38	-0.05	0.94 (0.46, 1.90)	0.857
Dabigatran Users	19,994	2,656.86	48.54	0.13	16	6.02	0.80				
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05											
Rivaroxaban Users	19,994	6,670.44	121.86	0.33	19	2.85	0.95	-3.08	-0.60	0.54 (0.30, 0.95)	0.034
Dabigatran Users	19,994	5,227.61	95.50	0.26	31	5.93	1.55				

Sentinel

Table 10b. Effect Estimates for Stroke, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and Age Group

Direct Oral Anticoagulant	Number of New Users	Person Years at Risk	Average Person Days at Risk	Average Person Years at Risk	Number of Events	Incidence Rate per 1,000 Person Years	Risk per 1,000 New Users	Incidence Rate Difference per 1,000 Person Years	Risk Difference per 1,000 New Users	Hazard Ratio (95% Confidence Interval)	Wald P-Value
Stroke, Propensity Score Matched											
Site-Adjusted Analysis											
Rivaroxaban Users	57,399	19,029.95	121.09	0.33	67	3.52	1.17	-2.54	-0.42	0.67 (0.44, 1.03)	0.065
Dabigatran Users	20,188	5,276.74	95.47	0.26	32	6.06	1.59				
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05											
Rivaroxaban Users	19,994	2,656.86	48.54	0.13	15	5.65	0.75	-0.38	-0.05	0.94 (0.46, 1.90)	0.857
Dabigatran Users	19,994	2,656.86	48.54	0.13	16	6.02	0.80				
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05											
Rivaroxaban Users	19,994	6,670.44	121.86	0.33	19	2.85	0.95	-3.08	-0.60	0.54 (0.30, 0.95)	0.034
Dabigatran Users	19,994	5,227.61	95.50	0.26	31	5.93	1.55				
Stroke, Propensity Score Matched, Age Group: 21-49 years											
Site-Adjusted Analysis											
Rivaroxaban Users	9,776	2,397.94	89.59	0.25	7	2.92	0.72	-3.02	-0.43	0.50 (0.15, 1.73)	0.275
Dabigatran Users	3,499	673.13	70.27	0.19	4	5.94	1.14				
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05											
Rivaroxaban Users	3,375	364.41	39.44	0.11	1	2.74	0.30	2.74	0.30	NaN	N/A
Dabigatran Users	3,375	364.41	39.44	0.11	0	0.00	0.00				
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05											
Rivaroxaban Users	3,375	830.60	89.89	0.25	3	3.61	0.89	-2.54	-0.30	0.59 (0.13, 2.64)	0.489
Dabigatran Users	3,375	650.40	70.39	0.19	4	6.15	1.19				
Stroke, Propensity Score Matched, Age Group: 50-64 years											
Site-Adjusted Analysis											
Rivaroxaban Users	47,623	16,632.01	127.56	0.35	60	3.61	1.26	-2.47	-0.42	0.70 (0.45, 1.10)	0.121
Dabigatran Users	16,689	4,603.61	100.75	0.28	28	6.08	1.68				
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05											
Rivaroxaban Users	16,531	2,319.71	51.25	0.14	24	10.35	1.45	2.16	0.30	1.26 (0.69, 2.31)	0.447
Dabigatran Users	16,531	2,319.71	51.25	0.14	19	8.19	1.15				
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05											
Rivaroxaban Users	16,531	5,766.12	127.40	0.35	26	4.51	1.57	-1.62	-0.12	0.85 (0.50, 1.45)	0.543
Dabigatran Users	16,531	4,567.99	100.93	0.28	28	6.13	1.69				

Sentinel

Table 10c. Effect Estimates for Stroke, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and CHADSVASC

Direct Oral Anticoagulant	Number of New Users	Person Years at Risk	Average Person Days at Risk	Average Person Years at Risk	Number of Events	Incidence Rate per 1,000 Person Years	Risk per 1,000 New Users	Incidence Rate Difference per 1,000 Person Years	Risk Difference per 1,000 New Users	Hazard Ratio (95% Confidence Interval)	Wald P-Value
Stroke, Propensity Score Matched											
Site-Adjusted Analysis											
Rivaroxaban Users	57,399	19,029.95	121.09	0.33	67	3.52	1.17	-2.54	-0.42	0.67 (0.44, 1.03)	0.065
Dabigatran Users	20,188	5,276.74	95.47	0.26	32	6.06	1.59				
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05											
Rivaroxaban Users	19,994	2,656.86	48.54	0.13	15	5.65	0.75	-0.38	-0.05	0.94 (0.46, 1.90)	0.857
Dabigatran Users	19,994	2,656.86	48.54	0.13	16	6.02	0.80				
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05											
Rivaroxaban Users	19,994	6,670.44	121.86	0.33	19	2.85	0.95	-3.08	-0.60	0.54 (0.30, 0.95)	0.034
Dabigatran Users	19,994	5,227.61	95.50	0.26	31	5.93	1.55				
Stroke, Propensity Score Matched, CHADSVASC: 0											
Site-Adjusted Analysis											
Rivaroxaban Users	10,615	2,741.83	94.34	0.26	7	2.55	0.66	-1.94	-0.31	0.59 (0.17, 2.03)	0.402
Dabigatran Users	4,137	889.29	78.51	0.21	4	4.50	0.97				
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05											
Rivaroxaban Users	4,004	465.29	42.44	0.12	1	2.15	0.25	0.00	0.00	1.00 (0.06, 15.99)	1
Dabigatran Users	4,004	465.29	42.44	0.12	1	2.15	0.25				
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05											
Rivaroxaban Users	4,004	1,071.77	97.77	0.27	2	1.87	0.50	-2.78	-0.50	0.41 (0.07, 2.24)	0.302
Dabigatran Users	4,004	860.62	78.51	0.21	4	4.65	1.00				
Stroke, Propensity Score Matched, CHADSVASC: 1											
Site-Adjusted Analysis											
Rivaroxaban Users	20,124	6,616.93	120.10	0.33	12	1.81	0.60	-1.42	-0.22	0.67 (0.25, 1.81)	0.432
Dabigatran Users	7,308	1,855.17	92.72	0.25	6	3.23	0.82				
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05											
Rivaroxaban Users	7,193	949.25	48.20	0.13	3	3.16	0.42	-1.05	-0.14	0.75 (0.17, 3.35)	0.706
Dabigatran Users	7,193	949.25	48.20	0.13	4	4.21	0.56				
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05											
Rivaroxaban Users	7,193	2,420.69	122.92	0.34	6	2.48	0.83	-0.80	0.00	0.87 (0.28, 2.72)	0.816
Dabigatran Users	7,193	1,828.61	92.85	0.25	6	3.28	0.83				
Stroke, Propensity Score Matched, CHADSVASC: 2											

Sentinel

Table 10c. Effect Estimates for Stroke, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and CHADSVASC

Direct Oral Anticoagulant	Number of New Users	Person Years at Risk	Average Person Days at Risk	Average Person Years at Risk	Number of Events	Incidence Rate per 1,000 Person Years	Risk per 1,000 New Users	Incidence Rate Difference per 1,000 Person Years	Risk Difference per 1,000 New Users	Hazard Ratio (95% Confidence Interval)	Wald P-Value
Site-Adjusted Analysis											
Rivaroxaban Users	15,095	5,631.68	136.27	0.37	17	3.02	1.13	-0.21	0.20	1.13 (0.42, 3.09)	0.805
Dabigatran Users	5,427	1,550.67	104.36	0.29	5	3.22	0.92				
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05											
Rivaroxaban Users	5,320	767.09	52.67	0.14	1	1.30	0.19	-2.61	-0.38	0.33 (0.03, 3.20)	0.341
Dabigatran Users	5,320	767.09	52.67	0.14	3	3.91	0.56				
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05											
Rivaroxaban Users	5,320	2,003.86	137.58	0.38	1	0.50	0.19	-2.78	-0.75	0.19 (0.02, 1.60)	0.125
Dabigatran Users	5,320	1,526.23	104.78	0.29	5	3.28	0.94				
Stroke, Propensity Score Matched, CHADSVASC: 3											
Site-Adjusted Analysis											
Rivaroxaban Users	7,559	2,736.12	132.21	0.36	12	4.39	1.59	-4.60	-1.06	0.56 (0.21, 1.49)	0.244
Dabigatran Users	2,267	667.90	107.61	0.29	6	8.98	2.65				
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05											
Rivaroxaban Users	2,200	326.54	54.21	0.15	2	6.12	0.91	-6.12	-0.91	0.50 (0.09, 2.73)	0.423
Dabigatran Users	2,200	326.54	54.21	0.15	4	12.25	1.82				
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05											
Rivaroxaban Users	2,200	842.57	139.89	0.38	3	3.56	1.36	-5.62	-1.36	0.45 (0.11, 1.82)	0.265
Dabigatran Users	2,200	653.85	108.55	0.30	6	9.18	2.73				
Stroke, Propensity Score Matched, CHADSVASC: 4											
Site-Adjusted Analysis											
Rivaroxaban Users	3,094	1,048.49	123.78	0.34	11	10.49	3.56	-15.84	-3.94	0.42 (0.15, 1.15)	0.091
Dabigatran Users	800	227.88	104.04	0.28	6	26.33	7.50				
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05											
Rivaroxaban Users	709	106.46	54.84	0.15	1	9.39	1.41	-18.79	-2.82	0.33 (0.03, 3.20)	0.341
Dabigatran Users	709	106.46	54.84	0.15	3	28.18	4.23				
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05											
Rivaroxaban Users	709	263.30	135.64	0.37	3	11.39	4.23	-8.16	-1.41	0.46 (0.10, 2.19)	0.333
Dabigatran Users	709	204.61	105.41	0.29	4	19.55	5.64				
Stroke, Propensity Score Matched, CHADSVASC: 5+											
Site-Adjusted Analysis											

Sentinel

Table 10c. Effect Estimates for Stroke, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and CHADSVASC

Direct Oral Anticoagulant	Number of New Users	Person Years at Risk	Average Person Days at Risk	Average Person Years at Risk	Number of Events	Incidence Rate per 1,000 Person Years	Risk per 1,000 New Users	Incidence Rate Difference per 1,000 Person Years	Risk Difference per 1,000 New Users	Hazard Ratio (95% Confidence Interval)	Wald P-Value
Rivaroxaban Users	912	254.89	102.08	0.28	8	31.39	8.77	-26.87	-11.31	0.49 (0.16, 1.52)	0.218
Dabigatran Users	249	85.83	125.90	0.34	5	58.25	20.08				
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05											
Rivaroxaban Users	164	23.64	52.64	0.14	2	84.60	12.20	42.30	6.10	2.00 (0.18, 22.06)	0.571
Dabigatran Users	164	23.64	52.64	0.14	1	42.30	6.10				
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05											
Rivaroxaban Users	164	51.19	114.01	0.31	2	39.07	12.20	5.99	0.00	1.05 (0.15, 7.46)	0.963
Dabigatran Users	164	60.46	134.66	0.37	2	33.08	12.20				

Sentinel

Table 10d. Effect Estimates for Stroke, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and HASBLED

Direct Oral Anticoagulant	Number of New Users	Person Years at Risk	Average Person Days at Risk	Average Person Years at Risk	Number of Events	Incidence Rate per 1,000 Person Years	Risk per 1,000 New Users	Incidence Rate Difference per 1,000 Person Years	Risk Difference per 1,000 New Users	Hazard Ratio (95% Confidence Interval)	Wald P-Value
Stroke, Propensity Score Matched											
Site-Adjusted Analysis											
Rivaroxaban Users	57,399	19,029.95	121.09	0.33	67	3.52	1.17	-2.54	-0.42	0.67 (0.44, 1.03)	0.065
Dabigatran Users	20,188	5,276.74	95.47	0.26	32	6.06	1.59				
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05											
Rivaroxaban Users	19,994	2,656.86	48.54	0.13	15	5.65	0.75	-0.38	-0.05	0.94 (0.46, 1.90)	0.857
Dabigatran Users	19,994	2,656.86	48.54	0.13	16	6.02	0.80				
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05											
Rivaroxaban Users	19,994	6,670.44	121.86	0.33	19	2.85	0.95	-3.08	-0.60	0.54 (0.30, 0.95)	0.034
Dabigatran Users	19,994	5,227.61	95.50	0.26	31	5.93	1.55				
Stroke, Propensity Score Matched, HASBLED: 0											
Site-Adjusted Analysis											
Rivaroxaban Users	15,309	4,267.15	101.81	0.28	13	3.05	0.85	-0.66	-0.01	0.89 (0.32, 2.50)	0.821
Dabigatran Users	5,818	1,348.50	84.66	0.23	5	3.71	0.86				
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05											
Rivaroxaban Users	5,668	676.11	43.57	0.12	4	5.92	0.71	0.00	0.00	1.00 (0.25, 4.00)	1
Dabigatran Users	5,668	676.11	43.57	0.12	4	5.92	0.71				
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05											
Rivaroxaban Users	5,668	1,558.63	100.44	0.27	6	3.85	1.06	0.05	0.18	1.10 (0.33, 3.60)	0.881
Dabigatran Users	5,668	1,315.50	84.77	0.23	5	3.80	0.88				
Stroke, Propensity Score Matched, HASBLED: 1											
Site-Adjusted Analysis											
Rivaroxaban Users	32,231	11,563.92	131.05	0.36	27	2.33	0.84	-3.36	-0.73	0.48 (0.26, 0.87)	0.016
Dabigatran Users	11,466	3,158.59	100.62	0.28	18	5.70	1.57				
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05											
Rivaroxaban Users	11,319	1,594.48	51.45	0.14	2	1.25	0.18	-6.27	-0.88	0.17 (0.04, 0.74)	0.019
Dabigatran Users	11,319	1,594.48	51.45	0.14	12	7.53	1.06				
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05											
Rivaroxaban Users	11,319	4,041.37	130.41	0.36	9	2.23	0.80	-3.54	-0.80	0.42 (0.19, 0.93)	0.032
Dabigatran Users	11,319	3,121.27	100.72	0.28	18	5.77	1.59				

Sentinel

Table 10d. Effect Estimates for Stroke, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and HASBLED

Direct Oral Anticoagulant	Number of New Users	Person Years at Risk	Average Person Days at Risk	Average Person Years at Risk	Number of Events	Incidence Rate per 1,000 Person Years	Risk per 1,000 New Users	Incidence Rate Difference per 1,000 Person Years	Risk Difference per 1,000 New Users	Hazard Ratio (95% Confidence Interval)	Wald P-Value
Stroke, Propensity Score Matched, HASBLED: 2											
Site-Adjusted Analysis											
Rivaroxaban Users	8,030	2,683.71	122.07	0.33	16	5.96	1.99	-1.75	-0.06	0.93 (0.34, 2.54)	0.881
Dabigatran Users	2,435	648.56	97.28	0.27	5	7.71	2.05				
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05											
Rivaroxaban Users	2,368	316.17	48.77	0.13	3	9.49	1.27	-3.16	-0.42	0.75 (0.17, 3.35)	0.706
Dabigatran Users	2,368	316.17	48.77	0.13	4	12.65	1.69				
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05											
Rivaroxaban Users	2,368	805.24	124.20	0.34	3	3.73	1.27	-4.13	-0.84	0.55 (0.13, 2.33)	0.421
Dabigatran Users	2,368	636.40	98.16	0.27	5	7.86	2.11				
Stroke, Propensity Score Matched, HASBLED: 3+											
Site-Adjusted Analysis											
Rivaroxaban Users	1,829	515.18	102.88	0.28	11	21.35	6.01	-11.68	-2.51	0.73 (0.23, 2.31)	0.592
Dabigatran Users	469	121.10	94.31	0.26	4	33.03	8.53				
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05											
Rivaroxaban Users	408	49.52	44.33	0.12	1	20.19	2.45	-40.39	-4.90	0.33 (0.03, 3.20)	0.341
Dabigatran Users	408	49.52	44.33	0.12	3	60.58	7.35				
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05											
Rivaroxaban Users	408	115.62	103.50	0.28	1	8.65	2.45	-19.80	-4.90	0.34 (0.04, 3.28)	0.352
Dabigatran Users	408	105.45	94.40	0.26	3	28.45	7.35				

Sentinel

Table 10e. Effect Estimates for Stroke, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and Sex

Direct Oral Anticoagulant	Number of New Users	Person Years at Risk	Average Person Days at Risk	Average Person Years at Risk	Number of Events	Incidence Rate per 1,000 Person Years	Risk per 1,000 New Users	Incidence Rate Difference per 1,000 Person Years	Risk Difference per 1,000 New Users	Hazard Ratio (95% Confidence Interval)	Wald P-Value
Stroke, Propensity Score Matched											
Site-Adjusted Analysis											
Rivaroxaban Users	57,399	19,029.95	121.09	0.33	67	3.52	1.17	-2.54	-0.42	0.67 (0.44, 1.03)	0.065
Dabigatran Users	20,188	5,276.74	95.47	0.26	32	6.06	1.59				
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05											
Rivaroxaban Users	19,994	2,656.86	48.54	0.13	15	5.65	0.75	-0.38	-0.05	0.94 (0.46, 1.90)	0.857
Dabigatran Users	19,994	2,656.86	48.54	0.13	16	6.02	0.80				
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05											
Rivaroxaban Users	19,994	6,670.44	121.86	0.33	19	2.85	0.95	-3.08	-0.60	0.54 (0.30, 0.95)	0.034
Dabigatran Users	19,994	5,227.61	95.50	0.26	31	5.93	1.55				
Stroke, Propensity Score Matched, Sex: Female											
Site-Adjusted Analysis											
Rivaroxaban Users	14,711	5,229.51	129.84	0.36	18	3.44	1.22	-4.92	-1.12	0.48 (0.22, 1.01)	0.054
Dabigatran Users	4,699	1,315.89	102.28	0.28	11	8.36	2.34				
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05											
Rivaroxaban Users	4,631	659.59	52.02	0.14	6	9.10	1.30	-1.52	-0.22	0.86 (0.29, 2.55)	0.782
Dabigatran Users	4,631	659.59	52.02	0.14	7	10.61	1.51				
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05											
Rivaroxaban Users	4,631	1,665.37	131.35	0.36	6	3.60	1.30	-4.89	-1.08	0.47 (0.17, 1.28)	0.139
Dabigatran Users	4,631	1,295.51	102.18	0.28	11	8.49	2.38				
Stroke, Propensity Score Matched, Sex: Male											
Site-Adjusted Analysis											
Rivaroxaban Users	42,688	13,800.44	118.08	0.32	49	3.55	1.15	-1.75	-0.21	0.78 (0.46, 1.30)	0.333
Dabigatran Users	15,489	3,960.85	93.40	0.26	21	5.30	1.36				
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05											
Rivaroxaban Users	15,299	1,990.79	47.53	0.13	7	3.52	0.46	-4.02	-0.52	0.47 (0.19, 1.14)	0.096
Dabigatran Users	15,299	1,990.79	47.53	0.13	15	7.53	0.98				
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05											
Rivaroxaban Users	15,299	4,942.39	118.00	0.32	9	1.82	0.59	-3.54	-0.78	0.38 (0.17, 0.83)	0.016
Dabigatran Users	15,299	3,913.97	93.44	0.26	21	5.37	1.37				

Sentinel

Table 11a. Effect Estimates for Major Extracranial Bleeding, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type

Direct Oral Anticoagulant	Number of New Users	Person Years at Risk	Average Person Days at Risk	Average Person Years at Risk	Number of Events	Incidence Rate per 1,000 Person Years	Risk per 1,000 New Users	Incidence Rate Difference per 1,000 Person Years	Risk Difference per 1,000 New Users	Hazard Ratio (95% Confidence Interval)	Wald P-Value
Site-Adjusted Analysis											
Rivaroxaban Users	57,399	19,029.95	121.09	0.33	196	10.30	3.41	3.48	1.63	1.58 (1.11, 2.26)	0.012
Dabigatran Users	20,188	5,276.74	95.47	0.26	36	6.82	1.78				
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05											
Rivaroxaban Users	19,994	2,656.86	48.54	0.13	36	13.55	1.80	4.14	0.55	1.44 (0.86, 2.40)	0.161
Dabigatran Users	19,994	2,656.86	48.54	0.13	25	9.41	1.25				
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05											
Rivaroxaban Users	19,994	6,670.44	121.86	0.33	62	9.29	3.10	2.41	1.30	1.47 (0.98, 2.22)	0.065
Dabigatran Users	19,994	5,227.61	95.50	0.26	36	6.89	1.80				

Sentinel

Table 11b. Effect Estimates for Major Extracranial Bleeding, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and Age Group

Direct Oral Anticoagulant	Number of New Users	Person Years at Risk	Average Person Days at Risk	Average Person Years at Risk	Number of Events	Incidence Rate per 1,000 Person Years	Risk per 1,000 New Users	Incidence Rate Difference per 1,000 Person Years	Risk Difference per 1,000 New Users	Hazard Ratio (95% Confidence Interval)	Wald P-Value
Major Extracranial Bleeding, Propensity Score Matched											
Site-Adjusted Analysis											
Rivaroxaban Users	57,399	19,029.95	121.09	0.33	196	10.30	3.41	3.48	1.63	1.58 (1.11, 2.26)	0.012
Dabigatran Users	20,188	5,276.74	95.47	0.26	36	6.82	1.78				
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05											
Rivaroxaban Users	19,994	2,656.86	48.54	0.13	36	13.55	1.80	4.14	0.55	1.44 (0.86, 2.40)	0.161
Dabigatran Users	19,994	2,656.86	48.54	0.13	25	9.41	1.25				
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05											
Rivaroxaban Users	19,994	6,670.44	121.86	0.33	62	9.29	3.10	2.41	1.30	1.47 (0.98, 2.22)	0.065
Dabigatran Users	19,994	5,227.61	95.50	0.26	36	6.89	1.80				
Major Extracranial Bleeding, Propensity Score Matched, Age Group: 21-49 years											
Site-Adjusted Analysis											
Rivaroxaban Users	9,776	2,397.94	89.59	0.25	14	5.84	1.43	-3.08	-0.28	0.70 (0.27, 1.83)	0.465
Dabigatran Users	3,499	673.13	70.27	0.19	6	8.91	1.71				
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05											
Rivaroxaban Users	3,375	364.41	39.44	0.11	3	8.23	0.89	-2.74	-0.30	0.75 (0.17, 3.35)	0.706
Dabigatran Users	3,375	364.41	39.44	0.11	4	10.98	1.19				
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05											
Rivaroxaban Users	3,375	830.60	89.89	0.25	5	6.02	1.48	-3.21	-0.30	0.74 (0.23, 2.44)	0.622
Dabigatran Users	3,375	650.40	70.39	0.19	6	9.23	1.78				
Major Extracranial Bleeding, Propensity Score Matched, Age Group: 50-64 years											
Site-Adjusted Analysis											
Rivaroxaban Users	47,623	16,632.01	127.56	0.35	182	10.94	3.82	4.43	2.02	1.76 (1.20, 2.59)	0.004
Dabigatran Users	16,689	4,603.61	100.75	0.28	30	6.52	1.80				
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05											
Rivaroxaban Users	16,531	2,319.71	51.25	0.14	26	11.21	1.57	2.59	0.36	1.30 (0.73, 2.33)	0.378
Dabigatran Users	16,531	2,319.71	51.25	0.14	20	8.62	1.21				
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05											
Rivaroxaban Users	16,531	5,766.12	127.40	0.35	52	9.02	3.15	2.45	1.33	1.48 (0.94, 2.32)	0.091
Dabigatran Users	16,531	4,567.99	100.93	0.28	30	6.57	1.81				

Sentinel

Table 11c. Effect Estimates for Major Extracranial Bleeding, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and CHADSVASC

Direct Oral Anticoagulant	Number of New Users	Person Years at Risk	Average Person Days at Risk	Average Person Years at Risk	Number of Events	Incidence Rate per 1,000 Person Years	Risk per 1,000 New Users	Incidence Rate Difference per 1,000 Person Years	Risk Difference per 1,000 New Users	Hazard Ratio (95% Confidence Interval)	Wald P-Value
Major Extracranial Bleeding, Propensity Score Matched											
Site-Adjusted Analysis											
Rivaroxaban Users	57,399	19,029.95	121.09	0.33	196	10.30	3.41	3.48	1.63	1.58 (1.11, 2.26)	0.012
Dabigatran Users	20,188	5,276.74	95.47	0.26	36	6.82	1.78				
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05											
Rivaroxaban Users	19,994	2,656.86	48.54	0.13	36	13.55	1.80	4.14	0.55	1.44 (0.86, 2.40)	0.161
Dabigatran Users	19,994	2,656.86	48.54	0.13	25	9.41	1.25				
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05											
Rivaroxaban Users	19,994	6,670.44	121.86	0.33	62	9.29	3.10	2.41	1.30	1.47 (0.98, 2.22)	0.065
Dabigatran Users	19,994	5,227.61	95.50	0.26	36	6.89	1.80				
Major Extracranial Bleeding, Propensity Score Matched, CHADSVASC: 0											
Site-Adjusted Analysis											
Rivaroxaban Users	10,615	2,741.83	94.34	0.26	12	4.38	1.13	-4.62	-0.80	0.51 (0.21, 1.25)	0.142
Dabigatran Users	4,137	889.29	78.51	0.21	8	9.00	1.93				
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05											
Rivaroxaban Users	4,004	465.29	42.44	0.12	3	6.45	0.75	-4.30	-0.50	0.60 (0.14, 2.51)	0.484
Dabigatran Users	4,004	465.29	42.44	0.12	5	10.75	1.25				
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05											
Rivaroxaban Users	4,004	1,071.77	97.77	0.27	6	5.60	1.50	-3.70	-0.50	0.63 (0.22, 1.82)	0.392
Dabigatran Users	4,004	860.62	78.51	0.21	8	9.30	2.00				
Major Extracranial Bleeding, Propensity Score Matched, CHADSVASC: 1											
Site-Adjusted Analysis											
Rivaroxaban Users	20,124	6,616.93	120.10	0.33	48	7.25	2.39	4.02	1.56	2.36 (1.01, 5.54)	0.048
Dabigatran Users	7,308	1,855.17	92.72	0.25	6	3.23	0.82				
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05											
Rivaroxaban Users	7,193	949.25	48.20	0.13	12	12.64	1.67	9.48	1.25	4.00 (1.13, 14.17)	0.032
Dabigatran Users	7,193	949.25	48.20	0.13	3	3.16	0.42				
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05											
Rivaroxaban Users	7,193	2,420.69	122.92	0.34	21	8.68	2.92	5.39	2.09	2.91 (1.17, 7.22)	0.022
Dabigatran Users	7,193	1,828.61	92.85	0.25	6	3.28	0.83				
Major Extracranial Bleeding, Propensity Score Matched, CHADSVASC: 2											
Site-Adjusted Analysis											

Sentinel

Table 11c. Effect Estimates for Major Extracranial Bleeding, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and CHADSVASC

Direct Oral Anticoagulant	Number of New Users	Person Years at Risk	Average Person Days at Risk	Average Person Years at Risk	Number of Events	Incidence Rate per 1,000 Person Years	Risk per 1,000 New Users	Incidence Rate Difference per 1,000 Person Years	Risk Difference per 1,000 New Users	Hazard Ratio (95% Confidence Interval)	Wald P-Value
Rivaroxaban Users	15,095	5,631.68	136.27	0.37	53	9.41	3.51	4.90	2.22	2.23 (1.01, 4.92)	0.047
Dabigatran Users	5,427	1,550.67	104.36	0.29	7	4.51	1.29				
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05											
Rivaroxaban Users	5,320	767.09	52.67	0.14	8	10.43	1.50	3.91	0.56	1.60 (0.52, 4.89)	0.41
Dabigatran Users	5,320	767.09	52.67	0.14	5	6.52	0.94				
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05											
Rivaroxaban Users	5,320	2,003.86	137.58	0.38	17	8.48	3.20	3.90	1.88	2.00 (0.83, 4.84)	0.125
Dabigatran Users	5,320	1,526.23	104.78	0.29	7	4.59	1.32				
Major Extracranial Bleeding, Propensity Score Matched, CHADSVASC: 3											
Site-Adjusted Analysis											
Rivaroxaban Users	7,559	2,736.12	132.21	0.36	43	15.72	5.69	-2.25	0.40	0.90 (0.48, 1.72)	0.759
Dabigatran Users	2,267	667.90	107.61	0.29	12	17.97	5.29				
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05											
Rivaroxaban Users	2,200	326.54	54.21	0.15	8	24.50	3.64	0.00	0.00	1.00 (0.38, 2.66)	1
Dabigatran Users	2,200	326.54	54.21	0.15	8	24.50	3.64				
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05											
Rivaroxaban Users	2,200	842.57	139.89	0.38	12	14.24	5.45	-4.11	0.00	0.89 (0.40, 2.00)	0.786
Dabigatran Users	2,200	653.85	108.55	0.30	12	18.35	5.45				
Major Extracranial Bleeding, Propensity Score Matched, CHADSVASC: 4											
Site-Adjusted Analysis											
Rivaroxaban Users	3,094	1,048.49	123.78	0.34	31	29.57	10.02	16.40	6.27	2.20 (0.67, 7.20)	0.194
Dabigatran Users	800	227.88	104.04	0.28	3	13.16	3.75				
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05											
Rivaroxaban Users	709	106.46	54.84	0.15	2	18.79	2.82	9.39	1.41	2.00 (0.18, 22.06)	0.571
Dabigatran Users	709	106.46	54.84	0.15	1	9.39	1.41				
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05											
Rivaroxaban Users	709	263.30	135.64	0.37	6	22.79	8.46	8.13	4.23	1.49 (0.37, 6.01)	0.574
Dabigatran Users	709	204.61	105.41	0.29	3	14.66	4.23				
Major Extracranial Bleeding, Propensity Score Matched, CHADSVASC: 5+											
Site-Adjusted Analysis											
Rivaroxaban Users	912	254.89	102.08	0.28	9	35.31	9.87	35.31	9.87	NaN	N/A
Dabigatran Users	249	85.83	125.90	0.34	0	0.00	0.00				

Sentinel

Table 11c. Effect Estimates for Major Extracranial Bleeding, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and CHADSVASC

Direct Oral Anticoagulant	Number of New Users	Person Years at Risk	Average Person Days at Risk	Average Person Years at Risk	Number of Events	Incidence Rate per 1,000 Person Years	Risk per 1,000 New Users	Incidence Rate Difference per 1,000 Person Years	Risk Difference per 1,000 New Users	Hazard Ratio (95% Confidence Interval)	Wald P-Value
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05											
Rivaroxaban Users	164	23.64	52.64	0.14	2	84.60	12.20	84.60	12.20	NaN	N/A
Dabigatran Users	164	23.64	52.64	0.14	0	0.00	0.00				
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05											
Rivaroxaban Users	164	51.19	114.01	0.31	3	58.61	18.29	58.61	18.29	NaN	N/A
Dabigatran Users	164	60.46	134.66	0.37	0	0.00	0.00				

Sentinel

Table 11d. Effect Estimates for Major Extracranial Bleeding, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and HASBLED

Direct Oral Anticoagulant	Number of New Users	Person Years at Risk	Average Person Days at Risk	Average Person Years at Risk	Number of Events	Incidence Rate per 1,000 Person Years	Risk per 1,000 New Users	Incidence Rate Difference per 1,000 Person Years	Risk Difference per 1,000 New Users	Hazard Ratio (95% Confidence Interval)	Wald P-Value
Major Extracranial Bleeding, Propensity Score Matched											
Site-Adjusted Analysis											
Rivaroxaban Users	57,399	19,029.95	121.09	0.33	196	10.30	3.41	3.48	1.63	1.58 (1.11, 2.26)	0.012
Dabigatran Users	20,188	5,276.74	95.47	0.26	36	6.82	1.78				
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05											
Rivaroxaban Users	19,994	2,656.86	48.54	0.13	36	13.55	1.80	4.14	0.55	1.44 (0.86, 2.40)	0.161
Dabigatran Users	19,994	2,656.86	48.54	0.13	25	9.41	1.25				
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05											
Rivaroxaban Users	19,994	6,670.44	121.86	0.33	62	9.29	3.10	2.41	1.30	1.47 (0.98, 2.22)	0.065
Dabigatran Users	19,994	5,227.61	95.50	0.26	36	6.89	1.80				
Major Extracranial Bleeding, Propensity Score Matched, HASBLED: 0											
Site-Adjusted Analysis											
Rivaroxaban Users	15,309	4,267.15	101.81	0.28	21	4.92	1.37	-2.49	-0.35	0.68 (0.32, 1.44)	0.314
Dabigatran Users	5,818	1,348.50	84.66	0.23	10	7.42	1.72				
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05											
Rivaroxaban Users	5,668	676.11	43.57	0.12	5	7.40	0.88	-1.48	-0.18	0.83 (0.25, 2.73)	0.763
Dabigatran Users	5,668	676.11	43.57	0.12	6	8.87	1.06				
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05											
Rivaroxaban Users	5,668	1,558.63	100.44	0.27	11	7.06	1.94	-0.54	0.18	0.95 (0.40, 2.25)	0.912
Dabigatran Users	5,668	1,315.50	84.77	0.23	10	7.60	1.76				
Major Extracranial Bleeding, Propensity Score Matched, HASBLED: 1											
Site-Adjusted Analysis											
Rivaroxaban Users	32,231	11,563.92	131.05	0.36	104	8.99	3.23	3.93	1.83	1.87 (1.10, 3.16)	0.021
Dabigatran Users	11,466	3,158.59	100.62	0.28	16	5.07	1.40				
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05											
Rivaroxaban Users	11,319	1,594.48	51.45	0.14	28	17.56	2.47	10.03	1.41	2.33 (1.19, 4.59)	0.014
Dabigatran Users	11,319	1,594.48	51.45	0.14	12	7.53	1.06				
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05											
Rivaroxaban Users	11,319	4,041.37	130.41	0.36	45	11.13	3.98	6.01	2.56	2.33 (1.32, 4.14)	0.004
Dabigatran Users	11,319	3,121.27	100.72	0.28	16	5.13	1.41				
Major Extracranial Bleeding, Propensity Score Matched, HASBLED: 2											
Site-Adjusted Analysis											

Sentinel

Table 11d. Effect Estimates for Major Extracranial Bleeding, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and HASBLED

Direct Oral Anticoagulant	Number of New Users	Person Years at Risk	Average Person Days at Risk	Average Person Years at Risk	Number of Events	Incidence Rate per 1,000 Person Years	Risk per 1,000 New Users	Incidence Rate Difference per 1,000 Person Years	Risk Difference per 1,000 New Users	Hazard Ratio (95% Confidence Interval)	Wald P-Value
Rivaroxaban Users	8,030	2,683.71	122.07	0.33	48	17.89	5.98	5.55	2.69	1.59 (0.75, 3.37)	0.224
Dabigatran Users	2,435	648.56	97.28	0.27	8	12.34	3.29				
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05											
Rivaroxaban Users	2,368	316.17	48.77	0.13	5	15.81	2.11	-3.16	-0.42	0.83 (0.25, 2.73)	0.763
Dabigatran Users	2,368	316.17	48.77	0.13	6	18.98	2.53				
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05											
Rivaroxaban Users	2,368	805.24	124.20	0.34	12	14.90	5.07	2.33	1.69	1.29 (0.53, 3.17)	0.577
Dabigatran Users	2,368	636.40	98.16	0.27	8	12.57	3.38				
Major Extracranial Bleeding, Propensity Score Matched, HASBLED: 3+											
Site-Adjusted Analysis											
Rivaroxaban Users	1,829	515.18	102.88	0.28	23	44.64	12.58	28.13	8.31	2.47 (0.58, 10.53)	0.221
Dabigatran Users	469	121.10	94.31	0.26	2	16.52	4.26				
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05											
Rivaroxaban Users	408	49.52	44.33	0.12	1	20.19	2.45	-20.19	-2.45	0.50 (0.05, 5.51)	0.571
Dabigatran Users	408	49.52	44.33	0.12	2	40.39	4.90				
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05											
Rivaroxaban Users	408	115.62	103.50	0.28	2	17.30	4.90	-1.67	0.00	0.87 (0.12, 6.28)	0.892
Dabigatran Users	408	105.45	94.40	0.26	2	18.97	4.90				

Sentinel

Table 11e. Effect Estimates for Major Extracranial Bleeding, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and Sex

Direct Oral Anticoagulant	Number of New Users	Person Years at Risk	Average Person Days at Risk	Average Person Years at Risk	Number of Events	Incidence Rate per 1,000 Person Years	Risk per 1,000 New Users	Incidence Rate Difference per 1,000 Person Years	Risk Difference per 1,000 New Users	Hazard Ratio (95% Confidence Interval)	Wald P-Value
Major Extracranial Bleeding, Propensity Score Matched											
Site-Adjusted Analysis											
Rivaroxaban Users	57,399	19,029.95	121.09	0.33	196	10.30	3.41	3.48	1.63	1.58 (1.11, 2.26)	0.012
Dabigatran Users	20,188	5,276.74	95.47	0.26	36	6.82	1.78				
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05											
Rivaroxaban Users	19,994	2,656.86	48.54	0.13	36	13.55	1.80	4.14	0.55	1.44 (0.86, 2.40)	0.161
Dabigatran Users	19,994	2,656.86	48.54	0.13	25	9.41	1.25				
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05											
Rivaroxaban Users	19,994	6,670.44	121.86	0.33	62	9.29	3.10	2.41	1.30	1.47 (0.98, 2.22)	0.065
Dabigatran Users	19,994	5,227.61	95.50	0.26	36	6.89	1.80				
Major Extracranial Bleeding, Propensity Score Matched, Sex: Female											
Site-Adjusted Analysis											
Rivaroxaban Users	14,711	5,229.51	129.84	0.36	70	13.39	4.76	3.51	1.99	1.38 (0.76, 2.49)	0.293
Dabigatran Users	4,699	1,315.89	102.28	0.28	13	9.88	2.77				
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05											
Rivaroxaban Users	4,631	659.59	52.02	0.14	13	19.71	2.81	7.58	1.08	1.62 (0.67, 3.92)	0.28
Dabigatran Users	4,631	659.59	52.02	0.14	8	12.13	1.73				
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05											
Rivaroxaban Users	4,631	1,665.37	131.35	0.36	24	14.41	5.18	4.38	2.38	1.50 (0.76, 2.97)	0.239
Dabigatran Users	4,631	1,295.51	102.18	0.28	13	10.03	2.81				
Major Extracranial Bleeding, Propensity Score Matched, Sex: Male											
Site-Adjusted Analysis											
Rivaroxaban Users	42,688	13,800.44	118.08	0.32	126	9.13	2.95	3.32	1.47	1.67 (1.07, 2.60)	0.025
Dabigatran Users	15,489	3,960.85	93.40	0.26	23	5.81	1.48				
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05											
Rivaroxaban Users	15,299	1,990.79	47.53	0.13	21	10.55	1.37	1.51	0.20	1.17 (0.62, 2.19)	0.631
Dabigatran Users	15,299	1,990.79	47.53	0.13	18	9.04	1.18				
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05											
Rivaroxaban Users	15,299	4,942.39	118.00	0.32	45	9.10	2.94	3.23	1.44	1.66 (1.00, 2.74)	0.049
Dabigatran Users	15,299	3,913.97	93.44	0.26	23	5.88	1.50				

Sentinel

Table 12a. Effect Estimates for Gastrointestinal Hemorrhage, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type

Direct Oral Anticoagulant	Number of New Users	Person Years at Risk	Average Person Days at Risk	Average Person Years at Risk	Number of Events	Incidence Rate per 1,000 Person Years	Risk per 1,000 New Users	Incidence Rate Difference per 1,000 Person Years	Risk Difference per 1,000 New Users	Hazard Ratio (95% Confidence Interval)	Wald P-Value
Site-Adjusted Analysis											
Rivaroxaban Users	57,399	19,029.95	121.09	0.33	165	8.67	2.87	2.61	1.29	1.51 (1.03, 2.21)	0.034
Dabigatran Users	20,188	5,276.74	95.47	0.26	32	6.06	1.59				
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05											
Rivaroxaban Users	19,994	2,656.86	48.54	0.13	32	12.04	1.60	3.76	0.50	1.45 (0.85, 2.50)	0.176
Dabigatran Users	19,994	2,656.86	48.54	0.13	22	8.28	1.10				
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05											
Rivaroxaban Users	19,994	6,670.44	121.86	0.33	54	8.10	2.70	1.97	1.10	1.44 (0.93, 2.24)	0.102
Dabigatran Users	19,994	5,227.61	95.50	0.26	32	6.12	1.60				

Sentinel

Table 12b. Effect Estimates for Gastrointestinal Hemorrhage, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and Age Group

Direct Oral Anticoagulant	Number of New Users	Person Years at Risk	Average Person Days at Risk	Average Person Years at Risk	Number of Events	Incidence Rate per 1,000 Person Years	Risk per 1,000 New Users	Incidence Rate Difference per 1,000 Person Years	Risk Difference per 1,000 New Users	Hazard Ratio (95% Confidence Interval)	Wald P-Value
Gastrointestinal Hemorrhage, Propensity Score Matched											
Site-Adjusted Analysis											
Rivaroxaban Users	57,399	19,029.95	121.09	0.33	165	8.67	2.87	2.61	1.29	1.51 (1.03, 2.21)	0.034
Dabigatran Users	20,188	5,276.74	95.47	0.26	32	6.06	1.59				
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05											
Rivaroxaban Users	19,994	2,656.86	48.54	0.13	32	12.04	1.60	3.76	0.50	1.45 (0.85, 2.50)	0.176
Dabigatran Users	19,994	2,656.86	48.54	0.13	22	8.28	1.10				
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05											
Rivaroxaban Users	19,994	6,670.44	121.86	0.33	54	8.10	2.70	1.97	1.10	1.44 (0.93, 2.24)	0.102
Dabigatran Users	19,994	5,227.61	95.50	0.26	32	6.12	1.60				
Gastrointestinal Hemorrhage, Propensity Score Matched, Age Group: 21-49 years											
Site-Adjusted Analysis											
Rivaroxaban Users	9,776	2,397.94	89.59	0.25	7	2.92	0.72	-3.02	-0.43	0.48 (0.14, 1.65)	0.243
Dabigatran Users	3,499	673.13	70.27	0.19	4	5.94	1.14				
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05											
Rivaroxaban Users	3,375	364.41	39.44	0.11	1	2.74	0.30	-5.49	-0.59	0.33 (0.03, 3.20)	0.341
Dabigatran Users	3,375	364.41	39.44	0.11	3	8.23	0.89				
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05											
Rivaroxaban Users	3,375	830.60	89.89	0.25	1	1.20	0.30	-4.95	-0.89	0.21 (0.02, 1.93)	0.17
Dabigatran Users	3,375	650.40	70.39	0.19	4	6.15	1.19				
Gastrointestinal Hemorrhage, Propensity Score Matched, Age Group: 50-64 years											
Site-Adjusted Analysis											
Rivaroxaban Users	47,623	16,632.01	127.56	0.35	158	9.50	3.32	3.42	1.64	1.66 (1.11, 2.49)	0.013
Dabigatran Users	16,689	4,603.61	100.75	0.28	28	6.08	1.68				
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05											
Rivaroxaban Users	16,531	2,319.71	51.25	0.14	24	10.35	1.45	2.59	0.36	1.33 (0.72, 2.46)	0.356
Dabigatran Users	16,531	2,319.71	51.25	0.14	18	7.76	1.09				
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05											
Rivaroxaban Users	16,531	5,766.12	127.40	0.35	43	7.46	2.60	1.33	0.91	1.31 (0.81, 2.12)	0.262
Dabigatran Users	16,531	4,567.99	100.93	0.28	28	6.13	1.69				

Sentinel

Table 12c. Effect Estimates for Gastrointestinal Hemorrhage, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and CHADSVASC

Direct Oral Anticoagulant	Number of New Users	Person Years at Risk	Average Person Days at Risk	Average Person Years at Risk	Number of Events	Incidence Rate per 1,000 Person Years	Risk per 1,000 New Users	Incidence Rate Difference per 1,000 Person Years	Risk Difference per 1,000 New Users	Hazard Ratio (95% Confidence Interval)	Wald P-Value
Gastrointestinal Hemorrhage, Propensity Score Matched											
Site-Adjusted Analysis											
Rivaroxaban Users	57,399	19,029.95	121.09	0.33	165	8.67	2.87	2.61	1.29	1.51 (1.03, 2.21)	0.034
Dabigatran Users	20,188	5,276.74	95.47	0.26	32	6.06	1.59				
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05											
Rivaroxaban Users	19,994	2,656.86	48.54	0.13	32	12.04	1.60	3.76	0.50	1.45 (0.85, 2.50)	0.176
Dabigatran Users	19,994	2,656.86	48.54	0.13	22	8.28	1.10				
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05											
Rivaroxaban Users	19,994	6,670.44	121.86	0.33	54	8.10	2.70	1.97	1.10	1.44 (0.93, 2.24)	0.102
Dabigatran Users	19,994	5,227.61	95.50	0.26	32	6.12	1.60				
Gastrointestinal Hemorrhage, Propensity Score Matched, CHADSVASC: 0											
Site-Adjusted Analysis											
Rivaroxaban Users	10,615	2,741.83	94.34	0.26	10	3.65	0.94	-4.22	-0.75	0.48 (0.18, 1.26)	0.137
Dabigatran Users	4,137	889.29	78.51	0.21	7	7.87	1.69				
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05											
Rivaroxaban Users	4,004	465.29	42.44	0.12	2	4.30	0.50	-4.30	-0.50	0.50 (0.09, 2.73)	0.423
Dabigatran Users	4,004	465.29	42.44	0.12	4	8.60	1.00				
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05											
Rivaroxaban Users	4,004	1,071.77	97.77	0.27	5	4.67	1.25	-3.47	-0.50	0.58 (0.18, 1.84)	0.355
Dabigatran Users	4,004	860.62	78.51	0.21	7	8.13	1.75				
Gastrointestinal Hemorrhage, Propensity Score Matched, CHADSVASC: 1											
Site-Adjusted Analysis											
Rivaroxaban Users	20,124	6,616.93	120.10	0.33	39	5.89	1.94	3.20	1.25	2.32 (0.91, 5.91)	0.077
Dabigatran Users	7,308	1,855.17	92.72	0.25	5	2.70	0.68				
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05											
Rivaroxaban Users	7,193	949.25	48.20	0.13	10	10.53	1.39	8.43	1.11	5.00 (1.10, 22.82)	0.038
Dabigatran Users	7,193	949.25	48.20	0.13	2	2.11	0.28				
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05											
Rivaroxaban Users	7,193	2,420.69	122.92	0.34	18	7.44	2.50	4.70	1.81	2.92 (1.08, 7.88)	0.035
Dabigatran Users	7,193	1,828.61	92.85	0.25	5	2.73	0.70				
Gastrointestinal Hemorrhage, Propensity Score Matched, CHADSVASC: 2											
Site-Adjusted Analysis											

Sentinel

Table 12c. Effect Estimates for Gastrointestinal Hemorrhage, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and CHADSVASC

Direct Oral Anticoagulant	Number of New Users	Person Years at Risk	Average Person Days at Risk	Average Person Years at Risk	Number of Events	Incidence Rate per 1,000 Person Years	Risk per 1,000 New Users	Incidence Rate Difference per 1,000 Person Years	Risk Difference per 1,000 New Users	Hazard Ratio (95% Confidence Interval)	Wald P-Value
Rivaroxaban Users	15,095	5,631.68	136.27	0.37	45	7.99	2.98	4.12	1.88	2.20 (0.94, 5.18)	0.07
Dabigatran Users	5,427	1,550.67	104.36	0.29	6	3.87	1.11				
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05											
Rivaroxaban Users	5,320	767.09	52.67	0.14	8	10.43	1.50	3.91	0.56	1.60 (0.52, 4.89)	0.41
Dabigatran Users	5,320	767.09	52.67	0.14	5	6.52	0.94				
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05											
Rivaroxaban Users	5,320	2,003.86	137.58	0.38	14	6.99	2.63	3.06	1.50	1.99 (0.76, 5.20)	0.16
Dabigatran Users	5,320	1,526.23	104.78	0.29	6	3.93	1.13				
Gastrointestinal Hemorrhage, Propensity Score Matched, CHADSVASC: 3											
Site-Adjusted Analysis											
Rivaroxaban Users	7,559	2,736.12	132.21	0.36	35	12.79	4.63	-3.68	-0.22	0.82 (0.41, 1.61)	0.557
Dabigatran Users	2,267	667.90	107.61	0.29	11	16.47	4.85				
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05											
Rivaroxaban Users	2,200	326.54	54.21	0.15	7	21.44	3.18	0.00	0.00	1.00 (0.35, 2.85)	1
Dabigatran Users	2,200	326.54	54.21	0.15	7	21.44	3.18				
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05											
Rivaroxaban Users	2,200	842.57	139.89	0.38	10	11.87	4.55	-4.95	-0.45	0.82 (0.35, 1.94)	0.652
Dabigatran Users	2,200	653.85	108.55	0.30	11	16.82	5.00				
Gastrointestinal Hemorrhage, Propensity Score Matched, CHADSVASC: 4											
Site-Adjusted Analysis											
Rivaroxaban Users	3,094	1,048.49	123.78	0.34	27	25.75	8.73	12.59	4.98	2.01 (0.61, 6.62)	0.254
Dabigatran Users	800	227.88	104.04	0.28	3	13.16	3.75				
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05											
Rivaroxaban Users	709	106.46	54.84	0.15	2	18.79	2.82	9.39	1.41	2.00 (0.18, 22.06)	0.571
Dabigatran Users	709	106.46	54.84	0.15	1	9.39	1.41				
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05											
Rivaroxaban Users	709	263.30	135.64	0.37	5	18.99	7.05	4.33	2.82	1.29 (0.31, 5.45)	0.726
Dabigatran Users	709	204.61	105.41	0.29	3	14.66	4.23				
Gastrointestinal Hemorrhage, Propensity Score Matched, CHADSVASC: 5+											
Site-Adjusted Analysis											
Rivaroxaban Users	912	254.89	102.08	0.28	9	35.31	9.87	35.31	9.87	NaN	N/A
Dabigatran Users	249	85.83	125.90	0.34	0	0.00	0.00				

Sentinel

Table 12c. Effect Estimates for Gastrointestinal Hemorrhage, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and CHADSVASC

Direct Oral Anticoagulant	Number of New Users	Person Years at Risk	Average Person Days at Risk	Average Person Years at Risk	Number of Events	Incidence Rate per 1,000 Person Years	Risk per 1,000 New Users	Incidence Rate Difference per 1,000 Person Years	Risk Difference per 1,000 New Users	Hazard Ratio (95% Confidence Interval)	Wald P-Value
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05											
Rivaroxaban Users	164	23.64	52.64	0.14	2	84.60	12.20	84.60	12.20	NaN	N/A
Dabigatran Users	164	23.64	52.64	0.14	0	0.00	0.00				
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05											
Rivaroxaban Users	164	51.19	114.01	0.31	3	58.61	18.29	58.61	18.29	NaN	N/A
Dabigatran Users	164	60.46	134.66	0.37	0	0.00	0.00				

Sentinel

Table 12d. Effect Estimates for Gastrointestinal Hemorrhage, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and HASBLED

Direct Oral Anticoagulant	Number of New Users	Person Years at Risk	Average Person Days at Risk	Average Person Years at Risk	Number of Events	Incidence Rate per 1,000 Person Years	Risk per 1,000 New Users	Incidence Rate Difference per 1,000 Person Years	Risk Difference per 1,000 New Users	Hazard Ratio (95% Confidence Interval)	Wald P-Value
Gastrointestinal Hemorrhage, Propensity Score Matched											
Site-Adjusted Analysis											
Rivaroxaban Users	57,399	19,029.95	121.09	0.33	165	8.67	2.87	2.61	1.29	1.51 (1.03, 2.21)	0.034
Dabigatran Users	20,188	5,276.74	95.47	0.26	32	6.06	1.59				
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05											
Rivaroxaban Users	19,994	2,656.86	48.54	0.13	32	12.04	1.60	3.76	0.50	1.45 (0.85, 2.50)	0.176
Dabigatran Users	19,994	2,656.86	48.54	0.13	22	8.28	1.10				
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05											
Rivaroxaban Users	19,994	6,670.44	121.86	0.33	54	8.10	2.70	1.97	1.10	1.44 (0.93, 2.24)	0.102
Dabigatran Users	19,994	5,227.61	95.50	0.26	32	6.12	1.60				
Gastrointestinal Hemorrhage, Propensity Score Matched, HASBLED: 0											
Site-Adjusted Analysis											
Rivaroxaban Users	15,309	4,267.15	101.81	0.28	16	3.75	1.05	-2.92	-0.50	0.57 (0.25, 1.30)	0.18
Dabigatran Users	5,818	1,348.50	84.66	0.23	9	6.67	1.55				
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05											
Rivaroxaban Users	5,668	676.11	43.57	0.12	2	2.96	0.35	-4.44	-0.53	0.40 (0.08, 2.06)	0.273
Dabigatran Users	5,668	676.11	43.57	0.12	5	7.40	0.88				
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05											
Rivaroxaban Users	5,668	1,558.63	100.44	0.27	6	3.85	1.06	-2.99	-0.53	0.57 (0.20, 1.61)	0.287
Dabigatran Users	5,668	1,315.50	84.77	0.23	9	6.84	1.59				
Gastrointestinal Hemorrhage, Propensity Score Matched, HASBLED: 1											
Site-Adjusted Analysis											
Rivaroxaban Users	32,231	11,563.92	131.05	0.36	90	7.78	2.79	3.35	1.57	1.87 (1.06, 3.30)	0.03
Dabigatran Users	11,466	3,158.59	100.62	0.28	14	4.43	1.22				
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05											
Rivaroxaban Users	11,319	1,594.48	51.45	0.14	20	12.54	1.77	6.27	0.88	2.00 (0.94, 4.27)	0.074
Dabigatran Users	11,319	1,594.48	51.45	0.14	10	6.27	0.88				
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05											
Rivaroxaban Users	11,319	4,041.37	130.41	0.36	32	7.92	2.83	3.43	1.59	1.88 (1.00, 3.54)	0.049
Dabigatran Users	11,319	3,121.27	100.72	0.28	14	4.49	1.24				
Gastrointestinal Hemorrhage, Propensity Score Matched, HASBLED: 2											
Site-Adjusted Analysis											

Sentinel

Table 12d. Effect Estimates for Gastrointestinal Hemorrhage, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and HASBLED

Direct Oral Anticoagulant	Number of New Users	Person Years at Risk	Average Person Days at Risk	Average Person Years at Risk	Number of Events	Incidence Rate per 1,000 Person Years	Risk per 1,000 New Users	Incidence Rate Difference per 1,000 Person Years	Risk Difference per 1,000 New Users	Hazard Ratio (95% Confidence Interval)	Wald P-Value
Rivaroxaban Users	8,030	2,683.71	122.07	0.33	40	14.90	4.98	4.11	2.11	1.52 (0.68, 3.40)	0.308
Dabigatran Users	2,435	648.56	97.28	0.27	7	10.79	2.87				
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05											
Rivaroxaban Users	2,368	316.17	48.77	0.13	4	12.65	1.69	-3.16	-0.42	0.80 (0.21, 2.98)	0.739
Dabigatran Users	2,368	316.17	48.77	0.13	5	15.81	2.11				
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05											
Rivaroxaban Users	2,368	805.24	124.20	0.34	10	12.42	4.22	1.42	1.27	1.23 (0.47, 3.24)	0.675
Dabigatran Users	2,368	636.40	98.16	0.27	7	11.00	2.96				
Gastrointestinal Hemorrhage, Propensity Score Matched, HASBLED: 3+											
Site-Adjusted Analysis											
Rivaroxaban Users	1,829	515.18	102.88	0.28	19	36.88	10.39	20.37	6.12	1.99 (0.46, 8.58)	0.358
Dabigatran Users	469	121.10	94.31	0.26	2	16.52	4.26				
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05											
Rivaroxaban Users	408	49.52	44.33	0.12	1	20.19	2.45	-20.19	-2.45	0.50 (0.05, 5.51)	0.571
Dabigatran Users	408	49.52	44.33	0.12	2	40.39	4.90				
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05											
Rivaroxaban Users	408	115.62	103.50	0.28	2	17.30	4.90	-1.67	0.00	0.87 (0.12, 6.28)	0.892
Dabigatran Users	408	105.45	94.40	0.26	2	18.97	4.90				

Sentinel

Table 12e. Effect Estimates for Gastrointestinal Hemorrhage, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and Sex

Direct Oral Anticoagulant	Number of New Users	Person Years at Risk	Average Person Days at Risk	Average Person Years at Risk	Number of Events	Incidence Rate per 1,000 Person Years	Risk per 1,000 New Users	Incidence Rate Difference per 1,000 Person Years	Risk Difference per 1,000 New Users	Hazard Ratio (95% Confidence Interval)	Wald P-Value
Gastrointestinal Hemorrhage, Propensity Score Matched											
Site-Adjusted Analysis											
Rivaroxaban Users	57,399	19,029.95	121.09	0.33	165	8.67	2.87	2.61	1.29	1.51 (1.03, 2.21)	0.034
Dabigatran Users	20,188	5,276.74	95.47	0.26	32	6.06	1.59				
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05											
Rivaroxaban Users	19,994	2,656.86	48.54	0.13	32	12.04	1.60	3.76	0.50	1.45 (0.85, 2.50)	0.176
Dabigatran Users	19,994	2,656.86	48.54	0.13	22	8.28	1.10				
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05											
Rivaroxaban Users	19,994	6,670.44	121.86	0.33	54	8.10	2.70	1.97	1.10	1.44 (0.93, 2.24)	0.102
Dabigatran Users	19,994	5,227.61	95.50	0.26	32	6.12	1.60				
Gastrointestinal Hemorrhage, Propensity Score Matched, Sex: Female											
Site-Adjusted Analysis											
Rivaroxaban Users	14,711	5,229.51	129.84	0.36	54	10.33	3.67	1.97	1.33	1.27 (0.66, 2.44)	0.468
Dabigatran Users	4,699	1,315.89	102.28	0.28	11	8.36	2.34				
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05											
Rivaroxaban Users	4,631	659.59	52.02	0.14	11	16.68	2.38	6.06	0.86	1.57 (0.61, 4.05)	0.35
Dabigatran Users	4,631	659.59	52.02	0.14	7	10.61	1.51				
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05											
Rivaroxaban Users	4,631	1,665.37	131.35	0.36	17	10.21	3.67	1.72	1.30	1.26 (0.59, 2.71)	0.551
Dabigatran Users	4,631	1,295.51	102.18	0.28	11	8.49	2.38				
Gastrointestinal Hemorrhage, Propensity Score Matched, Sex: Male											
Site-Adjusted Analysis											
Rivaroxaban Users	42,688	13,800.44	118.08	0.32	111	8.04	2.60	2.74	1.24	1.62 (1.01, 2.58)	0.044
Dabigatran Users	15,489	3,960.85	93.40	0.26	21	5.30	1.36				
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05											
Rivaroxaban Users	15,299	1,990.79	47.53	0.13	20	10.05	1.31	2.01	0.26	1.25 (0.65, 2.41)	0.506
Dabigatran Users	15,299	1,990.79	47.53	0.13	16	8.04	1.05				
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05											
Rivaroxaban Users	15,299	4,942.39	118.00	0.32	39	7.89	2.55	2.53	1.18	1.58 (0.93, 2.69)	0.09
Dabigatran Users	15,299	3,913.97	93.44	0.26	21	5.37	1.37				

Sentinel

Table 13a. Effect Estimates for Intracranial Hemorrhage, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type

Direct Oral Anticoagulant	Number of New Users	Person Years at Risk	Average Person Days at Risk	Average Person Years at Risk	Number of Events	Incidence Rate per 1,000 Person Years	Risk per 1,000 New Users	Incidence Rate Difference per 1,000 Person Years	Risk Difference per 1,000 New Users	Hazard Ratio (95% Confidence Interval)	Wald P-Value
Site-Adjusted Analysis											
Rivaroxaban Users	57,399	19,029.95	121.09	0.33	30	1.58	0.52	0.06	0.13	1.14 (0.52, 2.50)	0.745
Dabigatran Users	20,188	5,276.74	95.47	0.26	8	1.52	0.40				
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05											
Rivaroxaban Users	19,994	2,656.86	48.54	0.13	6	2.26	0.30	0.38	0.05	1.20 (0.37, 3.93)	0.763
Dabigatran Users	19,994	2,656.86	48.54	0.13	5	1.88	0.25				
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05											
Rivaroxaban Users	19,994	6,670.44	121.86	0.33	10	1.50	0.50	0.16	0.15	1.18 (0.45, 3.12)	0.737
Dabigatran Users	19,994	5,227.61	95.50	0.26	7	1.34	0.35				

Sentinel

Table 13b. Effect Estimates for Intracranial Hemorrhage, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and Age Group

Direct Oral Anticoagulant	Number of New Users	Person Years at Risk	Average Person Days at Risk	Average Person Years at Risk	Number of Events	Incidence Rate per 1,000 Person Years	Risk per 1,000 New Users	Incidence Rate Difference per 1,000 Person Years	Risk Difference per 1,000 New Users	Hazard Ratio (95% Confidence Interval)	Wald P-Value
Intracranial Hemorrhage, Propensity Score Matched											
Site-Adjusted Analysis											
Rivaroxaban Users	57,399	19,029.95	121.09	0.33	30	1.58	0.52	0.06	0.13	1.14 (0.52, 2.50)	0.745
Dabigatran Users	20,188	5,276.74	95.47	0.26	8	1.52	0.40				
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05											
Rivaroxaban Users	19,994	2,656.86	48.54	0.13	6	2.26	0.30	0.38	0.05	1.20 (0.37, 3.93)	0.763
Dabigatran Users	19,994	2,656.86	48.54	0.13	5	1.88	0.25				
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05											
Rivaroxaban Users	19,994	6,670.44	121.86	0.33	10	1.50	0.50	0.16	0.15	1.18 (0.45, 3.12)	0.737
Dabigatran Users	19,994	5,227.61	95.50	0.26	7	1.34	0.35				
Intracranial Hemorrhage, Propensity Score Matched, Age Group: 21-49 years											
Site-Adjusted Analysis											
Rivaroxaban Users	9,776	2,397.94	89.59	0.25	3	1.25	0.31	1.25	0.31	NaN	N/A
Dabigatran Users	3,499	673.13	70.27	0.19	0	0.00	0.00				
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05											
Rivaroxaban Users	3,375	364.41	39.44	0.11	1	2.74	0.30	2.74	0.30	NaN	N/A
Dabigatran Users	3,375	364.41	39.44	0.11	0	0.00	0.00				
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05											
Rivaroxaban Users	3,375	830.60	89.89	0.25	1	1.20	0.30	1.20	0.30	NaN	N/A
Dabigatran Users	3,375	650.40	70.39	0.19	0	0.00	0.00				
Intracranial Hemorrhage, Propensity Score Matched, Age Group: 50-64 years											
Site-Adjusted Analysis											
Rivaroxaban Users	47,623	16,632.01	127.56	0.35	27	1.62	0.57	-0.11	0.09	1.02 (0.46, 2.25)	0.969
Dabigatran Users	16,689	4,603.61	100.75	0.28	8	1.74	0.48				
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05											
Rivaroxaban Users	16,531	2,319.71	51.25	0.14	5	2.16	0.30	-0.86	-0.12	0.71 (0.23, 2.25)	0.566
Dabigatran Users	16,531	2,319.71	51.25	0.14	7	3.02	0.42				
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05											
Rivaroxaban Users	16,531	5,766.12	127.40	0.35	8	1.39	0.48	-0.36	0.00	0.88 (0.33, 2.36)	0.804
Dabigatran Users	16,531	4,567.99	100.93	0.28	8	1.75	0.48				

Sentinel

Table 13c. Effect Estimates for Intracranial Hemorrhage, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and CHADSVASC

Direct Oral Anticoagulant	Number of New Users	Person Years at Risk	Average Person Days at Risk	Average Person Years at Risk	Number of Events	Incidence Rate per 1,000 Person Years	Risk per 1,000 New Users	Incidence Rate Difference per 1,000 Person Years	Risk Difference per 1,000 New Users	Hazard Ratio (95% Confidence Interval)	Wald P-Value
Intracranial Hemorrhage, Propensity Score Matched											
Site-Adjusted Analysis											
Rivaroxaban Users	57,399	19,029.95	121.09	0.33	30	1.58	0.52	0.06	0.13	1.14 (0.52, 2.50)	0.745
Dabigatran Users	20,188	5,276.74	95.47	0.26	8	1.52	0.40				
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05											
Rivaroxaban Users	19,994	2,656.86	48.54	0.13	6	2.26	0.30	0.38	0.05	1.20 (0.37, 3.93)	0.763
Dabigatran Users	19,994	2,656.86	48.54	0.13	5	1.88	0.25				
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05											
Rivaroxaban Users	19,994	6,670.44	121.86	0.33	10	1.50	0.50	0.16	0.15	1.18 (0.45, 3.12)	0.737
Dabigatran Users	19,994	5,227.61	95.50	0.26	7	1.34	0.35				
Intracranial Hemorrhage, Propensity Score Matched, CHADSVASC: 0											
Site-Adjusted Analysis											
Rivaroxaban Users	10,615	2,741.83	94.34	0.26	2	0.73	0.19	-1.52	-0.30	0.33 (0.05, 2.38)	0.271
Dabigatran Users	4,137	889.29	78.51	0.21	2	2.25	0.48				
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05											
Rivaroxaban Users	4,004	465.29	42.44	0.12	0	0.00	0.00	-4.30	-0.50	NaN	N/A
Dabigatran Users	4,004	465.29	42.44	0.12	2	4.30	0.50				
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05											
Rivaroxaban Users	4,004	1,071.77	97.77	0.27	0	0.00	0.00	-2.32	-0.50	NaN	N/A
Dabigatran Users	4,004	860.62	78.51	0.21	2	2.32	0.50				
Intracranial Hemorrhage, Propensity Score Matched, CHADSVASC: 1											
Site-Adjusted Analysis											
Rivaroxaban Users	20,124	6,616.93	120.10	0.33	6	0.91	0.30	0.37	0.16	2.10 (0.25, 17.46)	0.493
Dabigatran Users	7,308	1,855.17	92.72	0.25	1	0.54	0.14				
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05											
Rivaroxaban Users	7,193	949.25	48.20	0.13	0	0.00	0.00	-1.05	-0.14	NaN	N/A
Dabigatran Users	7,193	949.25	48.20	0.13	1	1.05	0.14				
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05											
Rivaroxaban Users	7,193	2,420.69	122.92	0.34	1	0.41	0.14	-0.13	0.00	0.81 (0.05, 13.14)	0.881
Dabigatran Users	7,193	1,828.61	92.85	0.25	1	0.55	0.14				
Intracranial Hemorrhage, Propensity Score Matched, CHADSVASC: 2											

Sentinel

Table 13c. Effect Estimates for Intracranial Hemorrhage, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and CHADSVASC

Direct Oral Anticoagulant	Number of New Users	Person Years at Risk	Average Person Days at Risk	Average Person Years at Risk	Number of Events	Incidence Rate per 1,000 Person Years	Risk per 1,000 New Users	Incidence Rate Difference per 1,000 Person Years	Risk Difference per 1,000 New Users	Hazard Ratio (95% Confidence Interval)	Wald P-Value
Site-Adjusted Analysis											
Rivaroxaban Users	15,095	5,631.68	136.27	0.37	10	1.78	0.66	1.78	0.66	NaN	N/A
Dabigatran Users	5,427	1,550.67	104.36	0.29	0	0.00	0.00				
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05											
Rivaroxaban Users	5,320	767.09	52.67	0.14	2	2.61	0.38	2.61	0.38	NaN	N/A
Dabigatran Users	5,320	767.09	52.67	0.14	0	0.00	0.00				
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05											
Rivaroxaban Users	5,320	2,003.86	137.58	0.38	3	1.50	0.56	1.50	0.56	NaN	N/A
Dabigatran Users	5,320	1,526.23	104.78	0.29	0	0.00	0.00				
Intracranial Hemorrhage, Propensity Score Matched, CHADSVASC: 3											
Site-Adjusted Analysis											
Rivaroxaban Users	7,559	2,736.12	132.21	0.36	6	2.19	0.79	-0.80	-0.09	0.84 (0.17, 4.18)	0.83
Dabigatran Users	2,267	667.90	107.61	0.29	2	2.99	0.88				
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05											
Rivaroxaban Users	2,200	326.54	54.21	0.15	1	3.06	0.45	0.00	0.00	1.00 (0.06, 15.99)	1
Dabigatran Users	2,200	326.54	54.21	0.15	1	3.06	0.45				
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05											
Rivaroxaban Users	2,200	842.57	139.89	0.38	1	1.19	0.45	-1.87	-0.45	0.42 (0.04, 4.60)	0.474
Dabigatran Users	2,200	653.85	108.55	0.30	2	3.06	0.91				
Intracranial Hemorrhage, Propensity Score Matched, CHADSVASC: 4											
Site-Adjusted Analysis											
Rivaroxaban Users	3,094	1,048.49	123.78	0.34	3	2.86	0.97	-10.30	-2.78	0.20 (0.04, 1.02)	0.054
Dabigatran Users	800	227.88	104.04	0.28	3	13.16	3.75				
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05											
Rivaroxaban Users	709	106.46	54.84	0.15	0	0.00	0.00	-18.79	-2.82	NaN	N/A
Dabigatran Users	709	106.46	54.84	0.15	2	18.79	2.82				
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05											
Rivaroxaban Users	709	263.30	135.64	0.37	0	0.00	0.00	-14.66	-4.23	NaN	N/A
Dabigatran Users	709	204.61	105.41	0.29	3	14.66	4.23				
Intracranial Hemorrhage, Propensity Score Matched, CHADSVASC: 5+											
Site-Adjusted Analysis											

Sentinel

Table 13c. Effect Estimates for Intracranial Hemorrhage, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and CHADSVASC

Direct Oral Anticoagulant	Number of New Users	Person Years at Risk	Average Person Days at Risk	Average Person Years at Risk	Number of Events	Incidence Rate per 1,000 Person Years	Risk per 1,000 New Users	Incidence Rate Difference per 1,000 Person Years	Risk Difference per 1,000 New Users	Hazard Ratio (95% Confidence Interval)	Wald P-Value
Rivaroxaban Users	912	254.89	102.08	0.28	3	11.77	3.29	11.77	3.29	NaN	N/A
Dabigatran Users	249	85.83	125.90	0.34	0	0.00	0.00				
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05											
Rivaroxaban Users	164	23.64	52.64	0.14	0	0.00	0.00	0.00	0.00	NaN	N/A
Dabigatran Users	164	23.64	52.64	0.14	0	0.00	0.00				
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05											
Rivaroxaban Users	164	51.19	114.01	0.31	0	0.00	0.00	0.00	0.00	NaN	N/A
Dabigatran Users	164	60.46	134.66	0.37	0	0.00	0.00				

Sentinel

Table 13d. Effect Estimates for Intracranial Hemorrhage, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and HASBLED

Direct Oral Anticoagulant	Number of New Users	Person Years at Risk	Average Person Days at Risk	Average Person Years at Risk	Number of Events	Incidence Rate per 1,000 Person Years	Risk per 1,000 New Users	Incidence Rate Difference per 1,000 Person Years	Risk Difference per 1,000 New Users	Hazard Ratio (95% Confidence Interval)	Wald P-Value
Intracranial Hemorrhage, Propensity Score Matched											
Site-Adjusted Analysis											
Rivaroxaban Users	57,399	19,029.95	121.09	0.33	30	1.58	0.52	0.06	0.13	1.14 (0.52, 2.50)	0.745
Dabigatran Users	20,188	5,276.74	95.47	0.26	8	1.52	0.40				
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05											
Rivaroxaban Users	19,994	2,656.86	48.54	0.13	6	2.26	0.30	0.38	0.05	1.20 (0.37, 3.93)	0.763
Dabigatran Users	19,994	2,656.86	48.54	0.13	5	1.88	0.25				
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05											
Rivaroxaban Users	19,994	6,670.44	121.86	0.33	10	1.50	0.50	0.16	0.15	1.18 (0.45, 3.12)	0.737
Dabigatran Users	19,994	5,227.61	95.50	0.26	7	1.34	0.35				
Intracranial Hemorrhage, Propensity Score Matched, HASBLED: 0											
Site-Adjusted Analysis											
Rivaroxaban Users	15,309	4,267.15	101.81	0.28	3	0.70	0.20	-1.52	-0.32	0.33 (0.07, 1.65)	0.176
Dabigatran Users	5,818	1,348.50	84.66	0.23	3	2.22	0.52				
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05											
Rivaroxaban Users	5,668	676.11	43.57	0.12	0	0.00	0.00	-4.44	-0.53	NaN	N/A
Dabigatran Users	5,668	676.11	43.57	0.12	3	4.44	0.53				
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05											
Rivaroxaban Users	5,668	1,558.63	100.44	0.27	0	0.00	0.00	-2.28	-0.53	NaN	N/A
Dabigatran Users	5,668	1,315.50	84.77	0.23	3	2.28	0.53				
Intracranial Hemorrhage, Propensity Score Matched, HASBLED: 1											
Site-Adjusted Analysis											
Rivaroxaban Users	32,231	11,563.92	131.05	0.36	12	1.04	0.37	0.09	0.11	1.24 (0.35, 4.40)	0.742
Dabigatran Users	11,466	3,158.59	100.62	0.28	3	0.95	0.26				
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05											
Rivaroxaban Users	11,319	1,594.48	51.45	0.14	2	1.25	0.18	1.25	0.18	NaN	N/A
Dabigatran Users	11,319	1,594.48	51.45	0.14	0	0.00	0.00				
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05											
Rivaroxaban Users	11,319	4,041.37	130.41	0.36	2	0.49	0.18	-0.15	0.00	0.83 (0.12, 5.94)	0.856
Dabigatran Users	11,319	3,121.27	100.72	0.28	2	0.64	0.18				

Sentinel

Table 13d. Effect Estimates for Intracranial Hemorrhage, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and HASBLED

Direct Oral Anticoagulant	Number of New Users	Person Years at Risk	Average Person Days at Risk	Average Person Years at Risk	Number of Events	Incidence Rate per 1,000 Person Years	Risk per 1,000 New Users	Incidence Rate Difference per 1,000 Person Years	Risk Difference per 1,000 New Users	Hazard Ratio (95% Confidence Interval)	Wald P-Value
Intracranial Hemorrhage, Propensity Score Matched, HASBLED: 2											
Site-Adjusted Analysis											
Rivaroxaban Users	8,030	2,683.71	122.07	0.33	9	3.35	1.12	1.81	0.71	1.99 (0.25, 15.99)	0.519
Dabigatran Users	2,435	648.56	97.28	0.27	1	1.54	0.41				
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05											
Rivaroxaban Users	2,368	316.17	48.77	0.13	2	6.33	0.84	3.16	0.42	2.00 (0.18, 22.06)	0.571
Dabigatran Users	2,368	316.17	48.77	0.13	1	3.16	0.42				
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05											
Rivaroxaban Users	2,368	805.24	124.20	0.34	3	3.73	1.27	2.15	0.84	2.48 (0.26, 23.99)	0.432
Dabigatran Users	2,368	636.40	98.16	0.27	1	1.57	0.42				
Intracranial Hemorrhage, Propensity Score Matched, HASBLED: 3+											
Site-Adjusted Analysis											
Rivaroxaban Users	1,829	515.18	102.88	0.28	6	11.65	3.28	3.39	1.15	1.83 (0.22, 15.31)	0.577
Dabigatran Users	469	121.10	94.31	0.26	1	8.26	2.13				
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05											
Rivaroxaban Users	408	49.52	44.33	0.12	3	60.58	7.35	40.39	4.90	3.00 (0.31, 28.84)	0.341
Dabigatran Users	408	49.52	44.33	0.12	1	20.19	2.45				
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05											
Rivaroxaban Users	408	115.62	103.50	0.28	5	43.25	12.25	33.76	9.80	4.75 (0.55, 40.90)	0.156
Dabigatran Users	408	105.45	94.40	0.26	1	9.48	2.45				

Sentinel

Table 13e. Effect Estimates for Intracranial Hemorrhage, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, by Analysis Type and Sex

Direct Oral Anticoagulant	Number of New Users	Person Years at Risk	Average Person Days at Risk	Average Person Years at Risk	Number of Events	Incidence Rate per 1,000 Person Years	Risk per 1,000 New Users	Incidence Rate Difference per 1,000 Person Years	Risk Difference per 1,000 New Users	Hazard Ratio (95% Confidence Interval)	Wald P-Value
Intracranial Hemorrhage, Propensity Score Matched											
Site-Adjusted Analysis											
Rivaroxaban Users	57,399	19,029.9	121.09	0.33	30	1.58	0.52	0.06	0.13	1.14 (0.52, 2.50)	0.745
Dabigatran Users	20,188	5,276.74	95.47	0.26	8	1.52	0.40				
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05											
Rivaroxaban Users	19,994	2,656.86	48.54	0.13	6	2.26	0.30	0.38	0.05	1.20 (0.37, 3.93)	0.763
Dabigatran Users	19,994	2,656.86	48.54	0.13	5	1.88	0.25				
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05											
Rivaroxaban Users	19,994	6,670.44	121.86	0.33	10	1.50	0.50	0.16	0.15	1.18 (0.45, 3.12)	0.737
Dabigatran Users	19,994	5,227.61	95.50	0.26	7	1.34	0.35				
Intracranial Hemorrhage, Propensity Score Matched, Sex: Female											
Site-Adjusted Analysis											
Rivaroxaban Users	14,711	5,229.51	129.84	0.36	7	1.34	0.48	0.58	0.26	1.71 (0.21, 13.97)	0.617
Dabigatran Users	4,699	1,315.89	102.28	0.28	1	0.76	0.21				
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05											
Rivaroxaban Users	4,631	659.59	52.02	0.14	2	3.03	0.43	1.52	0.22	2.00 (0.18, 22.06)	0.571
Dabigatran Users	4,631	659.59	52.02	0.14	1	1.52	0.22				
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05											
Rivaroxaban Users	4,631	1,665.37	131.35	0.36	3	1.80	0.65	1.03	0.43	2.60 (0.27, 25.16)	0.408
Dabigatran Users	4,631	1,295.51	102.18	0.28	1	0.77	0.22				
Intracranial Hemorrhage, Propensity Score Matched, Sex: Male											
Site-Adjusted Analysis											
Rivaroxaban Users	42,688	13,800.4	118.08	0.32	23	1.67	0.54	-0.10	0.09	1.04 (0.44, 2.44)	0.926
Dabigatran Users	15,489	3,960.85	93.40	0.26	7	1.77	0.45				
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.05											
Rivaroxaban Users	15,299	1,990.79	47.53	0.13	6	3.01	0.39	0.50	0.07	1.20 (0.37, 3.93)	0.763
Dabigatran Users	15,299	1,990.79	47.53	0.13	5	2.51	0.33				
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.05											
Rivaroxaban Users	15,299	4,942.39	118.00	0.32	9	1.82	0.59	0.03	0.13	1.07 (0.39, 2.90)	0.898
Dabigatran Users	15,299	3,913.97	93.44	0.26	7	1.79	0.46				

Sentinel

Table 14. Summary of Patient Level Cohort Attrition in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022

	Stroke, Truncation Weight = 2.5, ATES Weights				Major Extracranial Bleeding, Truncation Weight = 2.5, ATES Weights			
	Rivaroxaban Users		Dabigatran Users		Rivaroxaban Users		Dabigatran Users	
	Remaining	Excluded	Remaining	Excluded	Remaining	Excluded	Remaining	Excluded
Members meeting enrollment and demographic requirements								
Enrolled at any point during the query period	245,144,898	N/A	245,144,898	N/A	245,144,898	N/A	245,144,898	N/A
Had required coverage type (medical and/or drug coverage)	156,550,323	88,594,575	156,550,323	88,594,575	156,550,323	88,594,575	156,550,323	88,594,575
Enrolled during specified age range	122,157,348	34,392,975	122,157,348	34,392,975	122,157,348	34,392,975	122,157,348	34,392,975
Had requestable medical charts	122,157,348	0	122,157,348	0	122,157,348	0	122,157,348	0
Met demographic requirements (sex, race, and Hispanic origin)	122,144,527	12,821	122,144,527	12,821	122,144,527	12,821	122,144,527	12,821
Members with a valid index event								
Had any cohort-defining claim during the query period	495,164	121,649,363	75,706	122,068,821	495,164	121,649,363	75,706	122,068,821
Claim recorded during specified age range	355,550	139,614	58,407	16,834	355,550	139,614	58,407	16,834
Episode defining index claim recorded during the query period	355,264	286	58,391	16	355,264	286	58,391	16
Members with required pre-index history								
Had sufficient pre-index continuous enrollment	238,301	116,963	39,242	19,149	238,301	116,963	39,242	19,149
Met inclusion and exclusion criteria[1]	58,379	179,922	20,310	18,932	58,379	179,922	20,310	18,932
Evidence of dialysis	N/A	275	N/A	32	N/A	275	N/A	32
Evidence of exclusions	N/A	124,444	N/A	6,979	N/A	124,444	N/A	6,979
Evidence of exposureexcl	N/A	122,112	N/A	12,779	N/A	122,112	N/A	12,779
Evidence of exposureexcl1	N/A	0	N/A	179	N/A	0	N/A	179
Evidence of ISENC	N/A	1,572	N/A	122	N/A	1,572	N/A	122
No evidence of afib	N/A	152,432	N/A	8,252	N/A	152,432	N/A	8,252
Met event incidence criteria	58,379	0	20,310	0	58,379	0	20,310	0
Members with required post-index follow-up								
Had sufficient post-index continuous enrollment	58,261	118	20,310	0	58,261	118	20,310	0
Had minimum days' supply on index date	58,261	0	20,310	0	58,261	0	20,310	0

Sentinel

Table 14. Summary of Patient Level Cohort Attrition in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022

	Stroke, Truncation Weight = 2.5, ATES Weights				Major Extracranial Bleeding, Truncation Weight = 2.5, ATES Weights			
	Rivaroxaban Users		Dabigatran Users		Rivaroxaban Users		Dabigatran Users	
	Remaining	Excluded	Remaining	Excluded	Remaining	Excluded	Remaining	Excluded
Had index episode of at least required length	58,261	0	20,310	0	58,261	0	20,310	0
Had index episode longer than blackout period	58,200	61	20,297	13	58,195	66	20,295	15
Did not have an event during blackout period	58,195	5	20,295	2	58,195	0	20,295	0
Final cohort								
Number of members	58,195	N/A	20,295	N/A	58,195	N/A	20,295	N/A
Number of episodes	58,195	N/A	20,295	N/A	58,195	N/A	20,295	N/A
Members meeting comparative cohort eligibility requirements								
Excluded due to same-day initition of both exposure groups	58,195	0	20,295	0	58,195	0	20,295	0
Excluded due to prior initiation of other exposure group	57,399	796	20,188	107	57,399	796	20,188	107
Excluded due to propensity score trimming	57,228	171	20,180	8	57,228	171	20,180	8
Included in comparative analysis	57,228	0	20,180	0	57,228	0	20,180	0
Additional information								
Number of events in comparative analysis	66	N/A	32	N/A	193	N/A	36	N/A

[1]Patients can meet multiple inclusion and/or exclusion criteria; therefore, the total number of patients excluded overall may not equal the sum of all patients in each criterion.

Sentinel

Table 14. Summary of Patient Level Cohort Attrition in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022

	Gastrointestinal Hemorrhage, Truncation Weight = 2.5, ATES Weights				Intracranial Hemorrhage, Truncation Weight = 2.5, ATES Weights			
	Rivaroxaban Users		Dabigatran Users		Rivaroxaban Users		Dabigatran Users	
	Remaining	Excluded	Remaining	Excluded	Remaining	Excluded	Remaining	Excluded
Enrolled at any point during the query period	245,144,898	N/A	245,144,898	N/A	245,144,898	N/A	245,144,898	N/A
Had required coverage type (medical and/or drug coverage)	156,550,323	88,594,575	156,550,323	88,594,575	156,550,323	88,594,575	156,550,323	88,594,575
Enrolled during specified age range	122,157,348	34,392,975	122,157,348	34,392,975	122,157,348	34,392,975	122,157,348	34,392,975
Had requestable medical charts	122,157,348	0	122,157,348	0	122,157,348	0	122,157,348	0
Met demographic requirements (sex, race, and Hispanic origin)	122,144,527	12,821	122,144,527	12,821	122,144,527	12,821	122,144,527	12,821
Had any cohort-defining claim during the query period	495,164	121,649,363	75,706	122,068,821	495,164	121,649,363	75,706	122,068,821
Claim recorded during specified age range	355,550	139,614	58,407	16,834	355,550	139,614	58,407	16,834
Episode defining index claim recorded during the query period	355,264	286	58,391	16	355,264	286	58,391	16
Had sufficient pre-index continuous enrollment	238,301	116,963	39,242	19,149	238,301	116,963	39,242	19,149
Met inclusion and exclusion criteria[1]	58,379	179,922	20,310	18,932	58,379	179,922	20,310	18,932
Evidence of dialysis	N/A	275	N/A	32	N/A	275	N/A	32
Evidence of exclusions	N/A	124,444	N/A	6,979	N/A	124,444	N/A	6,979
Evidence of exposureexcl	N/A	122,112	N/A	12,779	N/A	122,112	N/A	12,779
Evidence of exposureexcl1	N/A	0	N/A	179	N/A	0	N/A	179
Evidence of ISENC	N/A	1,572	N/A	122	N/A	1,572	N/A	122
No evidence of afib	N/A	152,432	N/A	8,252	N/A	152,432	N/A	8,252
Met event incidence criteria	58,379	0	20,310	0	58,379	0	20,310	0
Had sufficient post-index continuous enrollment	58,261	118	20,310	0	58,261	118	20,310	0
Had minimum days' supply on index date	58,261	0	20,310	0	58,261	0	20,310	0

Sentinel

Table 14. Summary of Patient Level Cohort Attrition in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022

	Gastrointestinal Hemorrhage, Truncation Weight = 2.5, ATES Weights				Intracranial Hemorrhage, Truncation Weight = 2.5, ATES Weights			
	Rivaroxaban Users		Dabigatran Users		Rivaroxaban Users		Dabigatran Users	
	Remaining	Excluded	Remaining	Excluded	Remaining	Excluded	Remaining	Excluded
Had index episode of at least required length	58,261	0	20,310	0	58,261	0	20,310	0
Had index episode longer than blackout period	58,195	66	20,295	15	58,195	66	20,295	15
Did not have an event during blackout period	58,195	0	20,295	0	58,195	0	20,295	0
Number of members	58,195	N/A	20,295	N/A	58,195	N/A	20,295	N/A
Number of episodes	58,195	N/A	20,295	N/A	58,195	N/A	20,295	N/A
Excluded due to same-day initition of both exposure groups	58,195	0	20,295	0	58,195	0	20,295	0
Excluded due to prior initiation of other exposure group	57,399	796	20,188	107	57,399	796	20,188	107
Excluded due to propensity score trimming	57,228	171	20,180	8	57,228	171	20,180	8
Included in comparative analysis	57,228	0	20,180	0	57,228	0	20,180	0
Number of events in comparative analysis	162	N/A	32	N/A	30	N/A	8	N/A

Sentinel

Table 14. Summary of Patient Level Cohort Attrition in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022

	Stroke, TruncWeight = 2.5, ATT weights				Major Extracranial Bleeding, TruncWeight = 2.5, ATT weights			
	Rivaroxaban Users		Dabigatran Users		Rivaroxaban Users		Dabigatran Users	
	Remaining	Excluded	Remaining	Excluded	Remaining	Excluded	Remaining	Excluded
Enrolled at any point during the query period	245,144,898	N/A	245,144,898	N/A	245,144,898	N/A	245,144,898	N/A
Had required coverage type (medical and/or drug coverage)	156,550,323	88,594,575	156,550,323	88,594,575	156,550,323	88,594,575	156,550,323	88,594,575
Enrolled during specified age range	122,157,348	34,392,975	122,157,348	34,392,975	122,157,348	34,392,975	122,157,348	34,392,975
Had requestable medical charts	122,157,348	0	122,157,348	0	122,157,348	0	122,157,348	0
Met demographic requirements (sex, race, and Hispanic origin)	122,144,527	12,821	122,144,527	12,821	122,144,527	12,821	122,144,527	12,821
Had any cohort-defining claim during the query period	495,164	121,649,363	75,706	122,068,821	495,164	121,649,363	75,706	122,068,821
Claim recorded during specified age range	355,550	139,614	58,407	16,834	355,550	139,614	58,407	16,834
Episode defining index claim recorded during the query period	355,264	286	58,391	16	355,264	286	58,391	16
Had sufficient pre-index continuous enrollment	238,301	116,963	39,242	19,149	238,301	116,963	39,242	19,149
Met inclusion and exclusion criteria[1]	58,379	179,922	20,310	18,932	58,379	179,922	20,310	18,932
Evidence of dialysis	N/A	275	N/A	32	N/A	275	N/A	32
Evidence of exclusions	N/A	124,444	N/A	6,979	N/A	124,444	N/A	6,979
Evidence of exposureexcl	N/A	122,112	N/A	12,779	N/A	122,112	N/A	12,779
Evidence of exposureexcl1	N/A	0	N/A	179	N/A	0	N/A	179
Evidence of ISENC	N/A	1,572	N/A	122	N/A	1,572	N/A	122
No evidence of afib	N/A	152,432	N/A	8,252	N/A	152,432	N/A	8,252
Met event incidence criteria	58,379	0	20,310	0	58,379	0	20,310	0
Had sufficient post-index continuous enrollment	58,261	118	20,310	0	58,261	118	20,310	0
Had minimum days' supply on index date	58,261	0	20,310	0	58,261	0	20,310	0

Sentinel

Table 14. Summary of Patient Level Cohort Attrition in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022

	Stroke, TruncWeight = 2.5, ATT weights				Major Extracranial Bleeding, TruncWeight = 2.5, ATT weights			
	Rivaroxaban Users		Dabigatran Users		Rivaroxaban Users		Dabigatran Users	
	Remaining	Excluded	Remaining	Excluded	Remaining	Excluded	Remaining	Excluded
Had index episode of at least required length	58,261	0	20,310	0	58,261	0	20,310	0
Had index episode longer than blackout period	58,200	61	20,297	13	58,195	66	20,295	15
Did not have an event during blackout period	58,195	5	20,295	2	58,195	0	20,295	0
Number of members	58,195	N/A	20,295	N/A	58,195	N/A	20,295	N/A
Number of episodes	58,195	N/A	20,295	N/A	58,195	N/A	20,295	N/A
Excluded due to same-day initition of both exposure groups	58,195	0	20,295	0	58,195	0	20,295	0
Excluded due to prior initiation of other exposure group	57,399	796	20,188	107	57,399	796	20,188	107
Excluded due to propensity score trimming	57,228	171	20,180	8	57,228	171	20,180	8
Included in comparative analysis	57,228	0	20,180	0	57,228	0	20,180	0
Number of events in comparative analysis	66	N/A	32	N/A	193	N/A	36	N/A

Sentinel

Table 14. Summary of Patient Level Cohort Attrition in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022

	Gastrointestinal Hemorrhage, TruncWeight = 2.5, ATT weights				Intracranial Hemorrhage, TruncWeight = 2.5, ATT weights			
	Rivaroxaban Users		Dabigatran Users		Rivaroxaban Users		Dabigatran Users	
	Remaining	Excluded	Remaining	Excluded	Remaining	Excluded	Remaining	Excluded
Enrolled at any point during the query period	245,144,898	N/A	245,144,898	N/A	245,144,898	N/A	245,144,898	N/A
Had required coverage type (medical and/or drug coverage)	156,550,323	88,594,575	156,550,323	88,594,575	156,550,323	88,594,575	156,550,323	88,594,575
Enrolled during specified age range	122,157,348	34,392,975	122,157,348	34,392,975	122,157,348	34,392,975	122,157,348	34,392,975
Had requestable medical charts	122,157,348	0	122,157,348	0	122,157,348	0	122,157,348	0
Met demographic requirements (sex, race, and Hispanic origin)	122,144,527	12,821	122,144,527	12,821	122,144,527	12,821	122,144,527	12,821
Had any cohort-defining claim during the query period	495,164	121,649,363	75,706	122,068,821	495,164	121,649,363	75,706	122,068,821
Claim recorded during specified age range	355,550	139,614	58,407	16,834	355,550	139,614	58,407	16,834
Episode defining index claim recorded during the query period	355,264	286	58,391	16	355,264	286	58,391	16
Had sufficient pre-index continuous enrollment	238,301	116,963	39,242	19,149	238,301	116,963	39,242	19,149
Met inclusion and exclusion criteria[1]	58,379	179,922	20,310	18,932	58,379	179,922	20,310	18,932
Evidence of dialysis	N/A	275	N/A	32	N/A	275	N/A	32
Evidence of exclusions	N/A	124,444	N/A	6,979	N/A	124,444	N/A	6,979
Evidence of exposureexcl	N/A	122,112	N/A	12,779	N/A	122,112	N/A	12,779
Evidence of exposureexcl1	N/A	0	N/A	179	N/A	0	N/A	179
Evidence of ISENC	N/A	1,572	N/A	122	N/A	1,572	N/A	122
No evidence of afib	N/A	152,432	N/A	8,252	N/A	152,432	N/A	8,252
Met event incidence criteria	58,379	0	20,310	0	58,379	0	20,310	0
Had sufficient post-index continuous enrollment	58,261	118	20,310	0	58,261	118	20,310	0
Had minimum days' supply on index date	58,261	0	20,310	0	58,261	0	20,310	0

Sentinel

Table 14. Summary of Patient Level Cohort Attrition in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022

	Gastrointestinal Hemorrhage, TruncWeight = 2.5, ATT weights				Intracranial Hemorrhage, TruncWeight = 2.5, ATT weights			
	Rivaroxaban Users		Dabigatran Users		Rivaroxaban Users		Dabigatran Users	
	Remaining	Excluded	Remaining	Excluded	Remaining	Excluded	Remaining	Excluded
Had index episode of at least required length	58,261	0	20,310	0	58,261	0	20,310	0
Had index episode longer than blackout period	58,195	66	20,295	15	58,195	66	20,295	15
Did not have an event during blackout period	58,195	0	20,295	0	58,195	0	20,295	0
Number of members	58,195	N/A	20,295	N/A	58,195	N/A	20,295	N/A
Number of episodes	58,195	N/A	20,295	N/A	58,195	N/A	20,295	N/A
Excluded due to same-day initition of both exposure groups	58,195	0	20,295	0	58,195	0	20,295	0
Excluded due to prior initiation of other exposure group	57,399	796	20,188	107	57,399	796	20,188	107
Excluded due to propensity score trimming	57,228	171	20,180	8	57,228	171	20,180	8
Included in comparative analysis	57,228	0	20,180	0	57,228	0	20,180	0
Number of events in comparative analysis	162	N/A	32	N/A	30	N/A	8	N/A

Sentinel

Table 14. Summary of Patient Level Cohort Attrition in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022

	Stroke, Propensity Score Matched				Major Extracranial Bleeding, Propensity Score Matched			
	Rivaroxaban Users		Dabigatran Users		Rivaroxaban Users		Dabigatran Users	
	Remaining	Excluded	Remaining	Excluded	Remaining	Excluded	Remaining	Excluded
Enrolled at any point during the query period	245,144,898	N/A	245,144,898	N/A	245,144,898	N/A	245,144,898	N/A
Had required coverage type (medical and/or drug coverage)	156,550,323	88,594,575	156,550,323	88,594,575	156,550,323	88,594,575	156,550,323	88,594,575
Enrolled during specified age range	122,157,348	34,392,975	122,157,348	34,392,975	122,157,348	34,392,975	122,157,348	34,392,975
Had requestable medical charts	122,157,348	0	122,157,348	0	122,157,348	0	122,157,348	0
Met demographic requirements (sex, race, and Hispanic origin)	122,144,527	12,821	122,144,527	12,821	122,144,527	12,821	122,144,527	12,821
Had any cohort-defining claim during the query period	495,164	121,649,363	75,706	122,068,821	495,164	121,649,363	75,706	122,068,821
Claim recorded during specified age range	355,550	139,614	58,407	16,834	355,550	139,614	58,407	16,834
Episode defining index claim recorded during the query period	355,264	286	58,391	16	355,264	286	58,391	16
Had sufficient pre-index continuous enrollment	238,301	116,963	39,242	19,149	238,301	116,963	39,242	19,149
Met inclusion and exclusion criteria[1]	58,379	179,922	20,310	18,932	58,379	179,922	20,310	18,932
Evidence of dialysis	N/A	275	N/A	32	N/A	275	N/A	32
Evidence of exclusions	N/A	124,444	N/A	6,979	N/A	124,444	N/A	6,979
Evidence of exposureexcl	N/A	122,112	N/A	12,779	N/A	122,112	N/A	12,779
Evidence of exposureexcl1	N/A	0	N/A	179	N/A	0	N/A	179
Evidence of ISENC	N/A	1,572	N/A	122	N/A	1,572	N/A	122
No evidence of afib	N/A	152,432	N/A	8,252	N/A	152,432	N/A	8,252
Met event incidence criteria	58,379	0	20,310	0	58,379	0	20,310	0
Had sufficient post-index continuous enrollment	58,261	118	20,310	0	58,261	118	20,310	0
Had minimum days' supply on index date	58,261	0	20,310	0	58,261	0	20,310	0

Sentinel

Table 14. Summary of Patient Level Cohort Attrition in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022

	Stroke, Propensity Score Matched				Major Extracranial Bleeding, Propensity Score Matched			
	Rivaroxaban Users		Dabigatran Users		Rivaroxaban Users		Dabigatran Users	
	Remaining	Excluded	Remaining	Excluded	Remaining	Excluded	Remaining	Excluded
Had index episode of at least required length	58,261	0	20,310	0	58,261	0	20,310	0
Had index episode longer than blackout period	58,200	61	20,297	13	58,195	66	20,295	15
Did not have an event during blackout period	58,195	5	20,295	2	58,195	0	20,295	0
Number of members	58,195	N/A	20,295	N/A	58,195	N/A	20,295	N/A
Number of episodes	58,195	N/A	20,295	N/A	58,195	N/A	20,295	N/A
Excluded due to same-day initition of both exposure groups	58,195	0	20,295	0	58,195	0	20,295	0
Excluded due to prior initiation of other exposure group	57,399	796	20,188	107	57,399	796	20,188	107
Excluded due to propensity score trimming	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Included in comparative analysis	19,994	37,405	19,994	194	19,994	37,405	19,994	194
Number of events in comparative analysis	19	N/A	31	N/A	62	N/A	36	N/A

Sentinel

Table 14. Summary of Patient Level Cohort Attrition in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022

	Gastrointestinal Hemorrhage, Propensity Score Matched				Intracranial Hemorrhage, Propensity Score Matched			
	Rivaroxaban Users		Dabigatran Users		Rivaroxaban Users		Dabigatran Users	
	Remaining	Excluded	Remaining	Excluded	Remaining	Excluded	Remaining	Excluded
Enrolled at any point during the query period	245,144,898	N/A	245,144,898	N/A	245,144,898	N/A	245,144,898	N/A
Had required coverage type (medical and/or drug coverage)	156,550,323	88,594,575	156,550,323	88,594,575	156,550,323	88,594,575	156,550,323	88,594,575
Enrolled during specified age range	122,157,348	34,392,975	122,157,348	34,392,975	122,157,348	34,392,975	122,157,348	34,392,975
Had requestable medical charts	122,157,348	0	122,157,348	0	122,157,348	0	122,157,348	0
Met demographic requirements (sex, race, and Hispanic origin)	122,144,527	12,821	122,144,527	12,821	122,144,527	12,821	122,144,527	12,821
Had any cohort-defining claim during the query period	495,164	121,649,363	75,706	122,068,821	495,164	121,649,363	75,706	122,068,821
Claim recorded during specified age range	355,550	139,614	58,407	16,834	355,550	139,614	58,407	16,834
Episode defining index claim recorded during the query period	355,264	286	58,391	16	355,264	286	58,391	16
Had sufficient pre-index continuous enrollment	238,301	116,963	39,242	19,149	238,301	116,963	39,242	19,149
Met inclusion and exclusion criteria[1]	58,379	179,922	20,310	18,932	58,379	179,922	20,310	18,932
Evidence of dialysis	N/A	275	N/A	32	N/A	275	N/A	32
Evidence of exclusions	N/A	124,444	N/A	6,979	N/A	124,444	N/A	6,979
Evidence of exposureexcl	N/A	122,112	N/A	12,779	N/A	122,112	N/A	12,779
Evidence of exposureexcl1	N/A	0	N/A	179	N/A	0	N/A	179
Evidence of ISENC	N/A	1,572	N/A	122	N/A	1,572	N/A	122
No evidence of afib	N/A	152,432	N/A	8,252	N/A	152,432	N/A	8,252
Met event incidence criteria	58,379	0	20,310	0	58,379	0	20,310	0
Had sufficient post-index continuous enrollment	58,261	118	20,310	0	58,261	118	20,310	0
Had minimum days' supply on index date	58,261	0	20,310	0	58,261	0	20,310	0

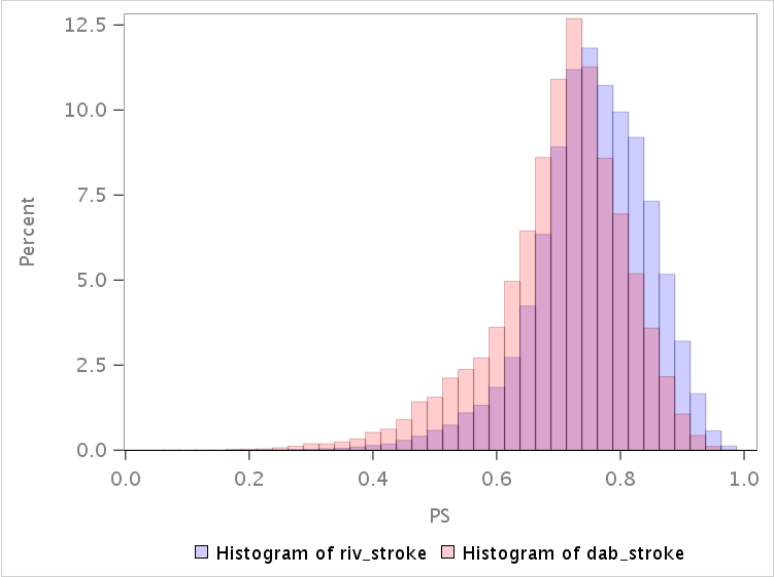
Sentinel

Table 14. Summary of Patient Level Cohort Attrition in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022

	Gastrointestinal Hemorrhage, Propensity Score Matched				Intracranial Hemorrhage, Propensity Score Matched			
	Rivaroxaban Users		Dabigatran Users		Rivaroxaban Users		Dabigatran Users	
	Remaining	Excluded	Remaining	Excluded	Remaining	Excluded	Remaining	Excluded
Had index episode of at least required length	58,261	0	20,310	0	58,261	0	20,310	0
Had index episode longer than blackout period	58,195	66	20,295	15	58,195	66	20,295	15
Did not have an event during blackout period	58,195	0	20,295	0	58,195	0	20,295	0
Number of members	58,195	N/A	20,295	N/A	58,195	N/A	20,295	N/A
Number of episodes	58,195	N/A	20,295	N/A	58,195	N/A	20,295	N/A
Excluded due to same-day initition of both exposure groups	58,195	0	20,295	0	58,195	0	20,295	0
Excluded due to prior initiation of other exposure group	57,399	796	20,188	107	57,399	796	20,188	107
Excluded due to propensity score trimming	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Included in comparative analysis	19,994	37,405	19,994	194	19,994	37,405	19,994	194
Number of events in comparative analysis	54	N/A	32	N/A	10	N/A	7	N/A

Figure 1a. Histograms Depicting Propensity Score Distributions Before and After Adjustment, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022

Unweighted Propensity Score Distribution Before Trimming



Unweighted Propensity Score Distribution After Trimming

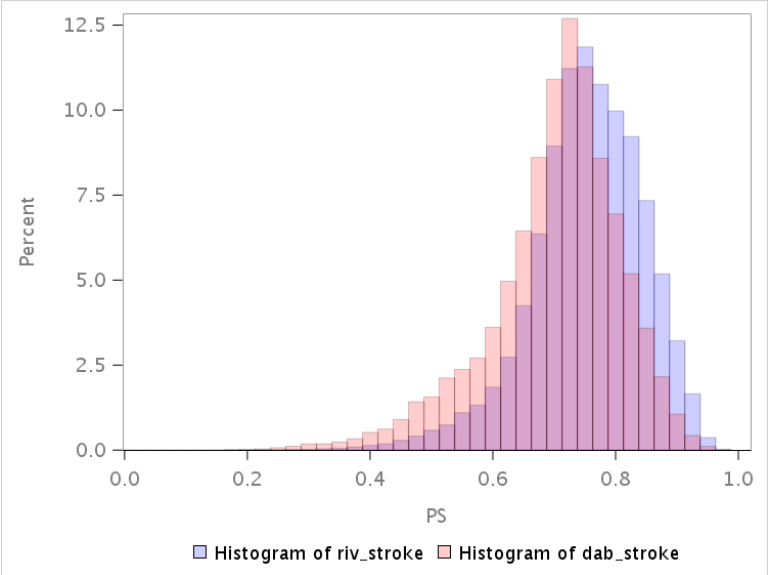


Figure 1a. Histograms Depicting Propensity Score Distributions Before and After Adjustment, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022

Weighted Propensity Score Distribution After Trimming, Inverse Probability of Treatment Weighted, Average Treatment Effect Stabilized (ATES)

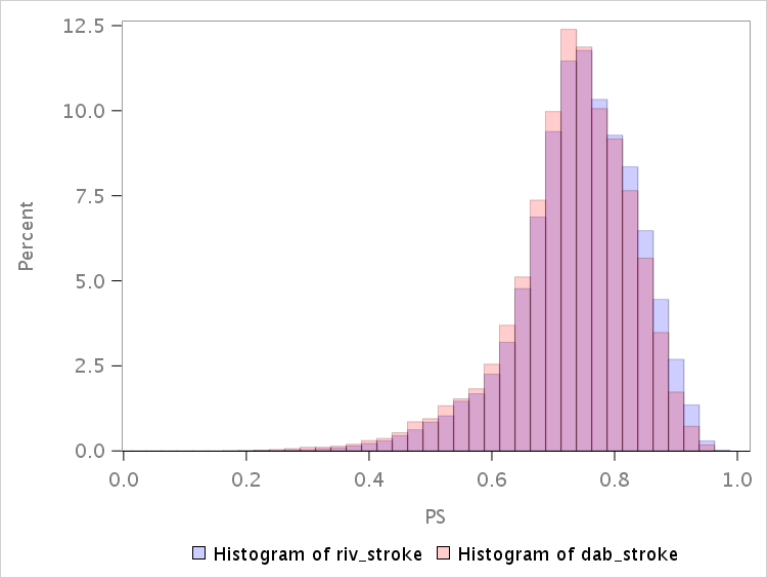
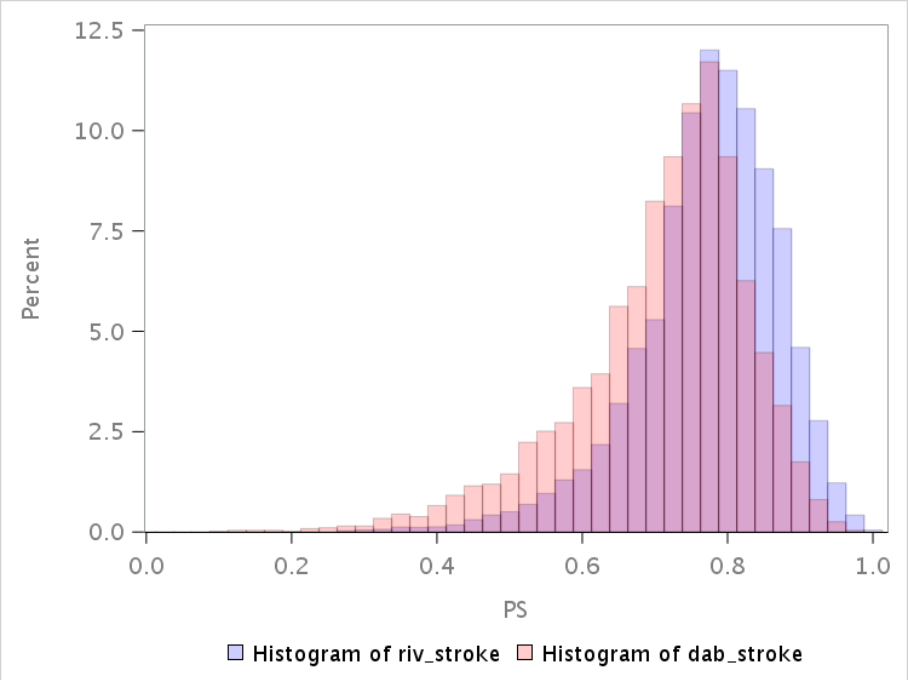


Figure 1b. Histograms Depicting Propensity Score Distributions Before and After Adjustment, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Sex: Female

Unweighted Propensity Score Distribution Before Trimming



Unweighted Propensity Score Distribution After Trimming

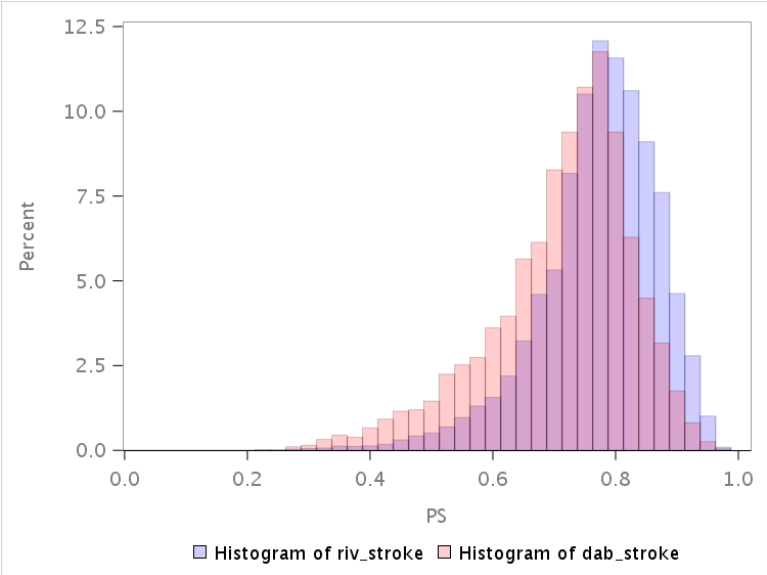


Figure 1b. Histograms Depicting Propensity Score Distributions Before and After Adjustment, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Sex: Female

Weighted Propensity Score Distribution After Trimming, Inverse Probability of Treatment Weighted, Average Treatment Effect Stabilized (ATES)

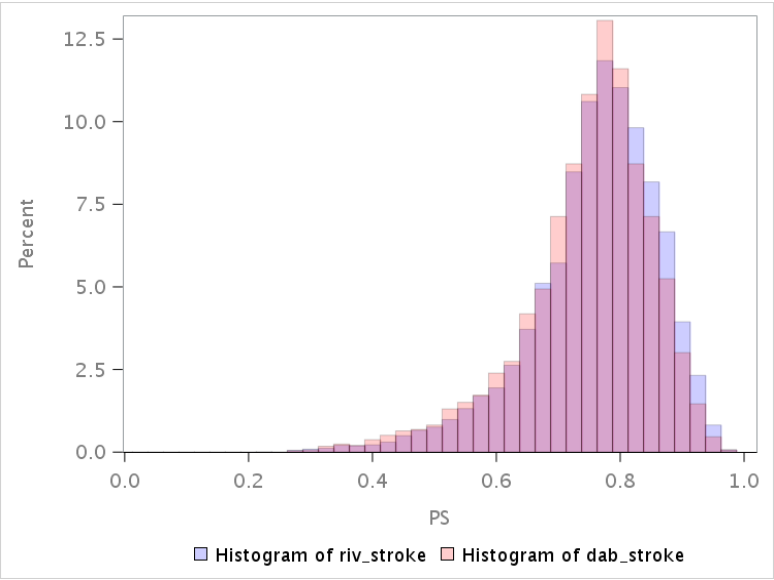
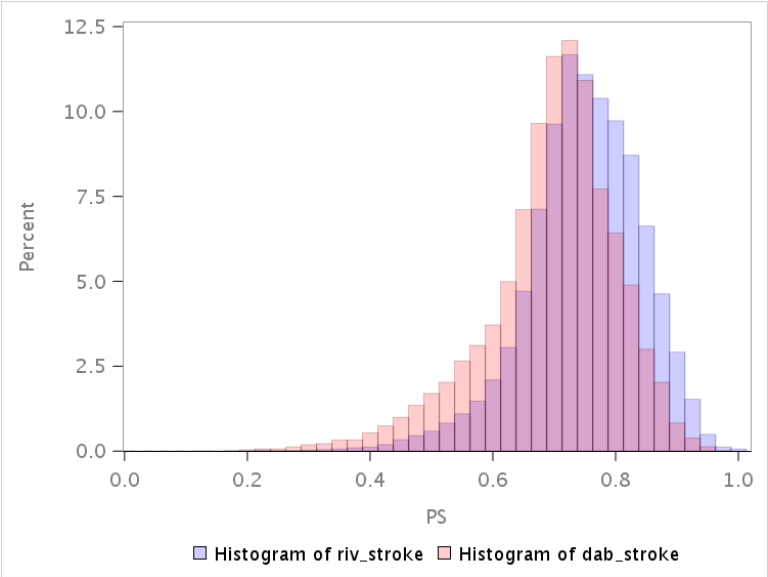


Figure 1c. Histograms Depicting Propensity Score Distributions Before and After Adjustment, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Sex: Male

Unweighted Propensity Score Distribution Before Trimming



Unweighted Propensity Score Distribution After Trimming

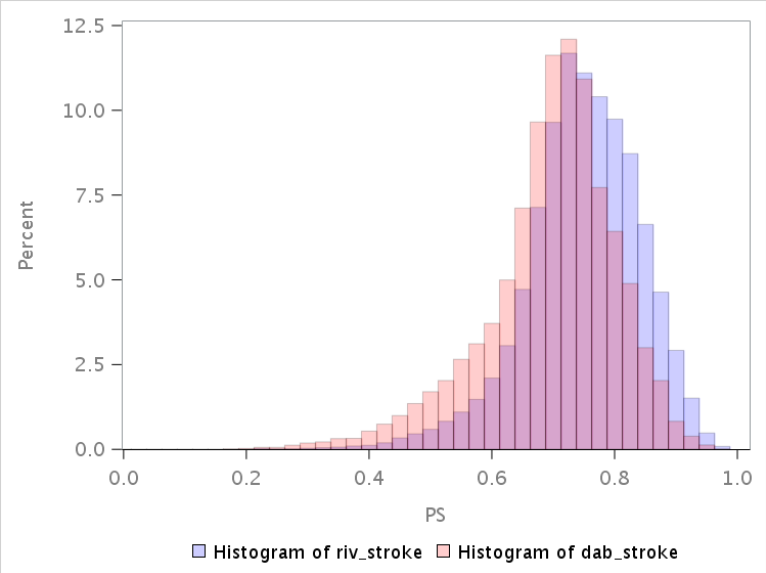


Figure 1c. Histograms Depicting Propensity Score Distributions Before and After Adjustment, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Sex: Male

Weighted Propensity Score Distribution After Trimming, Inverse Probability of Treatment Weighted, Average Treatment Effect Stabilized (ATES)

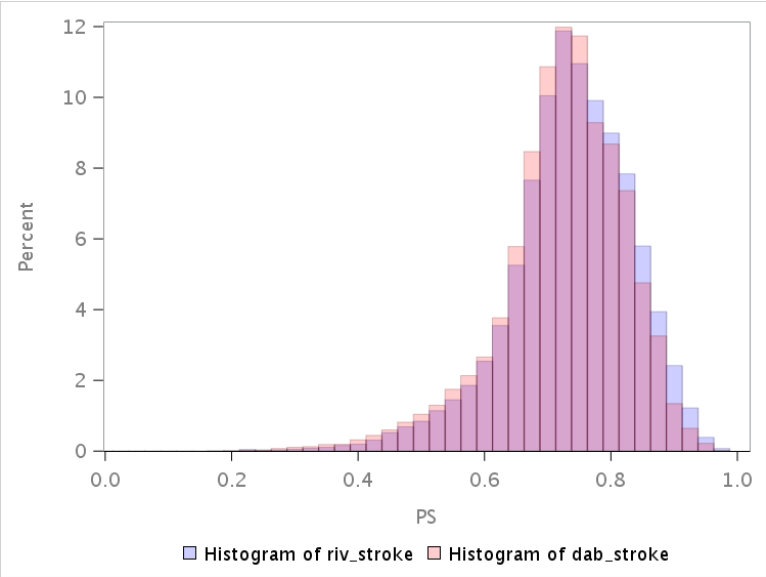
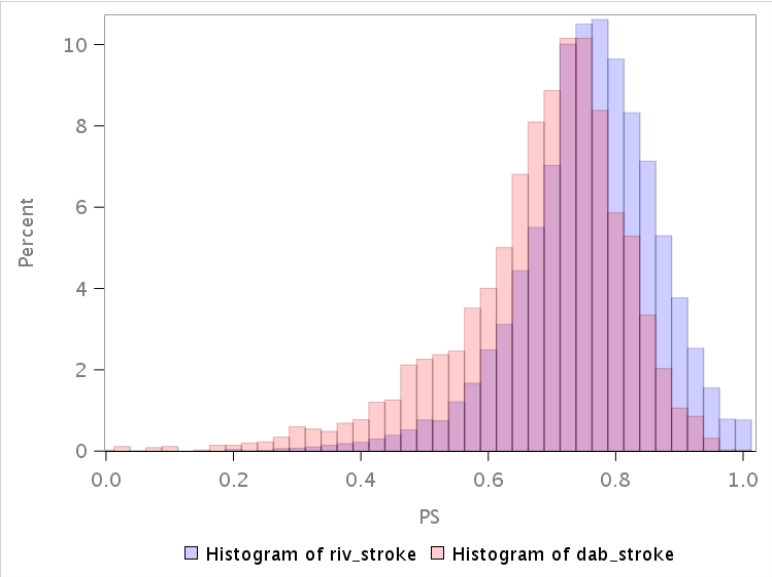


Figure 1d. Histograms Depicting Propensity Score Distributions Before and After Adjustment, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Age Group: 21-49 years

Unweighted Propensity Score Distribution Before Trimming



Unweighted Propensity Score Distribution After Trimming

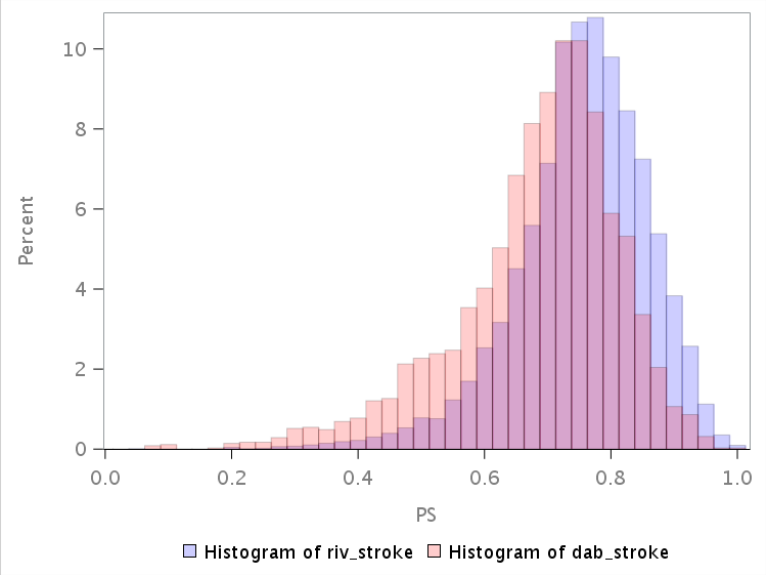


Figure 1d. Histograms Depicting Propensity Score Distributions Before and After Adjustment, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Age Group: 21-49 years

Weighted Propensity Score Distribution After Trimming, Inverse Probability of Treatment Weighted, Average Treatment Effect Stabilized (ATES)

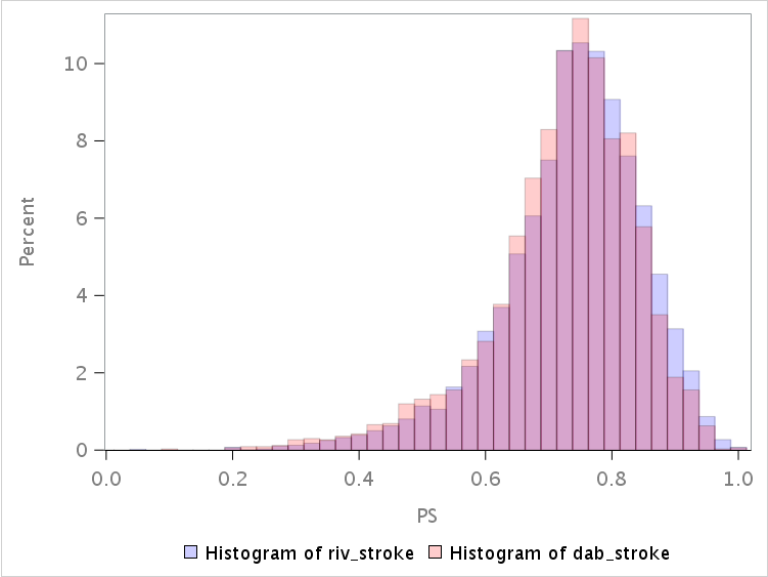
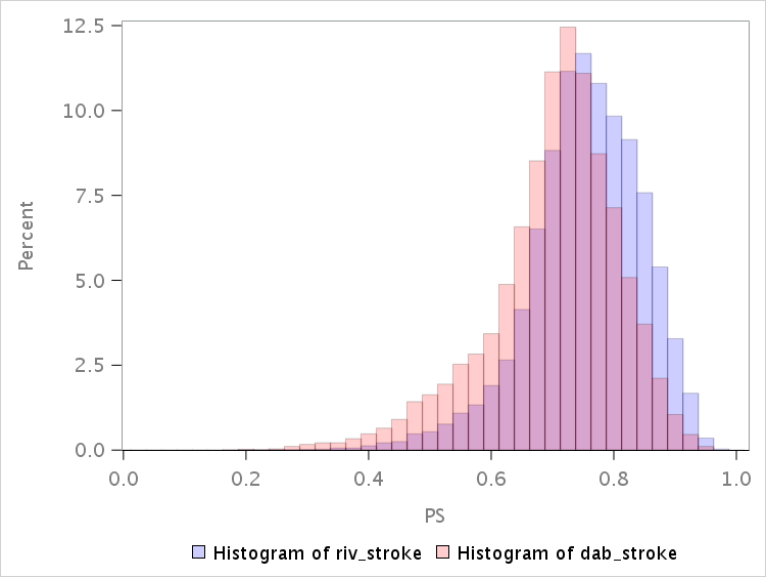


Figure 1e. Histograms Depicting Propensity Score Distributions Before and After Adjustment, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Age Group: 50-64 years

Unweighted Propensity Score Distribution Before Trimming



Unweighted Propensity Score Distribution After Trimming

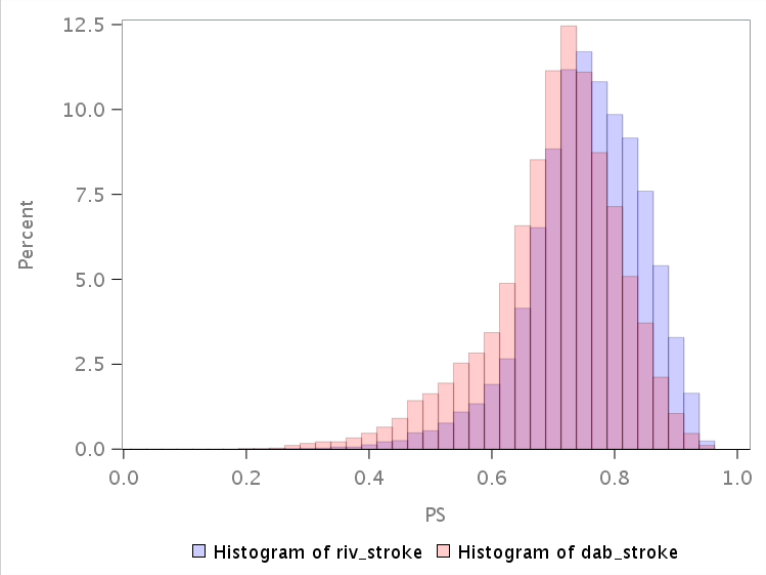


Figure 1e. Histograms Depicting Propensity Score Distributions Before and After Adjustment, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Age Group: 50-64 years

Weighted Propensity Score Distribution After Trimming, Inverse Probability of Treatment Weighted, Average Treatment Effect Stabilized (ATES)

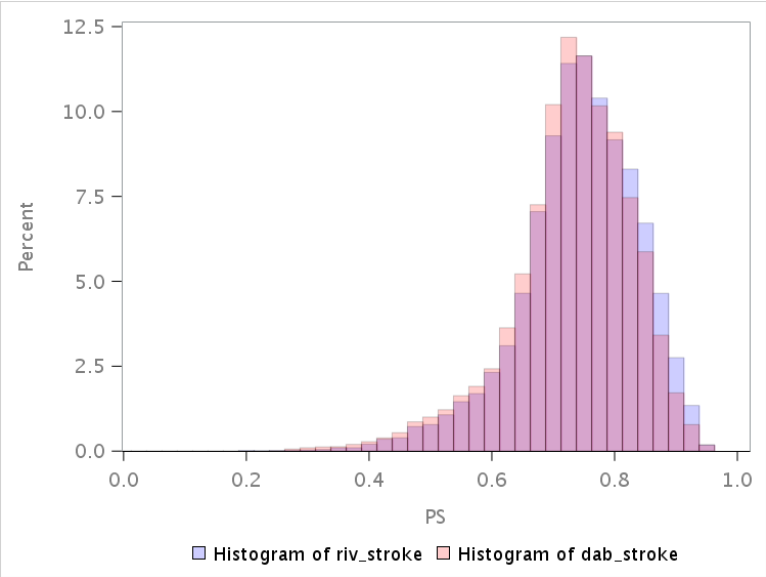
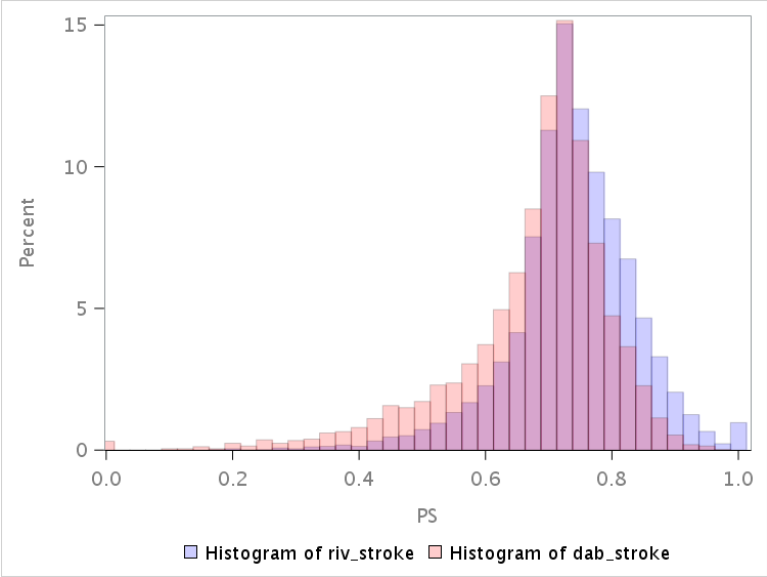


Figure 1f. Histograms Depicting Propensity Score Distributions Before and After Adjustment, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 0

Unweighted Propensity Score Distribution Before Trimming



Unweighted Propensity Score Distribution After Trimming

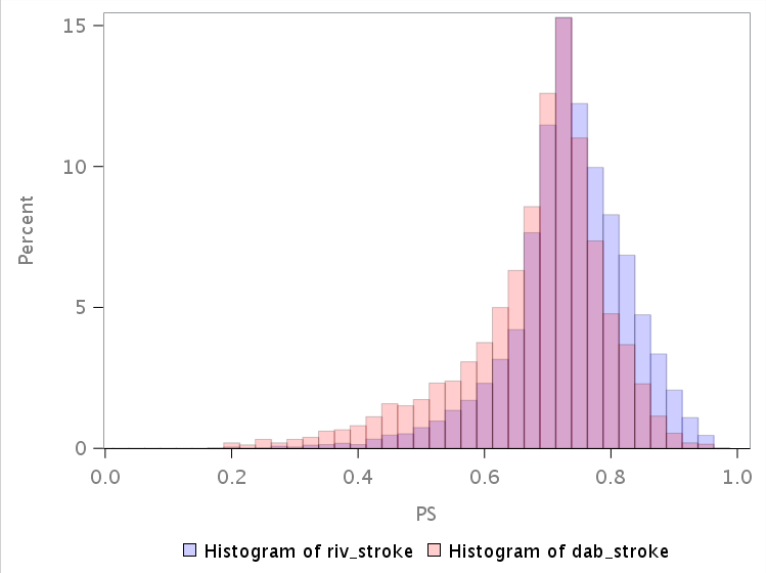


Figure 1f. Histograms Depicting Propensity Score Distributions Before and After Adjustment, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 0

Weighted Propensity Score Distribution After Trimming, Inverse Probability of Treatment Weighted, Average Treatment Effect Stabilized (ATES)

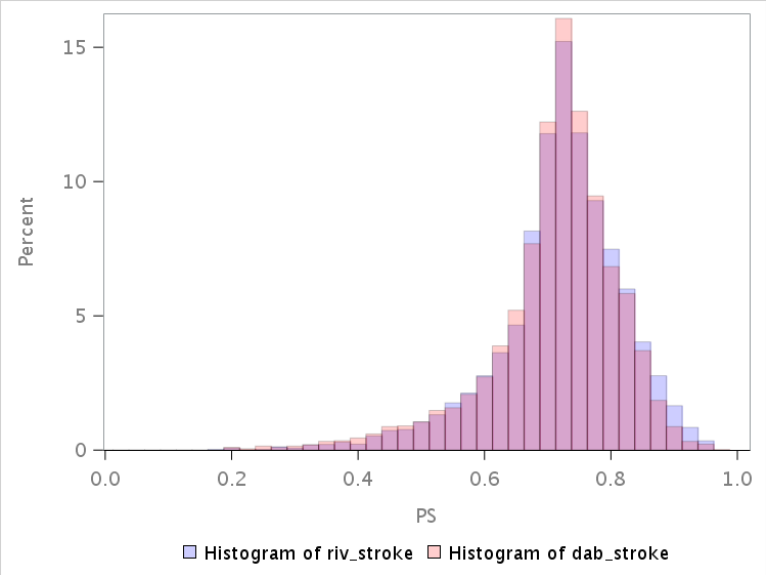
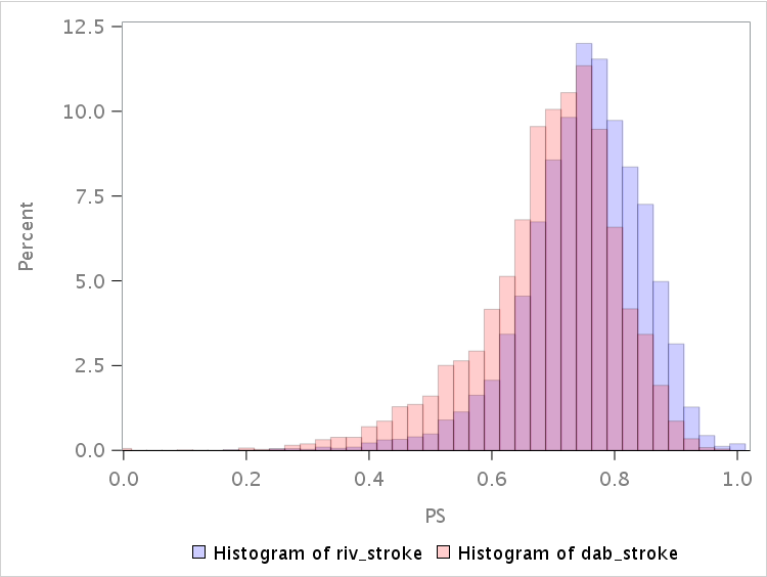


Figure 1g. Histograms Depicting Propensity Score Distributions Before and After Adjustment, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 1

Unweighted Propensity Score Distribution Before Trimming



Unweighted Propensity Score Distribution After Trimming

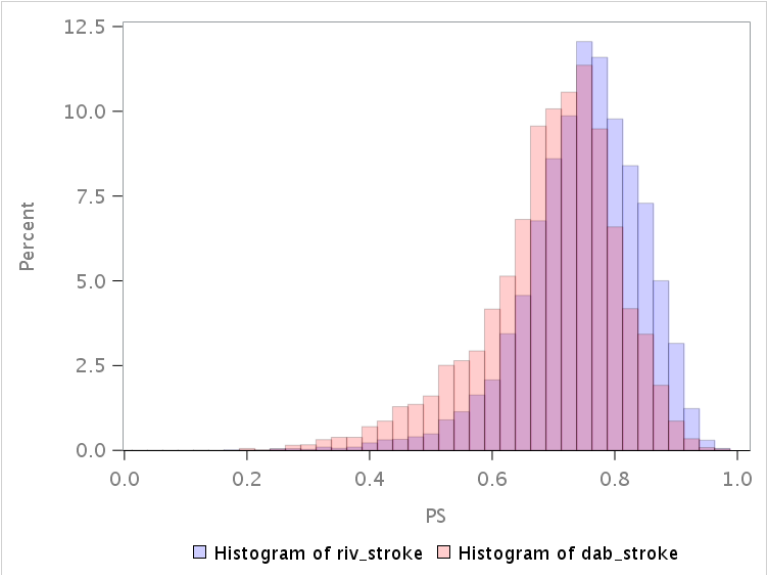


Figure 1g. Histograms Depicting Propensity Score Distributions Before and After Adjustment, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 1

Weighted Propensity Score Distribution After Trimming, Inverse Probability of Treatment Weighted, Average Treatment Effect Stabilized (ATES)

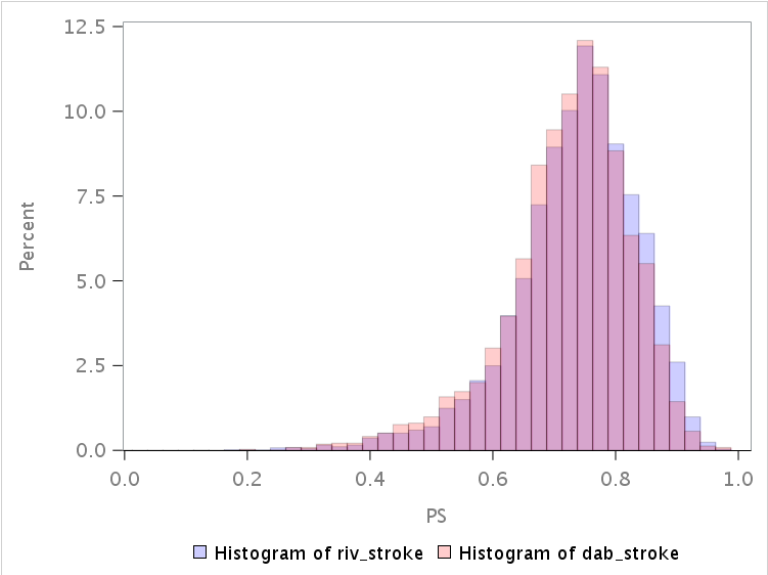
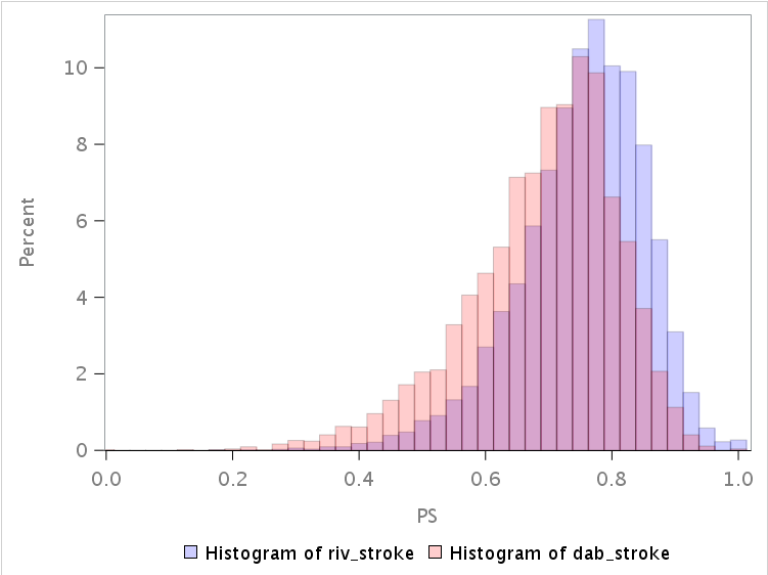


Figure 1h. Histograms Depicting Propensity Score Distributions Before and After Adjustment, TruncWeight = 2.5, ATES weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 2

Unweighted Propensity Score Distribution Before Trimming



Unweighted Propensity Score Distribution After Trimming

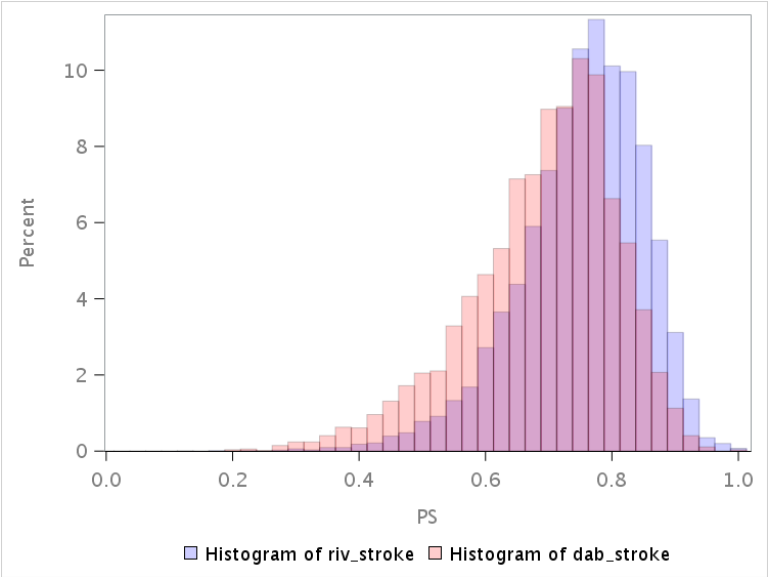


Figure 1h. Histograms Depicting Propensity Score Distributions Before and After Adjustment, TruncWeight = 2.5, ATES weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 2

Weighted Propensity Score Distribution After Trimming, Inverse Probability of Treatment Weighted, Average Treatment Effect Stabilized (ATES)

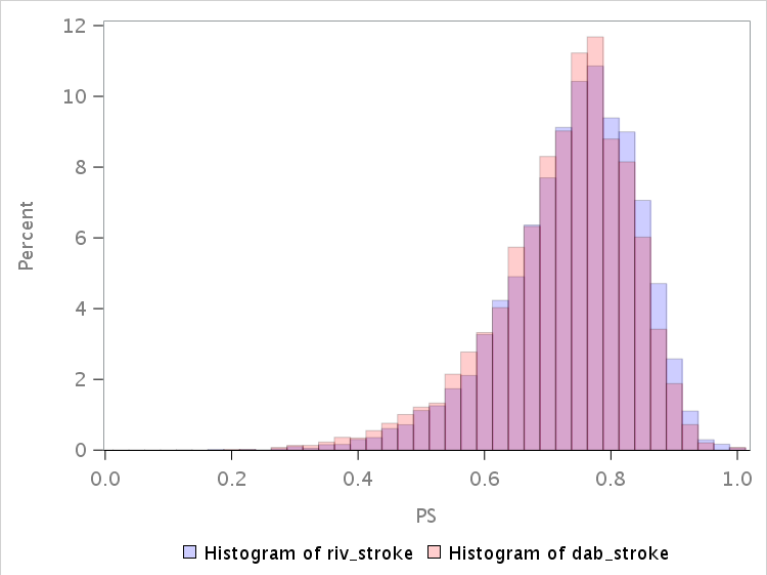
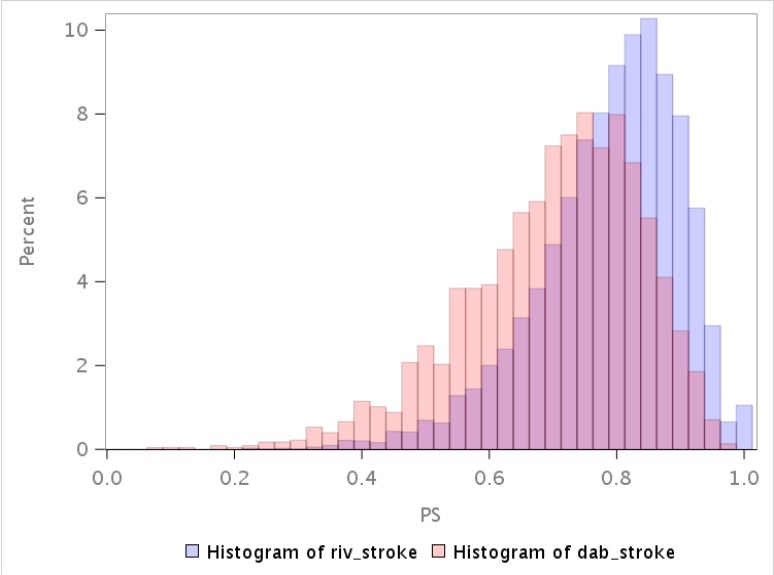


Figure 1i. Histograms Depicting Propensity Score Distributions Before and After Adjustment, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 3

Unweighted Propensity Score Distribution Before Trimming



Unweighted Propensity Score Distribution After Trimming

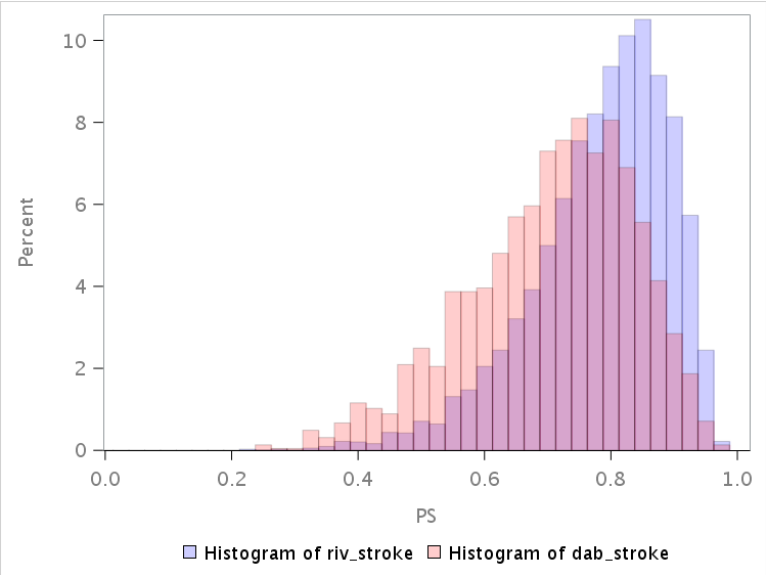


Figure 1i. Histograms Depicting Propensity Score Distributions Before and After Adjustment, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 3

Weighted Propensity Score Distribution After Trimming, Inverse Probability of Treatment Weighted, Average Treatment Effect Stabilized (ATES)

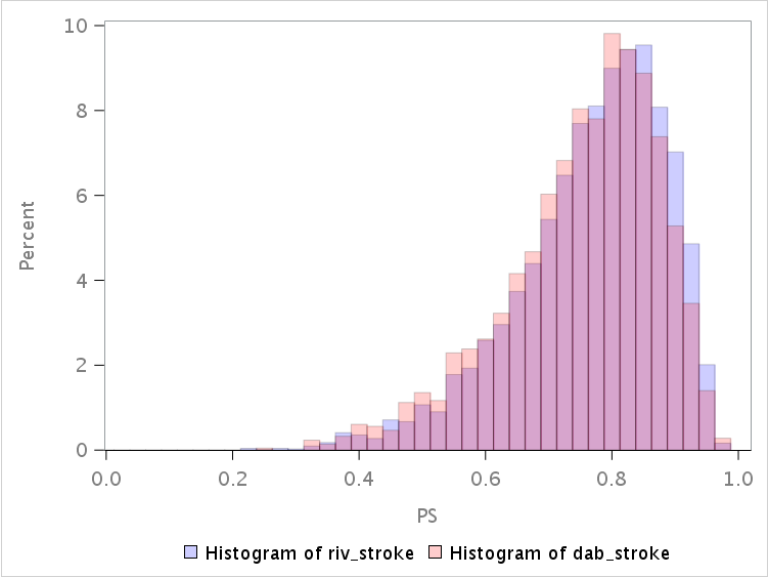
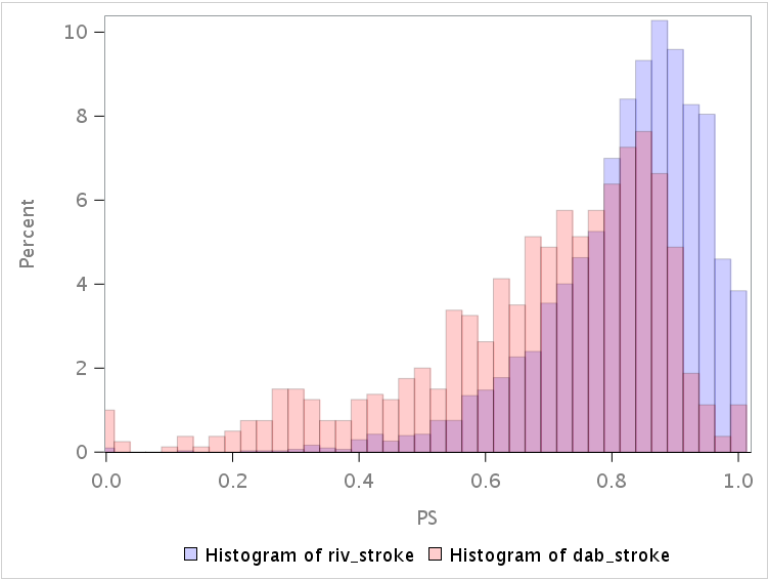


Figure 1j. Histograms Depicting Propensity Score Distributions Before and After Adjustment, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 4

Unweighted Propensity Score Distribution Before Trimming



Unweighted Propensity Score Distribution After Trimming

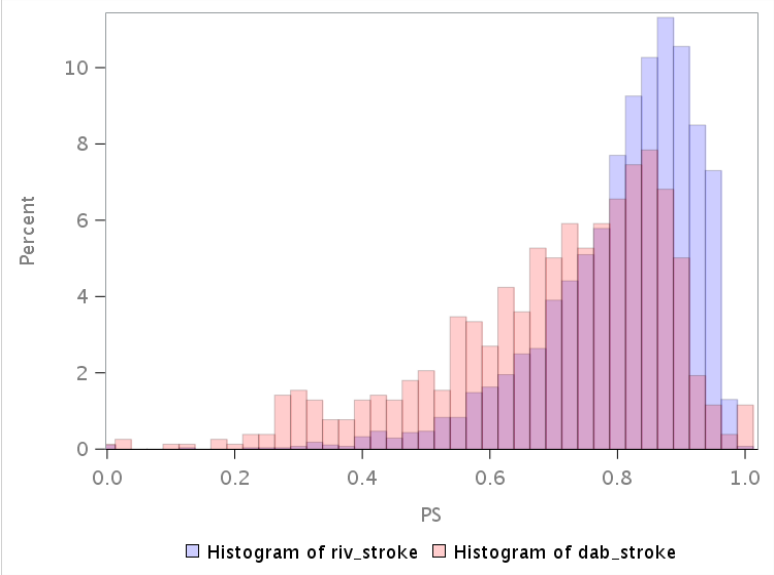


Figure 1j. Histograms Depicting Propensity Score Distributions Before and After Adjustment, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 4

Weighted Propensity Score Distribution After Trimming, Inverse Probability of Treatment Weighted, Average Treatment Effect Stabilized (ATES)

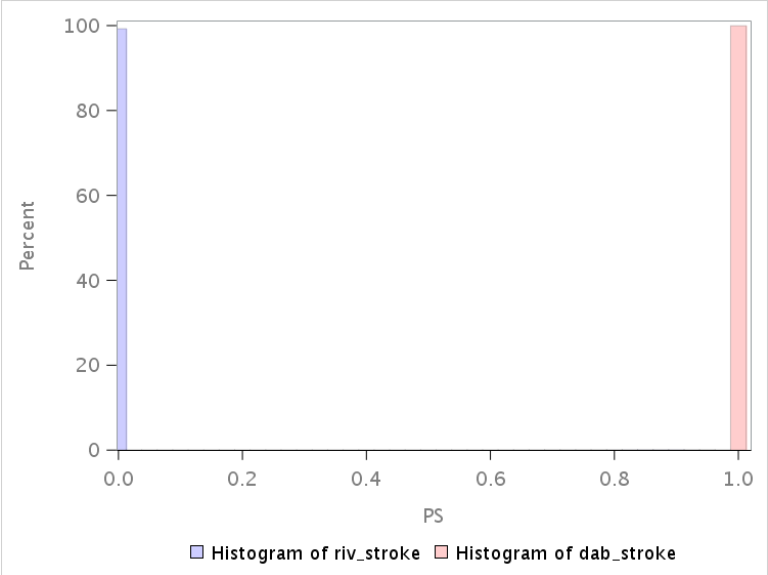
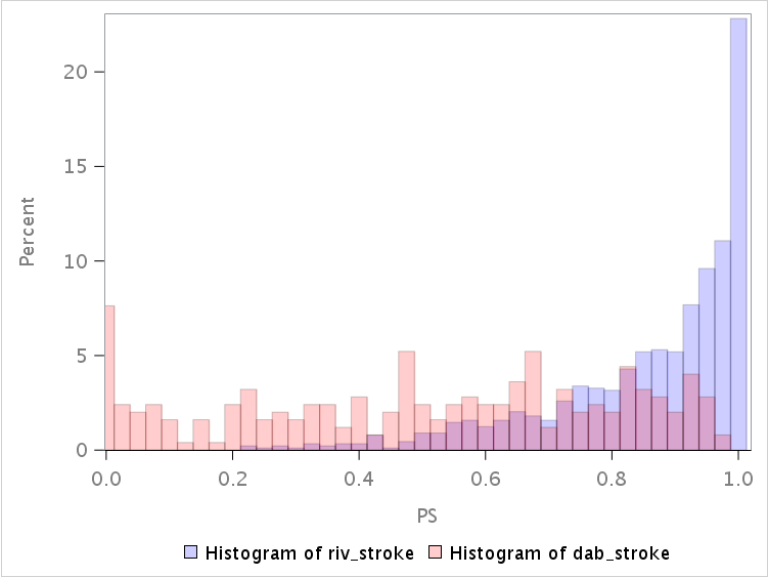


Figure 1k. Histograms Depicting Propensity Score Distributions Before and After Adjustment, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 5+

Unweighted Propensity Score Distribution Before Trimming



Unweighted Propensity Score Distribution After Trimming

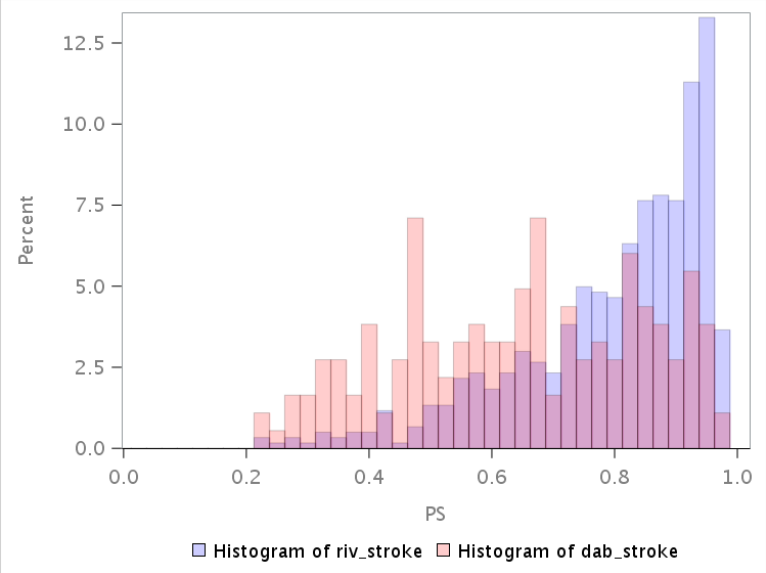


Figure 1k. Histograms Depicting Propensity Score Distributions Before and After Adjustment, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 5+

Weighted Propensity Score Distribution After Trimming, Inverse Probability of Treatment Weighted, Average Treatment Effect Stabilized (ATES)

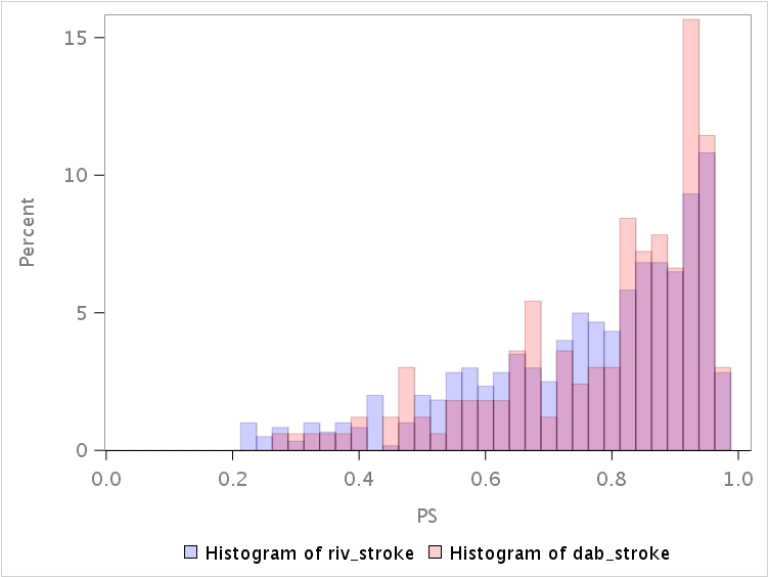
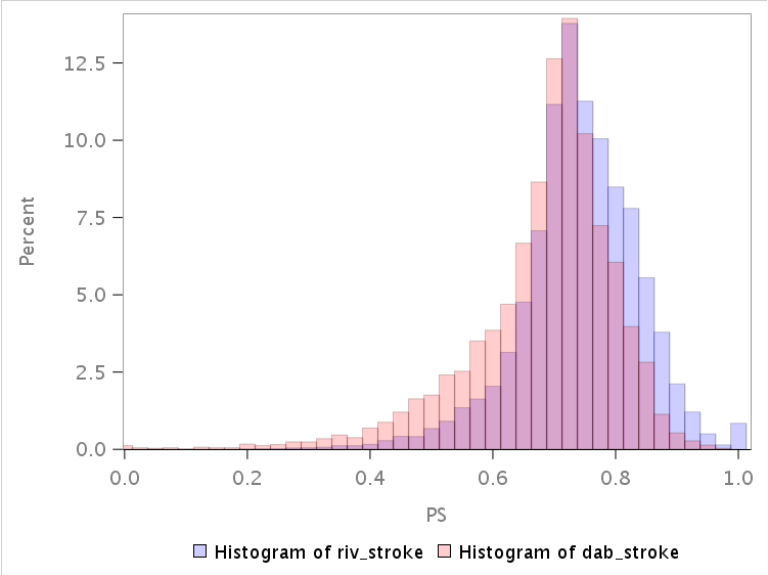


Figure 1l. Histograms Depicting Propensity Score Distributions Before and After Adjustment, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 0

Unweighted Propensity Score Distribution Before Trimming



Unweighted Propensity Score Distribution After Trimming

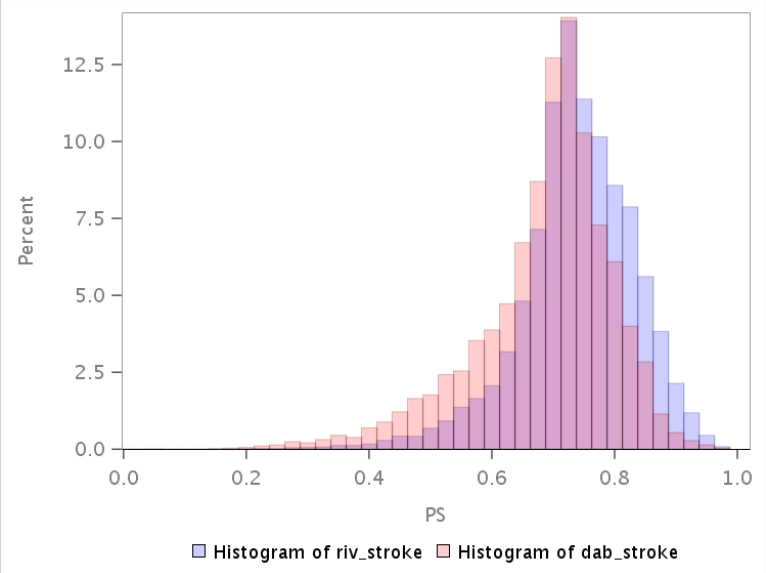


Figure 1l. Histograms Depicting Propensity Score Distributions Before and After Adjustment, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 0

Weighted Propensity Score Distribution After Trimming, Inverse Probability of Treatment Weighted, Average Treatment Effect Stabilized (ATES)

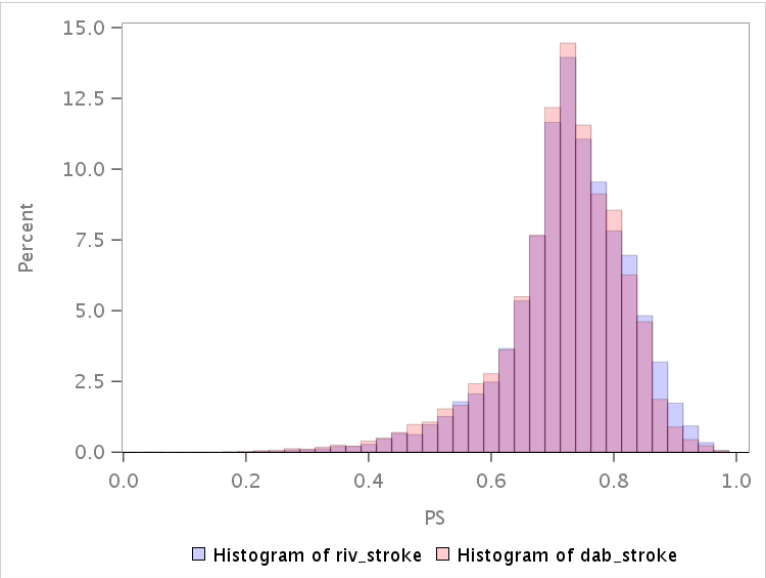
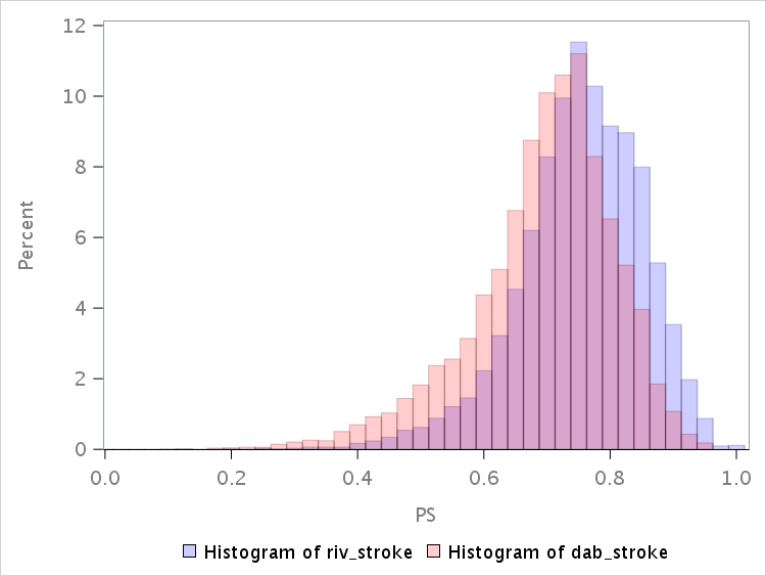


Figure 1m. Histograms Depicting Propensity Score Distributions Before and After Adjustment, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 1

Unweighted Propensity Score Distribution Before Trimming



Unweighted Propensity Score Distribution After Trimming

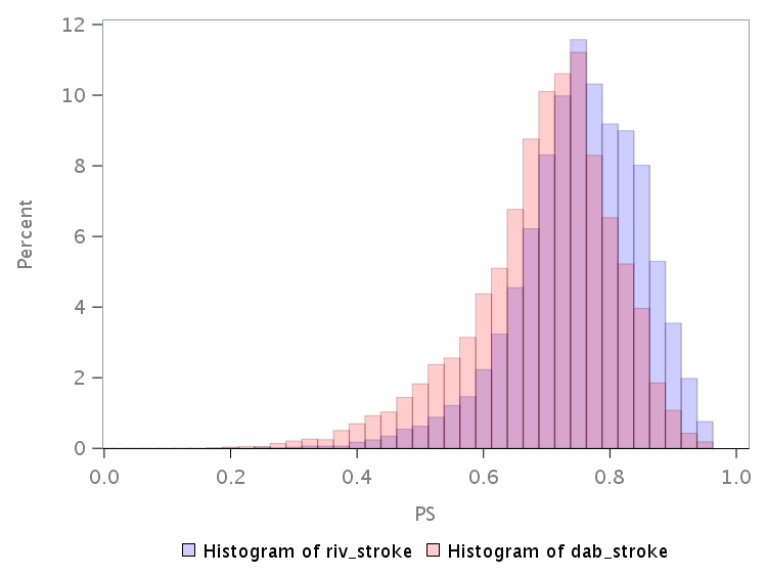


Figure 1m. Histograms Depicting Propensity Score Distributions Before and After Adjustment, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 1

Weighted Propensity Score Distribution After Trimming, Inverse Probability of Treatment Weighted, Average Treatment Effect Stabilized (ATES)

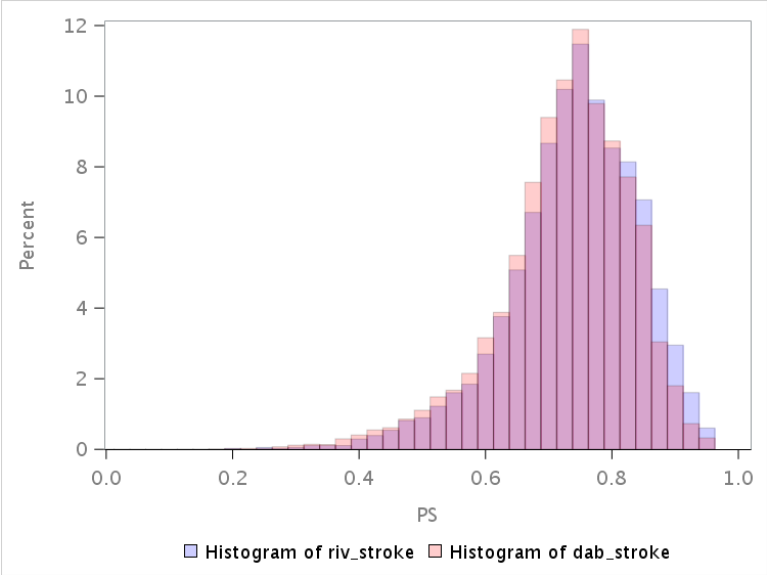
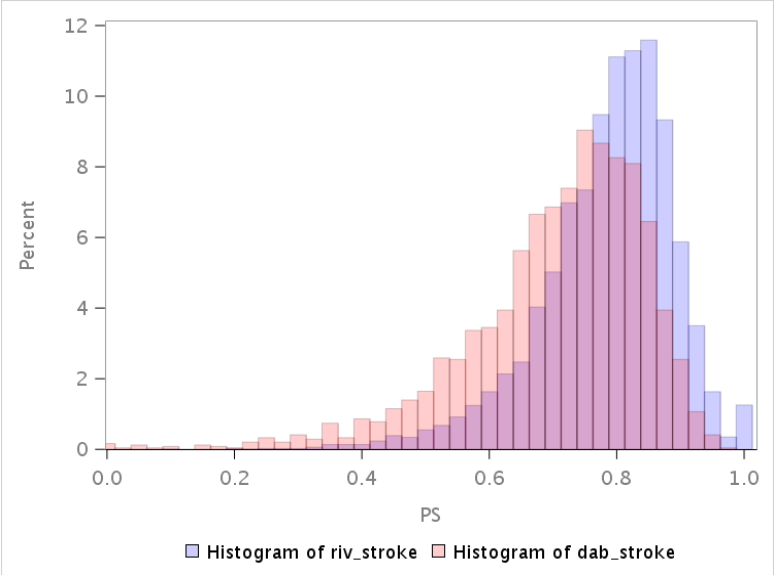


Figure 1n. Histograms Depicting Propensity Score Distributions Before and After Adjustment, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 2

Unweighted Propensity Score Distribution Before Trimming



Unweighted Propensity Score Distribution After Trimming

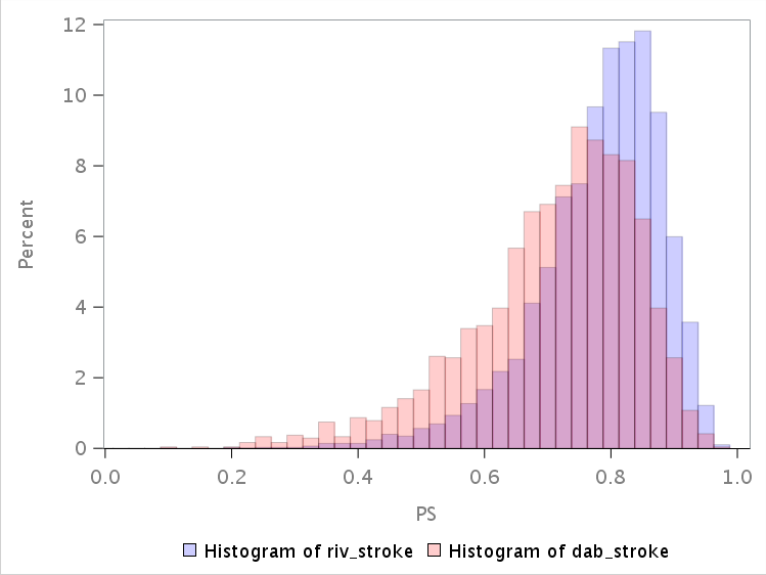


Figure 1n. Histograms Depicting Propensity Score Distributions Before and After Adjustment, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 2

Weighted Propensity Score Distribution After Trimming, Inverse Probability of Treatment Weighted, Average Treatment Effect Stabilized (ATES)

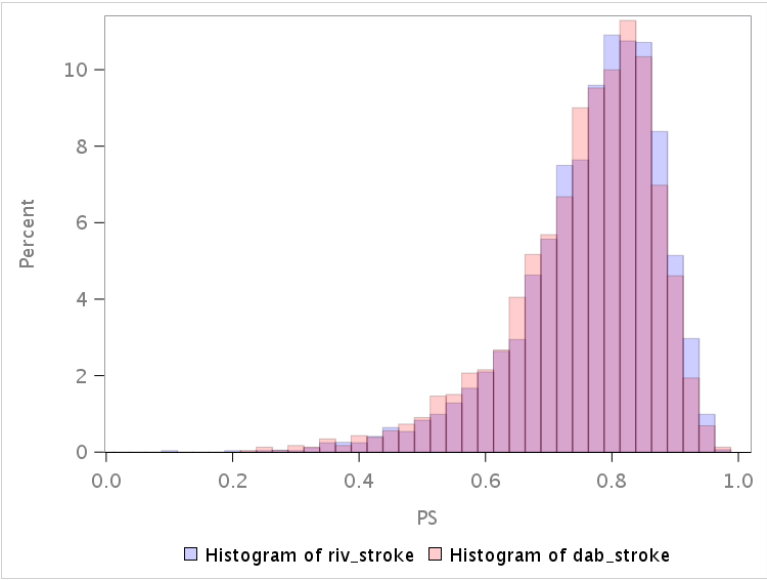
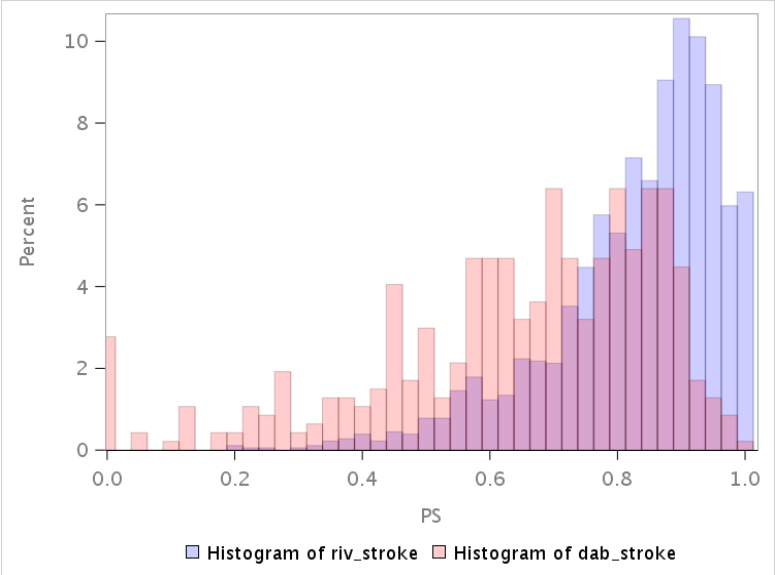


Figure 1o. Histograms Depicting Propensity Score Distributions Before and After Adjustment, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 3+

Unweighted Propensity Score Distribution Before Trimming



Unweighted Propensity Score Distribution After Trimming

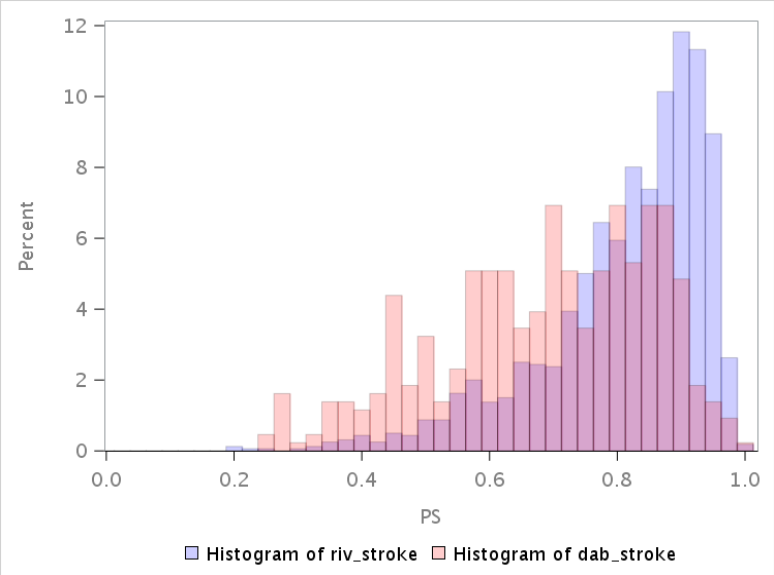


Figure 1o. Histograms Depicting Propensity Score Distributions Before and After Adjustment, TruncWeight = 2.5, ATES Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 3+

Weighted Propensity Score Distribution After Trimming, Inverse Probability of Treatment Weighted, Average Treatment Effect Stabilized (ATES)

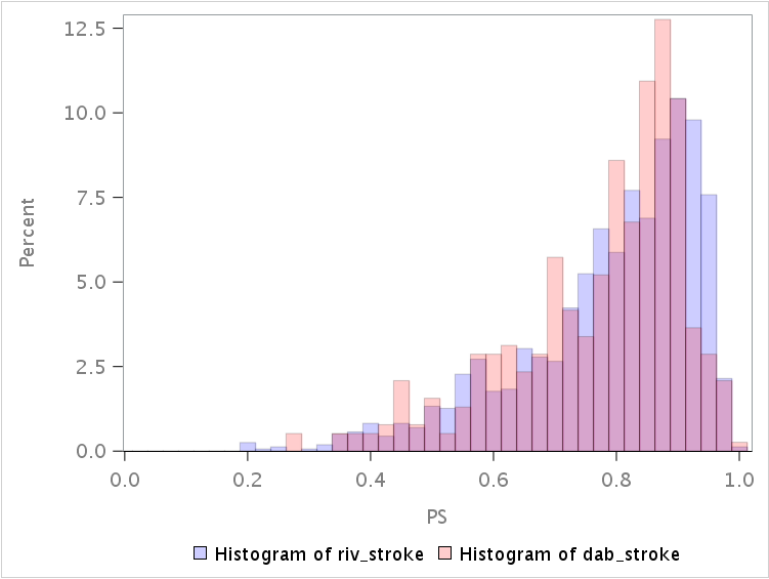
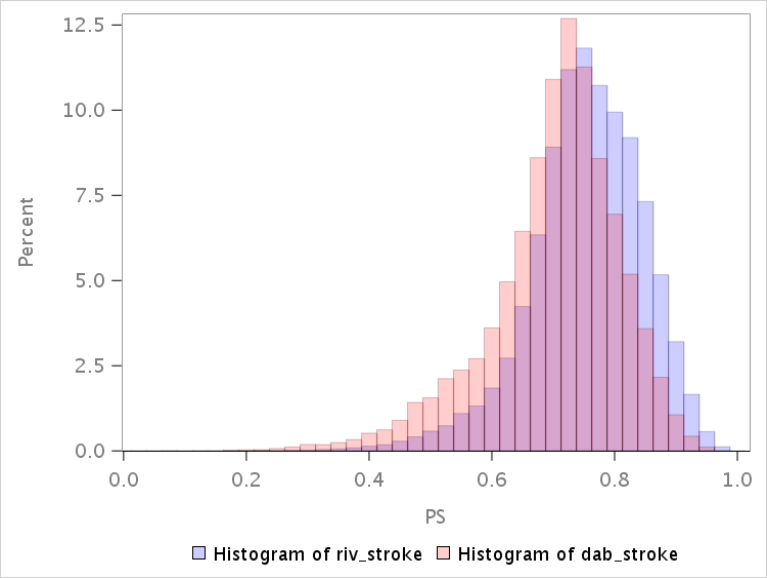


Figure 2a. Histograms Depicting Propensity Score Distributions Before and After Adjustment, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022

Unweighted Propensity Score Distribution Before Trimming



Unweighted Propensity Score Distribution After Trimming

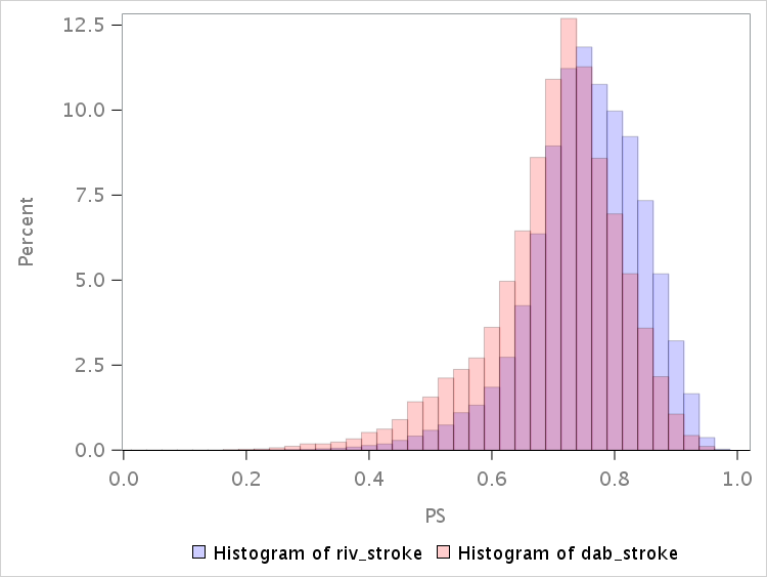


Figure 2a. Histograms Depicting Propensity Score Distributions Before and After Adjustment, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022

Weighted Propensity Score Distribution After Trimming, Inverse Probability of Treatment Weighted, Average Treatment Effect in the Treated (ATT)

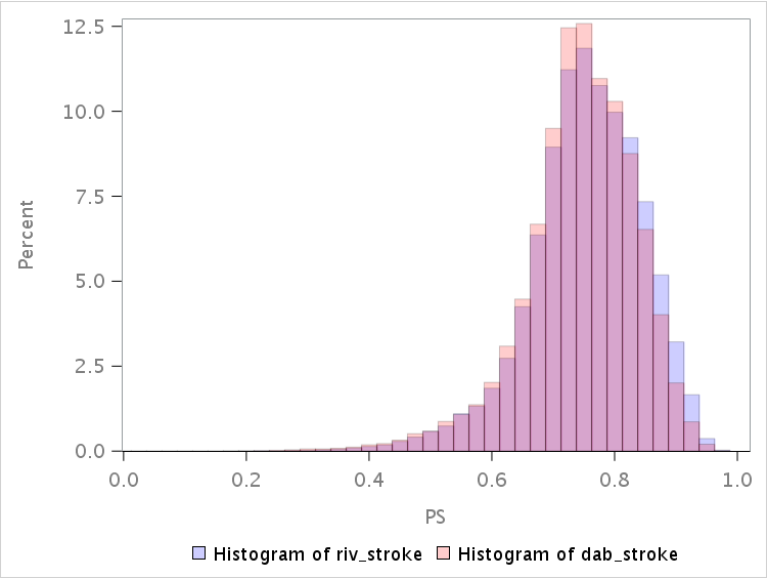
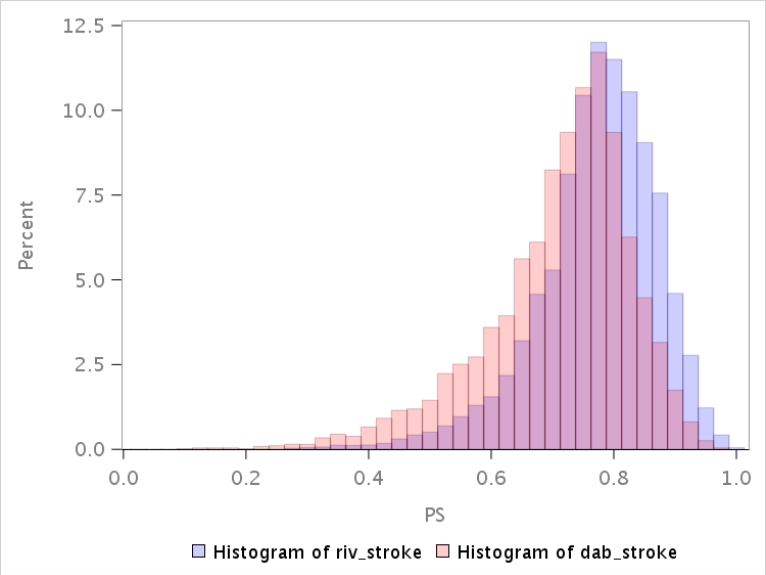


Figure 2b. Histograms Depicting Propensity Score Distributions Before and After Adjustment, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Sex: Female

Unweighted Propensity Score Distribution Before Trimming



Unweighted Propensity Score Distribution After Trimming

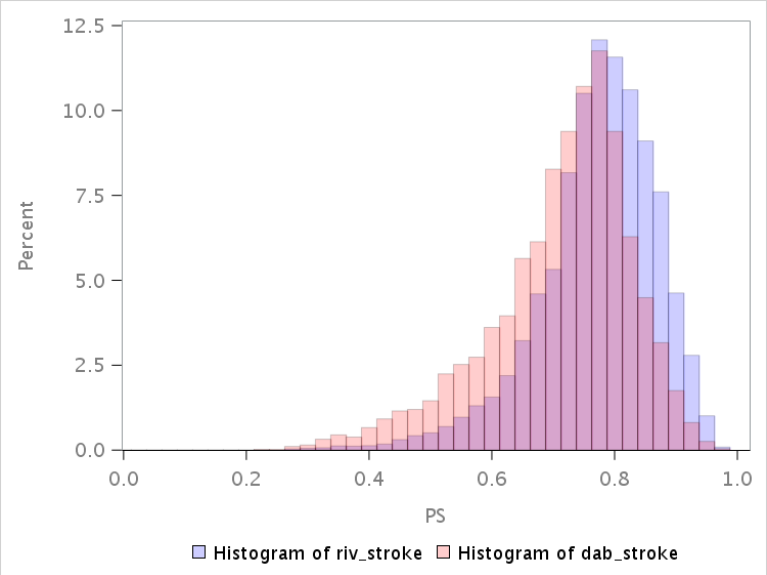


Figure 2b. Histograms Depicting Propensity Score Distributions Before and After Adjustment, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Sex: Female

Weighted Propensity Score Distribution After Trimming, Inverse Probability of Treatment Weighted, Average Treatment Effect in the Treated (ATT)

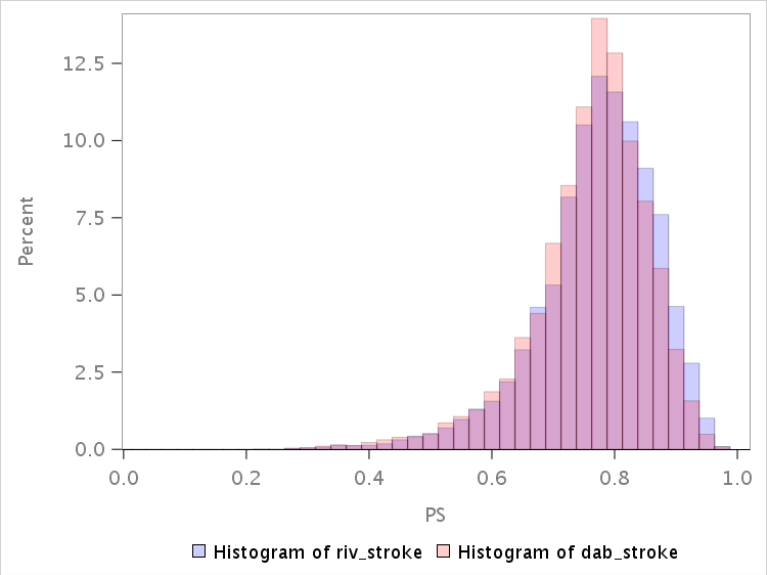
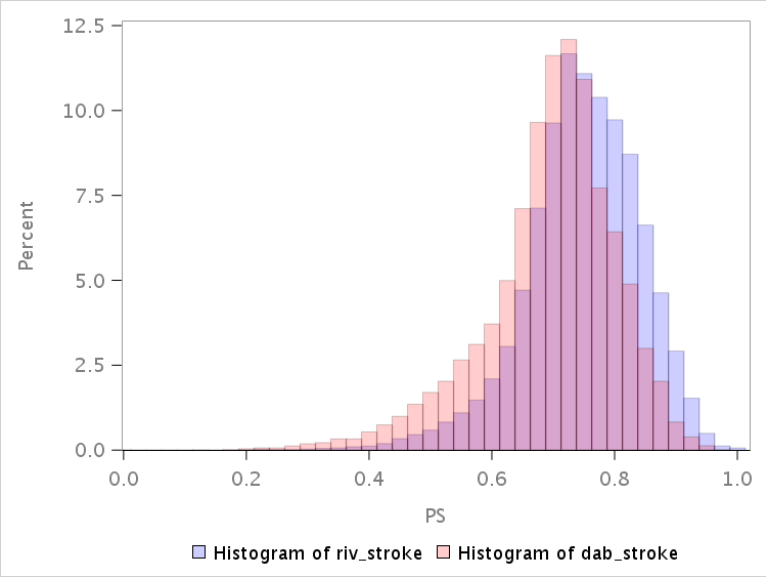


Figure 2c. Histograms Depicting Propensity Score Distributions Before and After Adjustment, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Sex: Male

Unweighted Propensity Score Distribution Before Trimming



Unweighted Propensity Score Distribution After Trimming

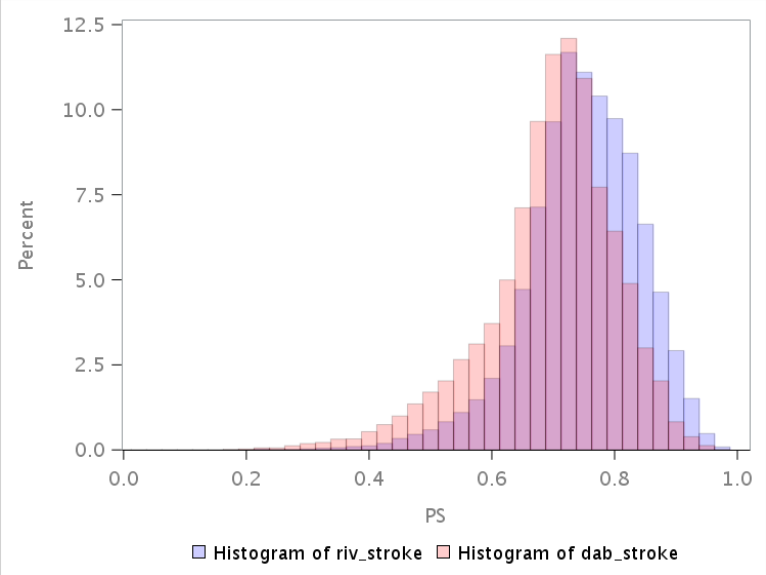


Figure 2c. Histograms Depicting Propensity Score Distributions Before and After Adjustment, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Sex: Male

Weighted Propensity Score Distribution After Trimming, Inverse Probability of Treatment Weighted, Average Treatment Effect in the Treated (ATT)

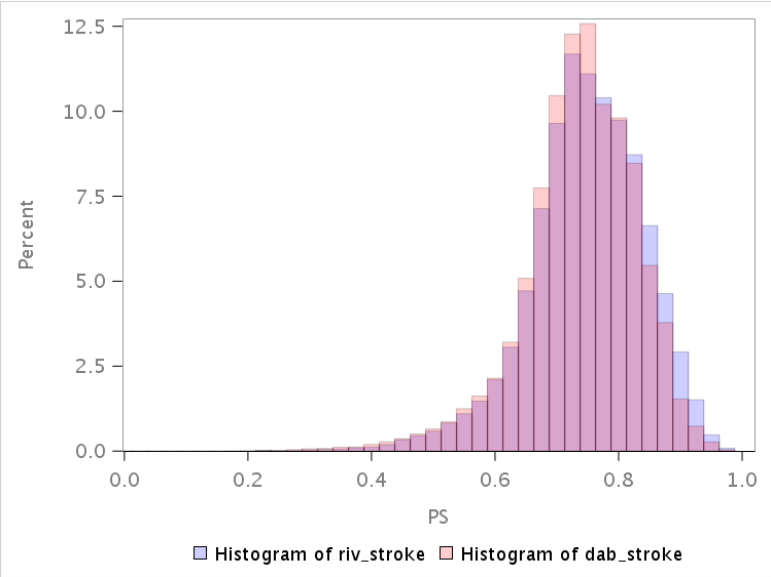
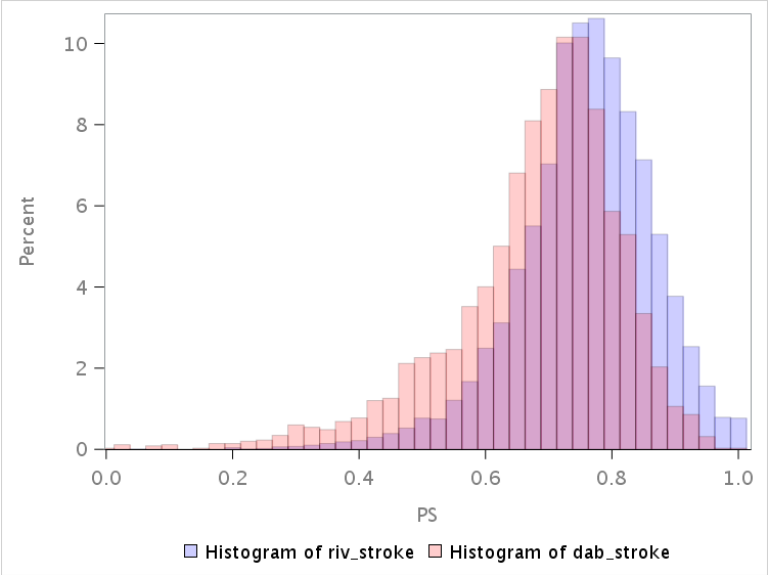


Figure 2d. Histograms Depicting Propensity Score Distributions Before and After Adjustment, TruncWeight = 2.5, ATT YWeights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Age Group: 21-49 Years

Unweighted Propensity Score Distribution Before Trimming



Unweighted Propensity Score Distribution After Trimming

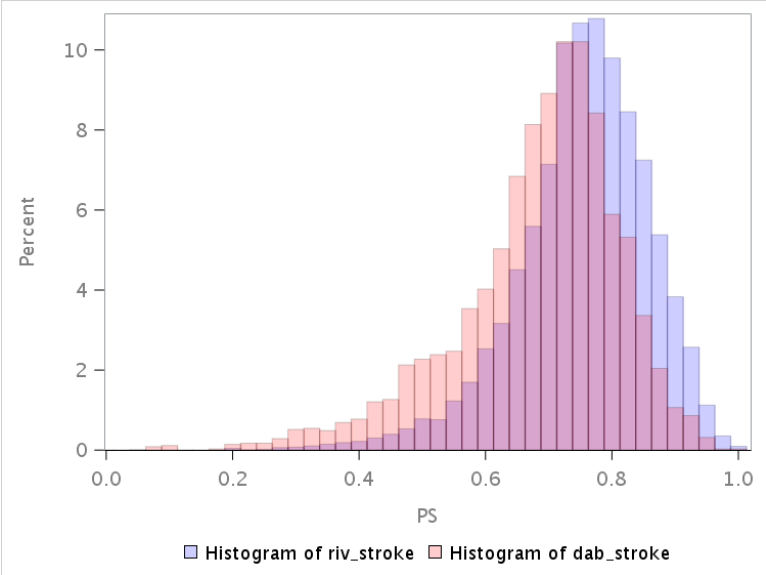


Figure 2d. Histograms Depicting Propensity Score Distributions Before and After Adjustment, TruncWeight = 2.5, ATT YWeights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Age Group: 21-49 Years

Weighted Propensity Score Distribution After Trimming, Inverse Probability of Treatment Weighted, Average Treatment Effect in the Treated (ATT)

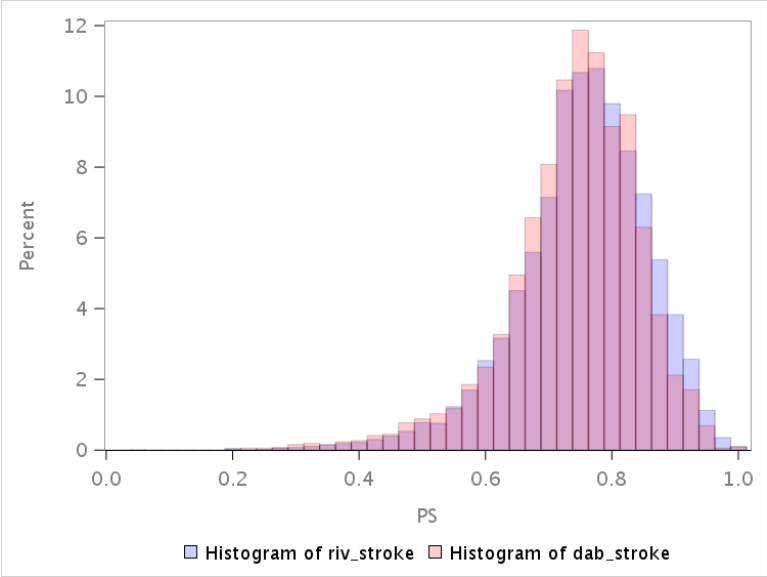
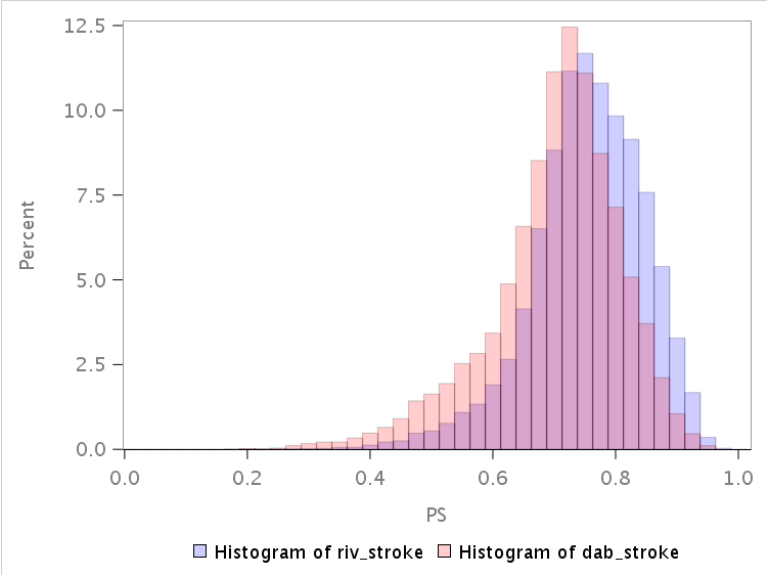


Figure 2e. Histograms Depicting Propensity Score Distributions Before and After Adjustment, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Age Group: 50-64 Years

Unweighted Propensity Score Distribution Before Trimming



Unweighted Propensity Score Distribution After Trimming

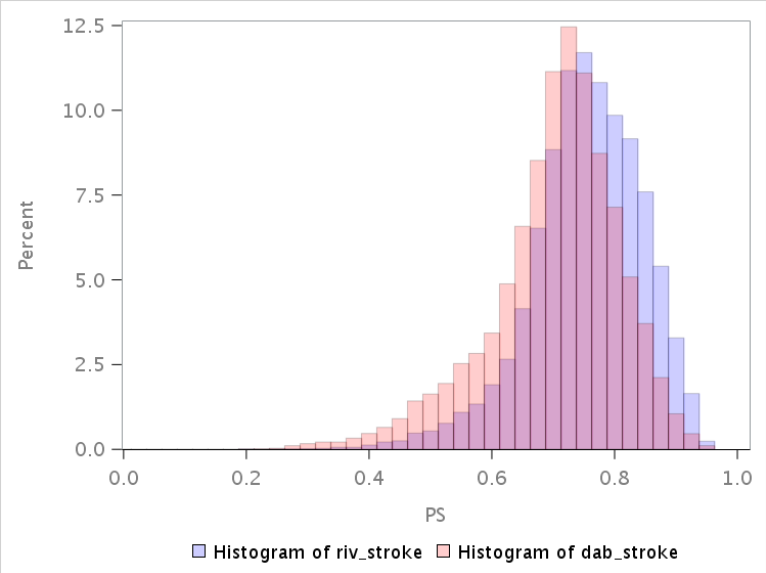


Figure 2e. Histograms Depicting Propensity Score Distributions Before and After Adjustment, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Age Group: 50-64 Years

Weighted Propensity Score Distribution After Trimming, Inverse Probability of Treatment Weighted, Average Treatment Effect in the Treated (ATT)

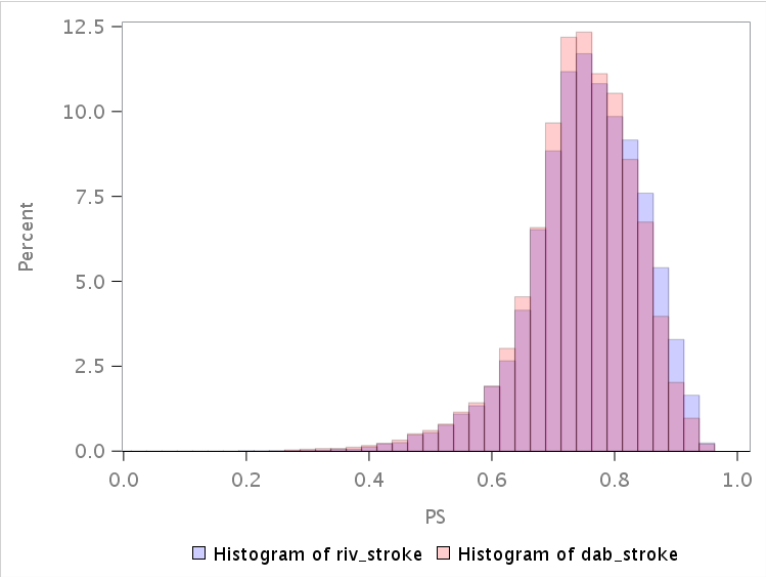
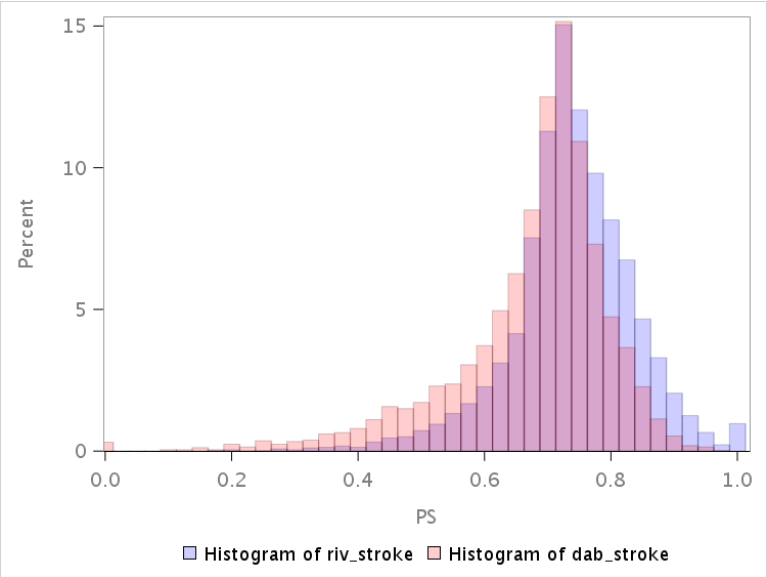


Figure 2f. Histograms Depicting Propensity Score Distributions Before and After Adjustment, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 0

Unweighted Propensity Score Distribution Before Trimming



Unweighted Propensity Score Distribution After Trimming

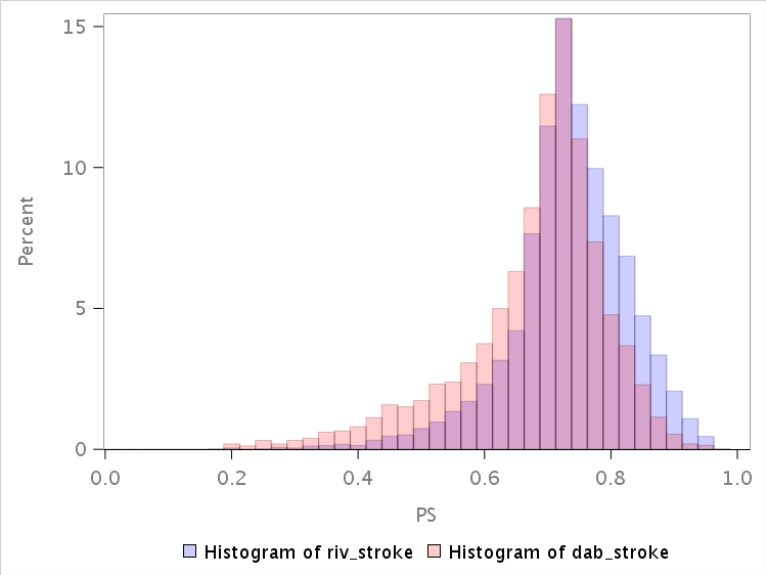


Figure 2f. Histograms Depicting Propensity Score Distributions Before and After Adjustment, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 0

Weighted Propensity Score Distribution After Trimming, Inverse Probability of Treatment Weighted, Average Treatment Effect in the Treated (ATT)

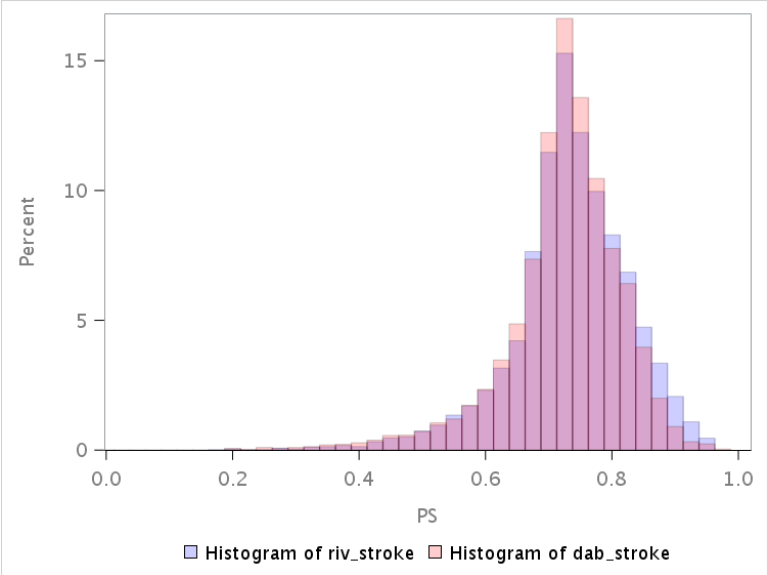
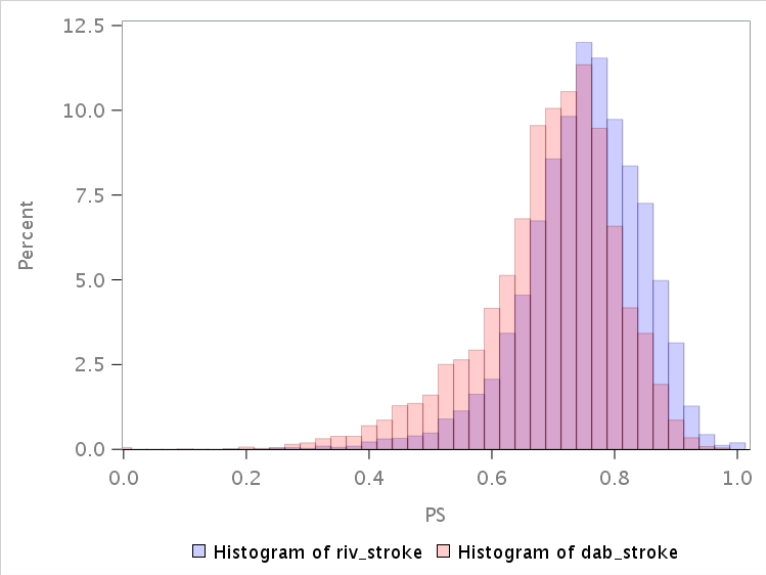


Figure 2g. Histograms Depicting Propensity Score Distributions Before and After Adjustment, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 1

Unweighted Propensity Score Distribution Before Trimming



Unweighted Propensity Score Distribution After Trimming

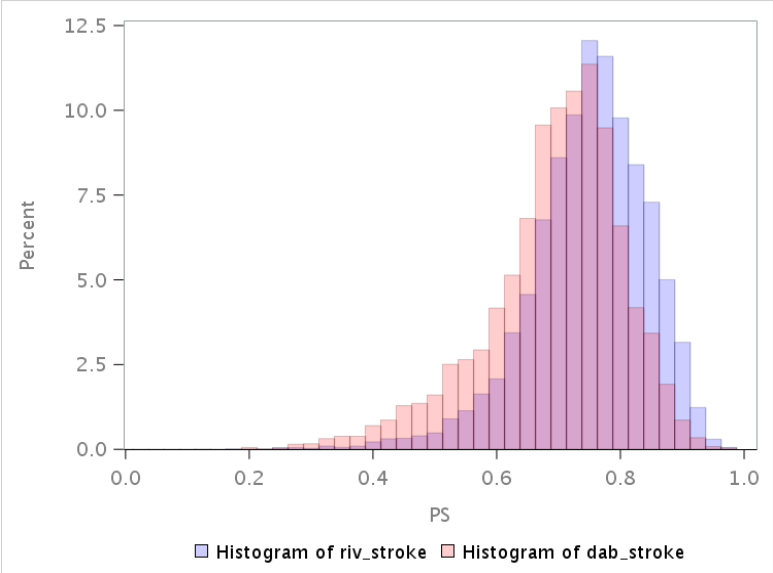


Figure 2g. Histograms Depicting Propensity Score Distributions Before and After Adjustment, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 1

Weighted Propensity Score Distribution After Trimming, Inverse Probability of Treatment Weighted, Average Treatment Effect in the Treated (ATT)

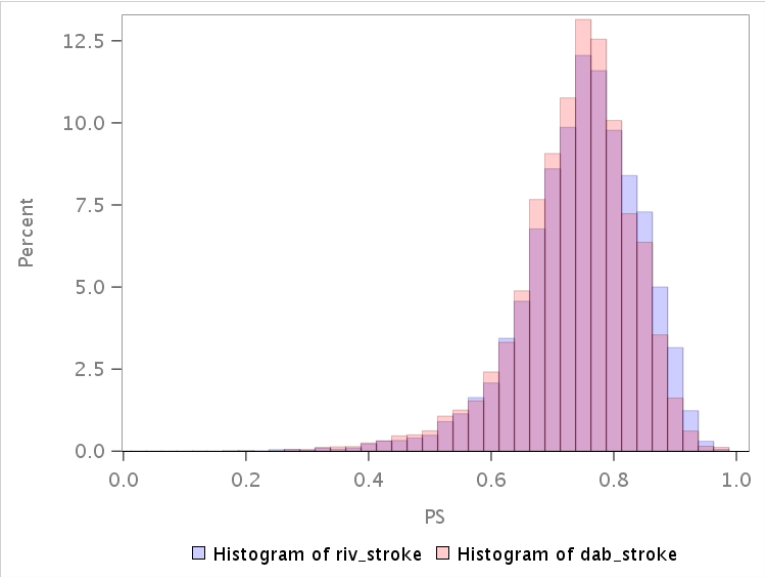
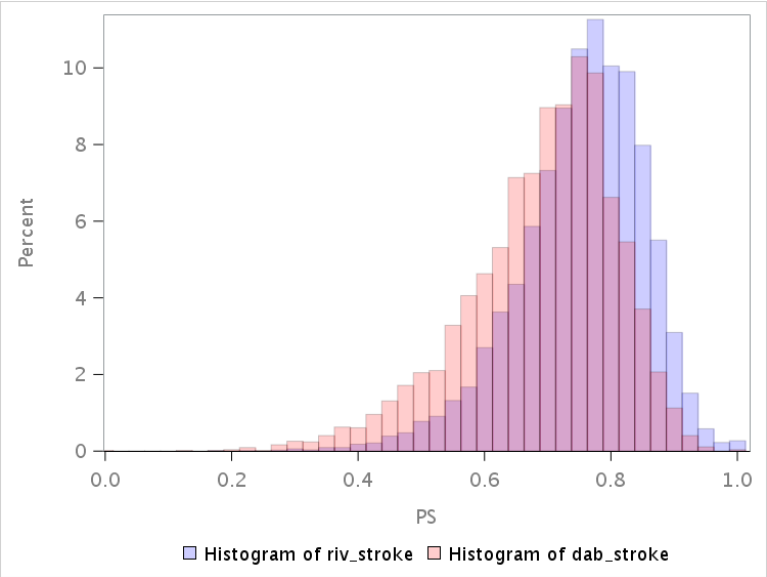


Figure 2h. Histograms Depicting Propensity Score Distributions Before and After Adjustment, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 2

Unweighted Propensity Score Distribution Before Trimming



Unweighted Propensity Score Distribution After Trimming

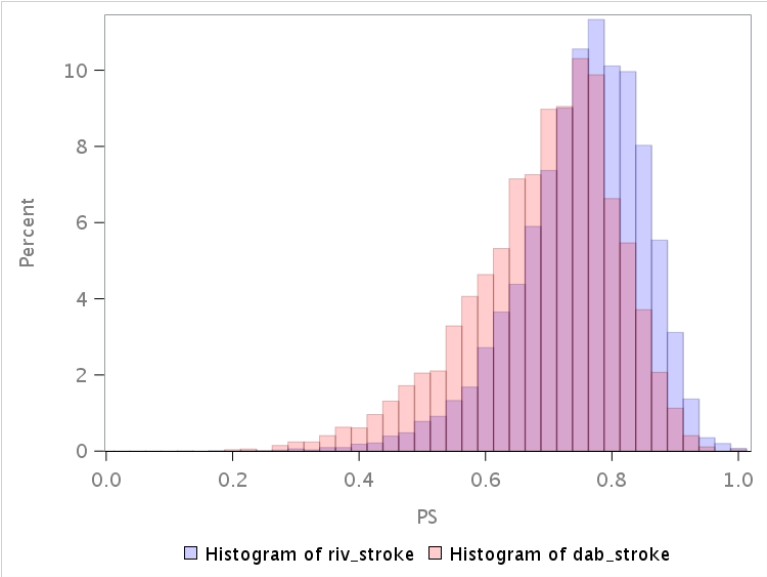


Figure 2h. Histograms Depicting Propensity Score Distributions Before and After Adjustment, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 2

Weighted Propensity Score Distribution After Trimming, Inverse Probability of Treatment Weighted, Average Treatment Effect in the Treated (ATT)

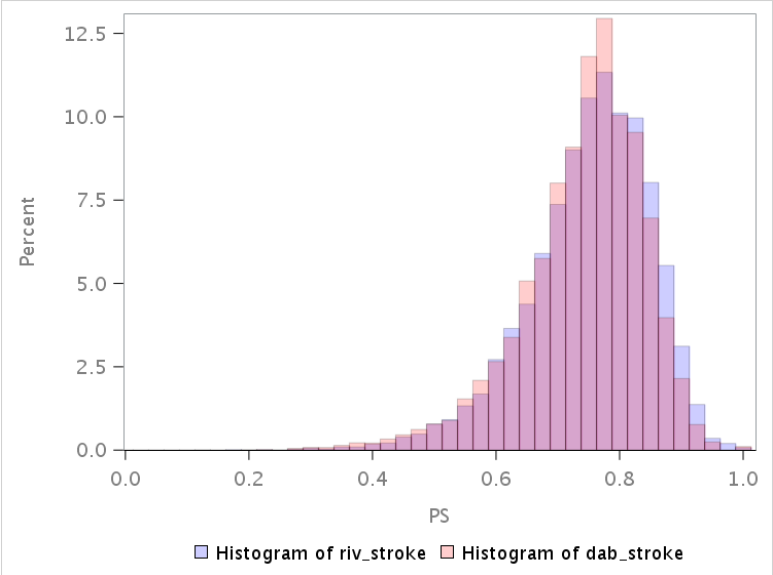
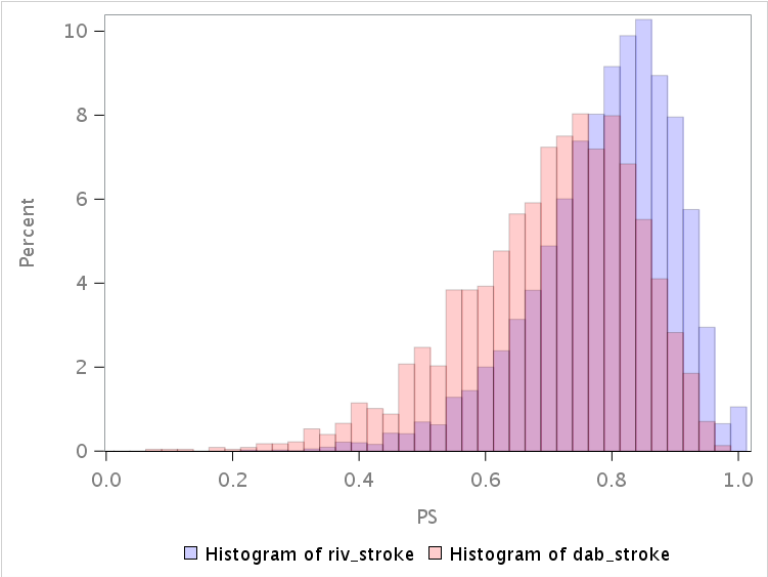


Figure 2i. Histograms Depicting Propensity Score Distributions Before and After Adjustment, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 3

Unweighted Propensity Score Distribution Before Trimming



Unweighted Propensity Score Distribution After Trimming

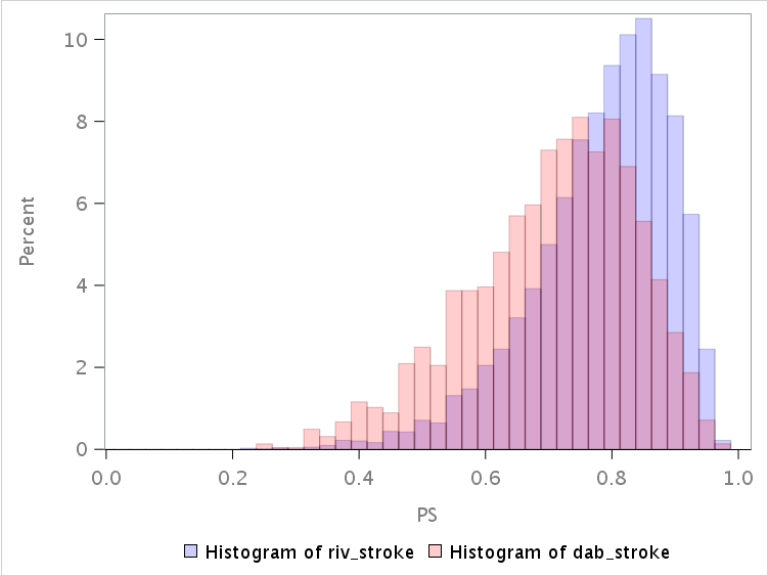


Figure 2i. Histograms Depicting Propensity Score Distributions Before and After Adjustment, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 3

Weighted Propensity Score Distribution After Trimming, Inverse Probability of Treatment Weighted, Average Treatment Effect in the Treated (ATT)

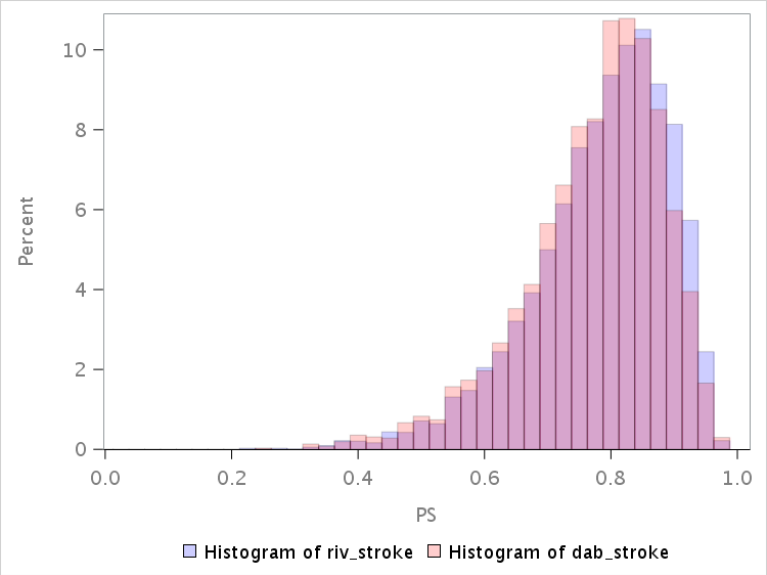
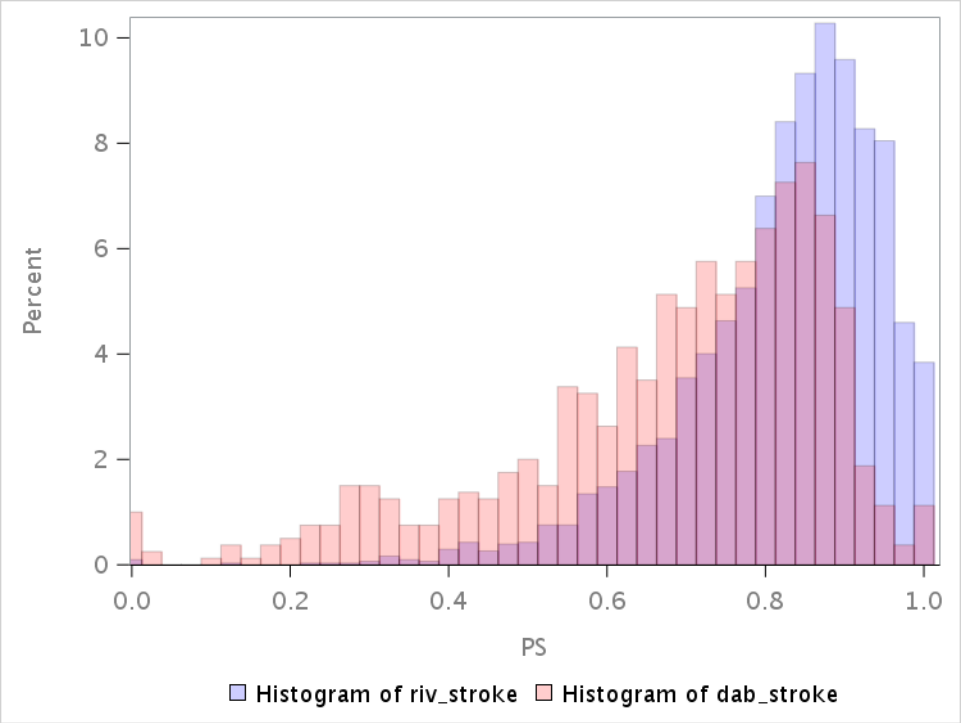


Figure 2j. Histograms Depicting Propensity Score Distributions Before and After Adjustment, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 4

Unweighted Propensity Score Distribution Before Trimming



Unweighted Propensity Score Distribution After Trimming

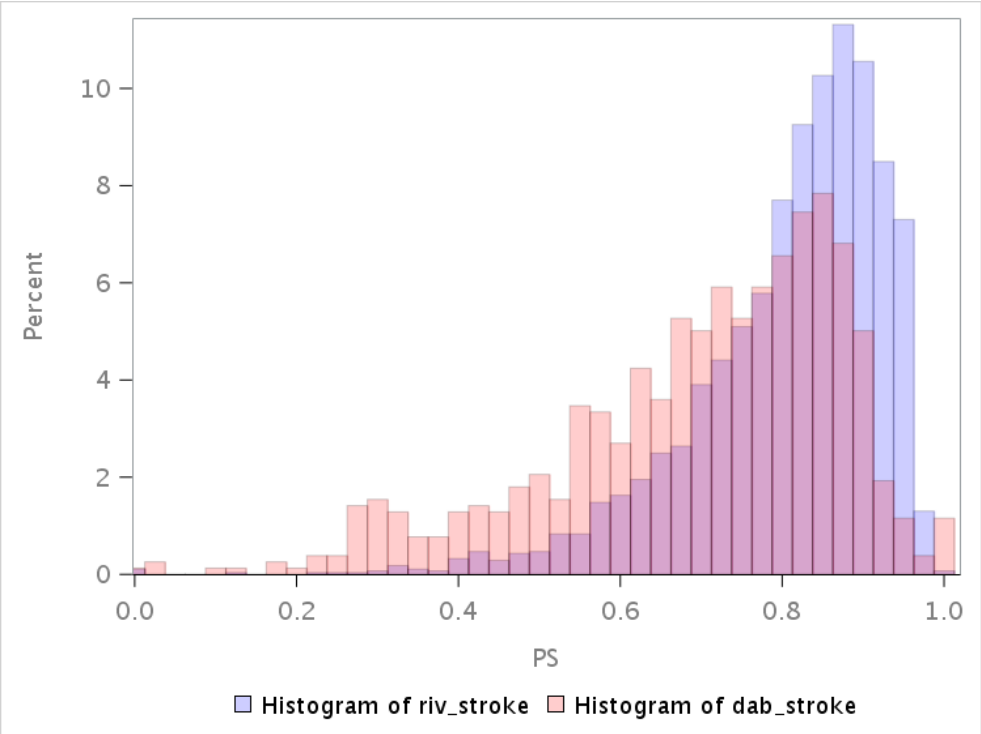


Figure 2j. Histograms Depicting Propensity Score Distributions Before and After Adjustment, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 4

Weighted Propensity Score Distribution After Trimming, Inverse Probability of Treatment Weighted, Average Treatment Effect in the Treated (ATT)

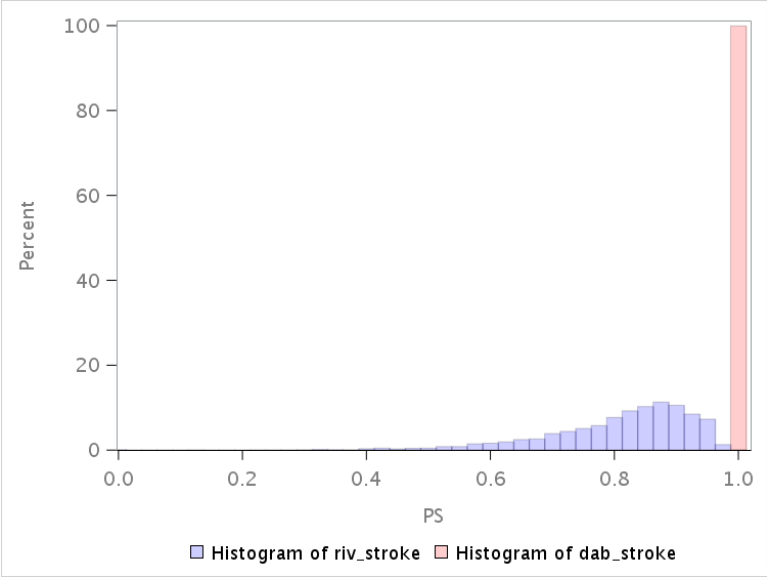
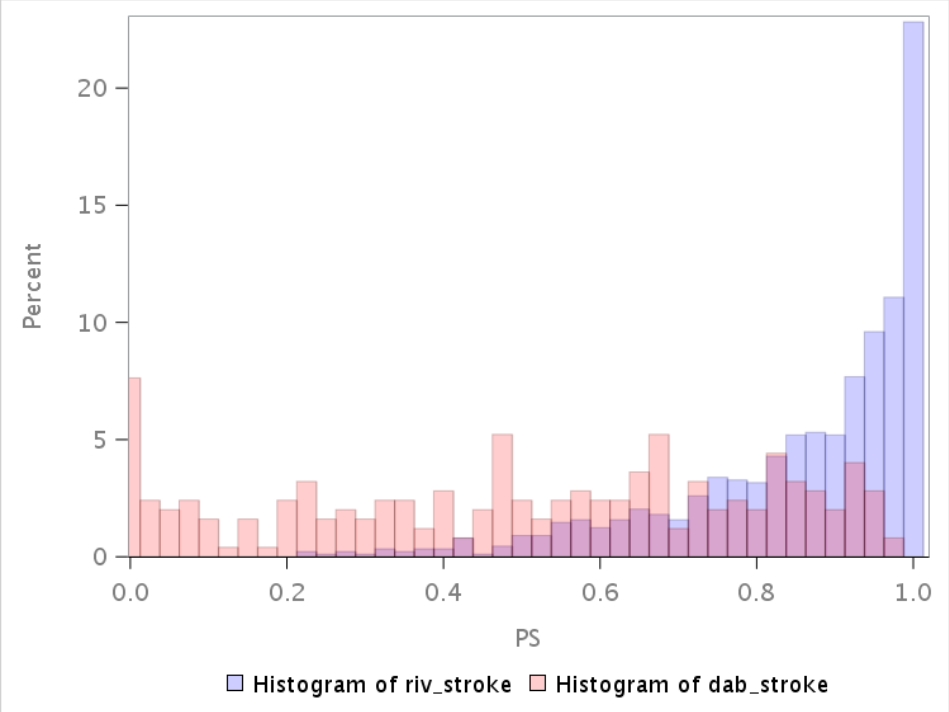


Figure 2k. Histograms Depicting Propensity Score Distributions Before and After Adjustment, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 5+

Unweighted Propensity Score Distribution Before Trimming



Unweighted Propensity Score Distribution After Trimming

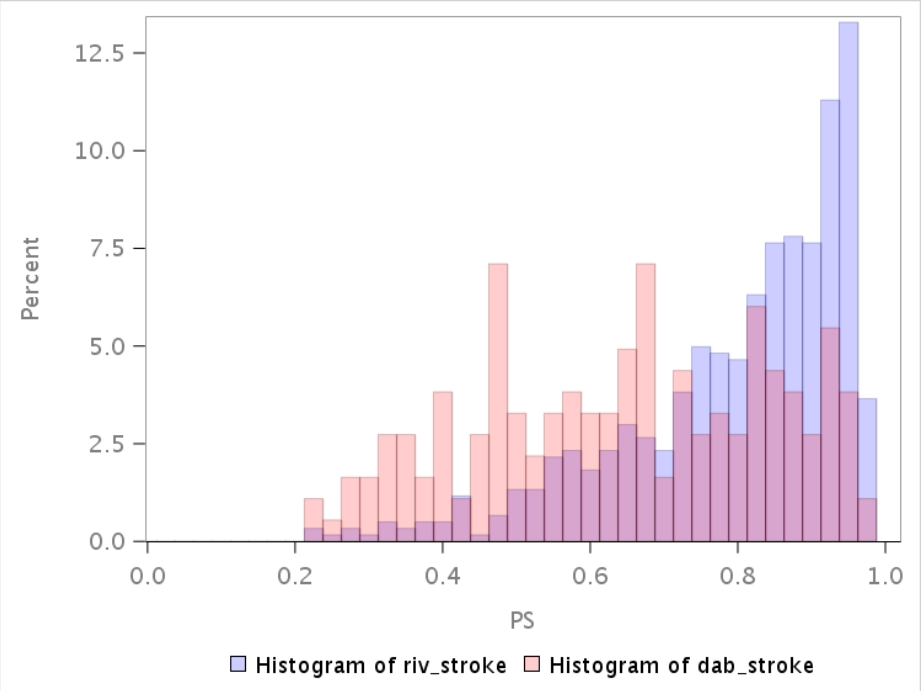


Figure 2k. Histograms Depicting Propensity Score Distributions Before and After Adjustment, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 5+

Weighted Propensity Score Distribution After Trimming, Inverse Probability of Treatment Weighted, Average Treatment Effect in the Treated (ATT)

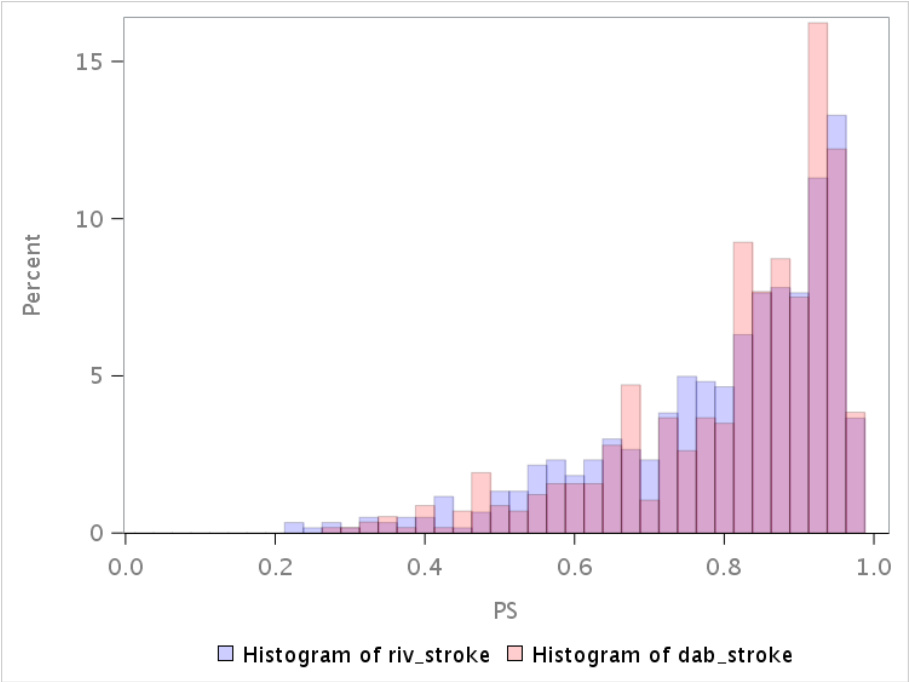
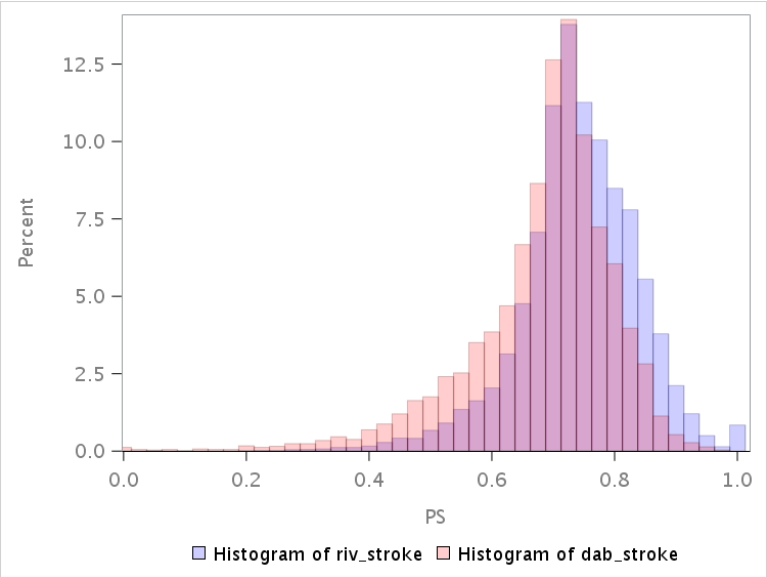


Figure 2l. Histograms Depicting Propensity Score Distributions Before and After Adjustment, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 0

Unweighted Propensity Score Distribution Before Trimming



Unweighted Propensity Score Distribution After Trimming

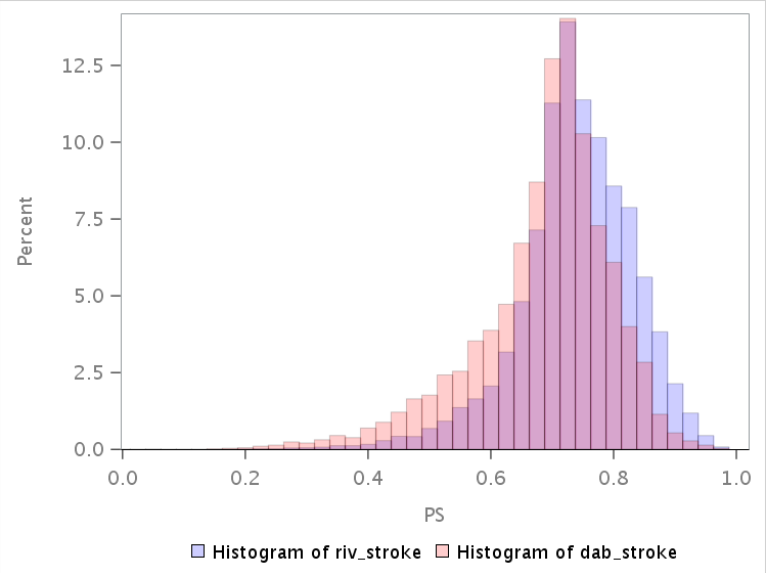


Figure 2l. Histograms Depicting Propensity Score Distributions Before and After Adjustment, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 0

Weighted Propensity Score Distribution After Trimming, Inverse Probability of Treatment Weighted, Average Treatment Effect in the Treated (ATT)

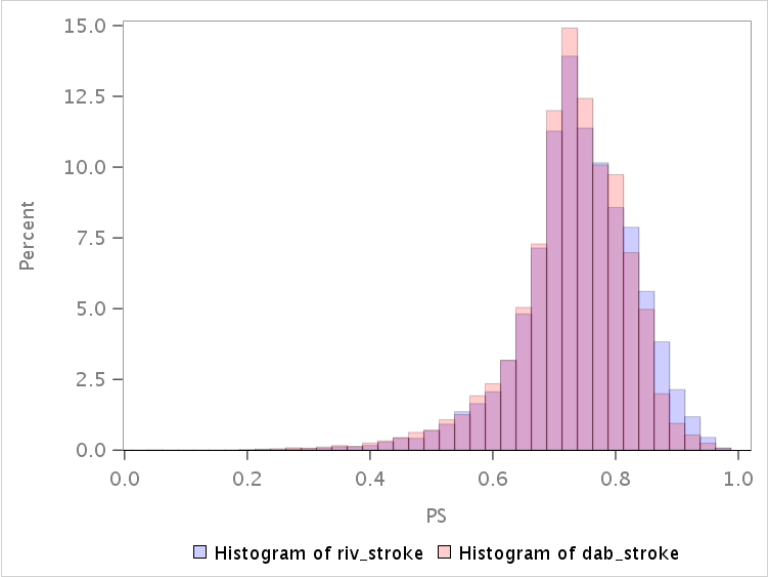
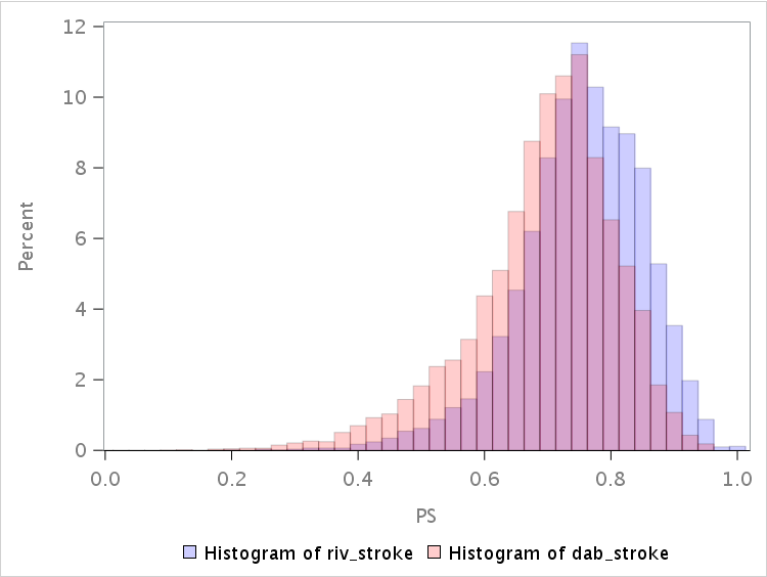


Figure 2m. Histograms Depicting Propensity Score Distributions Before and After Adjustment, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 1

Unweighted Propensity Score Distribution Before Trimming



Unweighted Propensity Score Distribution After Trimming

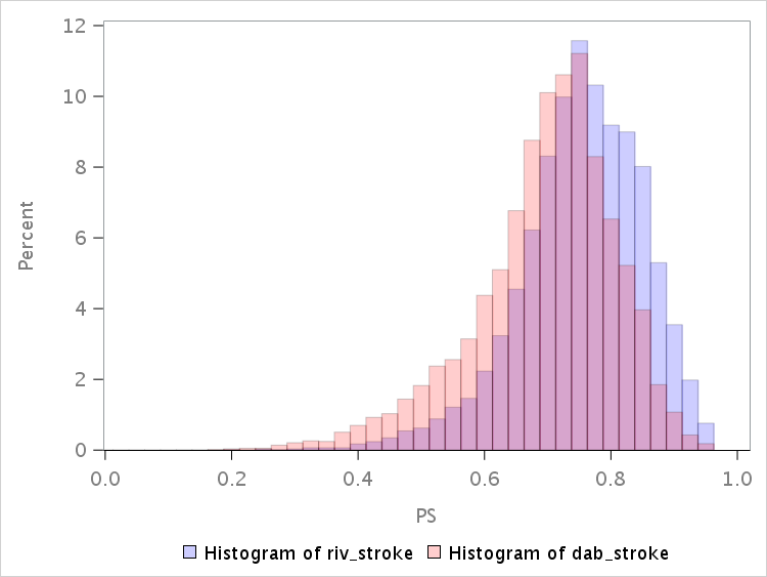


Figure 2m. Histograms Depicting Propensity Score Distributions Before and After Adjustment, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 1

Weighted Propensity Score Distribution After Trimming, Inverse Probability of Treatment Weighted, Average Treatment Effect in the Treated (ATT)

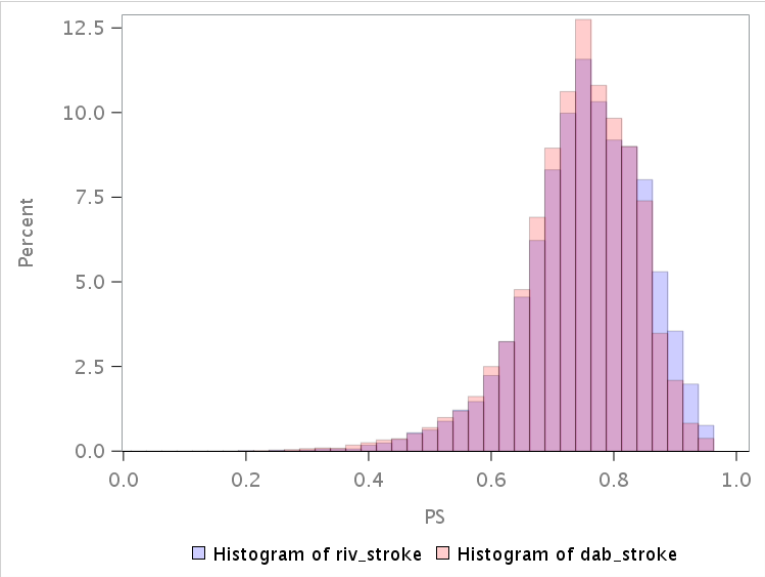
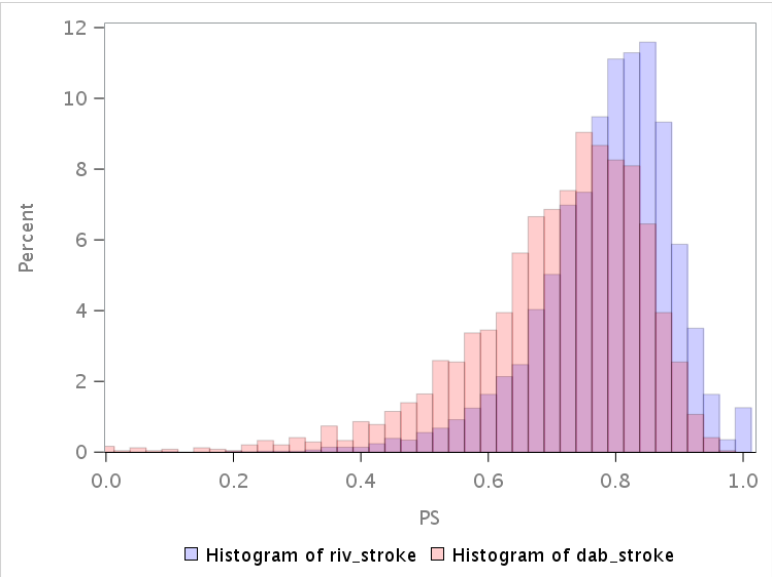


Figure 2n. Histograms Depicting Propensity Score Distributions Before and After Adjustment, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 2

Unweighted Propensity Score Distribution Before Trimming



Unweighted Propensity Score Distribution After Trimming

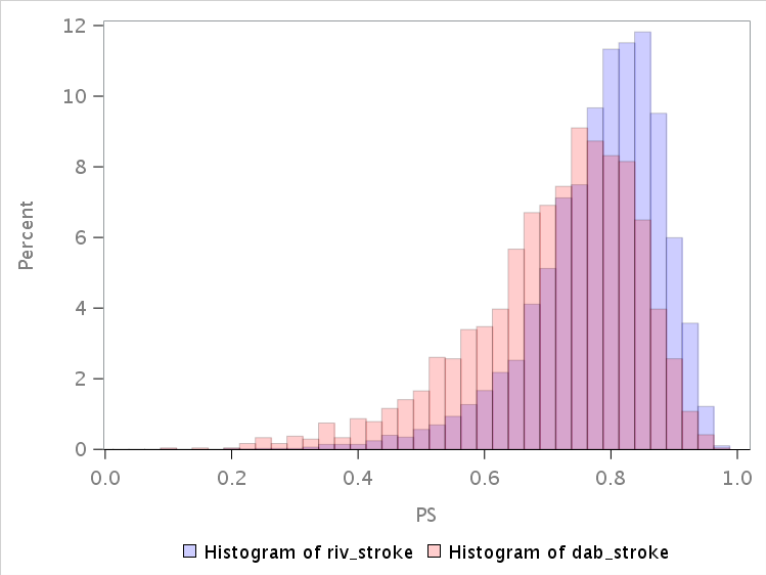


Figure 2n. Histograms Depicting Propensity Score Distributions Before and After Adjustment, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 2

Weighted Propensity Score Distribution After Trimming, Inverse Probability of Treatment Weighted, Average Treatment Effect in the Treated (ATT)

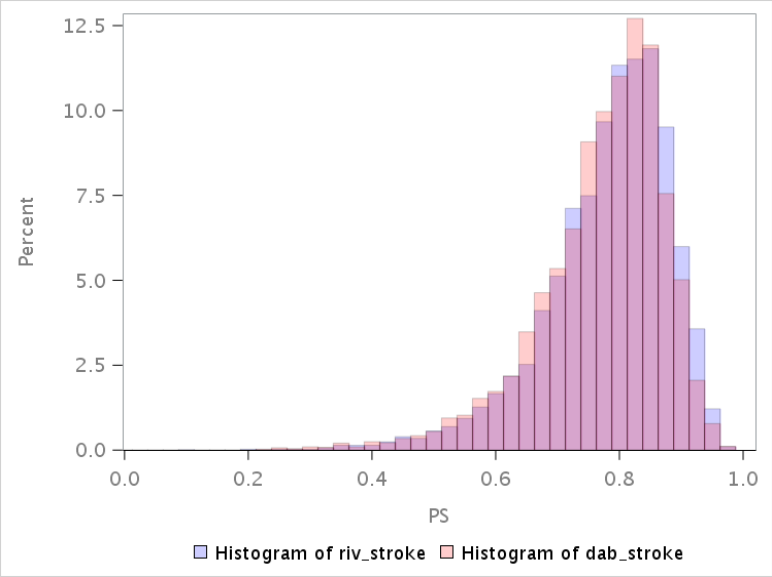
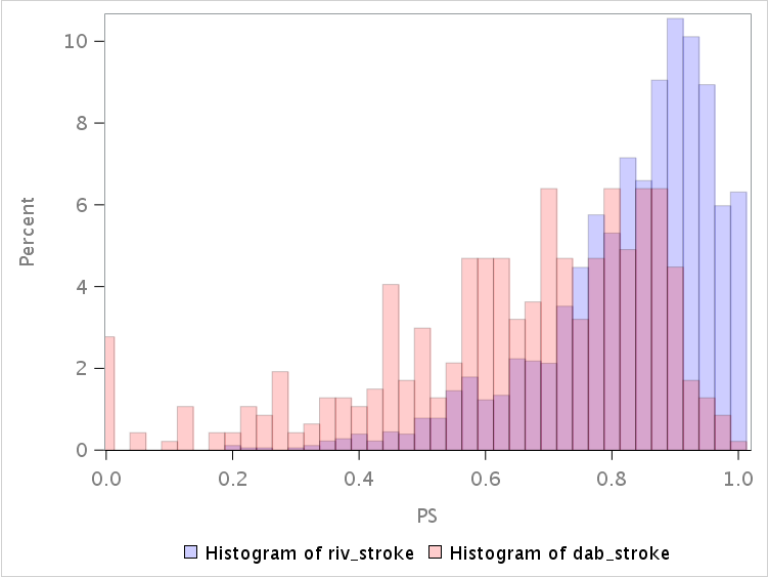


Figure 2o. Histograms Depicting Propensity Score Distributions Before and After Adjustment, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 3+

Unweighted Propensity Score Distribution Before Trimming



Unweighted Propensity Score Distribution After Trimming

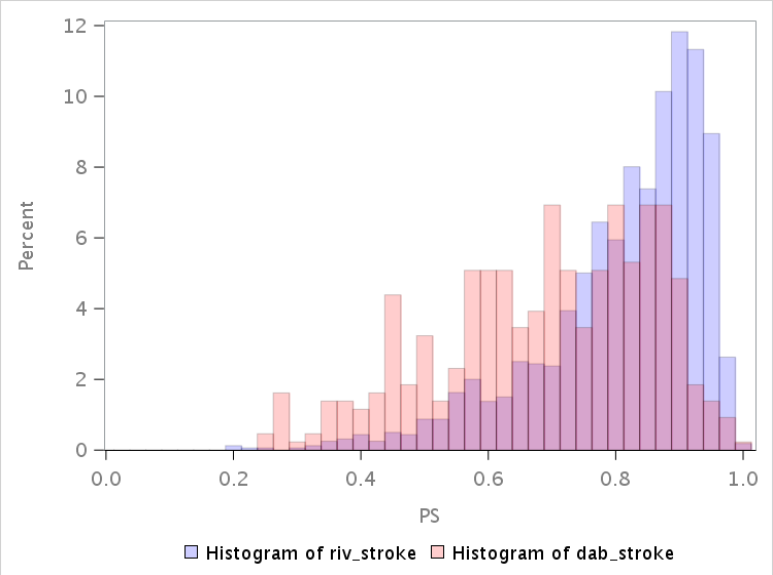


Figure 2o. Histograms Depicting Propensity Score Distributions Before and After Adjustment, TruncWeight = 2.5, ATT Weights in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 3+

Weighted Propensity Score Distribution After Trimming, Inverse Probability of Treatment Weighted, Average Treatment Effect in the Treated (ATT)

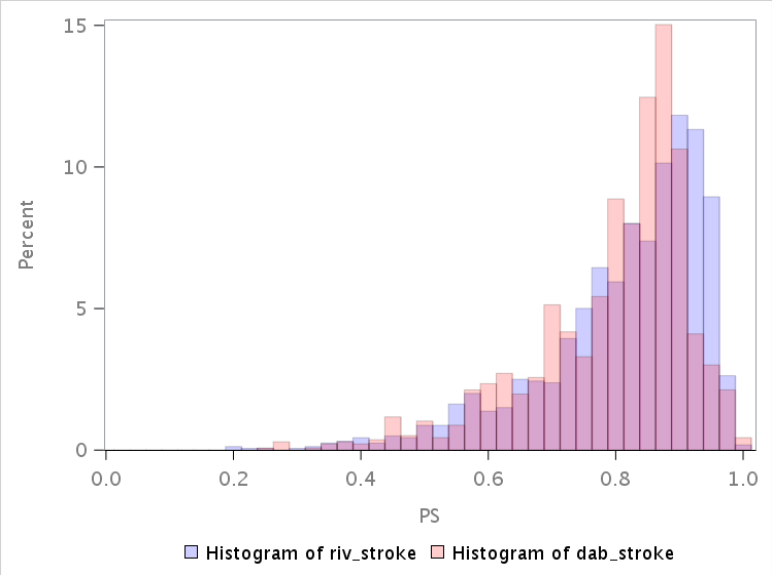
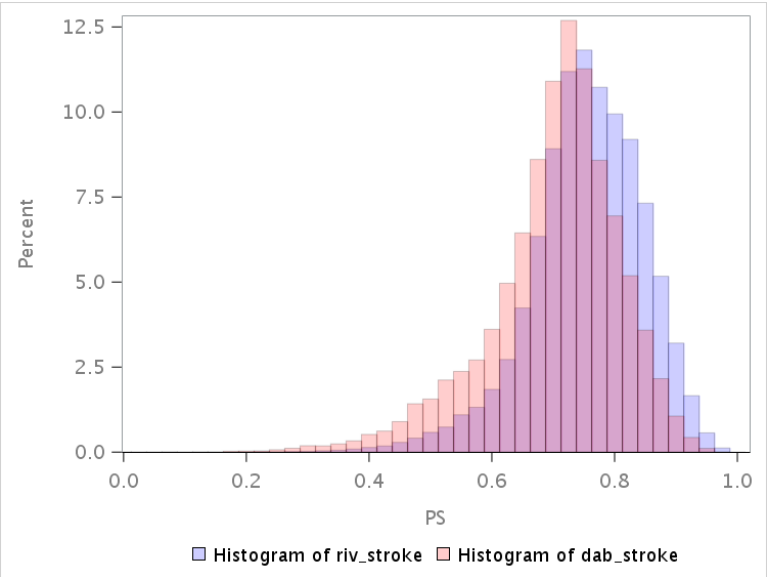


Figure 3a. Histograms Depicting Propensity Score Distributions Before and After Adjustment, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022

Unadjusted Propensity Score Distribution



Propensity Score Fixed Ratio 1:1 Adjusted Cohort, Matched Caliper = 0.05

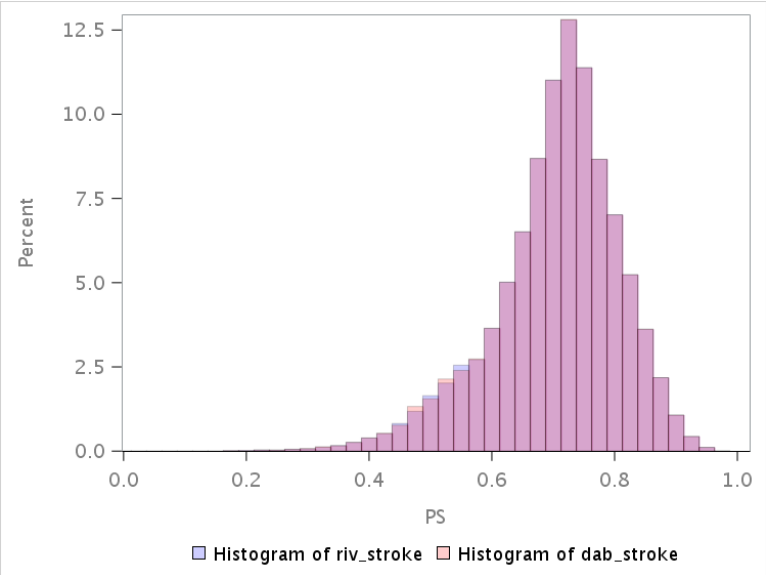
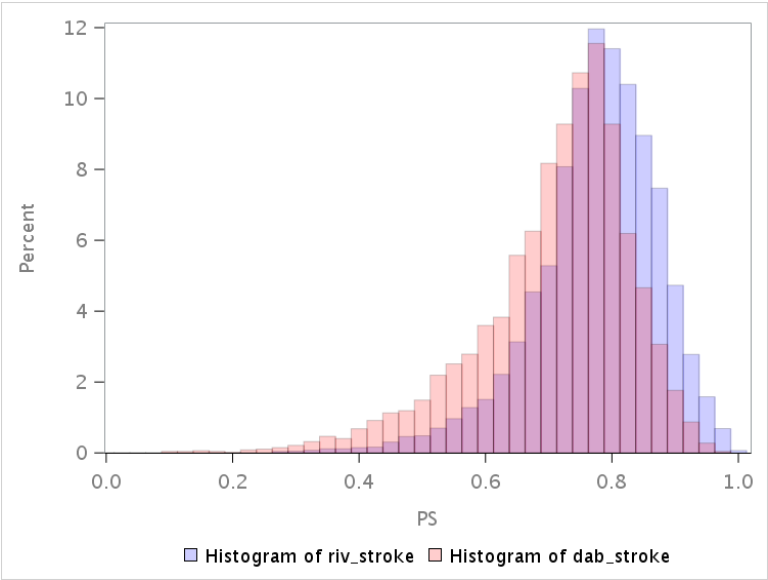


Figure 3b. Histograms Depicting Propensity Score Distributions Before and After Adjustment, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Sex: Female

Unadjusted Propensity Score Distribution



Propensity Score Fixed Ratio 1:1 Adjusted Cohort, Matched Caliper = 0.05

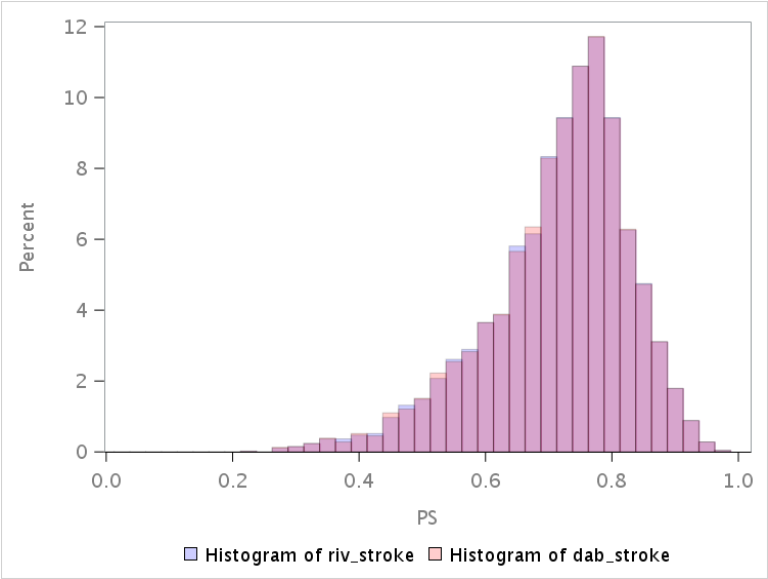
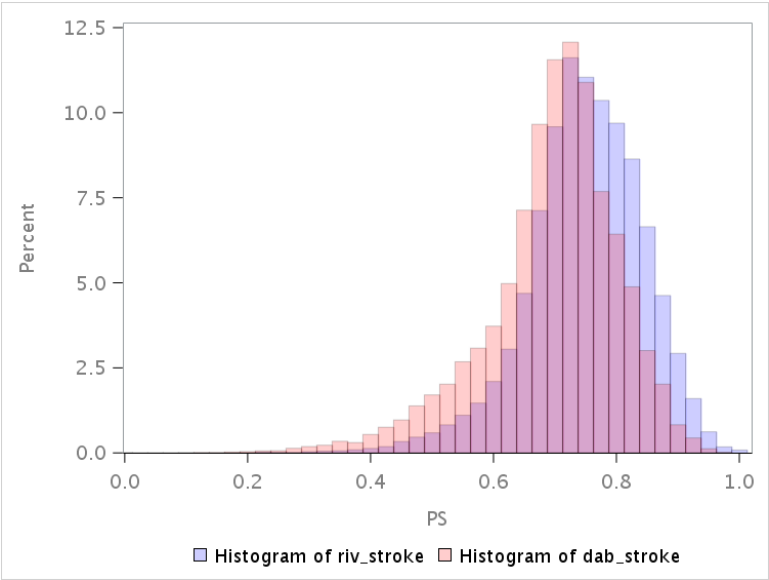


Figure 3c. Histograms Depicting Propensity Score Distributions Before and After Adjustment, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Sex: Male

Unadjusted Propensity Score Distribution



Propensity Score Fixed Ratio 1:1 Adjusted Cohort, Matched Caliper = 0.05

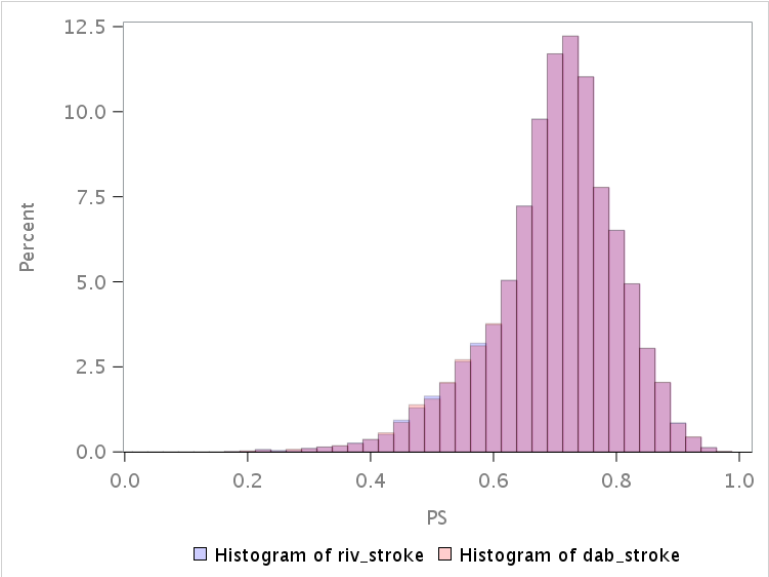
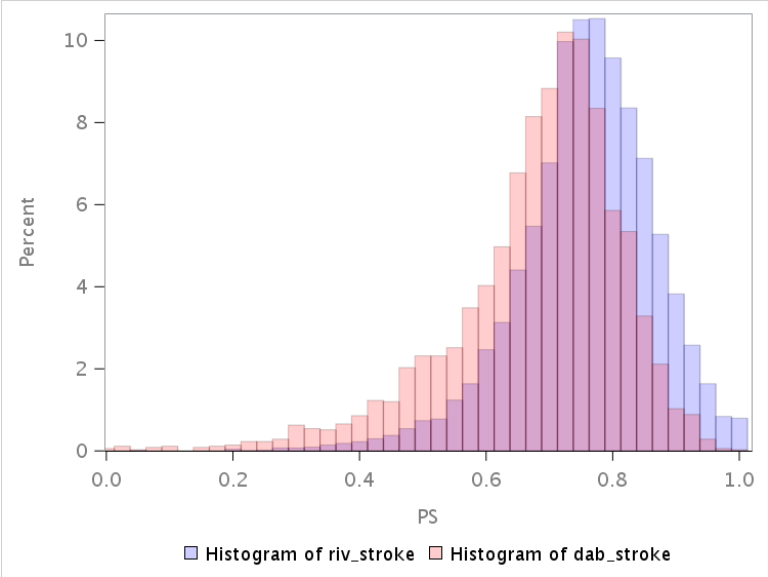


Figure 3d. Histograms Depicting Propensity Score Distributions Before and After Adjustment, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Age Group: 21-49 years

Unadjusted Propensity Score Distribution



Propensity Score Fixed Ratio 1:1 Adjusted Cohort, Matched Caliper = 0.05

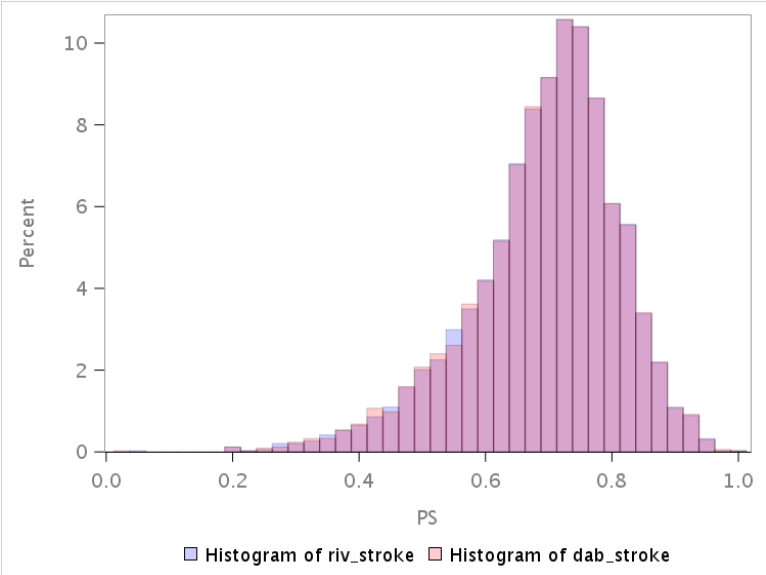
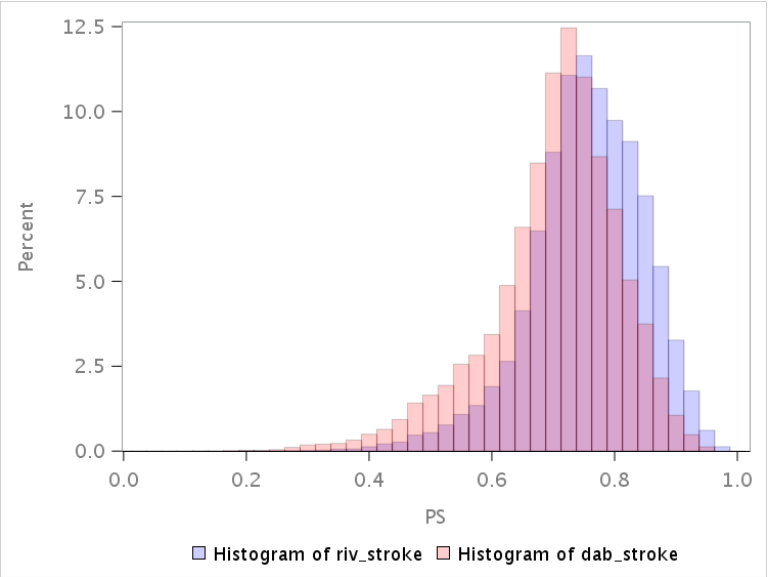


Figure 3e. Histograms Depicting Propensity Score Distributions Before and After Adjustment, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, Age Group: 50-64 years

Unadjusted Propensity Score Distribution



Propensity Score Fixed Ratio 1:1 Adjusted Cohort, Matched Caliper = 0.05

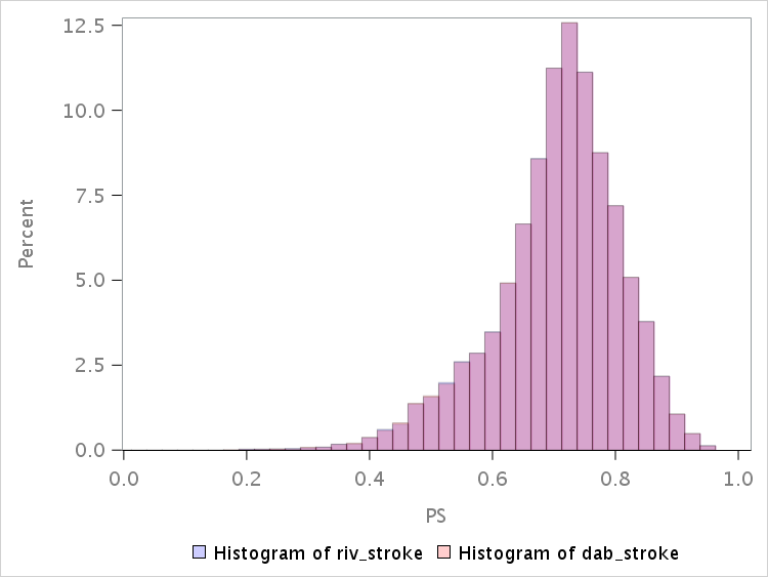
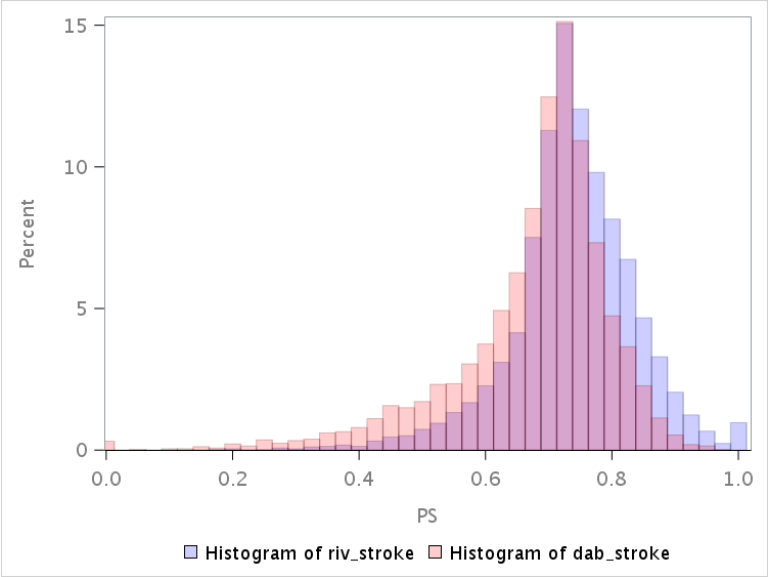


Figure 3f. Histograms Depicting Propensity Score Distributions Before and After Adjustment, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 0

Unadjusted Propensity Score Distribution



Propensity Score Fixed Ratio 1:1 Adjusted Cohort, Matched Caliper = 0.05

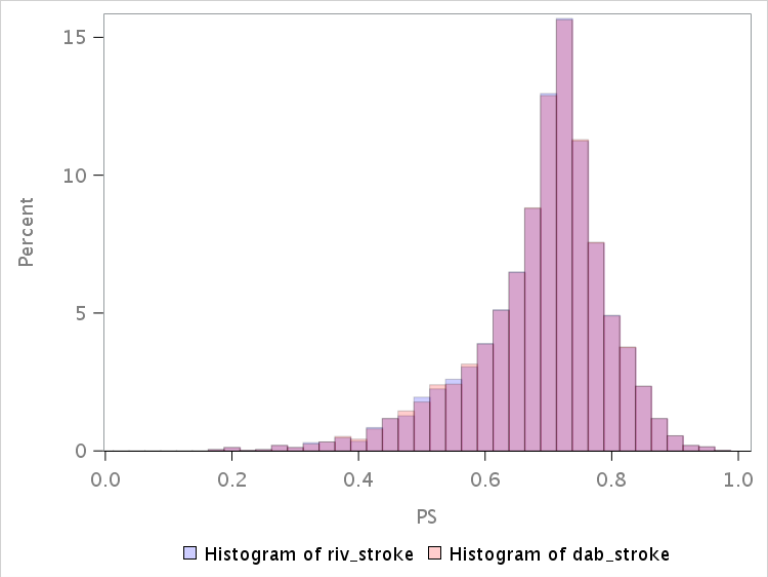
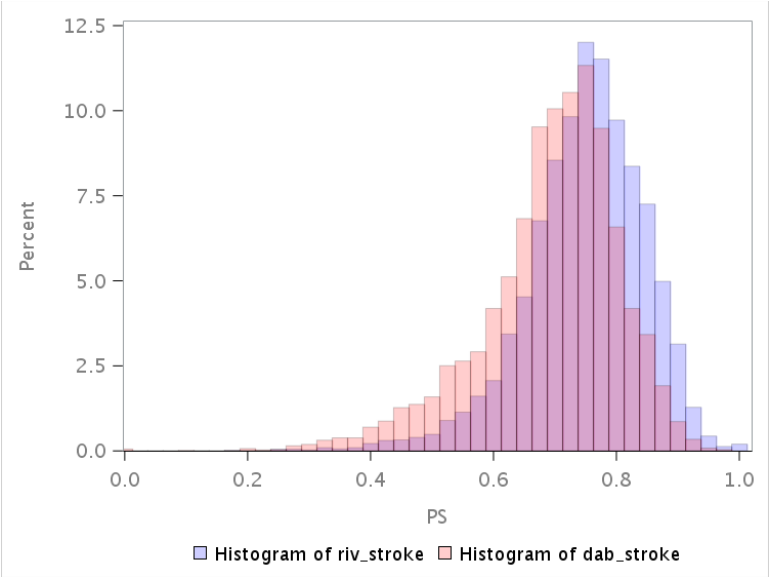


Figure 3g. Histograms Depicting Propensity Score Distributions Before and After Adjustment, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 1

Unadjusted Propensity Score Distribution



Propensity Score Fixed Ratio 1:1 Adjusted Cohort, Matched Caliper = 0.05

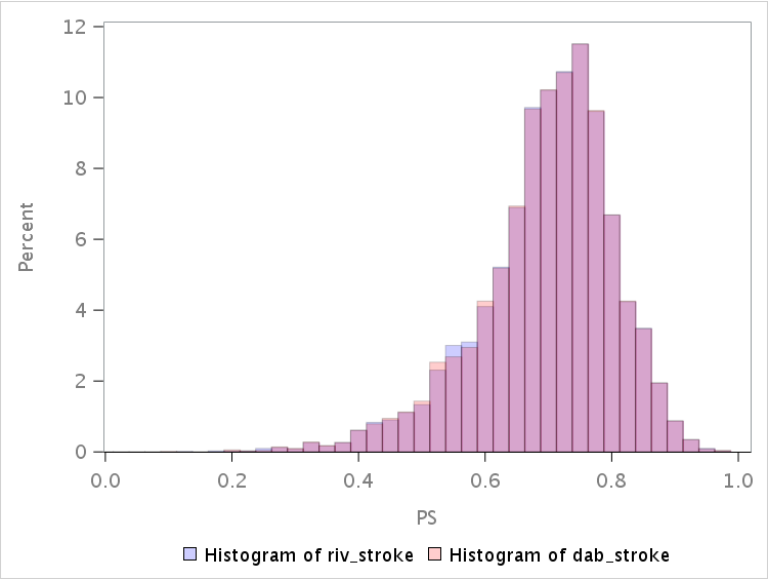
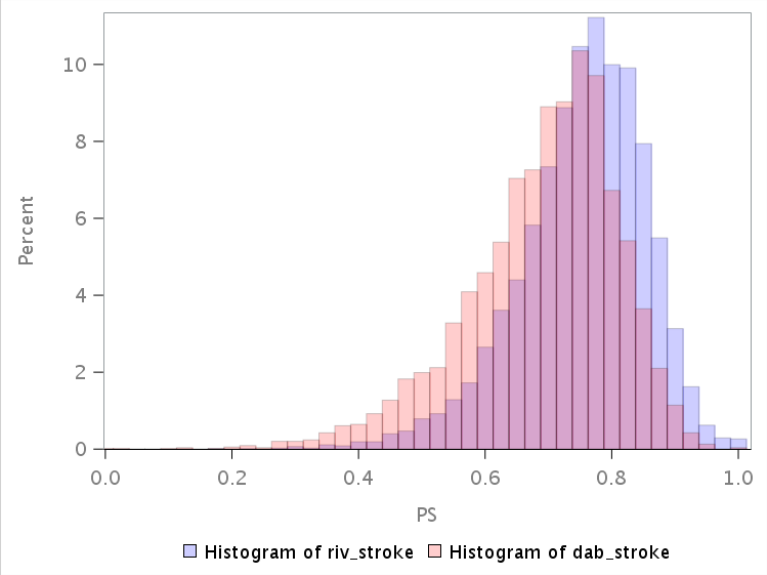


Figure 3h. Histograms Depicting Propensity Score Distributions Before and After Adjustment, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 2

Unadjusted Propensity Score Distribution



Propensity Score Fixed Ratio 1:1 Adjusted Cohort, Matched Caliper = 0.05

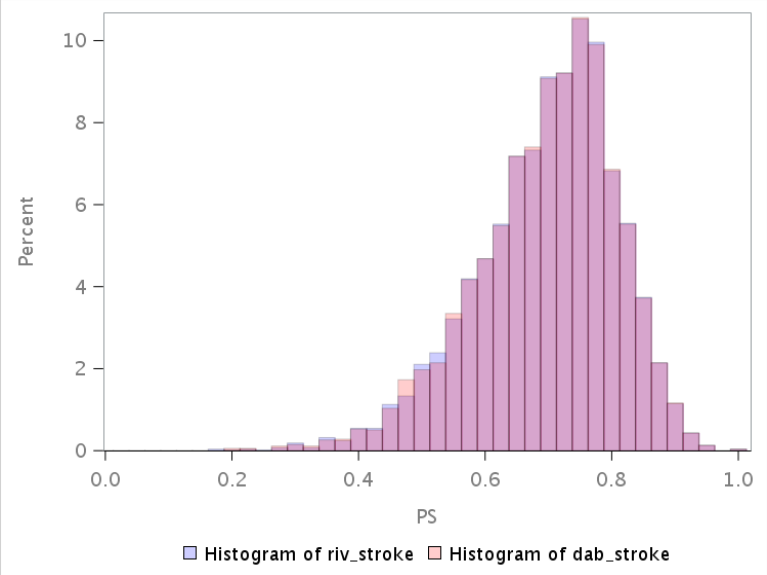
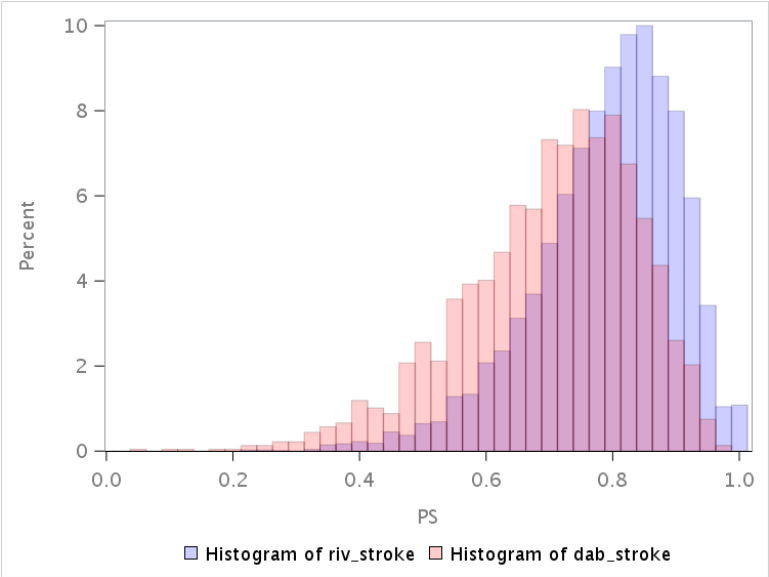


Figure 3i. Histograms Depicting Propensity Score Distributions Before and After Adjustment, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 3

Unadjusted Propensity Score Distribution



Propensity Score Fixed Ratio 1:1 Adjusted Cohort, Matched Caliper = 0.05

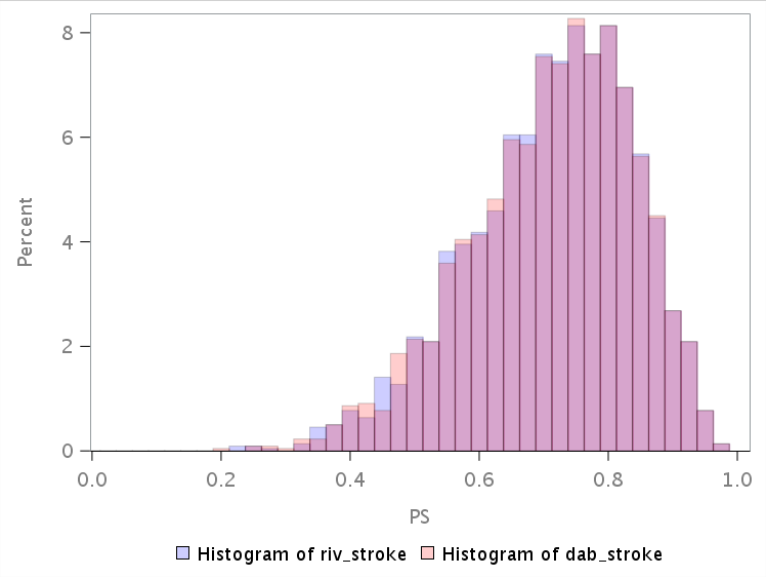
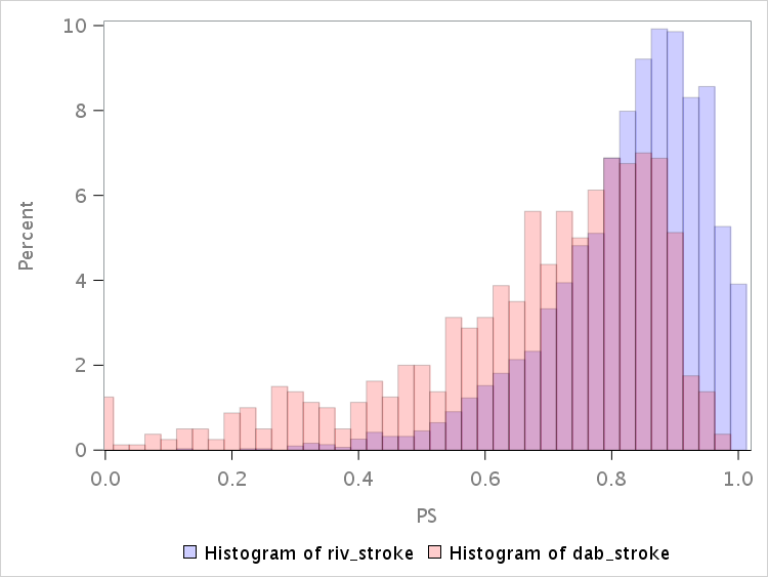


Figure 3j. Histograms Depicting Propensity Score Distributions Before and After Adjustment, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 4

Unadjusted Propensity Score Distribution



Propensity Score Fixed Ratio 1:1 Adjusted Cohort, Matched Caliper = 0.05

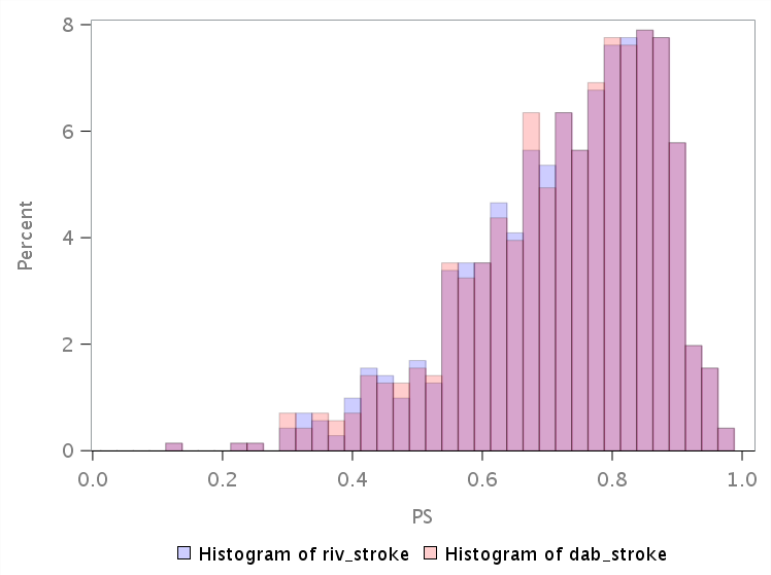
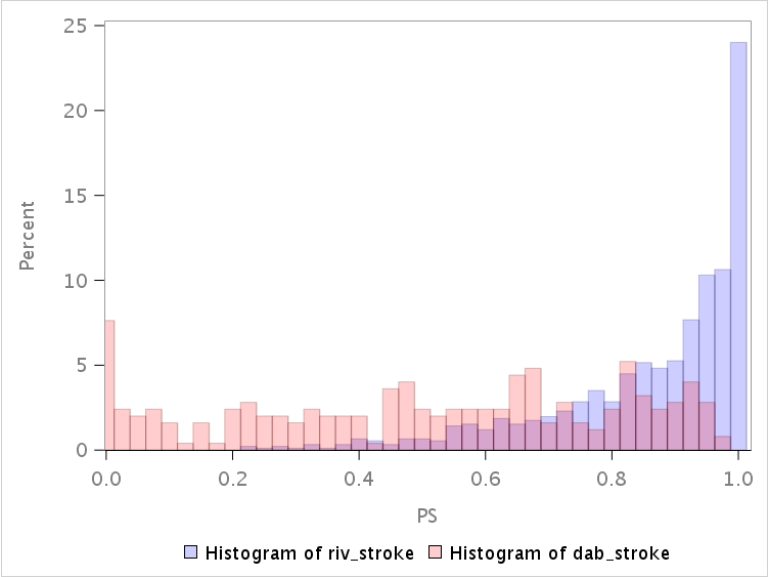


Figure 3k. Histograms Depicting Propensity Score Distributions Before and After Adjustment, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, CHADSVASC: 5+

Unadjusted Propensity Score Distribution



Propensity Score Fixed Ratio 1:1 Adjusted Cohort, Matched Caliper = 0.05

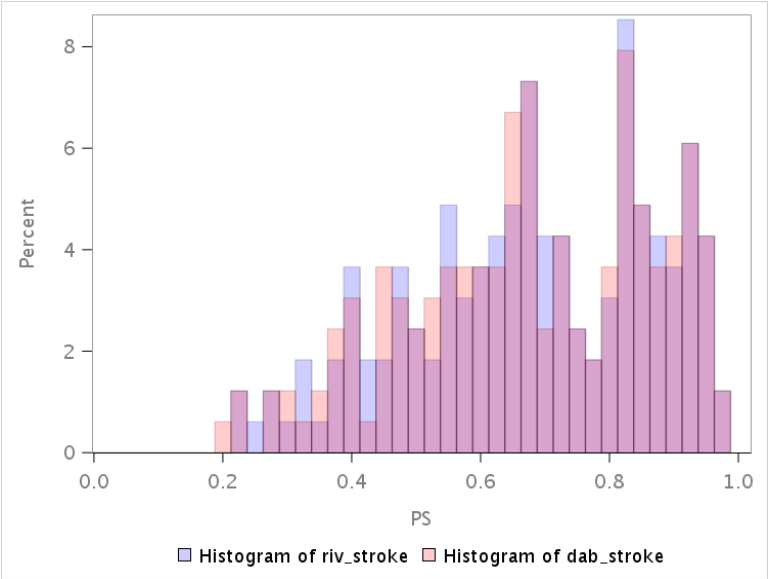
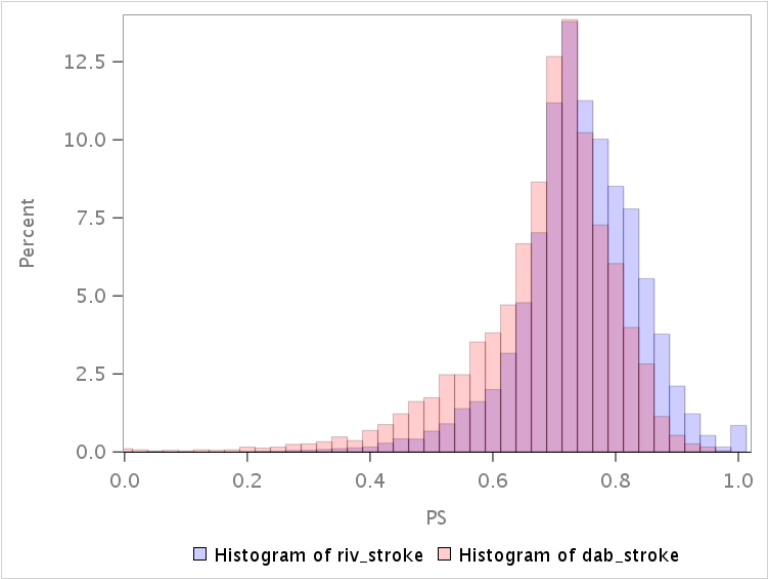


Figure 3l. Histograms Depicting Propensity Score Distributions Before and After Adjustment, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 0

Unadjusted Propensity Score Distribution



Propensity Score Fixed Ratio 1:1 Adjusted Cohort, Matched Caliper = 0.05

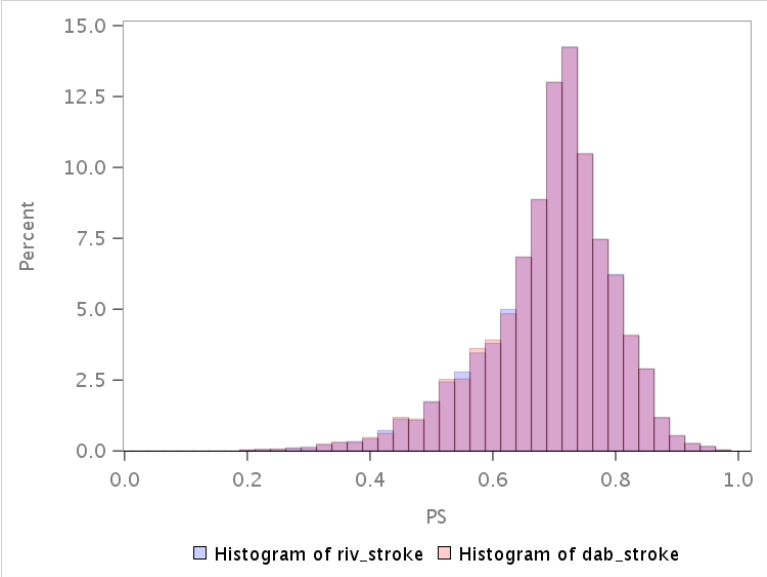
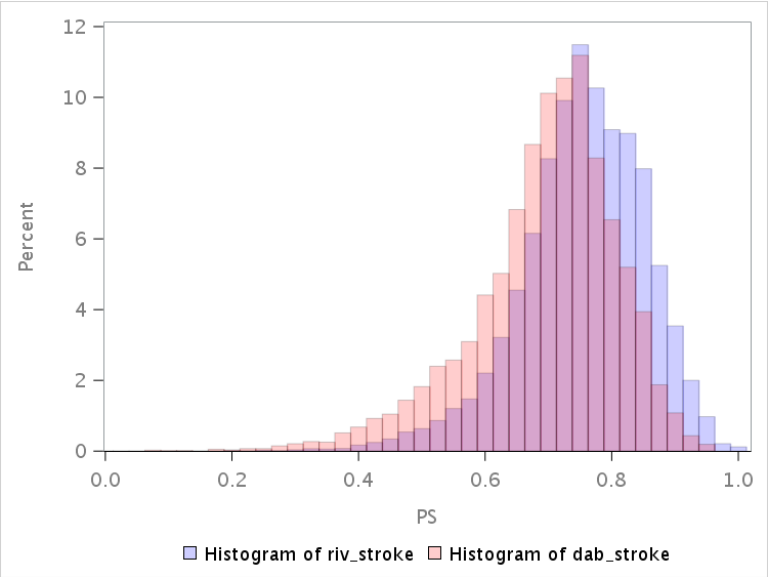


Figure 3m. Histograms Depicting Propensity Score Distributions Before and After Adjustment, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 1

Unadjusted Propensity Score Distribution



Propensity Score Fixed Ratio 1:1 Adjusted Cohort, Matched Caliper = 0.05

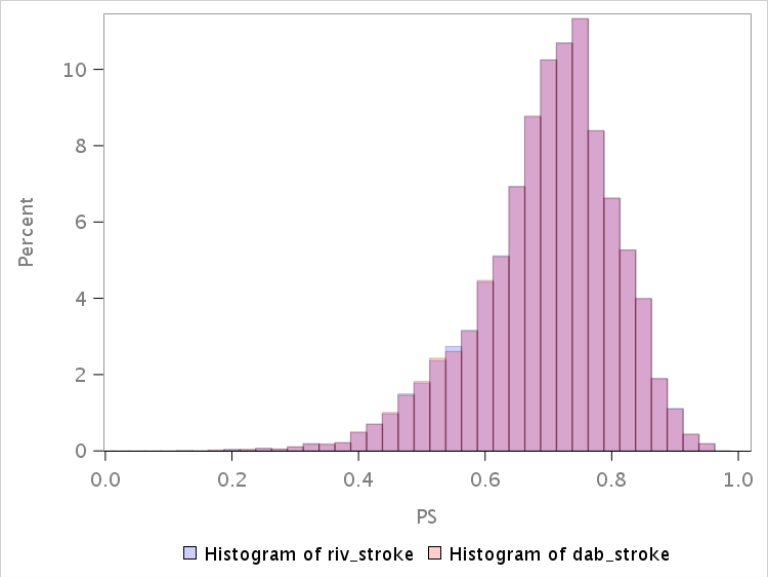
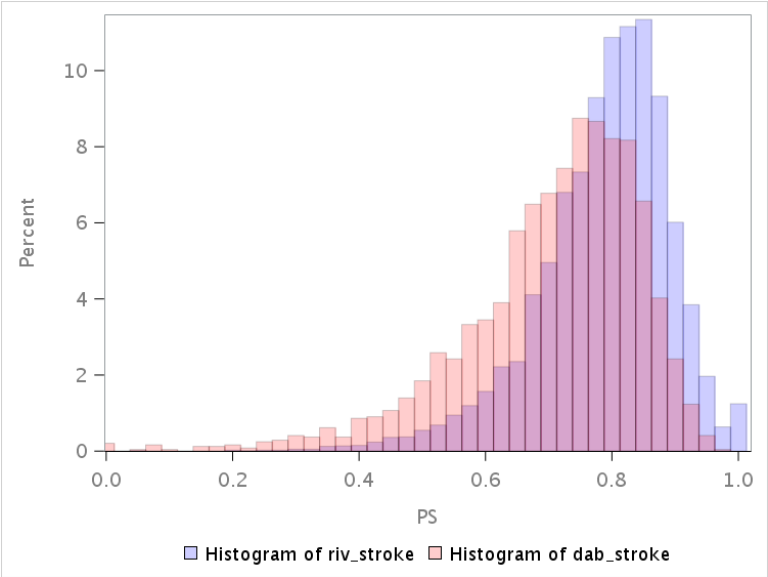


Figure 3n. Histograms Depicting Propensity Score Distributions Before and After Adjustment, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 2

Unadjusted Propensity Score Distribution



Propensity Score Fixed Ratio 1:1 Adjusted Cohort, Matched Caliper = 0.05

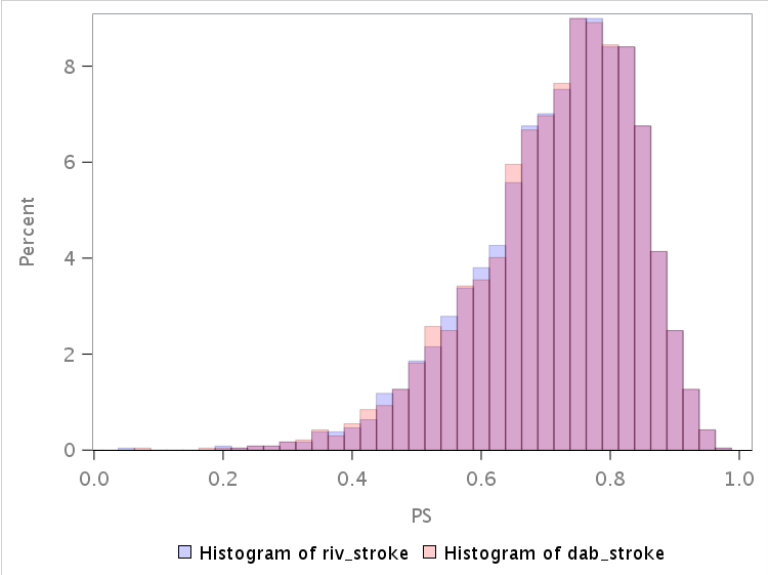
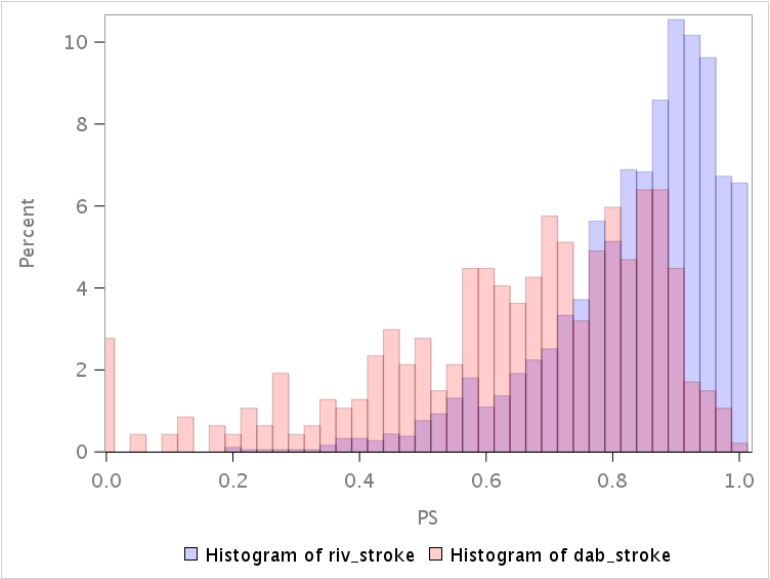


Figure 3o. Histograms Depicting Propensity Score Distributions Before and After Adjustment, Propensity Score Matched in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022, HASBLED: 3+

Unadjusted Propensity Score Distribution



Propensity Score Fixed Ratio 1:1 Adjusted Cohort, Matched Caliper = 0.05

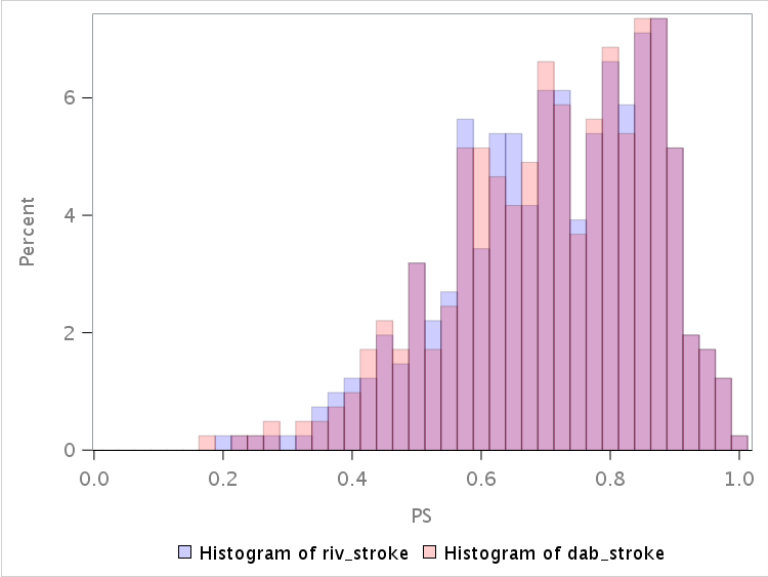


Figure 4a. Forest Plot of Hazard Ratios (HR) and 95% Confidence Intervals (CI) for Stroke, IPTW ATES & ATT, Site-Adjusted Analyses in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022

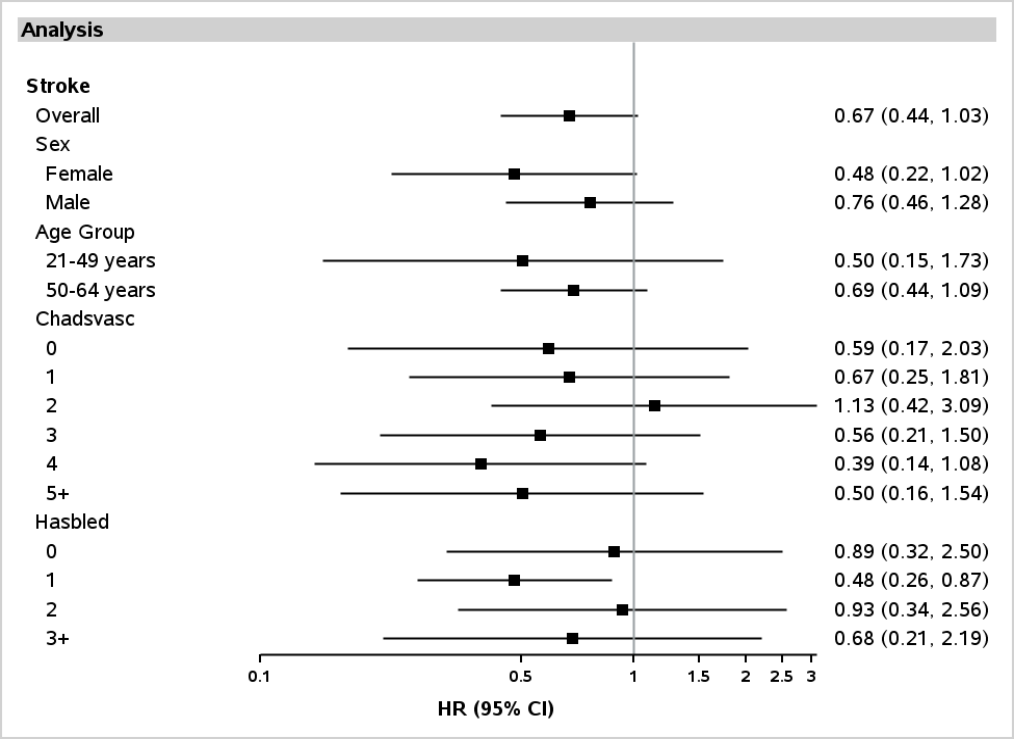
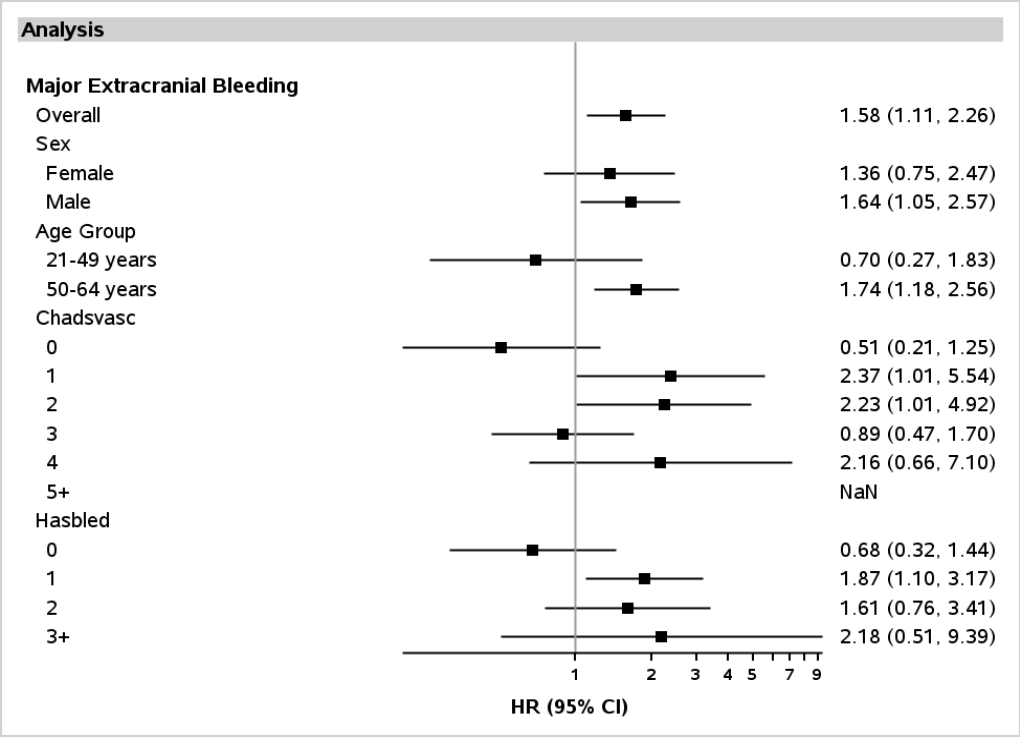
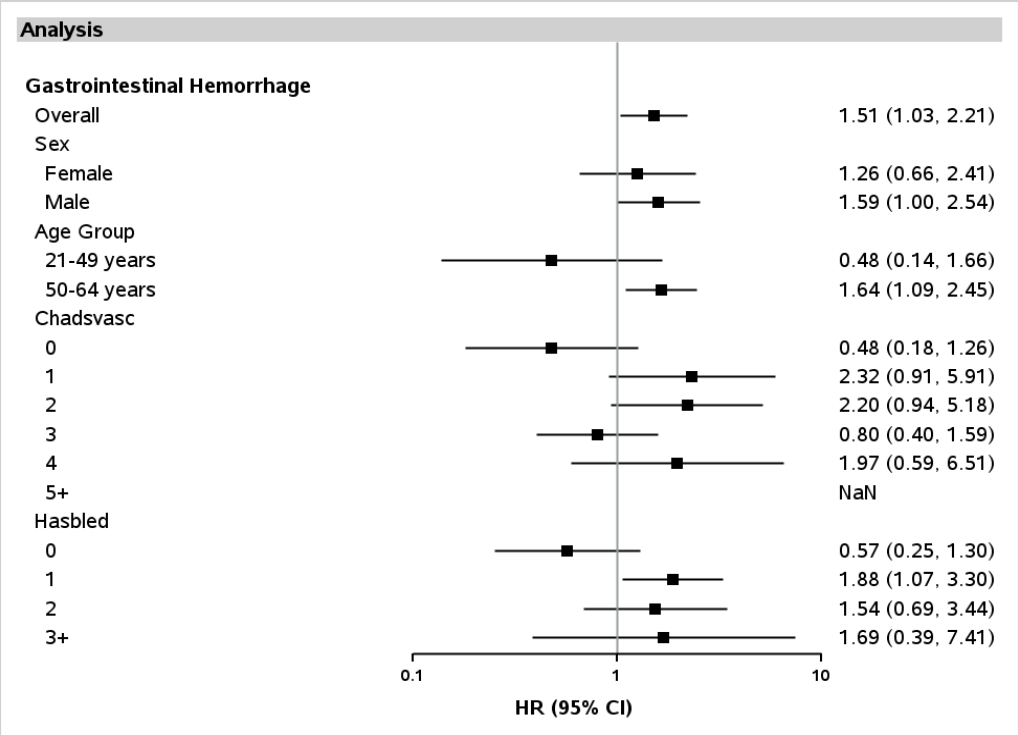


Figure 4b. Forest Plot of Hazard Ratios (HR) and 95% Confidence Intervals (CI) for Major Extracranial Bleeding, IPTW ATES & ATT, Site-Adjusted Analyses in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022



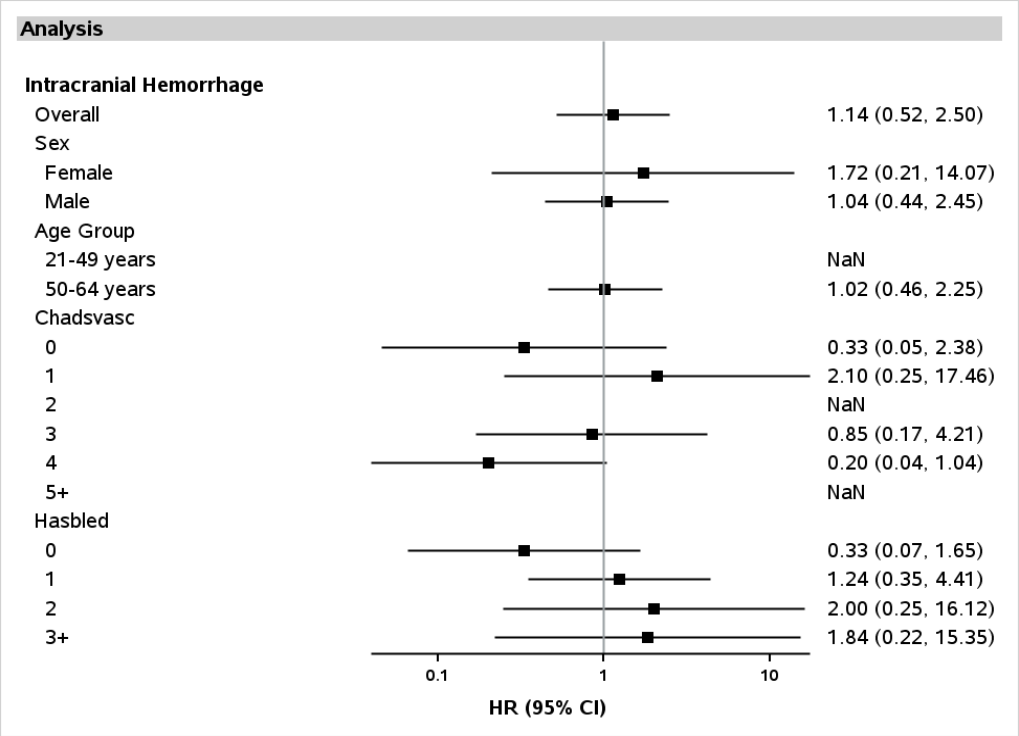
[1]Hazard ratio could not be calculated for all analyses

Figure 4c. Forest Plot of Hazard Ratios (HR) and 95% Confidence Intervals (CI) for Gastrointestinal Hemorrhage, IPTW ATES & ATT, Site-Adjusted Analyses in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022



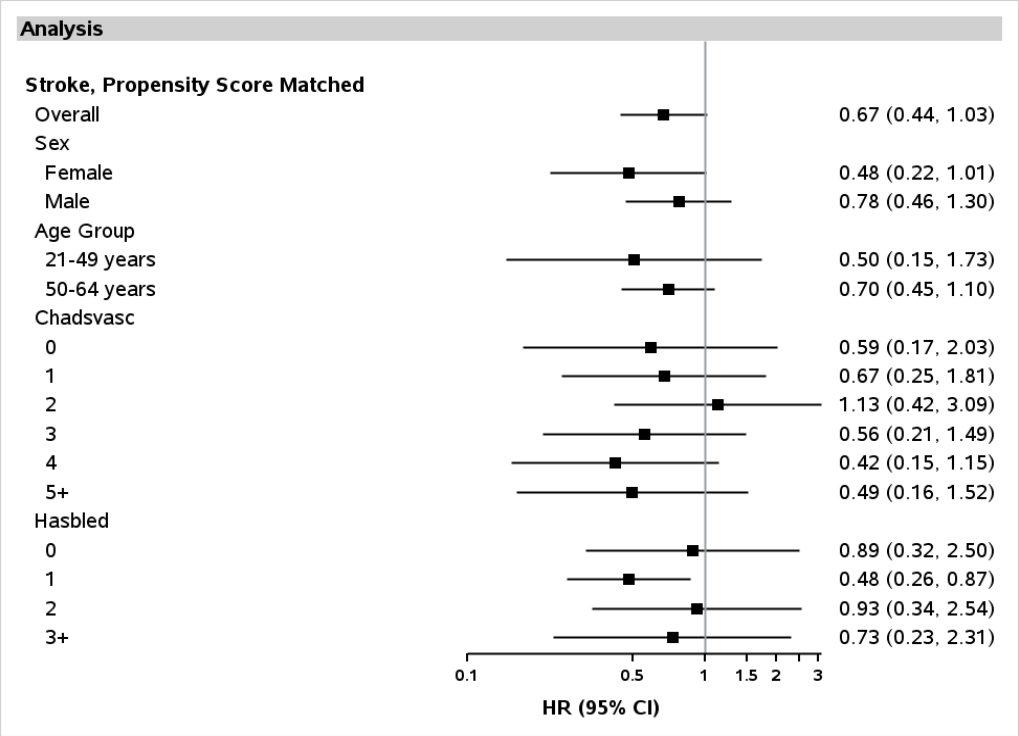
[1]Hazard ratio could not be calculated for all analyses

Figure 4d. Forest Plot of Hazard Ratios (HR) and 95% Confidence Intervals (CI) for Intracranial Hemorrhage, IPTW ATES & ATT, Site-Adjusted Analyses in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022



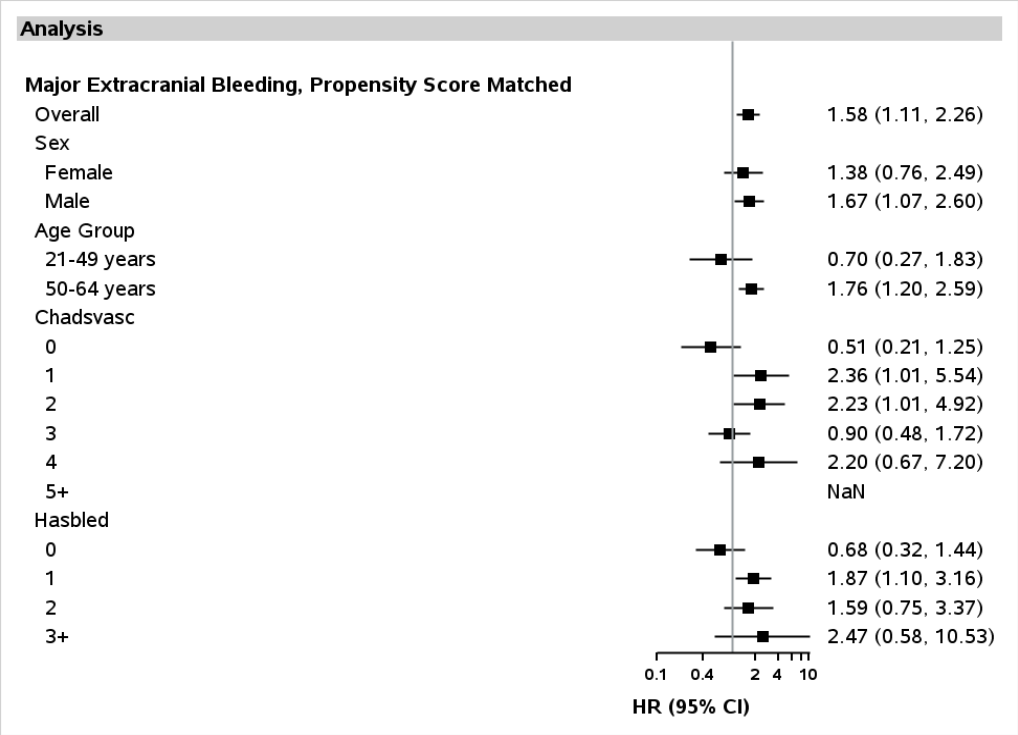
[1]Hazard ratio could not be calculated for all analyses

Figure 4e. Forest Plot of Hazard Ratios (HR) and 95% Confidence Intervals (CI) for Stroke, Propensity Score Matched, Site-Adjusted Analyses in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022



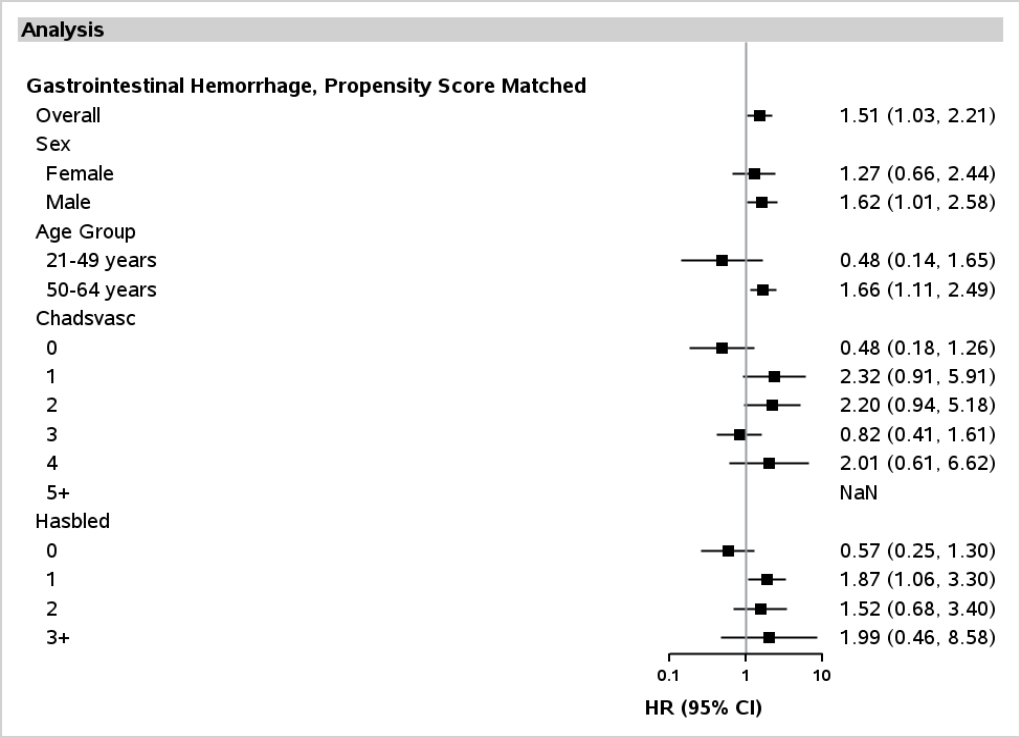
[1]Hazard ratio could not be calculated for all analyses

Figure 4f. Forest Plot of Hazard Ratios (HR) and 95% Confidence Intervals (CI) for Major Extracranial Bleeding, Propensity Score Matched, Site-Adjusted Analyses in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022



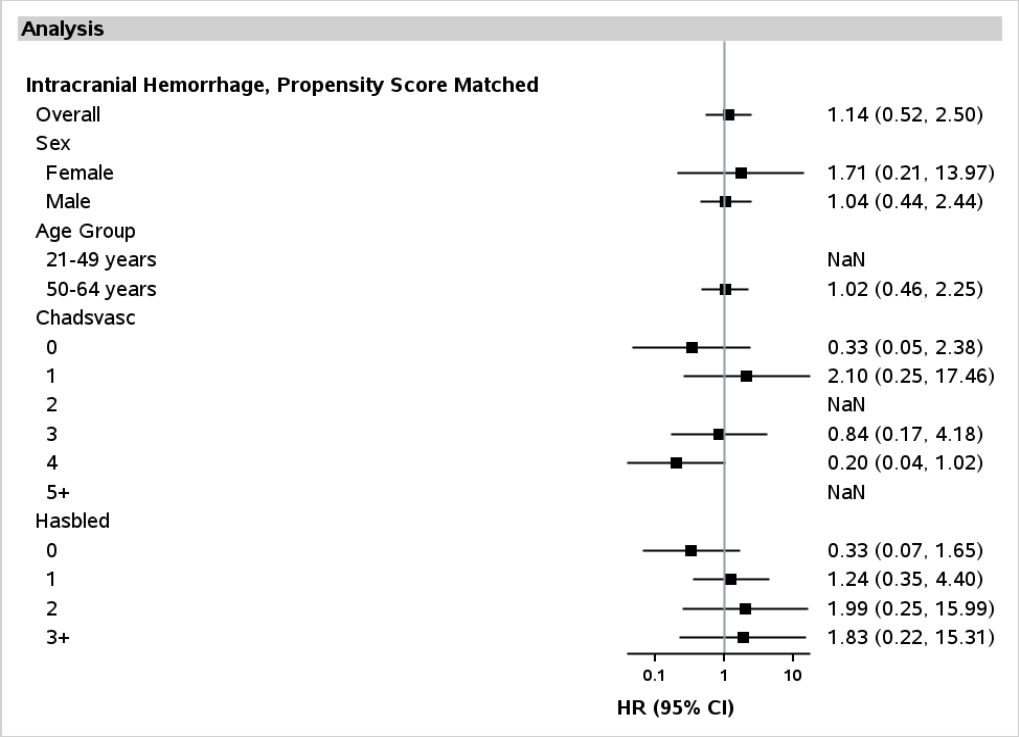
[1]Hazard ratio could not be calculated for all analyses

Figure 4g. Forest Plot of Hazard Ratios (HR) and 95% Confidence Intervals (CI) for Gastrointestinal Hemorrhage, Propensity Score Matched, Site-Adjusted Analyses in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022



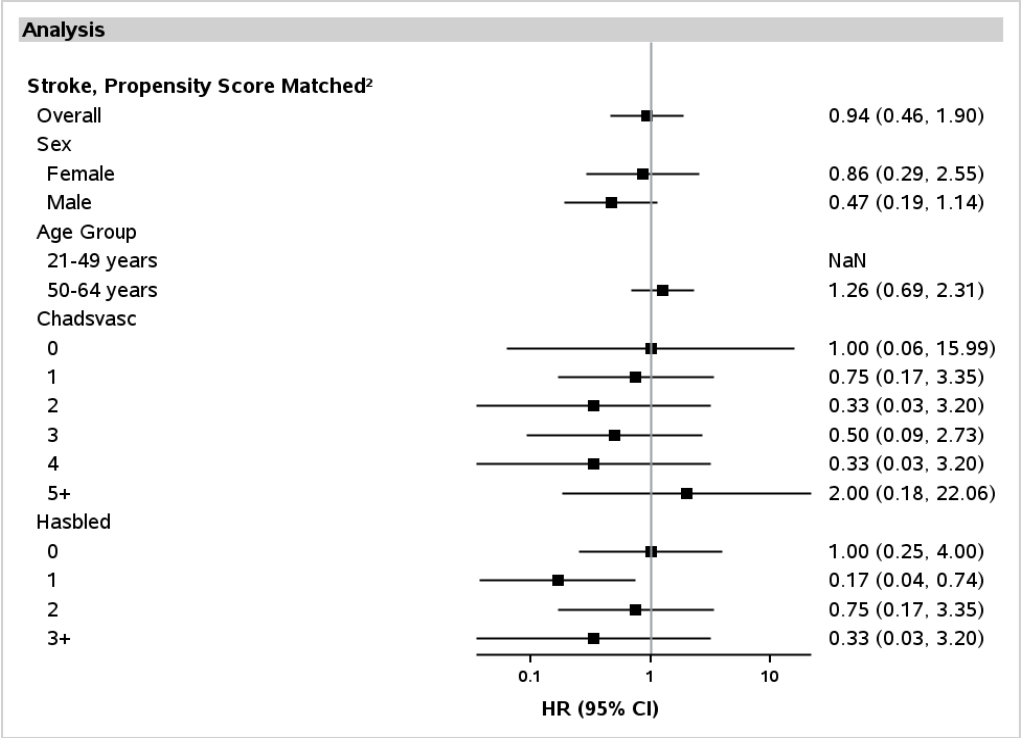
[1]Hazard ratio could not be calculated for all analyses

Figure 4h. Forest Plot of Hazard Ratios (HR) and 95% Confidence Intervals (CI) for Intracranial Hemorrhage, Propensity Score Matched, Site-Adjusted Analyses in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022



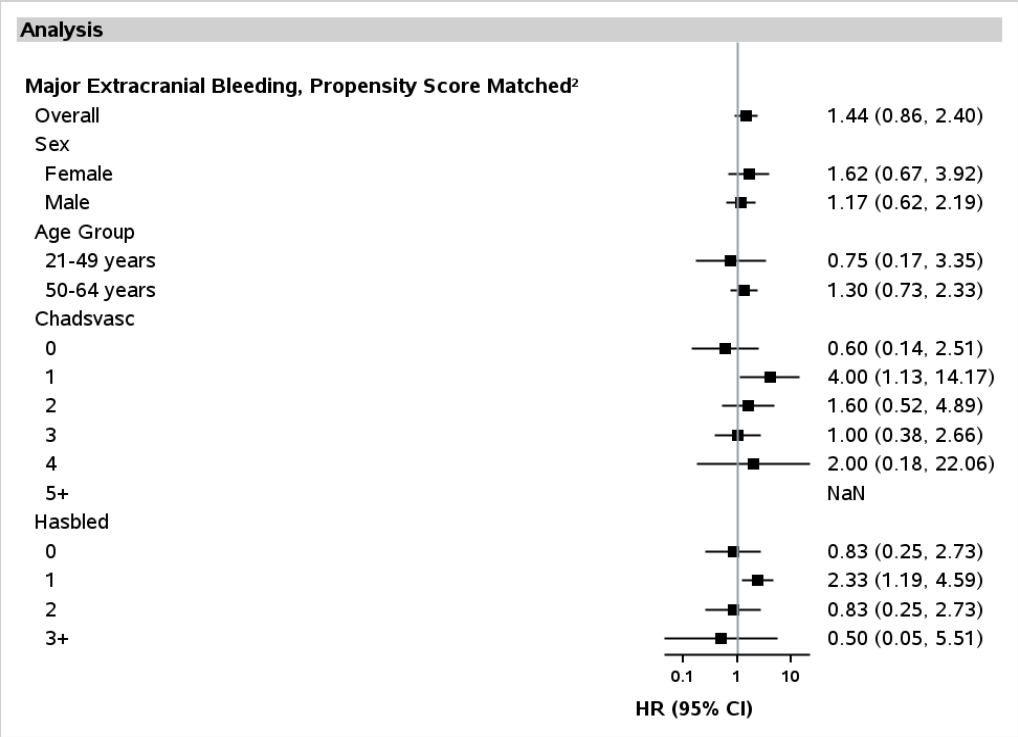
[1]Hazard ratio could not be calculated for all analyses

Figure 4i. Forest Plot of Hazard Ratios (HR) and 95% Confidence Intervals (CI) for Stroke, Propensity Score Matched, Conditional Analyses in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022



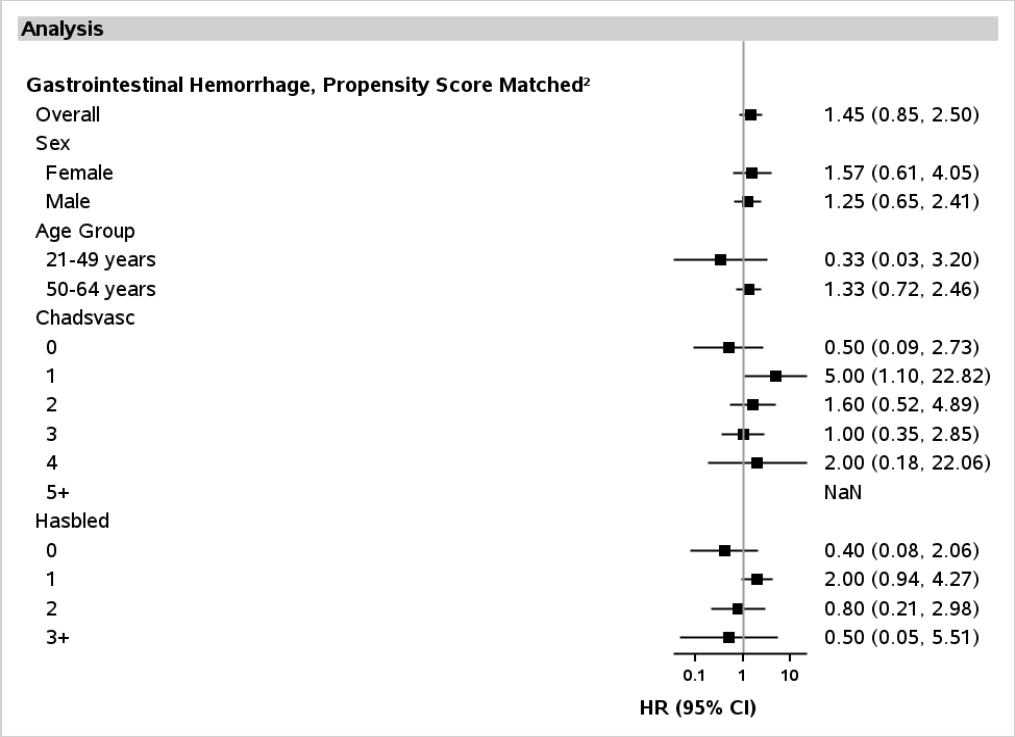
[1]Hazard ratio could not be calculated for all analyses
[2]Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper=0.05

Figure 4j. Forest Plot of Hazard Ratios (HR) and 95% Confidence Intervals (CI) for Major Extracranial Bleeding, Propensity Score Matched Conditional Analyses in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022



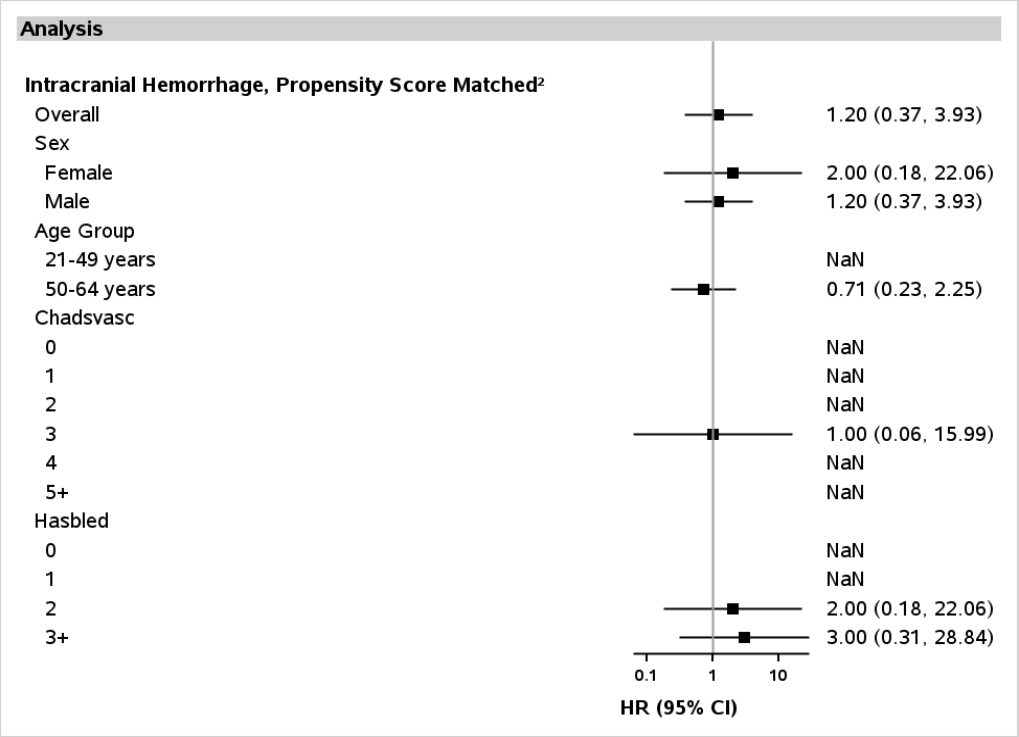
[1]Hazard ratio could not be calculated for all analyses
[2]Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper=0.05

Figure 4k. Forest Plot of Hazard Ratios (HR) and 95% Confidence Intervals (CI) for Gastrointestinal Hemorrhage, Propensity Score Matched Conditional Analyses in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022



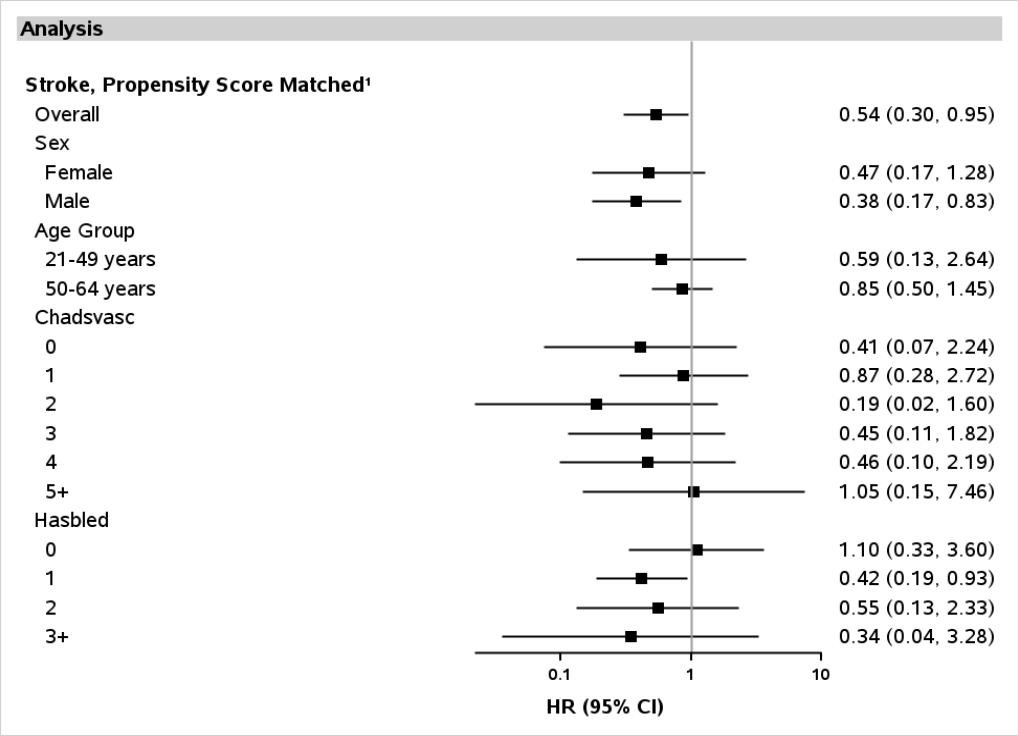
[1]Hazard ratio could not be calculated for all analyses
[2]Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper=0.05

Figure 4l. Forest Plot of Hazard Ratios (HR) and 95% Confidence Intervals (CI) for Intracranial Hemorrhage, Propensity Score Matched Conditional Analyses in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022



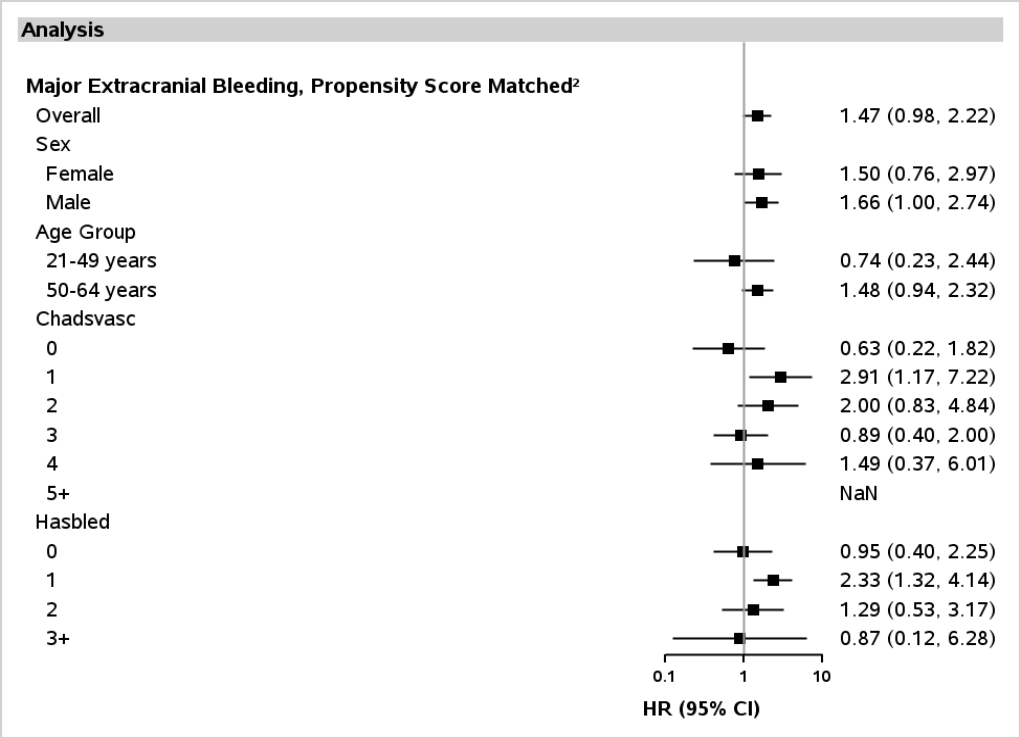
[1]Hazard ratio could not be calculated for all analyses
[2]Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper=0.05

Figure 4m. Forest Plot of Hazard Ratios (HR) and 95% Confidence Intervals (CI) for Stroke, Propensity Score Matched, Unconditional Analyses in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022



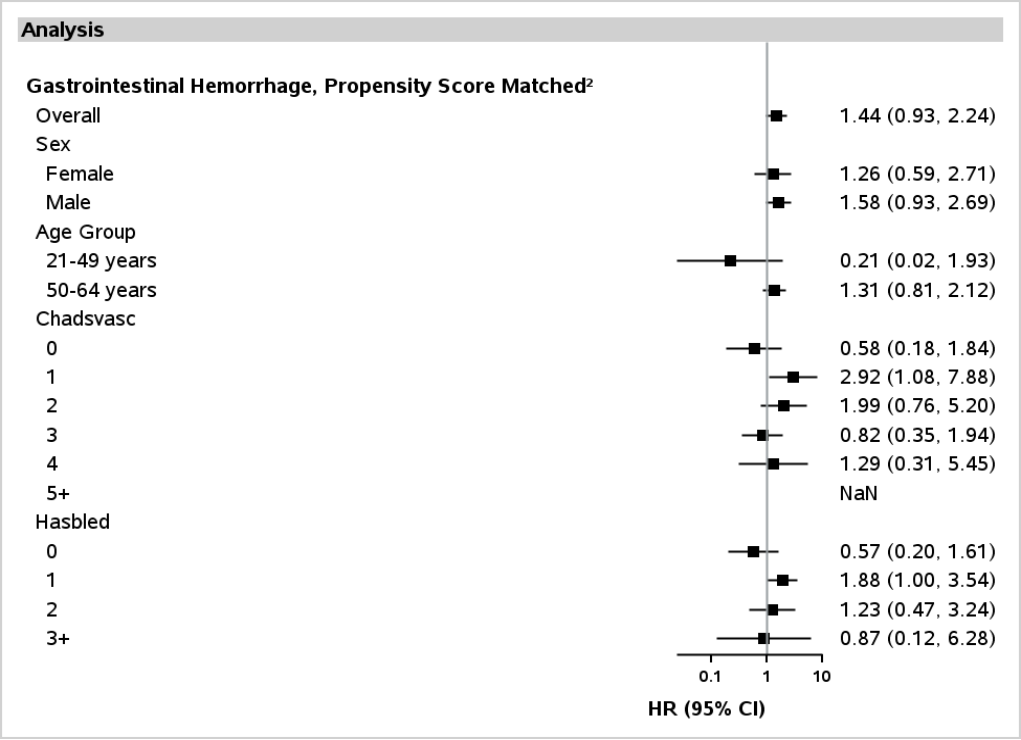
[1]Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper=0.05

Figure 4n. Forest Plot of Hazard Ratios (HR) and 95% Confidence Intervals (CI) for Major Extracranial Bleeding, Propensity Score Matched, Unconditional Analyses in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022



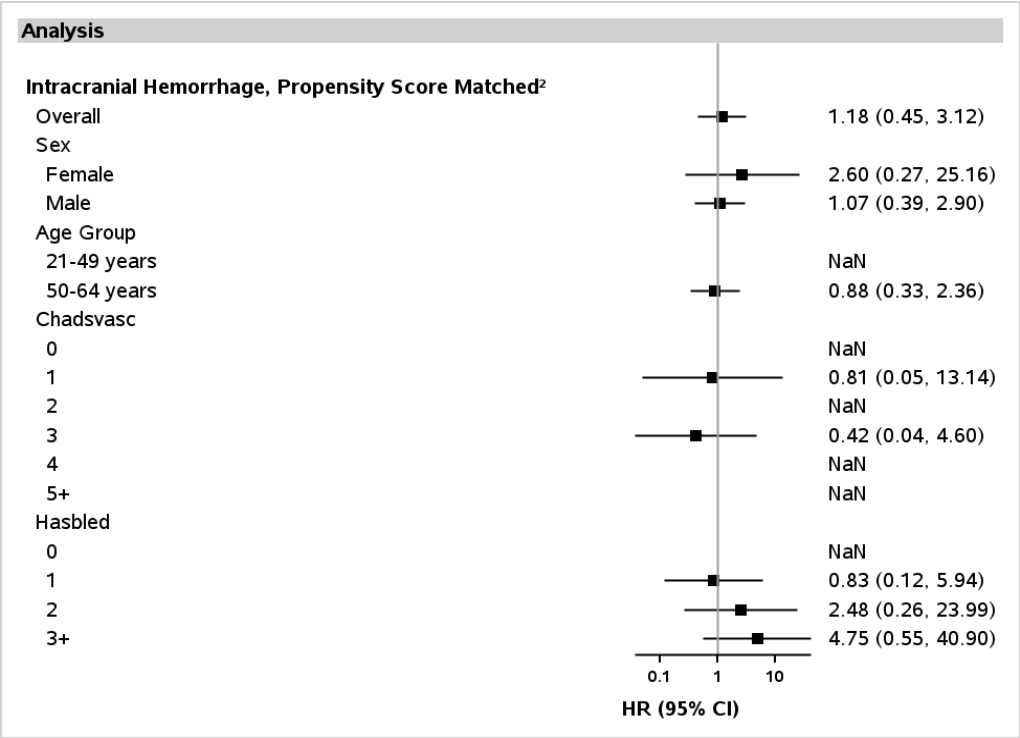
[1]Hazard ratio could not be calculated for all analyses
[2]Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper=0.05

Figure 4o. Forest Plot of Hazard Ratios (HR) and 95% Confidence Intervals (CI) for Gastrointestinal Hemorrhage, Propensity Score Matched, Unconditional Analyses in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022



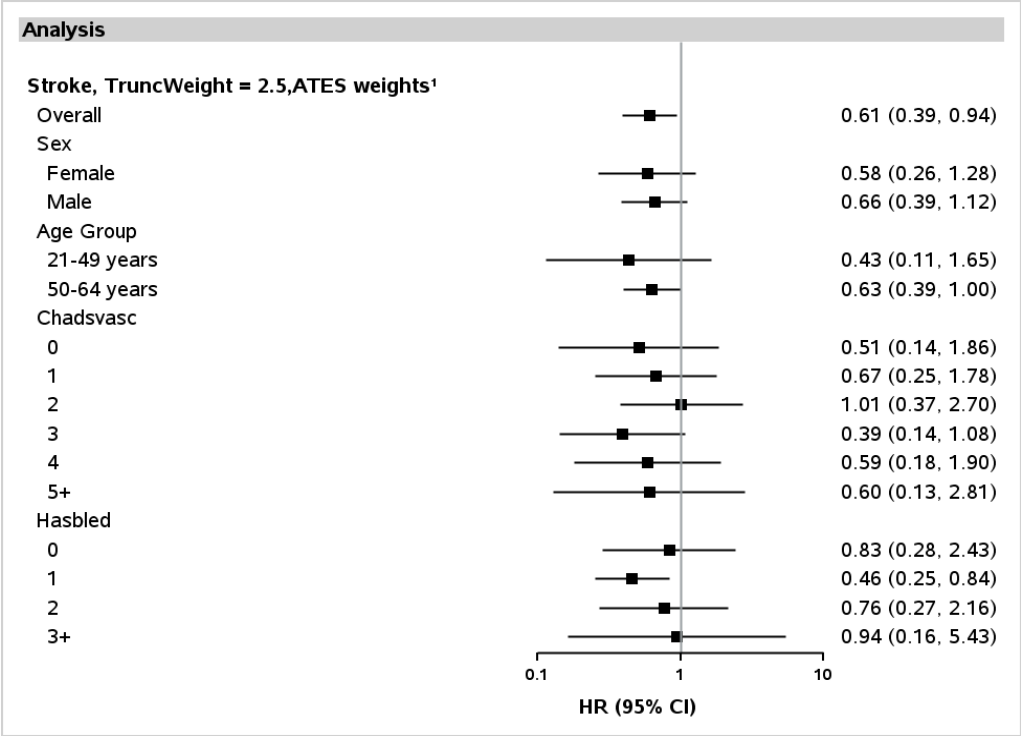
[1]Hazard ratio could not be calculated for all analyses
[2]Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper=0.05

Figure 4p. Forest Plot of Hazard Ratios (HR) and 95% Confidence Intervals (CI) for Intracranial Hemorrhage, Propensity Score Matched, Unconditional Analyses in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022



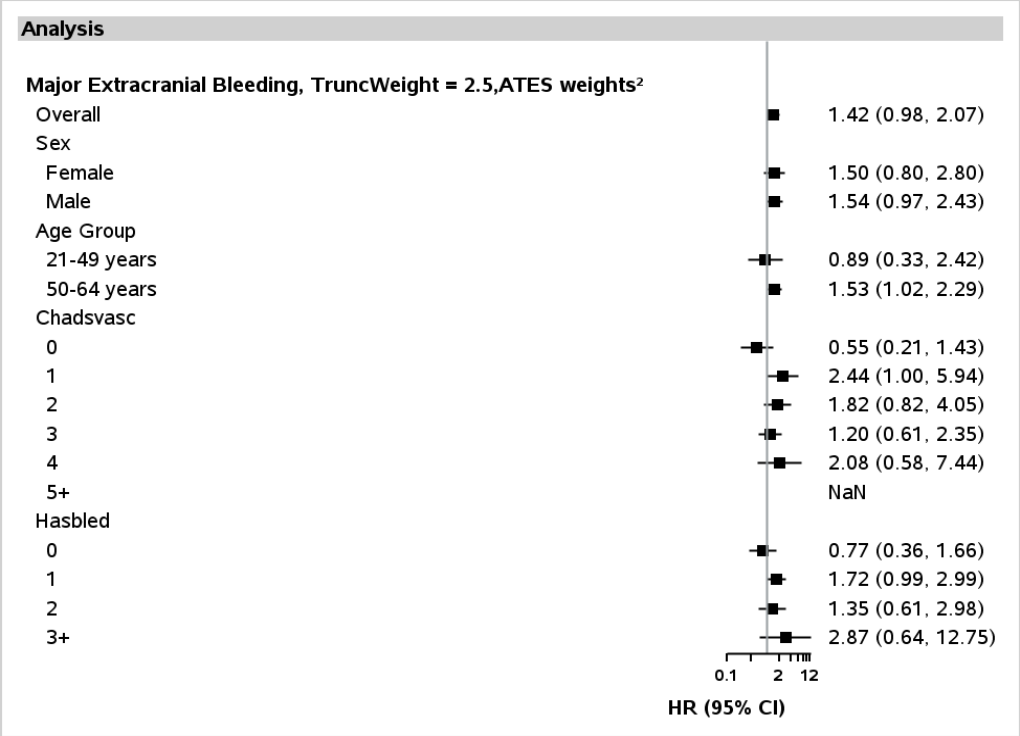
[1]Hazard ratio could not be calculated for all analyses
[2]Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper=0.05

Figure 4q. Forest Plot of Hazard Ratios (HR) and 95% Confidence Intervals (CI) for Stroke, TruncWeight = 2.5, ATES Weights, Inverse Probability of Treatment Weighted Analyses in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022



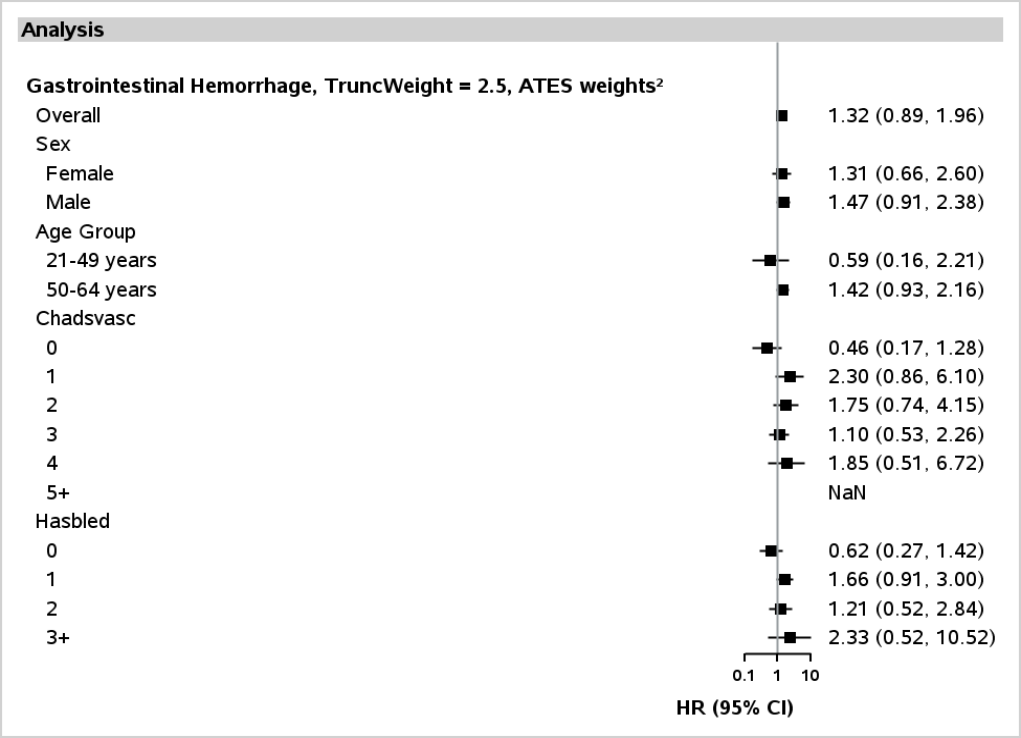
[1]Weighted using Average Treatment Effect, Stabilized, (ATES)

Figure 4r. Forest Plot of Hazard Ratios (HR) and 95% Confidence Intervals (CI) for Major Extracranial Bleeding, TruncWeight =2.5, ATES Weights, Inverse Probability of Treatment Weighted Analyses in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022



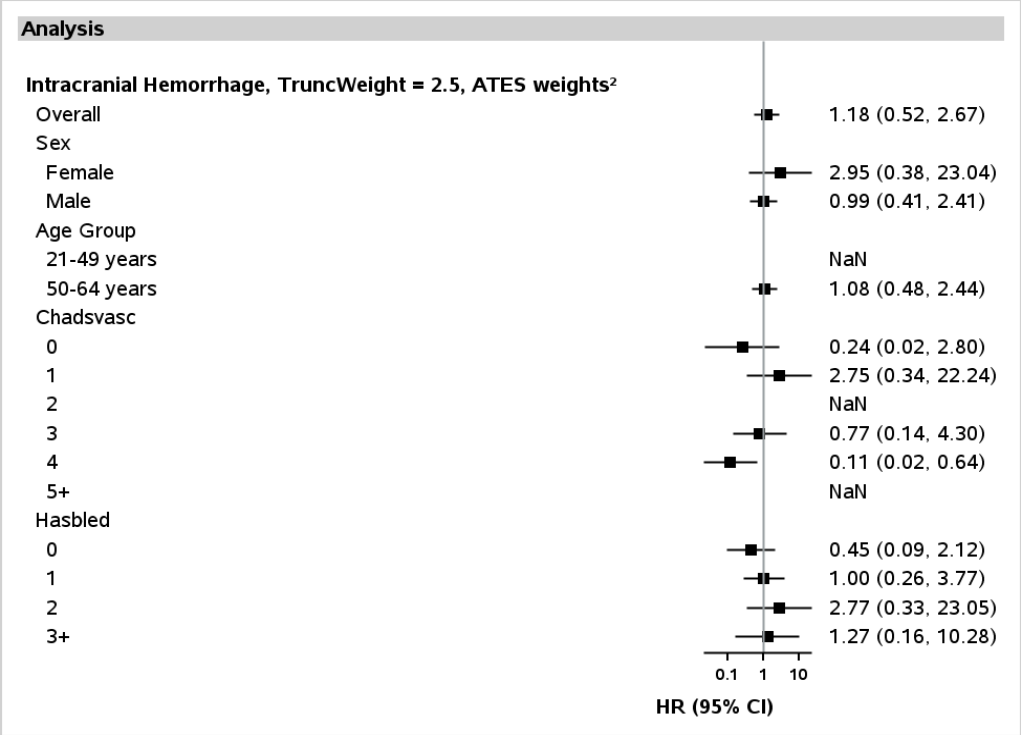
[1]Hazard ratio could not be calculated for all analyses
[2]Weighted using Average Treatment Effect, Stabilized, (ATES)

Figure 4s. Forest Plot of Hazard Ratios (HR) and 95% Confidence Intervals (CI) for Gastrointestinal Hemorrhage, TruncWeight = 2.5, ATES Weights, Inverse Probability of Treatment Weighted Analyses in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022



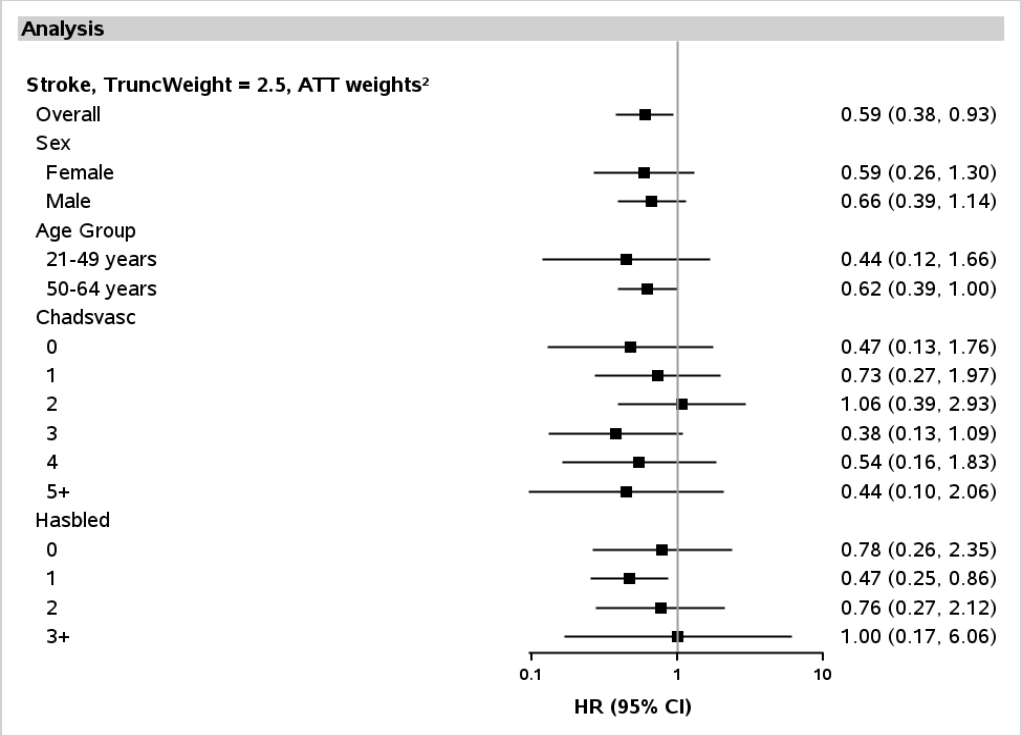
[1]Hazard ratio could not be calculated for all analyses
[2]Weighted using Average Treatment Effect, Stabilized, (ATES)

Figure 4t. Forest Plot of Hazard Ratios (HR) and 95% Confidence Intervals (CI) for Intracranial Hemorrhage, TruncWeight = 2.5, ATES Weights, Inverse Probability of Treatment Weighted Analyses in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022



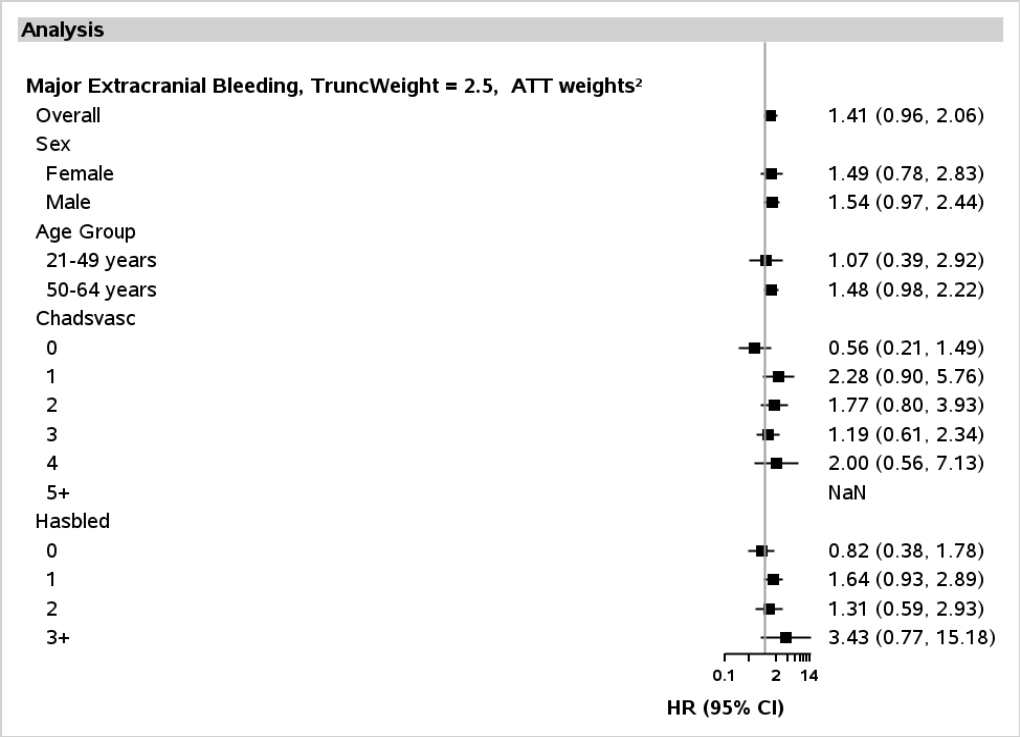
[1]Hazard ratio could not be calculated for all analyses
[2]Weighted using Average Treatment Effect, Stabilized, (ATES)

Figure 4u. Forest Plot of Hazard Ratios (HR) and 95% Confidence Intervals (CI) for Stroke, TruncWeight = 2.5, ATT Weights, Inverse Probability of Treatment Weighted Analyses in the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022



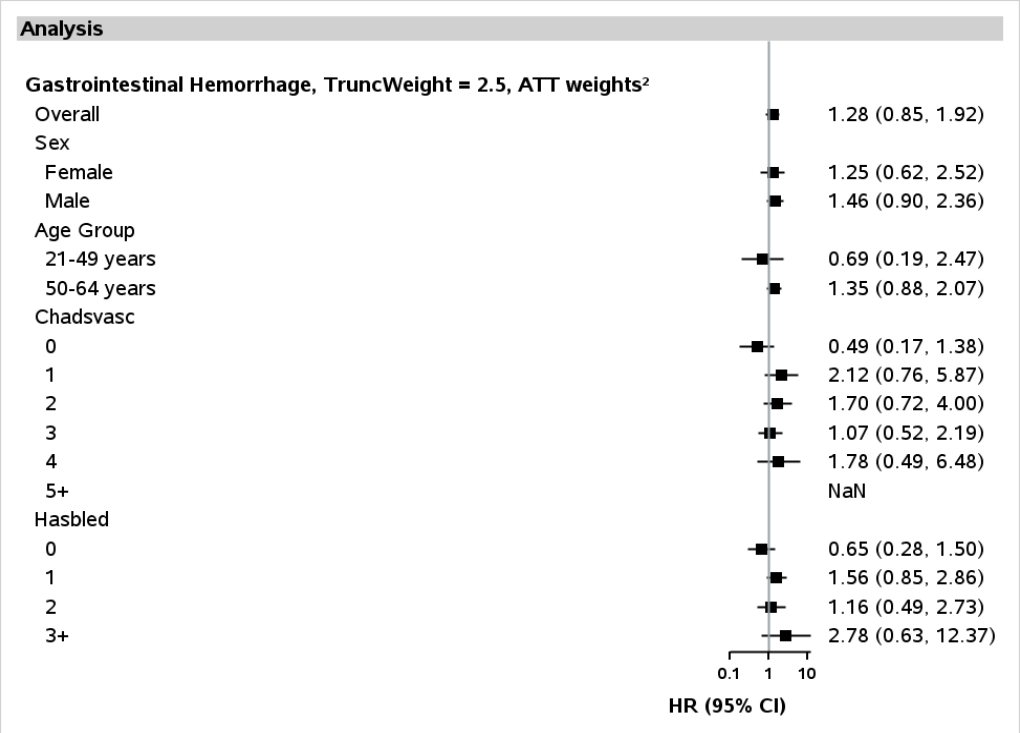
[1]Hazard ratio could not be calculated for all analyses
[2]Weighted using Average Treatment Effect in the Treated, (ATT)

Figure 4v. Forest Plot of Hazard Ratios (HR) and 95% Confidence Intervals (CI) for Major Extracranial Bleeding, TruncWeight = 2.5, ATT Weights, Inverse Probability of Treatment Weighted Analysesin the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022



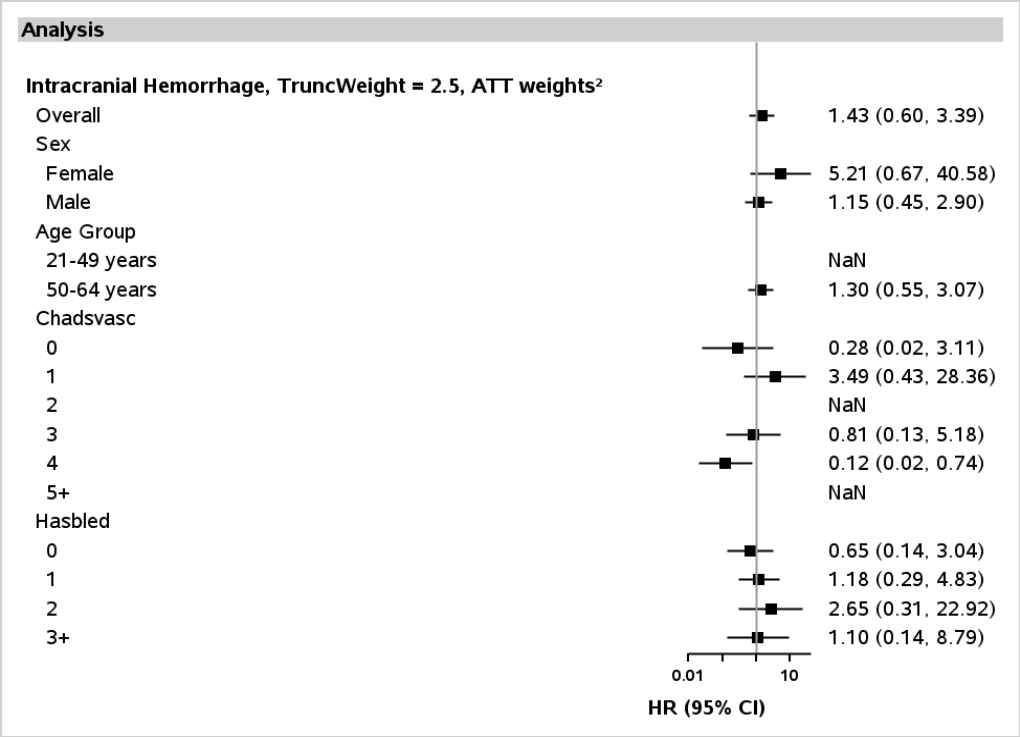
[1]Hazard ratio could not be calculated for all analyses
[2]Weighted using Average Treatment Effect in the Treated, (ATT)

Figure 4w. Forest Plot of Hazard Ratios (HR) and 95% Confidence Intervals (CI) for Gastrointestinal Hemorrhage, TruncWeight = 2.5, ATT Weights, Inverse Probability of Treatment Weighted Analysesin the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022



[1]Hazard ratio could not be calculated for all analyses
[2]Weighted using Average Treatment Effect in the Treated, (ATT)

Figure 4x. Forest Plot of Hazard Ratios (HR) and 95% Confidence Intervals (CI) for Intracranial Hemorrhage, TruncWeight = 2.5, ATT Weights, Inverse Probability of Treatment Weighted Analysesin the Sentinel Distributed Database (SDD) from October 19, 2010 to February 28, 2022



[1]Hazard ratio could not be calculated for all analyses
[2]Weighted using Average Treatment Effect in the Treated, (ATT)

Appendix A. Dates of Available Data for Each Data Partner (DP) as of Request Distribution Date (November 15, 2022)

Masked DP ID	DP Start Date	DP End Date[1]
DP01	01/01/2008	12/31/2021
DP02	01/01/2000	12/31/2020
DP03	01/01/2007	01/31/2022
DP04	01/01/2006	02/28/2022
DP05	01/01/2008	12/31/2021

[1]End Date represents the earliest of: (1) query end date, or (2) last day of the most recent month for which all of a Data Partner's data tables (enrollment, dispensing, etc.) have at least 80% of the record count relative to the prior month.

Appendix B. List of Generic and Brand Names of Drugs Used to Define Exposures in this Request

Generic Name	Brand Name
Rivaroxaban	
rivaroxaban	Xarelto
Dabigatran	
dabigatran etexilate mesylate	Pradaxa

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
Dialysis			
792.5	Cloudy (hemodialysis) (peritoneal) dialysis affluent	ICD-9-CM	Diagnosis
V45.1	Renal dialysis status	ICD-9-CM	Diagnosis
V45.11	Renal dialysis status	ICD-9-CM	Diagnosis
V45.12	Noncompliance with renal dialysis	ICD-9-CM	Diagnosis
V56.0	Encounter for extracorporeal dialysis	ICD-9-CM	Diagnosis
V56.1	Fitting and adjustment of extracorporeal dialysis catheter	ICD-9-CM	Diagnosis
V56.2	Fitting and adjustment of peritoneal dialysis catheter	ICD-9-CM	Diagnosis
V56.3	Encounter for adequacy testing for dialysis	ICD-9-CM	Diagnosis
V56.31	Encounter for adequacy testing for hemodialysis	ICD-9-CM	Diagnosis
V56.32	Encounter for adequacy testing for peritoneal dialysis	ICD-9-CM	Diagnosis
V56.8	Encounter other dialysis	ICD-9-CM	Diagnosis
R88.0	Cloudy (hemodialysis) (peritoneal) dialysis effluent	ICD-10-CM	Diagnosis
Z49.01	Encounter for fitting and adjustment of extracorporeal dialysis catheter	ICD-10-CM	Diagnosis
Z49.02	Encounter for fitting and adjustment of peritoneal dialysis catheter	ICD-10-CM	Diagnosis
Z49.31	Encounter for adequacy testing for hemodialysis	ICD-10-CM	Diagnosis
Z49.32	Encounter for adequacy testing for peritoneal dialysis	ICD-10-CM	Diagnosis
Z91.15	Patient's noncompliance with renal dialysis	ICD-10-CM	Diagnosis
Z99.2	Dependence on renal dialysis	ICD-10-CM	Diagnosis
90935	Hemodialysis procedure with single evaluation by a physician or other qualified health care professional	CPT-4	Procedure
90937	Hemodialysis procedure requiring repeated evaluation(s) with or without substantial revision of dialysis prescription	CPT-4	Procedure
90939	Hemodialysis access flow study to determine blood flow in grafts and arteriovenous fistulae by an indicator dilution method, hook-up; transcutaneous measurement and disconnection	CPT-4	Procedure
90940	Hemodialysis access flow study to determine blood flow in grafts and arteriovenous fistulae by an indicator method	CPT-4	Procedure
90941	Hemodialysis, For Acute Renal Failure And Or Intoxication,	CPT-4	Procedure
90942	Hemodialysis, For Acute Renal Failure And Or Intoxication,	CPT-4	Procedure

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
90943	Hemodialysis, For Acute Renal Failure And Or Intoxication,	CPT-4	Procedure
90944	Hemodialysis, For Acute Renal Failure And Or Intoxication,	CPT-4	Procedure
90945	Dialysis procedure other than hemodialysis (eg, peritoneal dialysis, hemofiltration, or other continuous renal replacement therapies), with single evaluation by a physician or other qualified health care professional	CPT-4	Procedure
90947	Dialysis procedure other than hemodialysis (eg, peritoneal dialysis, hemofiltration, or other continuous renal replacement therapies) requiring repeated evaluations by a physician or other qualified health care professional, with or without substantial revision of dialysis prescription	CPT-4	Procedure
90951	End-stage renal disease (ESRD) related services monthly, for patients younger than 2 years of age to include monitoring for the adequacy of nutrition, assessment of growth and development, and counseling of parents; with 4 or more face-to-face visits by a physician or other qualified health care professional per month	CPT-4	Procedure
90952	End-stage renal disease (ESRD) related services monthly, for patients younger than 2 years of age to include monitoring for the adequacy of nutrition, assessment of growth and development, and counseling of parents; with 2-3 face-to-face visits by a physician or other qualified health care professional per month	CPT-4	Procedure
90953	End-stage renal disease (ESRD) related services monthly, for patients younger than 2 years of age to include monitoring for the adequacy of nutrition, assessment of growth and development, and counseling of parents; with 1 face-to-face visit by a physician or other qualified health care professional per month	CPT-4	Procedure
90954	End-stage renal disease (ESRD) related services monthly, for patients 2-11 years of age to include monitoring for the adequacy of nutrition, assessment of growth and development, and counseling of parents; with 4 or more face-to-face visits by a physician or other qualified health care professional per month	CPT-4	Procedure
90955	End-stage renal disease (ESRD) related services monthly, for patients 2-11 years of age to include monitoring for the adequacy of nutrition, assessment of growth and development, and counseling of parents; with 2-3 face-to-face visits by a physician or other qualified health care professional per month	CPT-4	Procedure

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
90956	End-stage renal disease (ESRD) related services monthly, for patients 2-11 years of age to include monitoring for the adequacy of nutrition, assessment of growth and development, and counseling of parents; with 1 face-to-face visit by a physician or other qualified health care professional per month	CPT-4	Procedure
90957	End-stage renal disease (ESRD) related services monthly, for patients 12-19 years of age to include monitoring for the adequacy of nutrition, assessment of growth and development, and counseling of parents; with 4 or more face-to-face visits by a physician or other qualified health care professional per month	CPT-4	Procedure
90958	End-stage renal disease (ESRD) related services monthly, for patients 12-19 years of age to include monitoring for the adequacy of nutrition, assessment of growth and development, and counseling of parents; with 2-3 face-to-face visits by a physician or other qualified health care professional per month	CPT-4	Procedure
90959	End-stage renal disease (ESRD) related services monthly, for patients 12-19 years of age to include monitoring for the adequacy of nutrition, assessment of growth and development, and counseling of parents; with 1 face-to-face visit by a physician or other qualified health care professional per month	CPT-4	Procedure
90960	End-stage renal disease (ESRD) related services monthly, for patients 20 years of age and older; with 4 or more face-to-face visits by a physician or other qualified health care professional per month	CPT-4	Procedure
90961	End-stage renal disease (ESRD) related services monthly, for patients 20 years of age and older; with 2-3 face-to-face visits by a physician or other qualified health care professional per month	CPT-4	Procedure
90962	End-stage renal disease (ESRD) related services monthly, for patients 20 years of age and older; with 1 face-to-face visit by a physician or other qualified health care professional per month	CPT-4	Procedure
90963	End-stage renal disease (ESRD) related services for home dialysis per full month, for patients younger than 2 years of age to include monitoring for the adequacy of nutrition, assessment of growth and development, and counseling of parents	CPT-4	Procedure
90964	End-stage renal disease (ESRD) related services for home dialysis per full month, for patients 2-11 years of age to include monitoring for the adequacy of nutrition, assessment of growth and development, and counseling of parents	CPT-4	Procedure

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
90965	End-stage renal disease (ESRD) related services for home dialysis per full month, for patients 12-19 years of age to include monitoring for the adequacy of nutrition, assessment of growth and development, and counseling of parents	CPT-4	Procedure
90966	End-stage renal disease (ESRD) related services for home dialysis per full month, for patients 20 years of age and older	CPT-4	Procedure
90967	End-stage renal disease (ESRD) related services for dialysis less than a full month of service, per day; for patients younger than 2 years of age	CPT-4	Procedure
90968	End-stage renal disease (ESRD) related services for dialysis less than a full month of service, per day; for patients 2-11 years of age	CPT-4	Procedure
90969	End-stage renal disease (ESRD) related services for dialysis less than a full month of service, per day; for patients 12-19 years of age	CPT-4	Procedure
90970	End-stage renal disease (ESRD) related services for dialysis less than a full month of service, per day; for patients 20 years of age and older	CPT-4	Procedure
90976	Peritoneal Dialysis For End-stage Renal Disease (esrd),	CPT-4	Procedure
90977	Peritoneal Dialysis For End-stage Renal Disease (esrd),	CPT-4	Procedure
90978	Peritoneal Dialysis For End-stage Renal Disease (esrd),	CPT-4	Procedure
90979	Peritoneal Dialysis For End-stage Renal Disease (esrd),	CPT-4	Procedure
90982	Peritoneal Dialysis For End-stage Renal Disease (esrd),	CPT-4	Procedure
90983	Peritoneal Dialysis For End-stage Renal Disease (esrd),	CPT-4	Procedure
90984	Peritoneal Dialysis For End-stage Renal Disease (esrd),	CPT-4	Procedure
90985	Peritoneal Dialysis For End-stage Renal Disease (esrd),	CPT-4	Procedure
90988	Supervision Of Hemodialysis In Hospital Or Other Facility (excluding Home Dialysis), On Monthly Basis	CPT-4	Procedure
90989	Dialysis training, patient, including helper where applicable, any mode, completed course	CPT-4	Procedure
90990	Hemodialysis Training And/or Counseling	CPT-4	Procedure
90991	Home Hemodialysis Care, Outpatient, For Those Services Either Provided By The Physician Primarily Responsible	CPT-4	Procedure
90992	Peritoneal Dialysis Training And/or Counseling	CPT-4	Procedure
90993	Dialysis training, patient, including helper where applicable, any mode, course not completed, per training session	CPT-4	Procedure
90994	Supervision Of Chronic Ambulatory Peritoneal Dialysis (capd), Home Or Out-patient (monthly)	CPT-4	Procedure
90995	End Stage Renal Disease (esrd) Related Services, Per Full Month	CPT-4	Procedure
90996	Continuous Arteriovenous Hemofiltration (cavh) (per Day)	CPT-4	Procedure

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
90997	Hemoperfusion (eg, with activated charcoal or resin)	CPT-4	Procedure
90998	End Stage Renal Disease (esrd) Related Services (less Than Full Month), Per Day	CPT-4	Procedure
Kidney replacement			
556	Transplant of kidney	ICD-9-CM	PX
5561	Renal autotransplantation	ICD-9-CM	PX
5569	Other kidney transplantation	ICD-9-CM	PX
99681	Complications of transplanted kidney	ICD-9-CM	DX
V420	Kidney replaced by transplant	ICD-9-CM	DX
T86.10	Unspecified complication of kidney transplant	ICD-10-CM	DX
T86.11	Kidney transplant rejection	ICD-10-CM	DX
T86.12	Kidney transplant failure	ICD-10-CM	DX
T86.13	Kidney transplant infection	ICD-10-CM	DX
T86.19	Other complication of kidney transplant	ICD-10-CM	DX
Z48.22	Encounter for aftercare following kidney transplant	ICD-10-CM	DX
Z94.0	Kidney transplant status	ICD-10-CM	DX
0TS00ZZ	Reposition Right Kidney, Open Approach	ICD-10-PCS	PX
0TS10ZZ	Reposition Left Kidney, Open Approach	ICD-10-PCS	PX
0TY00Z0	Transplantation of Right Kidney, Allogeneic, Open Approach	ICD-10-PCS	PX
0TY00Z1	Transplantation of Right Kidney, Syngeneic, Open Approach	ICD-10-PCS	PX
0TY00Z2	Transplantation of Right Kidney, Zooplastic, Open Approach	ICD-10-PCS	PX
0TY10Z0	Transplantation of Left Kidney, Allogeneic, Open Approach	ICD-10-PCS	PX
0TY10Z1	Transplantation of Left Kidney, Syngeneic, Open Approach	ICD-10-PCS	PX
0TY10Z2	Transplantation of Left Kidney, Zooplastic, Open Approach	ICD-10-PCS	PX
Ischemic Stroke			
433.01	Occlusion and stenosis of basilar artery with cerebral infarction	Diagnosis	ICD-9-CM
433.11	Occlusion and stenosis of carotid artery with cerebral infarction	Diagnosis	ICD-9-CM
433.21	Occlusion and stenosis of vertebral artery with cerebral infarction	Diagnosis	ICD-9-CM
433.31	Occlusion and stenosis of multiple and bilateral precerebral arteries with cerebral infarction	Diagnosis	ICD-9-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
433.81	Occlusion and stenosis of other specified precerebral artery with cerebral infarction	Diagnosis	ICD-9-CM
433.91	Occlusion and stenosis of unspecified precerebral artery with cerebral infarction	Diagnosis	ICD-9-CM
434.01	Cerebral thrombosis with cerebral infarction	Diagnosis	ICD-9-CM
434.11	Cerebral embolism with cerebral infarction	Diagnosis	ICD-9-CM
434.91	Unspecified cerebral artery occlusion with cerebral infarction	Diagnosis	ICD-9-CM
436	Acute, but ill-defined, cerebrovascular disease	Diagnosis	ICD-9-CM
I63.22	Cerebral infarction due to unspecified occlusion or stenosis of basilar arteries	Diagnosis	ICD-10-CM
I63.139	Cerebral infarction due to embolism of unspecified carotid artery	Diagnosis	ICD-10-CM
I63.239	Cerebral infarction due to unspecified occlusion or stenosis of unspecified carotid arteries	Diagnosis	ICD-10-CM
I63.019	Cerebral infarction due to thrombosis of unspecified vertebral artery	Diagnosis	ICD-10-CM
I63.119	Cerebral infarction due to embolism of unspecified vertebral artery	Diagnosis	ICD-10-CM
I63.219	Cerebral infarction due to unspecified occlusion or stenosis of unspecified vertebral arteries	Diagnosis	ICD-10-CM
I63.59	Cerebral infarction due to unspecified occlusion or stenosis of other cerebral artery	Diagnosis	ICD-10-CM
I63.20	Cerebral infarction due to unspecified occlusion or stenosis of unspecified precerebral arteries	Diagnosis	ICD-10-CM
I63.30	Cerebral infarction due to thrombosis of unspecified cerebral artery	Diagnosis	ICD-10-CM
I63.40	Cerebral infarction due to embolism of unspecified cerebral artery	Diagnosis	ICD-10-CM
I63.50	Cerebral infarction due to unspecified occlusion or stenosis of unspecified cerebral artery	Diagnosis	ICD-10-CM
I67.89	Other cerebrovascular disease	Diagnosis	ICD-10-CM
I63.00	Cerebral infarction due to thrombosis of unspecified precerebral artery	Diagnosis	ICD-10-CM
I63.011	Cerebral infarction due to thrombosis of right vertebral artery	Diagnosis	ICD-10-CM
I63.012	Cerebral infarction due to thrombosis of left vertebral artery	Diagnosis	ICD-10-CM
I63.013	Cerebral infarction due to thrombosis of bilateral vertebral arteries	Diagnosis	ICD-10-CM
I63.02	Cerebral infarction due to thrombosis of basilar artery	Diagnosis	ICD-10-CM
I63.031	Cerebral infarction due to thrombosis of right carotid artery	Diagnosis	ICD-10-CM
I63.032	Cerebral infarction due to thrombosis of left carotid artery	Diagnosis	ICD-10-CM
I63.033	Cerebral infarction due to thrombosis of bilateral carotid arteries	Diagnosis	ICD-10-CM
I63.039	Cerebral infarction due to thrombosis of unspecified carotid artery	Diagnosis	ICD-10-CM
I63.09	Cerebral infarction due to thrombosis of other precerebral artery	Diagnosis	ICD-10-CM
I63.10	Cerebral infarction due to embolism of unspecified precerebral artery	Diagnosis	ICD-10-CM
I63.111	Cerebral infarction due to embolism of right vertebral artery	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
I63.112	Cerebral infarction due to embolism of left vertebral artery	Diagnosis	ICD-10-CM
I63.113	Cerebral infarction due to embolism of bilateral vertebral arteries	Diagnosis	ICD-10-CM
I63.12	Cerebral infarction due to embolism of basilar artery	Diagnosis	ICD-10-CM
I63.131	Cerebral infarction due to embolism of right carotid artery	Diagnosis	ICD-10-CM
I63.132	Cerebral infarction due to embolism of left carotid artery	Diagnosis	ICD-10-CM
I63.133	Cerebral infarction due to embolism of bilateral carotid arteries	Diagnosis	ICD-10-CM
I63.19	Cerebral infarction due to embolism of other precerebral artery	Diagnosis	ICD-10-CM
I63.211	Cerebral infarction due to unspecified occlusion or stenosis of right vertebral arteries	Diagnosis	ICD-10-CM
I63.212	Cerebral infarction due to unspecified occlusion or stenosis of left vertebral arteries	Diagnosis	ICD-10-CM
I63.213	Cerebral infarction due to unspecified occlusion or stenosis of bilateral vertebral arteries	Diagnosis	ICD-10-CM
I63.231	Cerebral infarction due to unspecified occlusion or stenosis of right carotid arteries	Diagnosis	ICD-10-CM
I63.232	Cerebral infarction due to unspecified occlusion or stenosis of left carotid arteries	Diagnosis	ICD-10-CM
I63.233	Cerebral infarction due to unspecified occlusion or stenosis of bilateral carotid arteries	Diagnosis	ICD-10-CM
I63.29	Cerebral infarction due to unspecified occlusion or stenosis of other precerebral arteries	Diagnosis	ICD-10-CM
I63.311	Cerebral infarction due to thrombosis of right middle cerebral artery	Diagnosis	ICD-10-CM
I63.312	Cerebral infarction due to thrombosis of left middle cerebral artery	Diagnosis	ICD-10-CM
I63.313	Cerebral infarction due to thrombosis of bilateral middle cerebral arteries	Diagnosis	ICD-10-CM
I63.319	Cerebral infarction due to thrombosis of unspecified middle cerebral artery	Diagnosis	ICD-10-CM
I63.321	Cerebral infarction due to thrombosis of right anterior cerebral artery	Diagnosis	ICD-10-CM
I63.322	Cerebral infarction due to thrombosis of left anterior cerebral artery	Diagnosis	ICD-10-CM
I63.323	Cerebral infarction due to thrombosis of bilateral anterior arteries	Diagnosis	ICD-10-CM
I63.329	Cerebral infarction due to thrombosis of unspecified anterior cerebral artery	Diagnosis	ICD-10-CM
I63.331	Cerebral infarction due to thrombosis of right posterior cerebral artery	Diagnosis	ICD-10-CM
I63.332	Cerebral infarction due to thrombosis of left posterior cerebral artery	Diagnosis	ICD-10-CM
I63.333	Cerebral infarction to thrombosis of bilateral posterior arteries	Diagnosis	ICD-10-CM
I63.339	Cerebral infarction due to thrombosis of unspecified posterior cerebral artery	Diagnosis	ICD-10-CM
I63.341	Cerebral infarction due to thrombosis of right cerebellar artery	Diagnosis	ICD-10-CM
I63.342	Cerebral infarction due to thrombosis of left cerebellar artery	Diagnosis	ICD-10-CM
I63.343	Cerebral infarction to thrombosis of bilateral cerebellar arteries	Diagnosis	ICD-10-CM
I63.349	Cerebral infarction due to thrombosis of unspecified cerebellar artery	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
I63.39	Cerebral infarction due to thrombosis of other cerebral artery	Diagnosis	ICD-10-CM
I63.411	Cerebral infarction due to embolism of right middle cerebral artery	Diagnosis	ICD-10-CM
I63.412	Cerebral infarction due to embolism of left middle cerebral artery	Diagnosis	ICD-10-CM
I63.413	Cerebral infarction due to embolism of bilateral middle cerebral arteries	Diagnosis	ICD-10-CM
I63.419	Cerebral infarction due to embolism of unspecified middle cerebral artery	Diagnosis	ICD-10-CM
I63.421	Cerebral infarction due to embolism of right anterior cerebral artery	Diagnosis	ICD-10-CM
I63.422	Cerebral infarction due to embolism of left anterior cerebral artery	Diagnosis	ICD-10-CM
I63.423	Cerebral infarction due to embolism of bilateral anterior cerebral arteries	Diagnosis	ICD-10-CM
I63.429	Cerebral infarction due to embolism of unspecified anterior cerebral artery	Diagnosis	ICD-10-CM
I63.431	Cerebral infarction due to embolism of right posterior cerebral artery	Diagnosis	ICD-10-CM
I63.432	Cerebral infarction due to embolism of left posterior cerebral artery	Diagnosis	ICD-10-CM
I63.433	Cerebral infarction due to embolism of bilateral posterior cerebral arteries	Diagnosis	ICD-10-CM
I63.439	Cerebral infarction due to embolism of unspecified posterior cerebral artery	Diagnosis	ICD-10-CM
I63.441	Cerebral infarction due to embolism of right cerebellar artery	Diagnosis	ICD-10-CM
I63.442	Cerebral infarction due to embolism of left cerebellar artery	Diagnosis	ICD-10-CM
I63.443	Cerebral infarction due to embolism of bilateral cerebellar arteries	Diagnosis	ICD-10-CM
I63.449	Cerebral infarction due to embolism of unspecified cerebellar artery	Diagnosis	ICD-10-CM
I63.49	Cerebral infarction due to embolism of other cerebral artery	Diagnosis	ICD-10-CM
I63.511	Cerebral infarction due to unspecified occlusion or stenosis of right middle cerebral artery	Diagnosis	ICD-10-CM
I63.512	Cerebral infarction due to unspecified occlusion or stenosis of left middle cerebral artery	Diagnosis	ICD-10-CM
I63.513	Cerebral infarction due to unspecified occlusion or stenosis of bilateral middle arteries	Diagnosis	ICD-10-CM
I63.519	Cerebral infarction due to unspecified occlusion or stenosis of unspecified middle cerebral artery	Diagnosis	ICD-10-CM
I63.521	Cerebral infarction due to unspecified occlusion or stenosis of right anterior cerebral artery	Diagnosis	ICD-10-CM
I63.522	Cerebral infarction due to unspecified occlusion or stenosis of left anterior cerebral artery	Diagnosis	ICD-10-CM
I63.523	Cerebral infarction due to unspecified occlusion or stenosis of bilateral anterior arteries	Diagnosis	ICD-10-CM
I63.529	Cerebral infarction due to unspecified occlusion or stenosis of unspecified anterior cerebral artery	Diagnosis	ICD-10-CM
I63.531	Cerebral infarction due to unspecified occlusion or stenosis of right posterior cerebral artery	Diagnosis	ICD-10-CM
I63.532	Cerebral infarction due to unspecified occlusion or stenosis of left posterior cerebral artery	Diagnosis	ICD-10-CM
I63.533	Cerebral infarction due to unspecified occlusion or stenosis of bilateral posterior arteries	Diagnosis	ICD-10-CM
I63.539	Cerebral infarction due to unspecified occlusion or stenosis of unspecified posterior cerebral artery	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
I63.541	Cerebral infarction due to unspecified occlusion or stenosis of right cerebellar artery	Diagnosis	ICD-10-CM
I63.542	Cerebral infarction due to unspecified occlusion or stenosis of left cerebellar artery	Diagnosis	ICD-10-CM
I63.543	Cerebral infarction due to unspecified occlusion or stenosis of bilateral cerebellar arteries	Diagnosis	ICD-10-CM
I63.549	Cerebral infarction due to unspecified occlusion or stenosis of unspecified cerebellar artery	Diagnosis	ICD-10-CM
I63.6	Cerebral infarction due to cerebral venous thrombosis, nonpyogenic	Diagnosis	ICD-10-CM
I63.8	Other cerebral infarction	Diagnosis	ICD-10-CM
I63.9	Cerebral infarction, unspecified	Diagnosis	ICD-10-CM
Intracranial Hemorrhage			
430	Subarachnoid hemorrhage	Diagnosis	ICD-9-CM
431	Intracerebral hemorrhage	Diagnosis	ICD-9-CM
432	Other and unspecified intracranial hemorrhage	Diagnosis	ICD-9-CM
432	Nontraumatic extradural hemorrhage	Diagnosis	ICD-9-CM
432.1	Subdural hemorrhage	Diagnosis	ICD-9-CM
432.9	Unspecified intracranial hemorrhage	Diagnosis	ICD-9-CM
852	Subarachnoid hemorrhage following injury without mention of open intracranial wound	Diagnosis	ICD-9-CM
852	Subarachnoid hemorrhage following injury, without mention of open intracranial wound, unspecified state of consciousness	Diagnosis	ICD-9-CM
852.01	Subarachnoid hemorrhage following injury, without mention of open intracranial wound, no loss of consciousness	Diagnosis	ICD-9-CM
852.02	Subarachnoid hemorrhage following injury, without mention of open intracranial wound, brief (less than 1 hour) loss of consciousness	Diagnosis	ICD-9-CM
852.03	Subarachnoid hemorrhage following injury, without mention of open intracranial wound, moderate (1-24 hours) loss of consciousness	Diagnosis	ICD-9-CM
852.04	Subarachnoid hemorrhage following injury, without mention of open intracranial wound, prolonged (more than 24 hours) loss of consciousness and return to pre-existing conscious level	Diagnosis	ICD-9-CM
852.05	Subarachnoid hemorrhage following injury, without mention of open intracranial wound, prolonged (more than 24 hours) loss of consciousness, without return to pre-existing conscious level	Diagnosis	ICD-9-CM
852.06	Subarachnoid hemorrhage following injury, without mention of open intracranial wound, loss of consciousness of unspecified duration	Diagnosis	ICD-9-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
852.09	Subarachnoid hemorrhage following injury, without mention of open intracranial wound, unspecified concussion	Diagnosis	ICD-9-CM
852.2	Subdural hemorrhage following injury without mention of open intracranial wound	Diagnosis	ICD-9-CM
852.2	Subdural hemorrhage following injury, without mention of open intracranial wound, unspecified state of consciousness	Diagnosis	ICD-9-CM
852.21	Subdural hemorrhage following injury, without mention of open intracranial wound, no loss of consciousness	Diagnosis	ICD-9-CM
852.22	Subdural hemorrhage following injury, without mention of open intracranial wound, brief (less than one hour) loss of consciousness	Diagnosis	ICD-9-CM
852.23	Subdural hemorrhage following injury, without mention of open intracranial wound, moderate (1-24 hours) loss of consciousness	Diagnosis	ICD-9-CM
852.24	Subdural hemorrhage following injury, without mention of open intracranial wound, prolonged (more than 24 hours) loss of consciousness and return to pre-existing conscious level	Diagnosis	ICD-9-CM
852.25	Subdural hemorrhage following injury, without mention of open intracranial wound, prolonged (more than 24 hours) loss of consciousness, without return to pre-existing conscious level	Diagnosis	ICD-9-CM
852.26	Subdural hemorrhage following injury, without mention of open intracranial wound, loss of consciousness of unspecified duration	Diagnosis	ICD-9-CM
852.29	Subdural hemorrhage following injury, without mention of open intracranial wound, unspecified concussion	Diagnosis	ICD-9-CM
852.4	Extradural hemorrhage following injury without mention of open intracranial wound	Diagnosis	ICD-9-CM
852.4	Extradural hemorrhage following injury, without mention of open intracranial wound, unspecified state of consciousness	Diagnosis	ICD-9-CM
852.41	Extradural hemorrhage following injury, without mention of open intracranial wound, no loss of consciousness	Diagnosis	ICD-9-CM
852.42	Extradural hemorrhage following injury, without mention of open intracranial wound, brief (less than 1 hour) loss of consciousness	Diagnosis	ICD-9-CM
852.43	Extradural hemorrhage following injury, without mention of open intracranial wound, moderate (1-24 hours) loss of consciousness	Diagnosis	ICD-9-CM
852.44	Extradural hemorrhage following injury, without mention of open intracranial wound, prolonged (more than 24 hours) loss of consciousness and return to pre-existing conscious level	Diagnosis	ICD-9-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
852.45	Extradural hemorrhage following injury, without mention of open intracranial wound, prolonged (more than 24 hours) loss of consciousness, without return to pre-existing conscious level	Diagnosis	ICD-9-CM
852.46	Extradural hemorrhage following injury, without mention of open intracranial wound, loss of consciousness of unspecified duration	Diagnosis	ICD-9-CM
852.49	Extradural hemorrhage following injury, without mention of open intracranial wound, unspecified concussion	Diagnosis	ICD-9-CM
853	Other and unspecified intracranial hemorrhage following injury, without mention of open intracranial wound	Diagnosis	ICD-9-CM
853	Other and unspecified intracranial hemorrhage following injury, without mention of open intracranial wound, unspecified state of consciousness	Diagnosis	ICD-9-CM
853.01	Other and unspecified intracranial hemorrhage following injury, without mention of open intracranial wound, no loss of consciousness	Diagnosis	ICD-9-CM
853.02	Other and unspecified intracranial hemorrhage following injury, without mention of open intracranial wound, brief (less than 1 hour) loss of consciousness	Diagnosis	ICD-9-CM
853.03	Other and unspecified intracranial hemorrhage following injury, without mention of open intracranial wound, moderate (1-24 hours) loss of consciousness	Diagnosis	ICD-9-CM
853.04	Other and unspecified intracranial hemorrhage following injury, without mention of open intracranial wound, prolonged (more than 24 hours) loss of consciousness and return to preexisting conscious level	Diagnosis	ICD-9-CM
853.05	Other and unspecified intracranial hemorrhage following injury. Without mention of open intracranial wound, prolonged (more than 24 hours) loss of consciousness, without return to pre-existing conscious level	Diagnosis	ICD-9-CM
853.06	Other and unspecified intracranial hemorrhage following injury, without mention of open intracranial wound, loss of consciousness of unspecified duration	Diagnosis	ICD-9-CM
853.09	Other and unspecified intracranial hemorrhage following injury, without mention of open intracranial wound, unspecified concussion	Diagnosis	ICD-9-CM
I60.00	Nontraumatic subarachnoid hemorrhage from unspecified carotid siphon and bifurcation	Diagnosis	ICD-10-CM
I60.01	Nontraumatic subarachnoid hemorrhage from right carotid siphon and bifurcation	Diagnosis	ICD-10-CM
I60.02	Nontraumatic subarachnoid hemorrhage from left carotid siphon and bifurcation	Diagnosis	ICD-10-CM
I60.10	Nontraumatic subarachnoid hemorrhage from unspecified middle cerebral artery	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
I60.11	Nontraumatic subarachnoid hemorrhage from right middle cerebral artery	Diagnosis	ICD-10-CM
I60.12	Nontraumatic subarachnoid hemorrhage from left middle cerebral artery	Diagnosis	ICD-10-CM
I60.2	Nontraumatic subarachnoid hemorrhage from anterior communicating artery	Diagnosis	ICD-10-CM
I60.30	Nontraumatic subarachnoid hemorrhage from unspecified posterior communicating artery	Diagnosis	ICD-10-CM
I60.31	Nontraumatic subarachnoid hemorrhage from right posterior communicating artery	Diagnosis	ICD-10-CM
I60.32	Nontraumatic subarachnoid hemorrhage from left posterior communicating artery	Diagnosis	ICD-10-CM
I60.4	Nontraumatic subarachnoid hemorrhage from basilar artery	Diagnosis	ICD-10-CM
I60.50	Nontraumatic subarachnoid hemorrhage from unspecified vertebral artery	Diagnosis	ICD-10-CM
I60.51	Nontraumatic subarachnoid hemorrhage from right vertebral artery	Diagnosis	ICD-10-CM
I60.52	Nontraumatic subarachnoid hemorrhage from left vertebral artery	Diagnosis	ICD-10-CM
I60.6	Nontraumatic subarachnoid hemorrhage from other intracranial arteries	Diagnosis	ICD-10-CM
I60.7	Nontraumatic subarachnoid hemorrhage from unspecified intracranial artery	Diagnosis	ICD-10-CM
I60.8	Other nontraumatic subarachnoid hemorrhage	Diagnosis	ICD-10-CM
I60.9	Nontraumatic subarachnoid hemorrhage, unspecified	Diagnosis	ICD-10-CM
I61.0	Nontraumatic intracerebral hemorrhage in hemisphere, subcortical	Diagnosis	ICD-10-CM
I61.1	Nontraumatic intracerebral hemorrhage in hemisphere, cortical	Diagnosis	ICD-10-CM
I61.2	Nontraumatic intracerebral hemorrhage in hemisphere, unspecified	Diagnosis	ICD-10-CM
I61.3	Nontraumatic intracerebral hemorrhage in brain stem	Diagnosis	ICD-10-CM
I61.4	Nontraumatic intracerebral hemorrhage in cerebellum	Diagnosis	ICD-10-CM
I61.5	Nontraumatic intracerebral hemorrhage, intraventricular	Diagnosis	ICD-10-CM
I61.6	Nontraumatic intracerebral hemorrhage, multiple localized	Diagnosis	ICD-10-CM
I61.8	Other nontraumatic intracerebral hemorrhage	Diagnosis	ICD-10-CM
I61.9	Nontraumatic intracerebral hemorrhage, unspecified	Diagnosis	ICD-10-CM
I62.00	Nontraumatic subdural hemorrhage, unspecified	Diagnosis	ICD-10-CM
I62.01	Nontraumatic acute subdural hemorrhage	Diagnosis	ICD-10-CM
I62.02	Nontraumatic subacute subdural hemorrhage	Diagnosis	ICD-10-CM
I62.03	Nontraumatic chronic subdural hemorrhage	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
I62.1	Nontraumatic extradural hemorrhage	Diagnosis	ICD-10-CM
I62.9	Nontraumatic intracranial hemorrhage, unspecified	Diagnosis	ICD-10-CM
S06.340A	Traumatic hemorrhage of right cerebrum without loss of consciousness, initial encounter	Diagnosis	ICD-10-CM
S06.341A	Traumatic hemorrhage of right cerebrum with loss of consciousness of 30 minutes or less, initial encounter	Diagnosis	ICD-10-CM
S06.342A	Traumatic hemorrhage of right cerebrum with loss of consciousness of 31 minutes to 59 minutes, initial encounter	Diagnosis	ICD-10-CM
S06.343A	Traumatic hemorrhage of right cerebrum with loss of consciousness of 1 hours to 5 hours 59 minutes, initial encounter	Diagnosis	ICD-10-CM
S06.344A	Traumatic hemorrhage of right cerebrum with loss of consciousness of 6 hours to 24 hours, initial encounter	Diagnosis	ICD-10-CM
S06.345A	Traumatic hemorrhage of right cerebrum with loss of consciousness greater than 24 hours with return to pre-existing conscious level, initial encounter	Diagnosis	ICD-10-CM
S06.346A	Traumatic hemorrhage of right cerebrum with loss of consciousness greater than 24 hours without return to pre-existing conscious level with patient surviving, initial encounter	Diagnosis	ICD-10-CM
S06.347A	Traumatic hemorrhage of right cerebrum with loss of consciousness of any duration with death due to brain injury prior to regaining consciousness, initial encounter	Diagnosis	ICD-10-CM
S06.348A	Traumatic hemorrhage of right cerebrum with loss of consciousness of any duration with death due to other cause prior to regaining consciousness, initial encounter	Diagnosis	ICD-10-CM
S06.349A	Traumatic hemorrhage of right cerebrum with loss of consciousness of unspecified duration, initial encounter	Diagnosis	ICD-10-CM
S06.350A	Traumatic hemorrhage of left cerebrum without loss of consciousness, initial encounter	Diagnosis	ICD-10-CM
S06.351A	Traumatic hemorrhage of left cerebrum with loss of consciousness of 30 minutes or less, initial encounter	Diagnosis	ICD-10-CM
S06.352A	Traumatic hemorrhage of left cerebrum with loss of consciousness of 31 minutes to 59 minutes, initial encounter	Diagnosis	ICD-10-CM
S06.353A	Traumatic hemorrhage of left cerebrum with loss of consciousness of 1 hours to 5 hours 59 minutes, initial encounter	Diagnosis	ICD-10-CM
S06.354A	Traumatic hemorrhage of left cerebrum with loss of consciousness of 6 hours to 24 hours, initial encounter	Diagnosis	ICD-10-CM
S06.355A	Traumatic hemorrhage of left cerebrum with loss of consciousness greater than 24 hours with return to pre-existing conscious level, initial encounter	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S06.356A	Traumatic hemorrhage of left cerebrum with loss of consciousness greater than 24 hours without return to pre-existing conscious level with patient surviving, initial encounter	Diagnosis	ICD-10-CM
S06.357A	Traumatic hemorrhage of left cerebrum with loss of consciousness of any duration with death due to brain injury prior to regaining consciousness, initial encounter	Diagnosis	ICD-10-CM
S06.358A	Traumatic hemorrhage of left cerebrum with loss of consciousness of any duration with death due to other cause prior to regaining consciousness, initial encounter	Diagnosis	ICD-10-CM
S06.359A	Traumatic hemorrhage of left cerebrum with loss of consciousness of unspecified duration, initial encounter	Diagnosis	ICD-10-CM
S06.360A	Traumatic hemorrhage of cerebrum, unspecified, without loss of consciousness, initial encounter	Diagnosis	ICD-10-CM
S06.361A	Traumatic hemorrhage of cerebrum, unspecified, with loss of consciousness of 30 minutes or less, initial encounter	Diagnosis	ICD-10-CM
S06.362A	Traumatic hemorrhage of cerebrum, unspecified, with loss of consciousness of 31 minutes to 59 minutes, initial encounter	Diagnosis	ICD-10-CM
S06.363A	Traumatic hemorrhage of cerebrum, unspecified, with loss of consciousness of 1 hours to 5 hours 59 minutes, initial encounter	Diagnosis	ICD-10-CM
S06.364A	Traumatic hemorrhage of cerebrum, unspecified, with loss of consciousness of 6 hours to 24 hours, initial encounter	Diagnosis	ICD-10-CM
S06.365A	Traumatic hemorrhage of cerebrum, unspecified, with loss of consciousness greater than 24 hours with return to pre-existing conscious level, initial encounter	Diagnosis	ICD-10-CM
S06.366A	Traumatic hemorrhage of cerebrum, unspecified, with loss of consciousness greater than 24 hours without return to pre-existing conscious level with patient surviving, initial encounter	Diagnosis	ICD-10-CM
S06.367A	Traumatic hemorrhage of cerebrum, unspecified, with loss of consciousness of any duration with death due to brain injury prior to regaining consciousness, initial encounter	Diagnosis	ICD-10-CM
S06.368A	Traumatic hemorrhage of cerebrum, unspecified, with loss of consciousness of any duration with death due to other cause prior to regaining consciousness, initial encounter	Diagnosis	ICD-10-CM
S06.369A	Traumatic hemorrhage of cerebrum, unspecified, with loss of consciousness of unspecified duration, initial encounter	Diagnosis	ICD-10-CM
S06.4X0A	Epidural hemorrhage without loss of consciousness, initial encounter	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S06.4X1A	Epidural hemorrhage with loss of consciousness of 30 minutes or less, initial encounter	Diagnosis	ICD-10-CM
S06.4X2A	Epidural hemorrhage with loss of consciousness of 31 minutes to 59 minutes, initial encounter	Diagnosis	ICD-10-CM
S06.4X3A	Epidural hemorrhage with loss of consciousness of 1 hour to 5 hours 59 minutes, initial encounter	Diagnosis	ICD-10-CM
S06.4X4A	Epidural hemorrhage with loss of consciousness of 6 hours to 24 hours, initial encounter	Diagnosis	ICD-10-CM
S06.4X5A	Epidural hemorrhage with loss of consciousness greater than 24 hours with return to pre-existing conscious level, initial encounter	Diagnosis	ICD-10-CM
S06.4X6A	Epidural hemorrhage with loss of consciousness greater than 24 hours without return to pre-existing conscious level with patient surviving, initial encounter	Diagnosis	ICD-10-CM
S06.4X7A	Epidural hemorrhage with loss of consciousness of any duration with death due to brain injury prior to regaining consciousness, initial encounter	Diagnosis	ICD-10-CM
S06.4X8A	Epidural hemorrhage with loss of consciousness of any duration with death due to other causes prior to regaining consciousness, initial encounter	Diagnosis	ICD-10-CM
S06.4X9A	Epidural hemorrhage with loss of consciousness of unspecified duration, initial encounter	Diagnosis	ICD-10-CM
S06.5X0A	Traumatic subdural hemorrhage without loss of consciousness, initial encounter	Diagnosis	ICD-10-CM
S06.5X1A	Traumatic subdural hemorrhage with loss of consciousness of 30 minutes or less, initial encounter	Diagnosis	ICD-10-CM
S06.5X2A	Traumatic subdural hemorrhage with loss of consciousness of 31 minutes to 59 minutes, initial encounter	Diagnosis	ICD-10-CM
S06.5X3A	Traumatic subdural hemorrhage with loss of consciousness of 1 hour to 5 hours 59 minutes, initial encounter	Diagnosis	ICD-10-CM
S06.5X4A	Traumatic subdural hemorrhage with loss of consciousness of 6 hours to 24 hours, initial encounter	Diagnosis	ICD-10-CM
S06.5X5A	Traumatic subdural hemorrhage with loss of consciousness greater than 24 hours with return to pre-existing conscious level, initial encounter	Diagnosis	ICD-10-CM
S06.5X6A	Traumatic subdural hemorrhage with loss of consciousness greater than 24 hours without return to pre-existing conscious level with patient surviving, initial encounter	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S06.5X7A	Traumatic subdural hemorrhage with loss of consciousness of any duration with death due to brain injury before regaining consciousness, initial encounter	Diagnosis	ICD-10-CM
S06.5X8A	Traumatic subdural hemorrhage with loss of consciousness of any duration with death due to other cause before regaining consciousness, initial encounter	Diagnosis	ICD-10-CM
S06.5X9A	Traumatic subdural hemorrhage with loss of consciousness of unspecified duration, initial encounter	Diagnosis	ICD-10-CM
S06.6X0A	Traumatic subarachnoid hemorrhage without loss of consciousness, initial encounter	Diagnosis	ICD-10-CM
S06.6X1A	Traumatic subarachnoid hemorrhage with loss of consciousness of 30 minutes or less, initial encounter	Diagnosis	ICD-10-CM
S06.6X2A	Traumatic subarachnoid hemorrhage with loss of consciousness of 31 minutes to 59 minutes, initial encounter	Diagnosis	ICD-10-CM
S06.6X3A	Traumatic subarachnoid hemorrhage with loss of consciousness of 1 hour to 5 hours 59 minutes, initial encounter	Diagnosis	ICD-10-CM
S06.6X4A	Traumatic subarachnoid hemorrhage with loss of consciousness of 6 hours to 24 hours, initial encounter	Diagnosis	ICD-10-CM
S06.6X5A	Traumatic subarachnoid hemorrhage with loss of consciousness greater than 24 hours with return to pre-existing conscious level, initial encounter	Diagnosis	ICD-10-CM
S06.6X6A	Traumatic subarachnoid hemorrhage with loss of consciousness greater than 24 hours without return to pre-existing conscious level with patient surviving, initial encounter	Diagnosis	ICD-10-CM
S06.6X7A	Traumatic subarachnoid hemorrhage with loss of consciousness of any duration with death due to brain injury prior to regaining consciousness, initial encounter	Diagnosis	ICD-10-CM
S06.6X8A	Traumatic subarachnoid hemorrhage with loss of consciousness of any duration with death due to other cause prior to regaining consciousness, initial encounter	Diagnosis	ICD-10-CM
S06.6X9A	Traumatic subarachnoid hemorrhage with loss of consciousness of unspecified duration, initial encounter	Diagnosis	ICD-10-CM
Gastrointestinal Bleeding - List 1			
455.2	Internal hemorrhoids with other complication	Diagnosis	ICD-9-CM
455.5	External hemorrhoids with other complication	Diagnosis	ICD-9-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
455.8	Unspecified hemorrhoids with other complication	Diagnosis	ICD-9-CM
456	Esophageal varices with bleeding	Diagnosis	ICD-9-CM
456.2	Esophageal varices with bleeding in diseases classified elsewhere	Diagnosis	ICD-9-CM
459	Unspecified hemorrhage	Diagnosis	ICD-9-CM
530.7	Gastroesophageal laceration-hemorrhage syndrome	Diagnosis	ICD-9-CM
530.82	Esophageal hemorrhage	Diagnosis	ICD-9-CM
531	Acute gastric ulcer with hemorrhage, without mention of obstruction	Diagnosis	ICD-9-CM
531.01	Acute gastric ulcer with hemorrhage and obstruction	Diagnosis	ICD-9-CM
531.2	Acute gastric ulcer with hemorrhage and perforation, without mention of obstruction	Diagnosis	ICD-9-CM
531.21	Acute gastric ulcer with hemorrhage, perforation, and obstruction	Diagnosis	ICD-9-CM
531.4	Chronic or unspecified gastric ulcer with hemorrhage, without mention of obstruction	Diagnosis	ICD-9-CM
531.41	Chronic or unspecified gastric ulcer with hemorrhage and obstruction	Diagnosis	ICD-9-CM
531.6	Chronic or unspecified gastric ulcer with hemorrhage and perforation	Diagnosis	ICD-9-CM
531.61	Chronic or unspecified gastric ulcer with hemorrhage, perforation, and obstruction	Diagnosis	ICD-9-CM
532	Acute duodenal ulcer with hemorrhage, without mention of obstruction	Diagnosis	ICD-9-CM
532.01	Acute duodenal ulcer with hemorrhage and obstruction	Diagnosis	ICD-9-CM
532.2	Acute duodenal ulcer with hemorrhage and perforation, without mention of obstruction	Diagnosis	ICD-9-CM
532.21	Acute duodenal ulcer with hemorrhage, perforation, and obstruction	Diagnosis	ICD-9-CM
532.4	Duodenal ulcer, chronic or unspecified, with hemorrhage, without mention of obstruction	Diagnosis	ICD-9-CM
532.41	Chronic or unspecified duodenal ulcer with hemorrhage and obstruction	Diagnosis	ICD-9-CM
532.6	Chronic or unspecified duodenal ulcer with hemorrhage and perforation, without mention of obstruction	Diagnosis	ICD-9-CM
532.61	Chronic or unspecified duodenal ulcer with hemorrhage, perforation, and obstruction	Diagnosis	ICD-9-CM
533	Acute peptic ulcer, unspecified site, with hemorrhage, without mention of obstruction	Diagnosis	ICD-9-CM
533.01	Acute peptic ulcer, unspecified site, with hemorrhage and obstruction	Diagnosis	ICD-9-CM
533.2	Acute peptic ulcer, unspecified site, with hemorrhage and perforation, without mention of obstruction	Diagnosis	ICD-9-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
533.21	Acute peptic ulcer, unspecified site, with hemorrhage, perforation, and obstruction	Diagnosis	ICD-9-CM
533.4	Chronic or unspecified peptic ulcer, unspecified site, with hemorrhage, without mention of obstruction	Diagnosis	ICD-9-CM
533.41	Chronic or unspecified peptic ulcer, unspecified site, with hemorrhage and obstruction	Diagnosis	ICD-9-CM
533.6	Chronic or unspecified peptic ulcer, unspecified site, with hemorrhage and perforation, without mention of obstruction	Diagnosis	ICD-9-CM
533.61	Chronic or unspecified peptic ulcer, unspecified site, with hemorrhage, perforation, and obstruction	Diagnosis	ICD-9-CM
534	Acute gastrojejunal ulcer with hemorrhage, without mention of obstruction	Diagnosis	ICD-9-CM
534.01	Acute gastrojejunal ulcer, with hemorrhage and obstruction	Diagnosis	ICD-9-CM
534.2	Acute gastrojejunal ulcer with hemorrhage and perforation, without mention of obstruction	Diagnosis	ICD-9-CM
534.21	Acute gastrojejunal ulcer with hemorrhage, perforation, and obstruction	Diagnosis	ICD-9-CM
534.4	Chronic or unspecified gastrojejunal ulcer with hemorrhage, without mention of obstruction	Diagnosis	ICD-9-CM
534.41	Chronic or unspecified gastrojejunal ulcer, with hemorrhage and obstruction	Diagnosis	ICD-9-CM
534.6	Chronic or unspecified gastrojejunal ulcer with hemorrhage and perforation, without mention of obstruction	Diagnosis	ICD-9-CM
534.61	Chronic or unspecified gastrojejunal ulcer with hemorrhage, perforation, and obstruction	Diagnosis	ICD-9-CM
535.01	Acute gastritis with hemorrhage	Diagnosis	ICD-9-CM
535.11	Atrophic gastritis with hemorrhage	Diagnosis	ICD-9-CM
535.21	Gastric mucosal hypertrophy with hemorrhage	Diagnosis	ICD-9-CM
535.31	Alcoholic gastritis with hemorrhage	Diagnosis	ICD-9-CM
535.41	Other specified gastritis with hemorrhage	Diagnosis	ICD-9-CM
535.51	Unspecified gastritis and gastroduodenitis with hemorrhage	Diagnosis	ICD-9-CM
535.61	Duodenitis with hemorrhage	Diagnosis	ICD-9-CM
537.83	Angiodysplasia of stomach and duodenum with hemorrhage	Diagnosis	ICD-9-CM
562.02	Diverticulosis of small intestine with hemorrhage	Diagnosis	ICD-9-CM
562.03	Diverticulitis of small intestine with hemorrhage	Diagnosis	ICD-9-CM
562.12	Diverticulosis of colon with hemorrhage	Diagnosis	ICD-9-CM
562.13	Diverticulitis of colon with hemorrhage	Diagnosis	ICD-9-CM
568.81	Hemoperitoneum (nontraumatic)	Diagnosis	ICD-9-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
569.3	Hemorrhage of rectum and anus	Diagnosis	ICD-9-CM
569.85	Angiodysplasia of intestine with hemorrhage	Diagnosis	ICD-9-CM
578	Hematemesis	Diagnosis	ICD-9-CM
578.1	Blood in stool	Diagnosis	ICD-9-CM
578.9	Hemorrhage of gastrointestinal tract, unspecified	Diagnosis	ICD-9-CM
I85.01	Esophageal varices with bleeding	Diagnosis	ICD-10-CM
I85.11	Secondary esophageal varices with bleeding	Diagnosis	ICD-10-CM
K22.6	Gastro-esophageal laceration-hemorrhage syndrome	Diagnosis	ICD-10-CM
K22.8	Other specified diseases of esophagus	Diagnosis	ICD-10-CM
K25.0	Acute gastric ulcer with hemorrhage	Diagnosis	ICD-10-CM
K25.2	Acute gastric ulcer with both hemorrhage and perforation	Diagnosis	ICD-10-CM
K25.4	Chronic or unspecified gastric ulcer with hemorrhage	Diagnosis	ICD-10-CM
K25.6	Chronic or unspecified gastric ulcer with both hemorrhage and perforation	Diagnosis	ICD-10-CM
K26.0	Acute duodenal ulcer with hemorrhage	Diagnosis	ICD-10-CM
K26.2	Acute duodenal ulcer with both hemorrhage and perforation	Diagnosis	ICD-10-CM
K26.4	Chronic or unspecified duodenal ulcer with hemorrhage	Diagnosis	ICD-10-CM
K26.6	Chronic or unspecified duodenal ulcer with both hemorrhage and perforation	Diagnosis	ICD-10-CM
K27.0	Acute peptic ulcer, site unspecified, with hemorrhage	Diagnosis	ICD-10-CM
K27.2	Acute peptic ulcer, site unspecified, with both hemorrhage and perforation	Diagnosis	ICD-10-CM
K27.4	Chronic or unspecified peptic ulcer, site unspecified, with hemorrhage	Diagnosis	ICD-10-CM
K27.6	Chronic or unspecified peptic ulcer, site unspecified, with both hemorrhage and perforation	Diagnosis	ICD-10-CM
K28.0	Acute gastrojejunal ulcer with hemorrhage	Diagnosis	ICD-10-CM
K28.2	Acute gastrojejunal ulcer with both hemorrhage and perforation	Diagnosis	ICD-10-CM
K28.4	Chronic or unspecified gastrojejunal ulcer with hemorrhage	Diagnosis	ICD-10-CM
K28.6	Chronic or unspecified gastrojejunal ulcer with both hemorrhage and perforation	Diagnosis	ICD-10-CM
K29.01	Acute gastritis with bleeding	Diagnosis	ICD-10-CM
K29.21	Alcoholic gastritis with bleeding	Diagnosis	ICD-10-CM
K29.31	Chronic superficial gastritis with bleeding	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
K29.41	Chronic atrophic gastritis with bleeding	Diagnosis	ICD-10-CM
K29.51	Unspecified chronic gastritis with bleeding	Diagnosis	ICD-10-CM
K29.61	Other gastritis with bleeding	Diagnosis	ICD-10-CM
K29.71	Gastritis, unspecified, with bleeding	Diagnosis	ICD-10-CM
K29.81	Duodenitis with bleeding	Diagnosis	ICD-10-CM
K29.91	Gastroduodenitis, unspecified, with bleeding	Diagnosis	ICD-10-CM
K31.811	Angiodysplasia of stomach and duodenum with bleeding	Diagnosis	ICD-10-CM
K55.21	Angiodysplasia of colon with hemorrhage	Diagnosis	ICD-10-CM
K56.699	Other intestinal obstruction unspecified as to partial versus complete obstruction	Diagnosis	ICD-10-CM
K57.01	Diverticulitis of small intestine with perforation and abscess with bleeding	Diagnosis	ICD-10-CM
K57.11	Diverticulosis of small intestine without perforation or abscess with bleeding	Diagnosis	ICD-10-CM
K57.13	Diverticulitis of small intestine without perforation or abscess with bleeding	Diagnosis	ICD-10-CM
K57.21	Diverticulitis of large intestine with perforation and abscess with bleeding	Diagnosis	ICD-10-CM
K57.31	Diverticulosis of large intestine without perforation or abscess with bleeding	Diagnosis	ICD-10-CM
K57.33	Diverticulitis of large intestine without perforation or abscess with bleeding	Diagnosis	ICD-10-CM
K57.41	Diverticulitis of both small and large intestine with perforation and abscess with bleeding	Diagnosis	ICD-10-CM
K57.51	Diverticulosis of both small and large intestine without perforation or abscess with bleeding	Diagnosis	ICD-10-CM
K57.53	Diverticulitis of both small and large intestine without perforation or abscess with bleeding	Diagnosis	ICD-10-CM
K57.81	Diverticulitis of intestine, part unspecified, with perforation and abscess with bleeding	Diagnosis	ICD-10-CM
K57.91	Diverticulosis of intestine, part unspecified, without perforation or abscess with bleeding	Diagnosis	ICD-10-CM
K57.93	Diverticulitis of intestine, part unspecified, without perforation or abscess with bleeding	Diagnosis	ICD-10-CM
K62.5	Hemorrhage of anus and rectum	Diagnosis	ICD-10-CM
K64.0	First degree hemorrhoids	Diagnosis	ICD-10-CM
K64.1	Second degree hemorrhoids	Diagnosis	ICD-10-CM
K64.2	Third degree hemorrhoids	Diagnosis	ICD-10-CM
K64.3	Fourth degree hemorrhoids	Diagnosis	ICD-10-CM
K64.4	Residual hemorrhoidal skin tags	Diagnosis	ICD-10-CM
K64.8	Other hemorrhoids	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
K66.1	Hemoperitoneum	Diagnosis	ICD-10-CM
K92.0	Hematemesis	Diagnosis	ICD-10-CM
K92.1	Melena	Diagnosis	ICD-10-CM
K92.2	Gastrointestinal hemorrhage, unspecified	Diagnosis	ICD-10-CM
R58	Hemorrhage, not elsewhere classified	Diagnosis	ICD-10-CM
Gastrointestinal Bleeding - List 2			
455.0	Internal hemorrhoids without mention of complication	Diagnosis	ICD-9-CM
455.1	Internal thrombosed hemorrhoids	Diagnosis	ICD-9-CM
455.3	External hemorrhoids without mention of complication	Diagnosis	ICD-9-CM
455.4	External thrombosed hemorrhoids	Diagnosis	ICD-9-CM
455.6	Unspecified hemorrhoids without mention of complication	Diagnosis	ICD-9-CM
455.7	Unspecified thrombosed hemorrhoids	Diagnosis	ICD-9-CM
531.1	Acute gastric ulcer with perforation	Diagnosis	ICD-9-CM
531.3	Acute gastric ulcer without mention of hemorrhage or perforation	Diagnosis	ICD-9-CM
531.5	Chronic or unspecified gastric ulcer with perforation	Diagnosis	ICD-9-CM
531.7	Chronic gastric ulcer without mention of hemorrhage or perforation	Diagnosis	ICD-9-CM
531.9	Gastric ulcer, unspecified as acute or chronic, without mention of hemorrhage or perforation	Diagnosis	ICD-9-CM
532.1	Acute duodenal ulcer with perforation	Diagnosis	ICD-9-CM
532.3	Acute duodenal ulcer without mention of hemorrhage or perforation	Diagnosis	ICD-9-CM
532.5	Chronic or unspecified duodenal ulcer with perforation	Diagnosis	ICD-9-CM
532.7	Chronic duodenal ulcer without mention of hemorrhage or perforation	Diagnosis	ICD-9-CM
532.9	Duodenal ulcer, unspecified as acute or chronic, without mention of hemorrhage or perforation	Diagnosis	ICD-9-CM
533.1	Acute peptic ulcer, unspecified site, with perforation	Diagnosis	ICD-9-CM
533.3	Acute peptic ulcer, unspecified site, without mention of hemorrhage and perforation	Diagnosis	ICD-9-CM
533.5	Chronic or unspecified peptic ulcer, unspecified site, with perforation	Diagnosis	ICD-9-CM
533.7	Chronic peptic ulcer, unspecified site, without mention of hemorrhage or perforation	Diagnosis	ICD-9-CM
533.9	Peptic ulcer, unspecified site, unspecified as acute or chronic, without mention of hemorrhage or perforation	Diagnosis	ICD-9-CM
534.1	Acute gastrojejunal ulcer with perforation	Diagnosis	ICD-9-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
534.3	Acute gastrojejunal ulcer without mention of hemorrhage or perforation	Diagnosis	ICD-9-CM
534.5	Chronic or unspecified gastrojejunal ulcer with perforation	Diagnosis	ICD-9-CM
534.7	Chronic gastrojejunal ulcer without mention of hemorrhage or perforation	Diagnosis	ICD-9-CM
534.9	Gastrojejunal ulcer, unspecified as acute or chronic, without mention of hemorrhage or perforation	Diagnosis	ICD-9-CM
535.00	Acute gastritis without mention of hemorrhage	Diagnosis	ICD-9-CM
535.10	Atrophic gastritis without mention of hemorrhage	Diagnosis	ICD-9-CM
535.20	Gastric mucosal hypertrophy without mention of hemorrhage	Diagnosis	ICD-9-CM
535.30	Alcoholic gastritis without mention of hemorrhage	Diagnosis	ICD-9-CM
535.40	Other specified gastritis without mention of hemorrhage	Diagnosis	ICD-9-CM
535.50	Unspecified gastritis and gastroduodenitis without mention of hemorrhage	Diagnosis	ICD-9-CM
535.60	Duodenitis without mention of hemorrhage	Diagnosis	ICD-9-CM
562.00	Diverticulosis of small intestine (without mention of hemorrhage)	Diagnosis	ICD-9-CM
562.01	Diverticulitis of small intestine (without mention of hemorrhage)	Diagnosis	ICD-9-CM
562.10	Diverticulosis of colon (without mention of hemorrhage)	Diagnosis	ICD-9-CM
562.11	Diverticulitis of colon (without mention of hemorrhage)	Diagnosis	ICD-9-CM
530.1	Esophagitis	Diagnosis	ICD-9-CM
K29.00	Acute gastritis without bleeding	Diagnosis	ICD-10-CM
K29.20	Alcoholic gastritis without bleeding	Diagnosis	ICD-10-CM
K29.30	Chronic superficial gastritis without bleeding	Diagnosis	ICD-10-CM
K29.40	Chronic atrophic gastritis without bleeding	Diagnosis	ICD-10-CM
K29.50	Unspecified chronic gastritis without bleeding	Diagnosis	ICD-10-CM
K29.60	Other gastritis without bleeding	Diagnosis	ICD-10-CM
K29.70	Gastritis, unspecified, without bleeding	Diagnosis	ICD-10-CM
K29.80	Duodenitis without bleeding	Diagnosis	ICD-10-CM
K29.90	Gastroduodenitis, unspecified, without bleeding	Diagnosis	ICD-10-CM
K57.00	Diverticulitis of small intestine with perforation and abscess without bleeding	Diagnosis	ICD-10-CM
K57.10	Diverticulosis of small intestine without perforation or abscess without bleeding	Diagnosis	ICD-10-CM
K57.12	Diverticulitis of small intestine without perforation or abscess without bleeding	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
K57.20	Diverticulitis of large intestine with perforation and abscess without bleeding	Diagnosis	ICD-10-CM
K57.30	Diverticulosis of large intestine without perforation or abscess without bleeding	Diagnosis	ICD-10-CM
K57.32	Diverticulitis of large intestine without perforation or abscess without bleeding	Diagnosis	ICD-10-CM
K57.40	Diverticulitis of both small and large intestine with perforation and abscess without bleeding	Diagnosis	ICD-10-CM
K57.50	Diverticulosis of both small and large intestine without perforation or abscess without bleeding	Diagnosis	ICD-10-CM
K57.52	Diverticulitis of both small and large intestine without perforation or abscess without bleeding	Diagnosis	ICD-10-CM
K57.80	Diverticulitis of intestine, part unspecified, with perforation and abscess without bleeding	Diagnosis	ICD-10-CM
K57.90	Diverticulosis of intestine, part unspecified, without perforation or abscess without bleeding	Diagnosis	ICD-10-CM
K57.92	Diverticulitis of intestine, part unspecified, without perforation or abscess without bleeding	Diagnosis	ICD-10-CM
K64.0	First degree hemorrhoids	Diagnosis	ICD-10-CM
K64.1	Second degree hemorrhoids	Diagnosis	ICD-10-CM
K64.2	Third degree hemorrhoids	Diagnosis	ICD-10-CM
K64.3	Fourth degree hemorrhoids	Diagnosis	ICD-10-CM
K64.4	Residual hemorrhoidal skin tags	Diagnosis	ICD-10-CM
K64.5	Perianal venous thrombosis	Diagnosis	ICD-10-CM
K64.8	Other hemorrhoids	Diagnosis	ICD-10-CM
K64.9	Unspecified hemorrhoids	Diagnosis	ICD-10-CM
Major Extracranial Bleeding - List 1			
423.0	Hemopericardium	Diagnosis	ICD-9-CM
455.2	Internal hemorrhoids with other complication	Diagnosis	ICD-9-CM
455.5	External hemorrhoids with other complication	Diagnosis	ICD-9-CM
455.8	Unspecified hemorrhoids with other complication	Diagnosis	ICD-9-CM
456.0	Esophageal varices with bleeding	Diagnosis	ICD-9-CM
456.20	Esophageal varices with bleeding in diseases classified elsewhere	Diagnosis	ICD-9-CM
459.0	Unspecified hemorrhage	Diagnosis	ICD-9-CM
530.7	Gastroesophageal laceration-hemorrhage syndrome	Diagnosis	ICD-9-CM
530.82	Esophageal hemorrhage	Diagnosis	ICD-9-CM
531.0	Acute gastric ulcer with hemorrhage	Diagnosis	ICD-9-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
531.00	Acute gastric ulcer with hemorrhage, without mention of obstruction	Diagnosis	ICD-9-CM
531.01	Acute gastric ulcer with hemorrhage and obstruction	Diagnosis	ICD-9-CM
531.2	Acute gastric ulcer with hemorrhage and perforation	Diagnosis	ICD-9-CM
531.20	Acute gastric ulcer with hemorrhage and perforation, without mention of obstruction	Diagnosis	ICD-9-CM
531.21	Acute gastric ulcer with hemorrhage, perforation, and obstruction	Diagnosis	ICD-9-CM
531.4	Chronic or unspecified gastric ulcer with hemorrhage	Diagnosis	ICD-9-CM
531.40	Chronic or unspecified gastric ulcer with hemorrhage, without mention of obstruction	Diagnosis	ICD-9-CM
531.41	Chronic or unspecified gastric ulcer with hemorrhage and obstruction	Diagnosis	ICD-9-CM
531.6	Chronic or unspecified gastric ulcer with hemorrhage and perforation	Diagnosis	ICD-9-CM
531.60	Chronic or unspecified gastric ulcer with hemorrhage and perforation, without mention of obstruction	Diagnosis	ICD-9-CM
531.61	Chronic or unspecified gastric ulcer with hemorrhage, perforation, and obstruction	Diagnosis	ICD-9-CM
532.0	Acute duodenal ulcer with hemorrhage	Diagnosis	ICD-9-CM
532.00	Acute duodenal ulcer with hemorrhage, without mention of obstruction	Diagnosis	ICD-9-CM
532.01	Acute duodenal ulcer with hemorrhage and obstruction	Diagnosis	ICD-9-CM
532.2	Acute duodenal ulcer with hemorrhage and perforation	Diagnosis	ICD-9-CM
532.20	Acute duodenal ulcer with hemorrhage and perforation, without mention of obstruction	Diagnosis	ICD-9-CM
532.21	Acute duodenal ulcer with hemorrhage, perforation, and obstruction	Diagnosis	ICD-9-CM
532.4	Chronic or unspecified duodenal ulcer with hemorrhage	Diagnosis	ICD-9-CM
532.40	Duodenal ulcer, chronic or unspecified, with hemorrhage, without mention of obstruction	Diagnosis	ICD-9-CM
532.41	Chronic or unspecified duodenal ulcer with hemorrhage and obstruction	Diagnosis	ICD-9-CM
532.6	Chronic or unspecified duodenal ulcer with hemorrhage and perforation	Diagnosis	ICD-9-CM
532.60	Chronic or unspecified duodenal ulcer with hemorrhage and perforation, without mention of obstruction	Diagnosis	ICD-9-CM
532.61	Chronic or unspecified duodenal ulcer with hemorrhage, perforation, and obstruction	Diagnosis	ICD-9-CM
533.0	Acute peptic ulcer, unspecified site, with hemorrhage	Diagnosis	ICD-9-CM
533.00	Acute peptic ulcer, unspecified site, with hemorrhage, without mention of obstruction	Diagnosis	ICD-9-CM
533.01	Acute peptic ulcer, unspecified site, with hemorrhage and obstruction	Diagnosis	ICD-9-CM
533.2	Acute peptic ulcer, unspecified site, with hemorrhage and perforation	Diagnosis	ICD-9-CM
533.20	Acute peptic ulcer, unspecified site, with hemorrhage and perforation, without mention of obstruction	Diagnosis	ICD-9-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
533.21	Acute peptic ulcer, unspecified site, with hemorrhage, perforation, and obstruction	Diagnosis	ICD-9-CM
533.4	Chronic or unspecified peptic ulcer, unspecified site, with hemorrhage	Diagnosis	ICD-9-CM
533.40	Chronic or unspecified peptic ulcer, unspecified site, with hemorrhage, without mention of obstruction	Diagnosis	ICD-9-CM
533.41	Chronic or unspecified peptic ulcer, unspecified site, with hemorrhage and obstruction	Diagnosis	ICD-9-CM
533.6	Chronic or unspecified peptic ulcer, unspecified site, with hemorrhage and perforation	Diagnosis	ICD-9-CM
533.60	Chronic or unspecified peptic ulcer, unspecified site, with hemorrhage and perforation, without mention of obstruction	Diagnosis	ICD-9-CM
533.61	Chronic or unspecified peptic ulcer, unspecified site, with hemorrhage, perforation, and obstruction	Diagnosis	ICD-9-CM
534.0	Acute gastrojejunal ulcer with hemorrhage	Diagnosis	ICD-9-CM
534.00	Acute gastrojejunal ulcer with hemorrhage, without mention of obstruction	Diagnosis	ICD-9-CM
534.01	Acute gastrojejunal ulcer, with hemorrhage and obstruction	Diagnosis	ICD-9-CM
534.2	Acute gastrojejunal ulcer with hemorrhage and perforation	Diagnosis	ICD-9-CM
534.20	Acute gastrojejunal ulcer with hemorrhage and perforation, without mention of obstruction	Diagnosis	ICD-9-CM
534.21	Acute gastrojejunal ulcer with hemorrhage, perforation, and obstruction	Diagnosis	ICD-9-CM
534.4	Chronic or unspecified gastrojejunal ulcer with hemorrhage	Diagnosis	ICD-9-CM
534.40	Chronic or unspecified gastrojejunal ulcer with hemorrhage, without mention of obstruction	Diagnosis	ICD-9-CM
534.41	Chronic or unspecified gastrojejunal ulcer, with hemorrhage and obstruction	Diagnosis	ICD-9-CM
534.6	Chronic or unspecified gastrojejunal ulcer with hemorrhage and perforation	Diagnosis	ICD-9-CM
534.60	Chronic or unspecified gastrojejunal ulcer with hemorrhage and perforation, without mention of obstruction	Diagnosis	ICD-9-CM
534.61	Chronic or unspecified gastrojejunal ulcer with hemorrhage, perforation, and obstruction	Diagnosis	ICD-9-CM
535.01	Acute gastritis with hemorrhage	Diagnosis	ICD-9-CM
535.11	Atrophic gastritis with hemorrhage	Diagnosis	ICD-9-CM
535.21	Gastric mucosal hypertrophy with hemorrhage	Diagnosis	ICD-9-CM
535.31	Alcoholic gastritis with hemorrhage	Diagnosis	ICD-9-CM
535.41	Other specified gastritis with hemorrhage	Diagnosis	ICD-9-CM
535.51	Unspecified gastritis and gastroduodenitis with hemorrhage	Diagnosis	ICD-9-CM
535.61	Duodenitis with hemorrhage	Diagnosis	ICD-9-CM
537.83	Angiodysplasia of stomach and duodenum with hemorrhage	Diagnosis	ICD-9-CM
562.02	Diverticulosis of small intestine with hemorrhage	Diagnosis	ICD-9-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
562.03	Diverticulitis of small intestine with hemorrhage	Diagnosis	ICD-9-CM
562.12	Diverticulosis of colon with hemorrhage	Diagnosis	ICD-9-CM
562.13	Diverticulitis of colon with hemorrhage	Diagnosis	ICD-9-CM
568.81	Hemoperitoneum (nontraumatic)	Diagnosis	ICD-9-CM
569.3	Hemorrhage of rectum and anus	Diagnosis	ICD-9-CM
569.85	Angiodysplasia of intestine with hemorrhage	Diagnosis	ICD-9-CM
578.0	Hematemesis	Diagnosis	ICD-9-CM
578.1	Blood in stool	Diagnosis	ICD-9-CM
578.9	Hemorrhage of gastrointestinal tract, unspecified	Diagnosis	ICD-9-CM
593.81	Vascular disorders of kidney	Diagnosis	ICD-9-CM
599.7	Hematuria	Diagnosis	ICD-9-CM
623.8	Other specified noninflammatory disorder of vagina	Diagnosis	ICD-9-CM
626.2	Excessive or frequent menstruation	Diagnosis	ICD-9-CM
626.6	Metrorrhagia	Diagnosis	ICD-9-CM
719.1	Hemarthrosis	Diagnosis	ICD-9-CM
719.10	Hemarthrosis, site unspecified	Diagnosis	ICD-9-CM
719.11	Hemarthrosis, shoulder region	Diagnosis	ICD-9-CM
719.12	Hemarthrosis, upper arm	Diagnosis	ICD-9-CM
719.13	Hemarthrosis, forearm	Diagnosis	ICD-9-CM
719.14	Hemarthrosis, hand	Diagnosis	ICD-9-CM
719.15	Hemarthrosis, pelvic region and thigh	Diagnosis	ICD-9-CM
719.16	Hemarthrosis, lower leg	Diagnosis	ICD-9-CM
719.17	Hemarthrosis, ankle and foot	Diagnosis	ICD-9-CM
719.18	Hemarthrosis, other specified site	Diagnosis	ICD-9-CM
719.19	Hemarthrosis, multiple sites	Diagnosis	ICD-9-CM
784.7	Epistaxis	Diagnosis	ICD-9-CM
784.8	Hemorrhage from throat	Diagnosis	ICD-9-CM
786.3	Hemoptysis	Diagnosis	ICD-9-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
I31.2	Hemopericardium, not elsewhere classified	Diagnosis	ICD-10-CM
I85.01	Esophageal varices with bleeding	Diagnosis	ICD-10-CM
I85.11	Secondary esophageal varices with bleeding	Diagnosis	ICD-10-CM
K22.6	Gastro-esophageal laceration-hemorrhage syndrome	Diagnosis	ICD-10-CM
K22.8	Other specified diseases of esophagus	Diagnosis	ICD-10-CM
K25.0	Acute gastric ulcer with hemorrhage	Diagnosis	ICD-10-CM
K25.2	Acute gastric ulcer with both hemorrhage and perforation	Diagnosis	ICD-10-CM
K25.4	Chronic or unspecified gastric ulcer with hemorrhage	Diagnosis	ICD-10-CM
K25.6	Chronic or unspecified gastric ulcer with both hemorrhage and perforation	Diagnosis	ICD-10-CM
K26.0	Acute duodenal ulcer with hemorrhage	Diagnosis	ICD-10-CM
K26.2	Acute duodenal ulcer with both hemorrhage and perforation	Diagnosis	ICD-10-CM
K26.4	Chronic or unspecified duodenal ulcer with hemorrhage	Diagnosis	ICD-10-CM
K26.6	Chronic or unspecified duodenal ulcer with both hemorrhage and perforation	Diagnosis	ICD-10-CM
K27.0	Acute peptic ulcer, site unspecified, with hemorrhage	Diagnosis	ICD-10-CM
K27.2	Acute peptic ulcer, site unspecified, with both hemorrhage and perforation	Diagnosis	ICD-10-CM
K27.4	Chronic or unspecified peptic ulcer, site unspecified, with hemorrhage	Diagnosis	ICD-10-CM
K27.6	Chronic or unspecified peptic ulcer, site unspecified, with both hemorrhage and perforation	Diagnosis	ICD-10-CM
K28.0	Acute gastrojejunal ulcer with hemorrhage	Diagnosis	ICD-10-CM
K28.2	Acute gastrojejunal ulcer with both hemorrhage and perforation	Diagnosis	ICD-10-CM
K28.4	Chronic or unspecified gastrojejunal ulcer with hemorrhage	Diagnosis	ICD-10-CM
K28.6	Chronic or unspecified gastrojejunal ulcer with both hemorrhage and perforation	Diagnosis	ICD-10-CM
K29.01	Acute gastritis with bleeding	Diagnosis	ICD-10-CM
K29.21	Alcoholic gastritis with bleeding	Diagnosis	ICD-10-CM
K29.31	Chronic superficial gastritis with bleeding	Diagnosis	ICD-10-CM
K29.41	Chronic atrophic gastritis with bleeding	Diagnosis	ICD-10-CM
K29.51	Unspecified chronic gastritis with bleeding	Diagnosis	ICD-10-CM
K29.61	Other gastritis with bleeding	Diagnosis	ICD-10-CM
K29.71	Gastritis, unspecified, with bleeding	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
K29.81	Duodenitis with bleeding	Diagnosis	ICD-10-CM
K29.91	Gastroduodenitis, unspecified, with bleeding	Diagnosis	ICD-10-CM
K31.811	Angiodysplasia of stomach and duodenum with bleeding	Diagnosis	ICD-10-CM
K55.21	Angiodysplasia of colon with hemorrhage	Diagnosis	ICD-10-CM
K56.699	Other intestinal obstruction unspecified as to partial versus complete obstruction	Diagnosis	ICD-10-CM
K57.01	Diverticulitis of small intestine with perforation and abscess with bleeding	Diagnosis	ICD-10-CM
K57.11	Diverticulosis of small intestine without perforation or abscess with bleeding	Diagnosis	ICD-10-CM
K57.13	Diverticulitis of small intestine without perforation or abscess with bleeding	Diagnosis	ICD-10-CM
K57.21	Diverticulitis of large intestine with perforation and abscess with bleeding	Diagnosis	ICD-10-CM
K57.31	Diverticulosis of large intestine without perforation or abscess with bleeding	Diagnosis	ICD-10-CM
K57.33	Diverticulitis of large intestine without perforation or abscess with bleeding	Diagnosis	ICD-10-CM
K57.41	Diverticulitis of both small and large intestine with perforation and abscess with bleeding	Diagnosis	ICD-10-CM
K57.51	Diverticulosis of both small and large intestine without perforation or abscess with bleeding	Diagnosis	ICD-10-CM
K57.53	Diverticulitis of both small and large intestine without perforation or abscess with bleeding	Diagnosis	ICD-10-CM
K57.81	Diverticulitis of intestine, part unspecified, with perforation and abscess with bleeding	Diagnosis	ICD-10-CM
K57.91	Diverticulosis of intestine, part unspecified, without perforation or abscess with bleeding	Diagnosis	ICD-10-CM
K57.93	Diverticulitis of intestine, part unspecified, without perforation or abscess with bleeding	Diagnosis	ICD-10-CM
K62.5	Hemorrhage of anus and rectum	Diagnosis	ICD-10-CM
K64.0	First degree hemorrhoids	Diagnosis	ICD-10-CM
K64.1	Second degree hemorrhoids	Diagnosis	ICD-10-CM
K64.2	Third degree hemorrhoids	Diagnosis	ICD-10-CM
K64.3	Fourth degree hemorrhoids	Diagnosis	ICD-10-CM
K64.4	Residual hemorrhoidal skin tags	Diagnosis	ICD-10-CM
K64.8	Other hemorrhoids	Diagnosis	ICD-10-CM
K66.1	Hemoperitoneum	Diagnosis	ICD-10-CM
K92.0	Hematemesis	Diagnosis	ICD-10-CM
K92.1	Melena	Diagnosis	ICD-10-CM
K92.2	Gastrointestinal hemorrhage, unspecified	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
M25.00	Hemarthrosis, unspecified joint	Diagnosis	ICD-10-CM
M25.011	Hemarthrosis, right shoulder	Diagnosis	ICD-10-CM
M25.012	Hemarthrosis, left shoulder	Diagnosis	ICD-10-CM
M25.019	Hemarthrosis, unspecified shoulder	Diagnosis	ICD-10-CM
M25.021	Hemarthrosis, right elbow	Diagnosis	ICD-10-CM
M25.022	Hemarthrosis, left elbow	Diagnosis	ICD-10-CM
M25.029	Hemarthrosis, unspecified elbow	Diagnosis	ICD-10-CM
M25.031	Hemarthrosis, right wrist	Diagnosis	ICD-10-CM
M25.032	Hemarthrosis, left wrist	Diagnosis	ICD-10-CM
M25.039	Hemarthrosis, unspecified wrist	Diagnosis	ICD-10-CM
M25.041	Hemarthrosis, right hand	Diagnosis	ICD-10-CM
M25.042	Hemarthrosis, left hand	Diagnosis	ICD-10-CM
M25.049	Hemarthrosis, unspecified hand	Diagnosis	ICD-10-CM
M25.051	Hemarthrosis, right hip	Diagnosis	ICD-10-CM
M25.052	Hemarthrosis, left hip	Diagnosis	ICD-10-CM
M25.059	Hemarthrosis, unspecified hip	Diagnosis	ICD-10-CM
M25.061	Hemarthrosis, right knee	Diagnosis	ICD-10-CM
M25.062	Hemarthrosis, left knee	Diagnosis	ICD-10-CM
M25.069	Hemarthrosis, unspecified knee	Diagnosis	ICD-10-CM
M25.071	Hemarthrosis, right ankle	Diagnosis	ICD-10-CM
M25.072	Hemarthrosis, left ankle	Diagnosis	ICD-10-CM
M25.073	Hemarthrosis, unspecified ankle	Diagnosis	ICD-10-CM
M25.074	Hemarthrosis, right foot	Diagnosis	ICD-10-CM
M25.075	Hemarthrosis, left foot	Diagnosis	ICD-10-CM
M25.076	Hemarthrosis, unspecified foot	Diagnosis	ICD-10-CM
M25.08	Hemarthrosis, other specified site	Diagnosis	ICD-10-CM
N28.0	Ischemia and infarction of kidney	Diagnosis	ICD-10-CM
N89.8	Other specified noninflammatory disorders of vagina	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
N92.0	Excessive and frequent menstruation with regular cycle	Diagnosis	ICD-10-CM
N92.1	Excessive and frequent menstruation with irregular cycle	Diagnosis	ICD-10-CM
R04.0	Epistaxis	Diagnosis	ICD-10-CM
R04.1	Hemorrhage from throat	Diagnosis	ICD-10-CM
R58	Hemorrhage, not elsewhere classified	Diagnosis	ICD-10-CM
531.60	Chronic or unspecified gastric ulcer with hemorrhage and perforation	Diagnosis	ICD-10-CM
Major Extracranial Bleeding - List 2			
280.0	Iron deficiency anemia secondary to blood loss (chronic)	Diagnosis	ICD-9-CM
285.1	Acute posthemorrhagic anemia	Diagnosis	ICD-9-CM
285.9	Unspecified anemia	Diagnosis	ICD-9-CM
455.0	Internal hemorrhoids without mention of complication	Diagnosis	ICD-9-CM
455.1	Internal thrombosed hemorrhoids	Diagnosis	ICD-9-CM
455.2	Internal hemorrhoids with other complication	Diagnosis	ICD-9-CM
455.3	External hemorrhoids without mention of complication	Diagnosis	ICD-9-CM
455.4	External thrombosed hemorrhoids	Diagnosis	ICD-9-CM
455.5	External hemorrhoids with other complication	Diagnosis	ICD-9-CM
455.6	Unspecified hemorrhoids without mention of complication	Diagnosis	ICD-9-CM
455.7	Unspecified thrombosed hemorrhoids	Diagnosis	ICD-9-CM
455.8	Unspecified hemorrhoids with other complication	Diagnosis	ICD-9-CM
455.9	Residual hemorrhoidal skin tags	Diagnosis	ICD-9-CM
530.1	Esophagitis	Diagnosis	ICD-9-CM
531.1	Acute gastric ulcer with perforation	Diagnosis	ICD-9-CM
531.3	Acute gastric ulcer without mention of hemorrhage or perforation	Diagnosis	ICD-9-CM
531.5	Chronic or unspecified gastric ulcer with perforation	Diagnosis	ICD-9-CM
531.7	Chronic gastric ulcer without mention of hemorrhage or perforation	Diagnosis	ICD-9-CM
531.9	Gastric ulcer, unspecified as acute or chronic, without mention of hemorrhage or perforation	Diagnosis	ICD-9-CM
532.1	Acute duodenal ulcer with perforation	Diagnosis	ICD-9-CM
532.3	Acute duodenal ulcer without mention of hemorrhage or perforation	Diagnosis	ICD-9-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
532.5	Chronic or unspecified duodenal ulcer with perforation	Diagnosis	ICD-9-CM
532.7	Chronic duodenal ulcer without mention of hemorrhage or perforation	Diagnosis	ICD-9-CM
532.9	Duodenal ulcer, unspecified as acute or chronic, without mention of hemorrhage or perforation	Diagnosis	ICD-9-CM
533.1	Acute peptic ulcer, unspecified site, with perforation	Diagnosis	ICD-9-CM
533.3	Acute peptic ulcer, unspecified site, without mention of hemorrhage and perforation	Diagnosis	ICD-9-CM
533.5	Chronic or unspecified peptic ulcer, unspecified site, with perforation	Diagnosis	ICD-9-CM
533.7	Chronic peptic ulcer, unspecified site, without mention of hemorrhage or perforation	Diagnosis	ICD-9-CM
533.9	Peptic ulcer, unspecified site, unspecified as acute or chronic, without mention of hemorrhage or perforation	Diagnosis	ICD-9-CM
534.1	Acute gastrojejunal ulcer with perforation	Diagnosis	ICD-9-CM
534.3	Acute gastrojejunal ulcer without mention of hemorrhage or perforation	Diagnosis	ICD-9-CM
534.5	Chronic or unspecified gastrojejunal ulcer with perforation	Diagnosis	ICD-9-CM
534.7	Chronic gastrojejunal ulcer without mention of hemorrhage or perforation	Diagnosis	ICD-9-CM
534.9	Gastrojejunal ulcer, unspecified as acute or chronic, without mention of hemorrhage or perforation	Diagnosis	ICD-9-CM
535.00	Acute gastritis without mention of hemorrhage	Diagnosis	ICD-9-CM
535.10	Atrophic gastritis without mention of hemorrhage	Diagnosis	ICD-9-CM
535.20	Gastric mucosal hypertrophy without mention of hemorrhage	Diagnosis	ICD-9-CM
535.30	Alcoholic gastritis without mention of hemorrhage	Diagnosis	ICD-9-CM
535.40	Other specified gastritis without mention of hemorrhage	Diagnosis	ICD-9-CM
535.50	Unspecified gastritis and gastroduodenitis without mention of hemorrhage	Diagnosis	ICD-9-CM
535.60	Duodenitis without mention of hemorrhage	Diagnosis	ICD-9-CM
562.00	Diverticulosis of small intestine (without mention of hemorrhage)	Diagnosis	ICD-9-CM
562.01	Diverticulitis of small intestine (without mention of hemorrhage)	Diagnosis	ICD-9-CM
562.10	Diverticulosis of colon (without mention of hemorrhage)	Diagnosis	ICD-9-CM
562.11	Diverticulitis of colon (without mention of hemorrhage)	Diagnosis	ICD-9-CM
790.92	Abnormal coagulation profile	Diagnosis	ICD-9-CM
D50.0	Iron deficiency anemia secondary to blood loss (chronic)	Diagnosis	ICD-10-CM
D62	Acute posthemorrhagic anemia	Diagnosis	ICD-10-CM
D64.9	Anemia, unspecified	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
K29.00	Acute gastritis without bleeding	Diagnosis	ICD-10-CM
K29.20	Alcoholic gastritis without bleeding	Diagnosis	ICD-10-CM
K29.30	Chronic superficial gastritis without bleeding	Diagnosis	ICD-10-CM
K29.40	Chronic atrophic gastritis without bleeding	Diagnosis	ICD-10-CM
K29.50	Unspecified chronic gastritis without bleeding	Diagnosis	ICD-10-CM
K29.60	Other gastritis without bleeding	Diagnosis	ICD-10-CM
K29.70	Gastritis, unspecified, without bleeding	Diagnosis	ICD-10-CM
K29.80	Duodenitis without bleeding	Diagnosis	ICD-10-CM
K29.90	Gastroduodenitis, unspecified, without bleeding	Diagnosis	ICD-10-CM
K57.00	Diverticulitis of small intestine with perforation and abscess without bleeding	Diagnosis	ICD-10-CM
K57.10	Diverticulosis of small intestine without perforation or abscess without bleeding	Diagnosis	ICD-10-CM
K57.12	Diverticulitis of small intestine without perforation or abscess without bleeding	Diagnosis	ICD-10-CM
K57.20	Diverticulitis of large intestine with perforation and abscess without bleeding	Diagnosis	ICD-10-CM
K57.30	Diverticulosis of large intestine without perforation or abscess without bleeding	Diagnosis	ICD-10-CM
K57.32	Diverticulitis of large intestine without perforation or abscess without bleeding	Diagnosis	ICD-10-CM
K57.40	Diverticulitis of both small and large intestine with perforation and abscess without bleeding	Diagnosis	ICD-10-CM
K57.50	Diverticulosis of both small and large intestine without perforation or abscess without bleeding	Diagnosis	ICD-10-CM
K57.52	Diverticulitis of both small and large intestine without perforation or abscess without bleeding	Diagnosis	ICD-10-CM
K57.80	Diverticulitis of intestine, part unspecified, with perforation and abscess without bleeding	Diagnosis	ICD-10-CM
K57.90	Diverticulosis of intestine, part unspecified, without perforation or abscess without bleeding	Diagnosis	ICD-10-CM
K57.92	Diverticulitis of intestine, part unspecified, without perforation or abscess without bleeding	Diagnosis	ICD-10-CM
K64.0	First degree hemorrhoids	Diagnosis	ICD-10-CM
K64.1	Second degree hemorrhoids	Diagnosis	ICD-10-CM
K64.2	Third degree hemorrhoids	Diagnosis	ICD-10-CM
K64.3	Fourth degree hemorrhoids	Diagnosis	ICD-10-CM
K64.4	Residual hemorrhoidal skin tags	Diagnosis	ICD-10-CM
K64.5	Perianal venous thrombosis	Diagnosis	ICD-10-CM
K64.8	Other hemorrhoids	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
K64.9	Unspecified hemorrhoids	Diagnosis	ICD-10-CM
R79.1	Abnormal coagulation profile	Diagnosis	ICD-10-CM
Major Extracranial Bleeding - List 3			
62000	Elevation of depressed skull fracture; simple, extradural	Diagnosis	CPT-4
62005	Elevation of depressed skull fracture; compound or comminuted, extradural	Diagnosis	CPT-4
62010	Elevation of depressed skull fracture; with repair of dura and/or debridement of brain	Diagnosis	CPT-4
800	Fracture of vault of skull	Diagnosis	ICD-9-CM
800.0	Closed fracture of vault of skull without mention of intracranial injury	Diagnosis	ICD-9-CM
800.00	Closed fracture of vault of skull without mention of intracranial injury, unspecified state of consciousness	Diagnosis	ICD-9-CM
800.01	Closed fracture of vault of skull without mention of intracranial injury, no loss of consciousness	Diagnosis	ICD-9-CM
800.02	Closed fracture of vault of skull without mention of intracranial injury, brief (less than one hour) loss of consciousness	Diagnosis	ICD-9-CM
800.03	Closed fracture of vault of skull without mention of intracranial injury, moderate (1-24 hours) loss of consciousness	Diagnosis	ICD-9-CM
800.04	Closed fracture of vault of skull without mention of intracranial injury, prolonged (more than 24 hours) loss of consciousness and return to pre-existing conscious level	Diagnosis	ICD-9-CM
800.05	Closed fracture of vault of skull without mention of intracranial injury, prolonged (more than 24 hours) loss of consciousness,	Diagnosis	ICD-9-CM
800.06	Closed fracture of vault of skull without mention of intracranial injury, loss of consciousness of unspecified duration	Diagnosis	ICD-9-CM
800.09	Closed fracture of vault of skull without mention of intracranial injury, unspecified concussion	Diagnosis	ICD-9-CM
800.1	Closed fracture of vault of skull with cerebral laceration and contusion	Diagnosis	ICD-9-CM
800.10	Closed fracture of vault of skull with cerebral laceration and contusion, unspecified state of consciousness	Diagnosis	ICD-9-CM
800.11	Closed fracture of vault of skull with cerebral laceration and contusion, no loss of consciousness	Diagnosis	ICD-9-CM
800.12	Closed fracture of vault of skull with cerebral laceration and contusion, brief (less than one hour) loss of consciousness	Diagnosis	ICD-9-CM
800.13	Closed fracture of vault of skull with cerebral laceration and contusion, moderate (1-24 hours) loss of consciousness	Diagnosis	ICD-9-CM
800.14	Closed fracture of vault of skull with cerebral laceration and contusion, prolonged (more than 24 hours) loss of consciousness and return to pre-existing conscious level	Diagnosis	ICD-9-CM
800.15	Closed fracture of vault of skull with cerebral laceration and contusion, prolonged (more than 24 hours) loss of consciousness, without return to pre-existing conscious level	Diagnosis	ICD-9-CM
800.16	Closed fracture of vault of skull with cerebral laceration and contusion, loss of consciousness of unspecified duration	Diagnosis	ICD-9-CM
800.19	Closed fracture of vault of skull with cerebral laceration and contusion, unspecified concussion	Diagnosis	ICD-9-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
800.2	Closed fracture of vault of skull with subarachnoid, subdural, and extradural hemorrhage	Diagnosis	ICD-9-CM
800.20	Closed fracture of vault of skull with subarachnoid, subdural, and extradural hemorrhage, unspecified state of consciousness	Diagnosis	ICD-9-CM
800.21	Closed fracture of vault of skull with subarachnoid, subdural, and extradural hemorrhage, no loss of consciousness	Diagnosis	ICD-9-CM
800.22	Closed fracture of vault of skull with subarachnoid, subdural, and extradural hemorrhage, brief (less than one hour) loss of consciousness	Diagnosis	ICD-9-CM
800.23	Closed fracture of vault of skull with subarachnoid, subdural, and extradural hemorrhage, moderate (1-24 hours) loss of consciousness	Diagnosis	ICD-9-CM
800.24	Closed fracture of vault of skull with subarachnoid, subdural, and extradural hemorrhage, prolonged (more than 24 hours) loss of consciousness and return to pre-existing conscious level	Diagnosis	ICD-9-CM
800.25	Closed fracture of vault of skull with subarachnoid, subdural, and extradural hemorrhage, prolonged (more than 24 hours) loss of consciousness, without return to pre-existing conscious level	Diagnosis	ICD-9-CM
800.26	Closed fracture of vault of skull with subarachnoid, subdural, and extradural hemorrhage, loss of consciousness of unspecified duration	Diagnosis	ICD-9-CM
800.29	Closed fracture of vault of skull with subarachnoid, subdural, and extradural hemorrhage, unspecified concussion	Diagnosis	ICD-9-CM
800.3	Closed fracture of vault of skull with other and unspecified intracranial hemorrhage	Diagnosis	ICD-9-CM
800.30	Closed fracture of vault of skull with other and unspecified intracranial hemorrhage, unspecified state of consciousness	Diagnosis	ICD-9-CM
800.31	Closed fracture of vault of skull with other and unspecified intracranial hemorrhage, no loss of consciousness	Diagnosis	ICD-9-CM
800.32	Closed fracture of vault of skull with other and unspecified intracranial hemorrhage, brief (less than one hour) loss of consciousness	Diagnosis	ICD-9-CM
800.33	Closed fracture of vault of skull with other and unspecified intracranial hemorrhage, moderate (1-24 hours) loss of consciousness	Diagnosis	ICD-9-CM
800.34	Closed fracture of vault of skull with other and unspecified intracranial hemorrhage, prolonged (more than 24 hours) loss of consciousness and return to pre-existing conscious level	Diagnosis	ICD-9-CM
800.35	Closed fracture of vault of skull with other and unspecified intracranial hemorrhage, prolonged (more than 24 hours) loss of consciousness, without return to pre-existing conscious level	Diagnosis	ICD-9-CM
800.36	Closed fracture of vault of skull with other and unspecified intracranial hemorrhage, loss of consciousness of unspecified duration	Diagnosis	ICD-9-CM
800.39	Closed fracture of vault of skull with other and unspecified intracranial hemorrhage, unspecified concussion	Diagnosis	ICD-9-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
800.4	Closed fracture of vault of skull with intercranial injury of other and unspecified nature	Diagnosis	ICD-9-CM
800.40	Closed fracture of vault of skull with intracranial injury of other and unspecified nature, unspecified state of consciousness	Diagnosis	ICD-9-CM
800.41	Closed fracture of vault of skull with intracranial injury of other and unspecified nature, no loss of consciousness	Diagnosis	ICD-9-CM
800.42	Closed fracture of vault of skull with intracranial injury of other and unspecified nature, brief (less than one hour) loss of consciousness	Diagnosis	ICD-9-CM
800.43	Closed fracture of vault of skull with intracranial injury of other and unspecified nature, moderate (1-24 hours) loss of consciousness	Diagnosis	ICD-9-CM
800.44	Closed fracture of vault of skull with intracranial injury of other and unspecified nature, prolonged (more than 24 hours) loss of consciousness and return to pre-existing conscious level	Diagnosis	ICD-9-CM
800.45	Closed fracture of vault of skull with intracranial injury of other and unspecified nature, prolonged (more than 24 hours) loss of consciousness, without return to pre-existing conscious level	Diagnosis	ICD-9-CM
800.46	Closed fracture of vault of skull with intracranial injury of other and unspecified nature, loss of consciousness of unspecified duration	Diagnosis	ICD-9-CM
800.49	Closed fracture of vault of skull with intracranial injury of other and unspecified nature, unspecified concussion	Diagnosis	ICD-9-CM
800.5	Open fracture of vault of skull without mention of intracranial injury	Diagnosis	ICD-9-CM
800.50	Open fracture of vault of skull without mention of intracranial injury, unspecified state of consciousness	Diagnosis	ICD-9-CM
800.51	Open fracture of vault of skull without mention of intracranial injury, no loss of consciousness	Diagnosis	ICD-9-CM
800.52	Open fracture of vault of skull without mention of intracranial injury, brief (less than one hour) loss of consciousness	Diagnosis	ICD-9-CM
800.53	Open fracture of vault of skull without mention of intracranial injury, moderate (1-24 hours) loss of consciousness	Diagnosis	ICD-9-CM
800.54	Open fracture of vault of skull without mention of intracranial injury, prolonged (more than 24 hours) loss of consciousness and return to pre-existing conscious level	Diagnosis	ICD-9-CM
800.55	Open fracture of vault of skull without mention of intracranial injury, prolonged (more than 24 hours) loss of consciousness, without return to pre-existing conscious level	Diagnosis	ICD-9-CM
800.56	Open fracture of vault of skull without mention of intracranial injury, loss of consciousness of unspecified duration	Diagnosis	ICD-9-CM
800.59	Open fracture of vault of skull without mention of intracranial injury, unspecified concussion	Diagnosis	ICD-9-CM
800.6	Open fracture of vault of skull with cerebral laceration and contusion	Diagnosis	ICD-9-CM
800.60	Open fracture of vault of skull with cerebral laceration and contusion, unspecified state of consciousness	Diagnosis	ICD-9-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
800.61	Open fracture of vault of skull with cerebral laceration and contusion, no loss of consciousness	Diagnosis	ICD-9-CM
800.62	Open fracture of vault of skull with cerebral laceration and contusion, brief (less than one hour) loss of consciousness	Diagnosis	ICD-9-CM
800.63	Open fracture of vault of skull with cerebral laceration and contusion, moderate (1-24 hours) loss of consciousness	Diagnosis	ICD-9-CM
800.64	Open fracture of vault of skull with cerebral laceration and contusion, prolonged (more than 24 hours) loss of consciousness and return to pre-existing conscious level	Diagnosis	ICD-9-CM
800.65	Open fracture of vault of skull with cerebral laceration and contusion, prolonged (more than 24 hours) loss of consciousness, without return to pre-existing conscious level	Diagnosis	ICD-9-CM
800.66	Open fracture of vault of skull with cerebral laceration and contusion, loss of consciousness of unspecified duration	Diagnosis	ICD-9-CM
800.69	Open fracture of vault of skull with cerebral laceration and contusion, unspecified concussion	Diagnosis	ICD-9-CM
800.7	Open fracture of vault of skull with subarachnoid, subdural, and extradural hemorrhage	Diagnosis	ICD-9-CM
800.70	Open fracture of vault of skull with subarachnoid, subdural, and extradural hemorrhage, unspecified state of consciousness	Diagnosis	ICD-9-CM
800.71	Open fracture of vault of skull with subarachnoid, subdural, and extradural hemorrhage, no loss of consciousness	Diagnosis	ICD-9-CM
800.72	Open fracture of vault of skull with subarachnoid, subdural, and extradural hemorrhage, brief (less than one hour) loss of consciousness	Diagnosis	ICD-9-CM
800.73	Open fracture of vault of skull with subarachnoid, subdural, and extradural hemorrhage, moderate (1-24 hours) loss of consciousness	Diagnosis	ICD-9-CM
800.74	Open fracture of vault of skull with subarachnoid, subdural, and extradural hemorrhage, prolonged (more than 24 hours) loss of consciousness and return to pre-existing conscious level	Diagnosis	ICD-9-CM
800.75	Open fracture of vault of skull with subarachnoid, subdural, and extradural hemorrhage, prolonged (more than 24 hours) loss of consciousness, without return to pre-existing conscious level	Diagnosis	ICD-9-CM
800.76	Open fracture of vault of skull with subarachnoid, subdural, and extradural hemorrhage, loss of consciousness of unspecified duration	Diagnosis	ICD-9-CM
800.79	Open fracture of vault of skull with subarachnoid, subdural, and extradural hemorrhage, unspecified concussion	Diagnosis	ICD-9-CM
800.8	Open fracture of vault of skull with other and unspecified intracranial hemorrhage	Diagnosis	ICD-9-CM
800.80	Open fracture of vault of skull with other and unspecified intracranial hemorrhage, unspecified state of consciousness	Diagnosis	ICD-9-CM
800.81	Open fracture of vault of skull with other and unspecified intracranial hemorrhage, no loss of consciousness	Diagnosis	ICD-9-CM
800.82	Open fracture of vault of skull with other and unspecified intracranial hemorrhage, brief (less than one hour) loss of consciousness	Diagnosis	ICD-9-CM
800.83	Open fracture of vault of skull with other and unspecified intracranial hemorrhage, moderate (1-24 hours) loss of consciousness	Diagnosis	ICD-9-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
800.84	Open fracture of vault of skull with other and unspecified intracranial hemorrhage, prolonged (more than 24 hours) loss of consciousness and return to pre-existing conscious level	Diagnosis	ICD-9-CM
800.85	Open fracture of vault of skull with other and unspecified intracranial hemorrhage, prolonged (more than 24 hours) loss of consciousness, without return to pre-existing conscious level	Diagnosis	ICD-9-CM
800.86	Open fracture of vault of skull with other and unspecified intracranial hemorrhage, loss of consciousness of unspecified duration	Diagnosis	ICD-9-CM
800.89	Open fracture of vault of skull with other and unspecified intracranial hemorrhage, unspecified concussion	Diagnosis	ICD-9-CM
800.9	Open fracture of vault of skull with intracranial injury of other and unspecified nature	Diagnosis	ICD-9-CM
800.90	Open fracture of vault of skull with intracranial injury of other and unspecified nature, unspecified state of consciousness	Diagnosis	ICD-9-CM
800.91	Open fracture of vault of skull with intracranial injury of other and unspecified nature, no loss of consciousness	Diagnosis	ICD-9-CM
800.92	Open fracture of vault of skull with intracranial injury of other and unspecified nature, brief (less than one hour) loss of consciousness	Diagnosis	ICD-9-CM
800.93	Open fracture of vault of skull with intracranial injury of other and unspecified nature, moderate (1-24 hours) loss of consciousness	Diagnosis	ICD-9-CM
800.94	Open fracture of vault of skull with intracranial injury of other and unspecified nature, prolonged (more than 24 hours) loss of consciousness and return to pre-existing conscious level	Diagnosis	ICD-9-CM
800.95	Open fracture of vault of skull with intracranial injury of other and unspecified nature, prolonged (more than 24 hours) loss of consciousness, without return to pre-existing conscious level	Diagnosis	ICD-9-CM
800.96	Open fracture of vault of skull with intracranial injury of other and unspecified nature, loss of consciousness of unspecified duration	Diagnosis	ICD-9-CM
800.99	Open fracture of vault of skull with intracranial injury of other and unspecified nature, unspecified concussion	Diagnosis	ICD-9-CM
801	Fracture of base of skull	Diagnosis	ICD-9-CM
801.0	Closed fracture of base of skull without mention of intracranial injury	Diagnosis	ICD-9-CM
801.00	Closed fracture of base of skull without mention of intracranial injury, unspecified state of consciousness	Diagnosis	ICD-9-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
801.01	Closed fracture of base of skull without mention of intracranial injury, no loss of consciousness	Diagnosis	ICD-9-CM
801.02	Closed fracture of base of skull without mention of intracranial injury, brief (less than one hour) loss of consciousness	Diagnosis	ICD-9-CM
801.03	Closed fracture of base of skull without mention of intracranial injury, moderate (1-24 hours) loss of consciousness	Diagnosis	ICD-9-CM
801.04	Closed fracture of base of skull without mention of intracranial injury, prolonged (more than 24 hours) loss of consciousness and return to pre-existing conscious level	Diagnosis	ICD-9-CM
801.05	Closed fracture of base of skull without mention of intracranial injury, prolonged (more than 24 hours) loss of consciousness, without return to pre-existing conscious level	Diagnosis	ICD-9-CM
801.06	Closed fracture of base of skull without mention of intracranial injury, loss of consciousness of unspecified duration	Diagnosis	ICD-9-CM
801.09	Closed fracture of base of skull without mention of intracranial injury, unspecified concussion	Diagnosis	ICD-9-CM
801.1	Closed fracture of base of skull with cerebral laceration and contusion	Diagnosis	ICD-9-CM
801.10	Closed fracture of base of skull with cerebral laceration and contusion, unspecified state of consciousness	Diagnosis	ICD-9-CM
801.11	Closed fracture of base of skull with cerebral laceration and contusion, no loss of consciousness	Diagnosis	ICD-9-CM
801.12	Closed fracture of base of skull with cerebral laceration and contusion, brief (less than one hour) loss of consciousness	Diagnosis	ICD-9-CM
801.13	Closed fracture of base of skull with cerebral laceration and contusion, moderate (1-24 hours) loss of consciousness	Diagnosis	ICD-9-CM
801.14	Closed fracture of base of skull with cerebral laceration and contusion, prolonged (more than 24 hours) loss of consciousness and return to pre-existing conscious level	Diagnosis	ICD-9-CM
801.15	Closed fracture of base of skull with cerebral laceration and contusion, prolonged (more than 24 hours) loss of consciousness, without return to pre-existing conscious level	Diagnosis	ICD-9-CM
801.16	Closed fracture of base of skull with cerebral laceration and contusion, loss of consciousness of unspecified duration	Diagnosis	ICD-9-CM
801.19	Closed fracture of base of skull with cerebral laceration and contusion, unspecified concussion	Diagnosis	ICD-9-CM
801.2	Closed fracture of base of skull with subarachnoid, subdural, and extradural hemorrhage	Diagnosis	ICD-9-CM
801.20	Closed fracture of base of skull with subarachnoid, subdural, and extradural hemorrhage, unspecified state of consciousness	Diagnosis	ICD-9-CM
801.21	Closed fracture of base of skull with subarachnoid, subdural, and extradural hemorrhage, no loss of consciousness	Diagnosis	ICD-9-CM
801.22	Closed fracture of base of skull with subarachnoid, subdural, and extradural hemorrhage, brief (less than one hour) loss of consciousness	Diagnosis	ICD-9-CM
801.23	Closed fracture of base of skull with subarachnoid, subdural, and extradural hemorrhage, moderate (1-24 hours) loss of consciousness	Diagnosis	ICD-9-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
801.24	Closed fracture of base of skull with subarachnoid, subdural, and extradural hemorrhage, prolonged (more than 24 hours) loss of consciousness and return to pre-existing conscious level	Diagnosis	ICD-9-CM
801.25	Closed fracture of base of skull with subarachnoid, subdural, and extradural hemorrhage, prolonged (more than 24 hours) loss of consciousness, without return to pre-existing conscious level	Diagnosis	ICD-9-CM
801.26	Closed fracture of base of skull with subarachnoid, subdural, and extradural hemorrhage, loss of consciousness of unspecified duration	Diagnosis	ICD-9-CM
801.29	Closed fracture of base of skull with subarachnoid, subdural, and extradural hemorrhage, unspecified concussion	Diagnosis	ICD-9-CM
801.3	Closed fracture of base of skull with other and unspecified intracranial hemorrhage	Diagnosis	ICD-9-CM
801.30	Closed fracture of base of skull with other and unspecified intracranial hemorrhage, unspecified state of consciousness	Diagnosis	ICD-9-CM
801.31	Closed fracture of base of skull with other and unspecified intracranial hemorrhage, no loss of consciousness	Diagnosis	ICD-9-CM
801.32	Closed fracture of base of skull with other and unspecified intracranial hemorrhage, brief (less than one hour) loss of consciousness	Diagnosis	ICD-9-CM
801.33	Closed fracture of base of skull with other and unspecified intracranial hemorrhage, moderate (1-24 hours) loss of consciousness	Diagnosis	ICD-9-CM
801.34	Closed fracture of base of skull with other and unspecified intracranial hemorrhage, prolonged (more than 24 hours) loss of consciousness and return to pre-existing conscious level	Diagnosis	ICD-9-CM
801.35	Closed fracture of base of skull with other and unspecified intracranial hemorrhage, prolonged (more than 24 hours) loss of consciousness, without return to pre-existing conscious level	Diagnosis	ICD-9-CM
801.36	Closed fracture of base of skull with other and unspecified intracranial hemorrhage, loss of consciousness of unspecified duration	Diagnosis	ICD-9-CM
801.39	Closed fracture of base of skull with other and unspecified intracranial hemorrhage, unspecified concussion	Diagnosis	ICD-9-CM
801.4	Closed fracture of base of skull with intracranial injury of other and unspecified nature	Diagnosis	ICD-9-CM
801.40	Closed fracture of base of skull with intracranial injury of other and unspecified nature, unspecified state of consciousness	Diagnosis	ICD-9-CM
801.41	Closed fracture of base of skull with intracranial injury of other and unspecified nature, no loss of consciousness	Diagnosis	ICD-9-CM
801.42	Closed fracture of base of skull with intracranial injury of other and unspecified nature, brief (less than one hour) loss of consciousness	Diagnosis	ICD-9-CM
801.43	Closed fracture of base of skull with intracranial injury of other and unspecified nature, moderate (1-24 hours) loss of consciousness	Diagnosis	ICD-9-CM
801.44	Closed fracture of base of skull with intracranial injury of other and unspecified nature, prolonged (more than 24 hours) loss of consciousness and return to pre-existing conscious level	Diagnosis	ICD-9-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
801.45	Closed fracture of base of skull with intracranial injury of other and unspecified nature, prolonged (more than 24 hours) loss of consciousness, without return to pre-existing conscious level	Diagnosis	ICD-9-CM
801.46	Closed fracture of base of skull with intracranial injury of other and unspecified nature, loss of consciousness of unspecified duration	Diagnosis	ICD-9-CM
801.49	Closed fracture of base of skull with intracranial injury of other and unspecified nature, unspecified concussion	Diagnosis	ICD-9-CM
801.5	Open fracture of base of skull without mention of intracranial injury	Diagnosis	ICD-9-CM
801.50	Open fracture of base of skull without mention of intracranial injury, unspecified state of consciousness	Diagnosis	ICD-9-CM
801.51	Open fracture of base of skull without mention of intracranial injury, no loss of consciousness	Diagnosis	ICD-9-CM
801.52	Open fracture of base of skull without mention of intracranial injury, brief (less than one hour) loss of consciousness	Diagnosis	ICD-9-CM
801.53	Open fracture of base of skull without mention of intracranial injury, moderate (1-24 hours) loss of consciousness	Diagnosis	ICD-9-CM
801.54	Open fracture of base of skull without mention of intracranial injury, prolonged (more than 24 hours) loss of consciousness and return to pre-existing conscious level	Diagnosis	ICD-9-CM
801.55	Open fracture of base of skull without mention of intracranial injury, prolonged (more than 24 hours) loss of consciousness, without return to pre-existing conscious level	Diagnosis	ICD-9-CM
801.56	Open fracture of base of skull without mention of intracranial injury, loss of consciousness of unspecified duration	Diagnosis	ICD-9-CM
801.59	Open fracture of base of skull without mention of intracranial injury, unspecified concussion	Diagnosis	ICD-9-CM
801.6	Open fracture of base of skull with cerebral laceration and contusion	Diagnosis	ICD-9-CM
801.60	Open fracture of base of skull with cerebral laceration and contusion, unspecified state of consciousness	Diagnosis	ICD-9-CM
801.61	Open fracture of base of skull with cerebral laceration and contusion, no loss of consciousness	Diagnosis	ICD-9-CM
801.62	Open fracture of base of skull with cerebral laceration and contusion, brief (less than one hour) loss of consciousness	Diagnosis	ICD-9-CM
801.63	Open fracture of base of skull with cerebral laceration and contusion, moderate (1-24 hours) loss of consciousness	Diagnosis	ICD-9-CM
801.64	Open fracture of base of skull with cerebral laceration and contusion, prolonged (more than 24 hours) loss of consciousness and return to pre-existing conscious level	Diagnosis	ICD-9-CM
801.65	Open fracture of base of skull with cerebral laceration and contusion, prolonged (more than 24 hours) loss of consciousness, without return to pre-existing conscious level	Diagnosis	ICD-9-CM
801.66	Open fracture of base of skull with cerebral laceration and contusion, loss of consciousness of unspecified duration	Diagnosis	ICD-9-CM
801.69	Open fracture of base of skull with cerebral laceration and contusion, unspecified concussion	Diagnosis	ICD-9-CM
801.7	Open fracture of base of skull with subarachnoid, subdural, and extradural hemorrhage	Diagnosis	ICD-9-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
801.70	Open fracture of base of skull with subarachnoid, subdural, and extradural hemorrhage, unspecified state of consciousness	Diagnosis	ICD-9-CM
801.71	Open fracture of base of skull with subarachnoid, subdural, and extradural hemorrhage, no loss of consciousness	Diagnosis	ICD-9-CM
801.72	Open fracture of base of skull with subarachnoid, subdural, and extradural hemorrhage, brief (less than one hour) loss of consciousness	Diagnosis	ICD-9-CM
801.73	Open fracture of base of skull with subarachnoid, subdural, and extradural hemorrhage, moderate (1-24 hours) loss of consciousness	Diagnosis	ICD-9-CM
801.74	Open fracture of base of skull with subarachnoid, subdural, and extradural hemorrhage, prolonged (more than 24 hours) loss of consciousness and return to pre-existing conscious level	Diagnosis	ICD-9-CM
801.75	Open fracture of base of skull with subarachnoid, subdural, and extradural hemorrhage, prolonged (more than 24 hours) loss of consciousness, without return to pre-existing conscious level	Diagnosis	ICD-9-CM
801.76	Open fracture of base of skull with subarachnoid, subdural, and extradural hemorrhage, loss of consciousness of unspecified duration	Diagnosis	ICD-9-CM
801.79	Open fracture of base of skull with subarachnoid, subdural, and extradural hemorrhage, unspecified concussion	Diagnosis	ICD-9-CM
801.8	Open fracture of base of skull with other and unspecified intracranial hemorrhage	Diagnosis	ICD-9-CM
801.80	Open fracture of base of skull with other and unspecified intracranial hemorrhage, unspecified state of consciousness	Diagnosis	ICD-9-CM
801.81	Open fracture of base of skull with other and unspecified intracranial hemorrhage, no loss of consciousness	Diagnosis	ICD-9-CM
801.82	Open fracture of base of skull with other and unspecified intracranial hemorrhage, brief (less than one hour) loss of consciousness	Diagnosis	ICD-9-CM
801.83	Open fracture of base of skull with other and unspecified intracranial hemorrhage, moderate (1-24 hours) loss of consciousness	Diagnosis	ICD-9-CM
801.84	Open fracture of base of skull with other and unspecified intracranial hemorrhage, prolonged (more than 24 hours) loss of consciousness and return to pre-existing conscious level	Diagnosis	ICD-9-CM
801.85	Open fracture of base of skull with other and unspecified intracranial hemorrhage, prolonged (more than 24 hours) loss of consciousness, without return to pre-existing conscious level	Diagnosis	ICD-9-CM
801.86	Open fracture of base of skull with other and unspecified intracranial hemorrhage, loss of consciousness of unspecified duration	Diagnosis	ICD-9-CM
801.89	Open fracture of base of skull with other and unspecified intracranial hemorrhage, unspecified concussion	Diagnosis	ICD-9-CM
801.9	Open fracture of base of skull with intracranial injury of other and unspecified nature	Diagnosis	ICD-9-CM
801.90	Open fracture of base of skull with intracranial injury of other and unspecified nature, unspecified state of consciousness	Diagnosis	ICD-9-CM
801.91	Open fracture of base of skull with intracranial injury of other and unspecified nature, no loss of consciousness	Diagnosis	ICD-9-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
801.92	Open fracture of base of skull with intracranial injury of other and unspecified nature, brief (less than one hour) loss of consciousness	Diagnosis	ICD-9-CM
801.93	Open fracture of base of skull with intracranial injury of other and unspecified nature, moderate (1-24 hours) loss of consciousness	Diagnosis	ICD-9-CM
801.94	Open fracture of base of skull with intracranial injury of other and unspecified nature, prolonged (more than 24 hours) loss of consciousness and return to pre-existing conscious level	Diagnosis	ICD-9-CM
801.95	Open fracture of base of skull with intracranial injury of other and unspecified nature, prolonged (more than 24 hours) loss of consciousness, without return to pre-existing conscious level	Diagnosis	ICD-9-CM
801.96	Open fracture of base of skull with intracranial injury of other and unspecified nature, loss of consciousness of unspecified duration	Diagnosis	ICD-9-CM
801.99	Open fracture of base of skull with intracranial injury of other and unspecified nature, unspecified concussion	Diagnosis	ICD-9-CM
802	Fracture of face bones	Diagnosis	ICD-9-CM
802.0	Nasal bones, closed fracture	Diagnosis	ICD-9-CM
802.1	Nasal bones, open fracture	Diagnosis	ICD-9-CM
802.2	Mandible, closed fracture	Diagnosis	ICD-9-CM
802.20	Closed fracture of unspecified site of mandible	Diagnosis	ICD-9-CM
802.21	Closed fracture of condylar process of mandible	Diagnosis	ICD-9-CM
802.22	Closed fracture of subcondylar process of mandible	Diagnosis	ICD-9-CM
802.23	Closed fracture of coronoid process of mandible	Diagnosis	ICD-9-CM
802.24	Closed fracture of unspecified part of ramus of mandible	Diagnosis	ICD-9-CM
802.25	Closed fracture of angle of jaw	Diagnosis	ICD-9-CM
802.26	Closed fracture of symphysis of body of mandible	Diagnosis	ICD-9-CM
802.27	Closed fracture of alveolar border of body of mandible	Diagnosis	ICD-9-CM
802.28	Closed fracture of other and unspecified part of body of mandible	Diagnosis	ICD-9-CM
802.29	Closed fracture of multiple sites of mandible	Diagnosis	ICD-9-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
802.3	Mandible, open fracture	Diagnosis	ICD-9-CM
802.30	Open fracture of unspecified site of mandible	Diagnosis	ICD-9-CM
802.31	Open fracture of condylar process of mandible	Diagnosis	ICD-9-CM
802.32	Open fracture of subcondylar process of mandible	Diagnosis	ICD-9-CM
802.33	Open fracture of coronoid process of mandible	Diagnosis	ICD-9-CM
802.34	Open fracture of unspecified part of ramus of mandible	Diagnosis	ICD-9-CM
802.35	Open fracture of angle of jaw	Diagnosis	ICD-9-CM
802.36	Open fracture of symphysis of body of mandible	Diagnosis	ICD-9-CM
802.37	Open fracture of alveolar border of body of mandible	Diagnosis	ICD-9-CM
802.38	Open fracture of other and unspecified part of body of mandible	Diagnosis	ICD-9-CM
802.39	Open fracture of multiple sites of mandible	Diagnosis	ICD-9-CM
802.4	Malar and maxillary bones, closed fracture	Diagnosis	ICD-9-CM
802.5	Malar and maxillary bones, open fracture	Diagnosis	ICD-9-CM
802.6	Orbital floor (blow-out), closed fracture	Diagnosis	ICD-9-CM
802.7	Orbital floor (blow-out), open fracture	Diagnosis	ICD-9-CM
802.8	Other facial bones, closed fracture	Diagnosis	ICD-9-CM
802.9	Other facial bones, open fracture	Diagnosis	ICD-9-CM
803	Other and unqualified skull fractures	Diagnosis	ICD-9-CM
803.0	Other closed skull fracture without mention of intracranial injury	Diagnosis	ICD-9-CM
803.00	Other closed skull fracture without mention of intracranial injury, unspecified state of consciousness	Diagnosis	ICD-9-CM
803.01	Other closed skull fracture without mention of intracranial injury, no loss of consciousness	Diagnosis	ICD-9-CM
803.02	Other closed skull fracture without mention of intracranial injury, brief (less than one hour) loss of consciousness	Diagnosis	ICD-9-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
803.03	Other closed skull fracture without mention of intracranial injury, moderate (1-24 hours) loss of consciousness	Diagnosis	ICD-9-CM
803.04	Other closed skull fracture without mention of intracranial injury, prolonged (more than 24 hours) loss of consciousness and return to pre-existing conscious level	Diagnosis	ICD-9-CM
803.05	Other closed skull fracture without mention of intracranial injury, prolonged (more than 24 hours) loss of consciousness, without return to pre-existing conscious level	Diagnosis	ICD-9-CM
803.06	Other closed skull fracture without mention of intracranial injury, loss of consciousness of unspecified duration	Diagnosis	ICD-9-CM
803.09	Other closed skull fracture without mention of intracranial injury, unspecified concussion	Diagnosis	ICD-9-CM
803.1	Other closed skull fracture with cerebral laceration and contusion	Diagnosis	ICD-9-CM
803.10	Other closed skull fracture with cerebral laceration and contusion, unspecified state of consciousness	Diagnosis	ICD-9-CM
803.11	Other closed skull fracture with cerebral laceration and contusion, no loss of consciousness	Diagnosis	ICD-9-CM
803.12	Other closed skull fracture with cerebral laceration and contusion, brief (less than one hour) loss of consciousness	Diagnosis	ICD-9-CM
803.13	Other closed skull fracture with cerebral laceration and contusion, moderate (1-24 hours) loss of consciousness	Diagnosis	ICD-9-CM
803.14	Other closed skull fracture with cerebral laceration and contusion, prolonged (more than 24 hours) loss of consciousness and return to pre-existing conscious level	Diagnosis	ICD-9-CM
803.15	Other closed skull fracture with cerebral laceration and contusion, prolonged (more than 24 hours) loss of consciousness, without return to pre-existing conscious level	Diagnosis	ICD-9-CM
803.16	Other closed skull fracture with cerebral laceration and contusion, loss of consciousness of unspecified duration	Diagnosis	ICD-9-CM
803.19	Other closed skull fracture with cerebral laceration and contusion, unspecified concussion	Diagnosis	ICD-9-CM
803.2	Other closed skull fracture with subarachnoid, subdural, and extradural hemorrhage	Diagnosis	ICD-9-CM
803.20	Other closed skull fracture with subarachnoid, subdural, and extradural hemorrhage, unspecified state of consciousness	Diagnosis	ICD-9-CM
803.21	Other closed skull fracture with subarachnoid, subdural, and extradural hemorrhage, no loss of consciousness	Diagnosis	ICD-9-CM
803.22	Other closed skull fracture with subarachnoid, subdural, and extradural hemorrhage, brief (less than one hour) loss of consciousness	Diagnosis	ICD-9-CM
803.23	Other closed skull fracture with subarachnoid, subdural, and extradural hemorrhage, moderate (1-24 hours) loss of consciousness	Diagnosis	ICD-9-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
803.24	Other closed skull fracture with subarachnoid, subdural, and extradural hemorrhage, prolonged (more than 24 hours) loss of consciousness and return to pre-existing conscious level	Diagnosis	ICD-9-CM
803.25	Other closed skull fracture with subarachnoid, subdural, and extradural hemorrhage, prolonged (more than 24 hours) loss of consciousness, without return to pre-existing conscious level	Diagnosis	ICD-9-CM
803.26	Other closed skull fracture with subarachnoid, subdural, and extradural hemorrhage, loss of consciousness of unspecified duration	Diagnosis	ICD-9-CM
803.29	Other closed skull fracture with subarachnoid, subdural, and extradural hemorrhage, unspecified concussion	Diagnosis	ICD-9-CM
803.3	Closed skull fracture with other and unspecified intracranial hemorrhage	Diagnosis	ICD-9-CM
803.30	Other closed skull fracture with other and unspecified intracranial hemorrhage, unspecified state of unconsciousness	Diagnosis	ICD-9-CM
803.31	Other closed skull fracture with other and unspecified intracranial hemorrhage, no loss of consciousness	Diagnosis	ICD-9-CM
803.32	Other closed skull fracture with other and unspecified intracranial hemorrhage, brief (less than one hour) loss of consciousness	Diagnosis	ICD-9-CM
803.33	Other closed skull fracture with other and unspecified intracranial hemorrhage, moderate (1-24 hours) loss of consciousness	Diagnosis	ICD-9-CM
803.34	Other closed skull fracture with other and unspecified intracranial hemorrhage, prolonged (more than 24 hours) loss of consciousness and return to pre-existing conscious level	Diagnosis	ICD-9-CM
803.35	Other closed skull fracture with other and unspecified intracranial hemorrhage, prolonged (more than 24 hours) loss of consciousness, without return to pre-existing conscious level	Diagnosis	ICD-9-CM
803.36	Other closed skull fracture with other and unspecified intracranial hemorrhage, loss of consciousness of unspecified duration	Diagnosis	ICD-9-CM
803.39	Other closed skull fracture with other and unspecified intracranial hemorrhage, unspecified concussion	Diagnosis	ICD-9-CM
803.4	Other closed skull fracture with intracranial injury of other and unspecified nature	Diagnosis	ICD-9-CM
803.40	Other closed skull fracture with intracranial injury of other and unspecified nature, unspecified state of consciousness	Diagnosis	ICD-9-CM
803.41	Other closed skull fracture with intracranial injury of other and unspecified nature, no loss of consciousness	Diagnosis	ICD-9-CM
803.42	Other closed skull fracture with intracranial injury of other and unspecified nature, brief (less than one hour) loss of consciousness	Diagnosis	ICD-9-CM
803.43	Other closed skull fracture with intracranial injury of other and unspecified nature, moderate (1-24 hours) loss of consciousness	Diagnosis	ICD-9-CM
803.44	Other closed skull fracture with intracranial injury of other and unspecified nature, prolonged (more than 24 hours) loss of consciousness and return to pre-existing conscious level	Diagnosis	ICD-9-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
803.45	Other closed skull fracture with intracranial injury of other and unspecified nature, prolonged (more than 24 hours) loss of consciousness, without return to pre-existing conscious level	Diagnosis	ICD-9-CM
803.46	Other closed skull fracture with intracranial injury of other and unspecified nature, loss of consciousness of unspecified duration	Diagnosis	ICD-9-CM
803.49	Other closed skull fracture with intracranial injury of other and unspecified nature, unspecified concussion	Diagnosis	ICD-9-CM
803.5	Other open skull fracture without mention of intracranial injury	Diagnosis	ICD-9-CM
803.50	Other open skull fracture without mention of injury, state of consciousness unspecified	Diagnosis	ICD-9-CM
803.51	Other open skull fracture without mention of intracranial injury, no loss of consciousness	Diagnosis	ICD-9-CM
803.52	Other open skull fracture without mention of intracranial injury, brief (less than one hour) loss of consciousness	Diagnosis	ICD-9-CM
803.53	Other open skull fracture without mention of intracranial injury, moderate (1-24 hours) loss of consciousness	Diagnosis	ICD-9-CM
803.54	Other open skull fracture without mention of intracranial injury, prolonged (more than 24 hours) loss of consciousness and return to pre-existing conscious level	Diagnosis	ICD-9-CM
803.55	Other open skull fracture without mention of intracranial injury, prolonged (more than 24 hours) loss of consciousness, without return to pre-existing conscious level	Diagnosis	ICD-9-CM
803.56	Other open skull fracture without mention of intracranial injury, loss of consciousness of unspecified duration	Diagnosis	ICD-9-CM
803.59	Other open skull fracture without mention of intracranial injury, unspecified concussion	Diagnosis	ICD-9-CM
803.6	Other open skull fracture with cerebral laceration and contusion	Diagnosis	ICD-9-CM
803.60	Other open skull fracture with cerebral laceration and contusion, unspecified state of consciousness	Diagnosis	ICD-9-CM
803.61	Other open skull fracture with cerebral laceration and contusion, no loss of consciousness	Diagnosis	ICD-9-CM
803.62	Other open skull fracture with cerebral laceration and contusion, brief (less than one hour) loss of consciousness	Diagnosis	ICD-9-CM
803.63	Other open skull fracture with cerebral laceration and contusion, moderate (1-24 hours) loss of consciousness	Diagnosis	ICD-9-CM
803.64	Other open skull fracture with cerebral laceration and contusion, prolonged (more than 24 hours) loss of consciousness and return to pre-existing conscious level	Diagnosis	ICD-9-CM
803.65	Other open skull fracture with cerebral laceration and contusion, prolonged (more than 24 hours) loss of consciousness, without return to pre-existing conscious level	Diagnosis	ICD-9-CM
803.66	Other open skull fracture with cerebral laceration and contusion, loss of consciousness of unspecified duration	Diagnosis	ICD-9-CM
803.69	Other open skull fracture with cerebral laceration and contusion, unspecified concussion	Diagnosis	ICD-9-CM
803.7	Other open skull fracture with subarachnoid, subdural, and extradural hemorrhage	Diagnosis	ICD-9-CM
803.70	Other open skull fracture with subarachnoid, subdural, and extradural hemorrhage, unspecified state of consciousness	Diagnosis	ICD-9-CM
803.71	Other open skull fracture with subarachnoid, subdural, and extradural hemorrhage, no loss of consciousness	Diagnosis	ICD-9-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
803.72	Other open skull fracture with subarachnoid, subdural, and extradural hemorrhage, brief (less than one hour) loss of consciousness	Diagnosis	ICD-9-CM
803.73	Other open skull fracture with subarachnoid, subdural, and extradural hemorrhage, moderate (1-24 hours) loss of consciousness	Diagnosis	ICD-9-CM
803.74	Other open skull fracture with subarachnoid, subdural, and extradural hemorrhage, prolonged (more than 24 hours) loss of consciousness and return to pre-existing conscious level	Diagnosis	ICD-9-CM
803.75	Other open skull fracture with subarachnoid, subdural, and extradural hemorrhage, prolonged (more than 24 hours) loss of consciousness, without return to pre-existing conscious level	Diagnosis	ICD-9-CM
803.76	Other open skull fracture with subarachnoid, subdural, and extradural hemorrhage, loss of consciousness of unspecified duration	Diagnosis	ICD-9-CM
803.79	Other open skull fracture with subarachnoid, subdural, and extradural hemorrhage, unspecified concussion	Diagnosis	ICD-9-CM
803.8	Other open skull fracture with other and unspecified intracranial hemorrhage	Diagnosis	ICD-9-CM
803.80	Other open skull fracture with other and unspecified intracranial hemorrhage, unspecified state of consciousness	Diagnosis	ICD-9-CM
803.81	Other open skull fracture with other and unspecified intracranial hemorrhage, no loss of consciousness	Diagnosis	ICD-9-CM
803.82	Other open skull fracture with other and unspecified intracranial hemorrhage, brief (less than one hour) loss of consciousness	Diagnosis	ICD-9-CM
803.83	Other open skull fracture with other and unspecified intracranial hemorrhage, moderate (1-24 hours) loss of consciousness	Diagnosis	ICD-9-CM
803.84	Other open skull fracture with other and unspecified intracranial hemorrhage, prolonged (more than 24 hours) loss of consciousness and return to pre-existing conscious level	Diagnosis	ICD-9-CM
803.85	Other open skull fracture with other and unspecified intracranial hemorrhage, prolonged (more than 24 hours) loss of consciousness, without return to pre-existing conscious level	Diagnosis	ICD-9-CM
803.86	Other open skull fracture with other and unspecified intracranial hemorrhage, loss of consciousness of unspecified duration	Diagnosis	ICD-9-CM
803.89	Other open skull fracture with other and unspecified intracranial hemorrhage, unspecified concussion	Diagnosis	ICD-9-CM
803.9	Other open skull fracture with intracranial injury of other and unspecified nature	Diagnosis	ICD-9-CM
803.90	Other open skull fracture with intracranial injury of other and unspecified nature, unspecified state of consciousness	Diagnosis	ICD-9-CM
803.91	Other open skull fracture with intracranial injury of other and unspecified nature, no loss of consciousness	Diagnosis	ICD-9-CM
803.92	Other open skull fracture with intracranial injury of other and unspecified nature, brief (less than one hour) loss of consciousness	Diagnosis	ICD-9-CM
803.93	Other open skull fracture with intracranial injury of other and unspecified nature, moderate (1-24 hours) loss of consciousness	Diagnosis	ICD-9-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
803.94	Other open skull fracture with intracranial injury of other and unspecified nature, prolonged (more than 24 hours) loss of consciousness and return to pre-existing conscious level	Diagnosis	ICD-9-CM
803.95	Other open skull fracture with intracranial injury of other and unspecified nature, prolonged (more than 24 hours) loss of consciousness, without return to pre-existing conscious level	Diagnosis	ICD-9-CM
803.96	Other open skull fracture with intracranial injury of other and unspecified nature, loss of consciousness of unspecified duration	Diagnosis	ICD-9-CM
803.99	Other open skull fracture with intracranial injury of other and unspecified nature, unspecified concussion	Diagnosis	ICD-9-CM
804	Multiple fractures involving skull or face with other bones	Diagnosis	ICD-9-CM
804.0	Closed fractures involving skull or face with other bones, without mention of intracranial injury	Diagnosis	ICD-9-CM
804.00	Closed fractures involving skull or face with other bones, without mention of intracranial injury, unspecified state of consciousness	Diagnosis	ICD-9-CM
804.01	Closed fractures involving skull or face with other bones, without mention of intracranial injury, no loss of consciousness	Diagnosis	ICD-9-CM
804.02	Closed fractures involving skull or face with other bones, without mention of intracranial injury, brief (less than one hour) loss of consciousness	Diagnosis	ICD-9-CM
804.03	Closed fractures involving skull or face with other bones, without mention of intracranial injury, moderate (1-24 hours) loss of consciousness	Diagnosis	ICD-9-CM
804.04	Closed fractures involving skull or face with other bones, without mention or intracranial injury, prolonged (more than 24 hours) loss of consciousness and return to pre-existing conscious level	Diagnosis	ICD-9-CM
804.05	Closed fractures involving skull of face with other bones, without mention of intracranial injury, prolonged (more than 24 hours) loss of consciousness, without return to pre-existing conscious level	Diagnosis	ICD-9-CM
804.06	Closed fractures involving skull of face with other bones, without mention of intracranial injury, loss of consciousness of unspecified duration	Diagnosis	ICD-9-CM
804.09	Closed fractures involving skull of face with other bones, without mention of intracranial injury, unspecified concussion	Diagnosis	ICD-9-CM
804.1	Closed fractures involving skull or face with other bones, with cerebral laceration and contusion	Diagnosis	ICD-9-CM
804.10	Closed fractures involving skull or face with other bones, with cerebral laceration and contusion, unspecified state of consciousness	Diagnosis	ICD-9-CM
804.11	Closed fractures involving skull or face with other bones, with cerebral laceration and contusion, no loss of consciousness	Diagnosis	ICD-9-CM
804.12	Closed fractures involving skull or face with other bones, with cerebral laceration and contusion, brief (less than one hour) loss of consciousness	Diagnosis	ICD-9-CM
804.13	Closed fractures involving skull or face with other bones, with cerebral laceration and contusion, moderate (1-24 hours) loss of consciousness	Diagnosis	ICD-9-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
804.14	Closed fractures involving skull or face with other bones, with cerebral laceration and contusion, prolonged (more than 24 hours) loss of consciousness and return to pre-existing conscious level	Diagnosis	ICD-9-CM
804.15	Closed fractures involving skull or face with other bones, with cerebral laceration and contusion, prolonged (more than 24 hours) loss of consciousness, without return to pre-existing conscious level	Diagnosis	ICD-9-CM
804.16	Closed fractures involving skull or face with other bones, with cerebral laceration and contusion, loss of consciousness of unspecified duration	Diagnosis	ICD-9-CM
804.19	Closed fractures involving skull or face with other bones, with cerebral laceration and contusion, unspecified concussion	Diagnosis	ICD-9-CM
804.2	Closed fractures involving skull or face with other bones with subarachnoid, subdural, and extradural hemorrhage	Diagnosis	ICD-9-CM
804.20	Closed fractures involving skull or face with other bones with subarachnoid, subdural, and extradural hemorrhage, unspecified state of consciousness	Diagnosis	ICD-9-CM
804.21	Closed fractures involving skull or face with other bones with subarachnoid, subdural, and extradural hemorrhage, no loss of consciousness	Diagnosis	ICD-9-CM
804.22	Closed fractures involving skull or face with other bones with subarachnoid, subdural, and extradural hemorrhage, brief (less than one hour) loss of consciousness	Diagnosis	ICD-9-CM
804.23	Closed fractures involving skull or face with other bones with subarachnoid, subdural, and extradural hemorrhage, moderate (1-24 hours) loss of consciousness	Diagnosis	ICD-9-CM
804.24	Closed fractures involving skull or face with other bones with subarachnoid, subdural, and extradural hemorrhage, prolonged (more than 24 hours) loss of consciousness and return to pre-existing conscious level	Diagnosis	ICD-9-CM
804.25	Closed fractures involving skull or face with other bones with subarachnoid, subdural, and extradural hemorrhage, prolonged (more than 24 hours) loss of consciousness, without return to pre-existing conscious level	Diagnosis	ICD-9-CM
804.26	Closed fractures involving skull or face with other bones with subarachnoid, subdural, and extradural hemorrhage, loss of consciousness of unspecified duration	Diagnosis	ICD-9-CM
804.29	Closed fractures involving skull or face with other bones with subarachnoid, subdural, and extradural hemorrhage, unspecified concussion	Diagnosis	ICD-9-CM
804.3	Closed fractures involving skull or face with other bones, with other and unspecified intracranial hemorrhage	Diagnosis	ICD-9-CM
804.30	Closed fractures involving skull or face with other bones, with other and unspecified intracranial hemorrhage, unspecified state of consciousness	Diagnosis	ICD-9-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
804.31	Closed fractures involving skull or face with other bones, with other and unspecified intracranial hemorrhage, no loss of consciousness	Diagnosis	ICD-9-CM
804.32	Closed fractures involving skull or face with other bones, with other and unspecified intracranial hemorrhage, brief (less than one hour) loss of consciousness	Diagnosis	ICD-9-CM
804.33	Closed fractures involving skull or face with other bones, with other and unspecified intracranial hemorrhage, moderate (1-24 hours) loss of consciousness	Diagnosis	ICD-9-CM
804.34	Closed fractures involving skull or face with other bones, with other and unspecified intracranial hemorrhage, prolonged (more than 24 hours) loss of consciousness and return to preexisting conscious level	Diagnosis	ICD-9-CM
804.35	Closed fractures involving skull or face with other bones, with other and unspecified intracranial hemorrhage, prolonged (more than 24 hours) loss of consciousness, without return to pre-existing conscious level	Diagnosis	ICD-9-CM
804.36	Closed fractures involving skull or face with other bones, with other and unspecified intracranial hemorrhage, loss of consciousness of unspecified duration	Diagnosis	ICD-9-CM
804.39	Closed fractures involving skull or face with other bones, with other and unspecified intracranial hemorrhage, unspecified concussion	Diagnosis	ICD-9-CM
804.4	Closed fractures involving skull or face with other bones, with intracranial injury of other and unspecified nature	Diagnosis	ICD-9-CM
804.40	Closed fractures involving skull or face with other bones, with intracranial injury of other and unspecified nature, unspecified state of consciousness	Diagnosis	ICD-9-CM
804.41	Closed fractures involving skull or face with other bones, with intracranial injury of other and unspecified nature, no loss of consciousness	Diagnosis	ICD-9-CM
804.42	Closed fractures involving skull or face with other bones, with intracranial injury of other and unspecified nature, brief (less than one hour) loss of consciousness	Diagnosis	ICD-9-CM
804.43	Closed fractures involving skull or face with other bones, with intracranial injury of other and unspecified nature, moderate (1-24 hours) loss of consciousness	Diagnosis	ICD-9-CM
804.44	Closed fractures involving skull or face with other bones, with intracranial injury of other and unspecified nature, prolonged (more than 24 hours) loss of consciousness and return to pre-existing conscious level	Diagnosis	ICD-9-CM
804.45	Closed fractures involving skull or face with other bones, with intracranial injury of other and unspecified nature, prolonged (more than 24 hours) loss of consciousness, without return to pre-existing conscious level	Diagnosis	ICD-9-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
804.46	Closed fractures involving skull or face with other bones, with intracranial injury of other and unspecified nature, loss of consciousness of unspecified duration	Diagnosis	ICD-9-CM
804.49	Closed fractures involving skull or face with other bones, with intracranial injury of other and unspecified nature, unspecified concussion	Diagnosis	ICD-9-CM
804.5	Open fractures involving skull or face with other bones, without mention of intracranial injury	Diagnosis	ICD-9-CM
804.50	Open fractures involving skull or face with other bones, without mention of intracranial injury, unspecified state of consciousness	Diagnosis	ICD-9-CM
804.51	Open fractures involving skull or face with other bones, without mention of intracranial injury, no loss of consciousness	Diagnosis	ICD-9-CM
804.52	Open fractures involving skull or face with other bones, without mention of intracranial injury, brief (less than one hour) loss of consciousness	Diagnosis	ICD-9-CM
804.53	Open fractures involving skull or face with other bones, without mention of intracranial injury, moderate (1-24 hours) loss of consciousness	Diagnosis	ICD-9-CM
804.54	Open fractures involving skull or face with other bones, without mention of intracranial injury, prolonged (more than 24 hours) loss of consciousness and return to pre-existing conscious level	Diagnosis	ICD-9-CM
804.55	Open fractures involving skull or face with other bones, without mention of intracranial injury, prolonged (more than 24 hours) loss of consciousness, without return to pre-existing conscious level	Diagnosis	ICD-9-CM
804.56	Open fractures involving skull or face with other bones, without mention of intracranial injury, loss of consciousness of unspecified duration	Diagnosis	ICD-9-CM
804.59	Open fractures involving skull or face with other bones, without mention of intracranial injury, unspecified concussion	Diagnosis	ICD-9-CM
804.6	Open fractures involving skull or face with other bones, with cerebral laceration and contusion	Diagnosis	ICD-9-CM
804.60	Open fractures involving skull or face with other bones, with cerebral laceration and contusion, unspecified state of consciousness	Diagnosis	ICD-9-CM
804.61	Open fractures involving skull or face with other bones, with cerebral laceration and contusion, no loss of consciousness	Diagnosis	ICD-9-CM
804.62	Open fractures involving skull or face with other bones, with cerebral laceration and contusion, brief (less than one hour) loss of consciousness	Diagnosis	ICD-9-CM
804.63	Open fractures involving skull or face with other bones, with cerebral laceration and contusion, moderate (1-24 hours) loss of consciousness	Diagnosis	ICD-9-CM
804.64	Open fractures involving skull or face with other bones, with cerebral laceration and contusion, prolonged (more than 24 hours) loss of consciousness and return to pre-existing conscious level	Diagnosis	ICD-9-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
804.65	Open fractures involving skull or face with other bones, with cerebral laceration and contusion, prolonged (more than 24 hours) loss of consciousness, without return to pre-existing conscious level	Diagnosis	ICD-9-CM
804.66	Open fractures involving skull or face with other bones, with cerebral laceration and contusion, loss of consciousness of unspecified duration	Diagnosis	ICD-9-CM
804.69	Open fractures involving skull or face with other bones, with cerebral laceration and contusion, unspecified concussion	Diagnosis	ICD-9-CM
804.7	Open fractures involving skull or face with other bones with subarachnoid, subdural, and extradural hemorrhage	Diagnosis	ICD-9-CM
804.70	Open fractures involving skull or face with other bones with subarachnoid, subdural, and extradural hemorrhage, unspecified state of consciousness	Diagnosis	ICD-9-CM
804.71	Open fractures involving skull or face with other bones with subarachnoid, subdural, and extradural hemorrhage, no loss of consciousness	Diagnosis	ICD-9-CM
804.72	Open fractures involving skull or face with other bones with subarachnoid, subdural, and extradural hemorrhage, brief (less than one hour) loss of consciousness	Diagnosis	ICD-9-CM
804.73	Open fractures involving skull or face with other bones with subarachnoid, subdural, and extradural hemorrhage, moderate (1-24 hours) loss of consciousness	Diagnosis	ICD-9-CM
804.74	Open fractures involving skull or face with other bones with subarachnoid, subdural, and extradural hemorrhage, prolonged (more than 24 hours) loss of consciousness and return to pre-existing conscious level	Diagnosis	ICD-9-CM
804.75	Open fractures involving skull or face with other bones with subarachnoid, subdural, and extradural hemorrhage, prolonged (more than 24 hours) loss of consciousness, without return to pre-existing conscious level	Diagnosis	ICD-9-CM
804.76	Open fractures involving skull or face with other bones with subarachnoid, subdural, and extradural hemorrhage, loss of consciousness of unspecified duration	Diagnosis	ICD-9-CM
804.79	Open fractures involving skull or face with other bones with subarachnoid, subdural, and extradural hemorrhage, unspecified concussion	Diagnosis	ICD-9-CM
804.8	Open fractures involving skull or face with other bones, with other and unspecified intracranial hemorrhage	Diagnosis	ICD-9-CM
804.80	Open fractures involving skull or face with other bones, with other and unspecified intracranial hemorrhage, unspecified state of consciousness	Diagnosis	ICD-9-CM
804.81	Open fractures involving skull or face with other bones, with other and unspecified intracranial hemorrhage, no loss of consciousness	Diagnosis	ICD-9-CM
804.82	Open fractures involving skull or face with other bones, with other and unspecified intracranial hemorrhage, brief (less than one hour) loss of consciousness	Diagnosis	ICD-9-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
804.83	Open fractures involving skull or face with other bones, with other and unspecified intracranial hemorrhage, moderate (1-24 hours) loss of consciousness	Diagnosis	ICD-9-CM
804.84	Open fractures involving skull or face with other bones, with other and unspecified intracranial hemorrhage, prolonged (more than 24 hours) loss of consciousness and return to pre-existing conscious level	Diagnosis	ICD-9-CM
804.85	Open fractures involving skull or face with other bones, with other and unspecified intracranial hemorrhage, prolonged (more than 24 hours) loss of consciousness, without return to pre-existing conscious level	Diagnosis	ICD-9-CM
804.86	Open fractures involving skull or face with other bones, with other and unspecified intracranial hemorrhage, loss of consciousness of unspecified duration	Diagnosis	ICD-9-CM
804.89	Open fractures involving skull or face with other bones, with other and unspecified intracranial hemorrhage, unspecified concussion	Diagnosis	ICD-9-CM
804.9	Open fractures involving skull or face with other bones, with intracranial injury of other and unspecified nature	Diagnosis	ICD-9-CM
804.90	Open fractures involving skull or face with other bones, with intracranial injury of other and unspecified nature, unspecified state of	Diagnosis	ICD-9-CM
804.91	Open fractures involving skull or face with other bones, with intracranial injury of other and unspecified nature, no loss of consciousness	Diagnosis	ICD-9-CM
804.92	Open fractures involving skull or face with other bones, with intracranial injury of other and unspecified nature, brief (less than one hour) loss of consciousness	Diagnosis	ICD-9-CM
804.93	Open fractures involving skull or face with other bones, with intracranial injury of other and unspecified nature, moderate (1-24 hours) loss of consciousness	Diagnosis	ICD-9-CM
804.94	Open fractures involving skull or face with other bones, with intracranial injury of other and unspecified nature, prolonged (more than 24 hours) loss of consciousness and return to pre-existing conscious level	Diagnosis	ICD-9-CM
804.95	Open fractures involving skull or face with other bones, with intracranial injury of other and unspecified nature, prolonged (more than 24 hours) loss of consciousness, without return to pre-existing level	Diagnosis	ICD-9-CM
804.96	Open fractures involving skull or face with other bones, with intracranial injury of other and unspecified nature, loss of consciousness of unspecified duration	Diagnosis	ICD-9-CM
804.99	Open fractures involving skull or face with other bones, with intracranial injury of other and unspecified nature, unspecified concussion	Diagnosis	ICD-9-CM
805	Fracture of vertebral column without mention of spinal cord injury	Diagnosis	ICD-9-CM
805.0	Closed fracture of cervical vertebra without mention of spinal cord injury	Diagnosis	ICD-9-CM
805.00	Closed fracture of cervical vertebra, unspecified level without mention of spinal cord injury	Diagnosis	ICD-9-CM
805.01	Closed fracture of first cervical vertebra without mention of spinal cord injury	Diagnosis	ICD-9-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
805.02	Closed fracture of second cervical vertebra without mention of spinal cord injury	Diagnosis	ICD-9-CM
805.03	Closed fracture of third cervical vertebra without mention of spinal cord injury	Diagnosis	ICD-9-CM
805.04	Closed fracture of fourth cervical vertebra without mention of spinal cord injury	Diagnosis	ICD-9-CM
805.05	Closed fracture of fifth cervical vertebra without mention of spinal cord injury	Diagnosis	ICD-9-CM
805.06	Closed fracture of sixth cervical vertebra without mention of spinal cord injury	Diagnosis	ICD-9-CM
805.07	Closed fracture of seventh cervical vertebra without mention of spinal cord injury	Diagnosis	ICD-9-CM
805.08	Closed fracture of multiple cervical vertebrae without mention of spinal cord injury	Diagnosis	ICD-9-CM
805.1	Open fracture of cervical vertebra without mention of spinal cord injury	Diagnosis	ICD-9-CM
805.10	Open fracture of cervical vertebra, unspecified level without mention of spinal cord injury	Diagnosis	ICD-9-CM
805.11	Open fracture of first cervical vertebra without mention of spinal cord injury	Diagnosis	ICD-9-CM
805.12	Open fracture of second cervical vertebra without mention of spinal cord injury	Diagnosis	ICD-9-CM
805.13	Open fracture of third cervical vertebra without mention of spinal cord injury	Diagnosis	ICD-9-CM
805.14	Open fracture of fourth cervical vertebra without mention of spinal cord injury	Diagnosis	ICD-9-CM
805.15	Open fracture of fifth cervical vertebra without mention of spinal cord injury	Diagnosis	ICD-9-CM
805.16	Open fracture of sixth cervical vertebra without mention of spinal cord injury	Diagnosis	ICD-9-CM
805.17	Open fracture of seventh cervical vertebra without mention of spinal cord injury	Diagnosis	ICD-9-CM
805.18	Open fracture of multiple cervical vertebrae without mention of spinal cord injury	Diagnosis	ICD-9-CM
805.2	Closed fracture of dorsal (thoracic) vertebra without mention of spinal cord injury	Diagnosis	ICD-9-CM
805.3	Open fracture of dorsal (thoracic) vertebra without mention of spinal cord injury	Diagnosis	ICD-9-CM
805.4	Closed fracture of lumbar vertebra without mention of spinal cord injury	Diagnosis	ICD-9-CM
805.5	Open fracture of lumbar vertebra without mention of spinal cord injury	Diagnosis	ICD-9-CM
805.6	Closed fracture of sacrum and coccyx without mention of spinal cord injury	Diagnosis	ICD-9-CM
805.7	Open fracture of sacrum and coccyx without mention of spinal cord injury	Diagnosis	ICD-9-CM
805.8	Closed fracture of unspecified part of vertebral column without mention of spinal cord injury	Diagnosis	ICD-9-CM
805.9	Open fracture of unspecified part of vertebral column without mention of spinal cord injury	Diagnosis	ICD-9-CM
806	Fracture of vertebral column with spinal cord injury	Diagnosis	ICD-9-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
806.0	Closed fracture of cervical vertebra with spinal cord injury	Diagnosis	ICD-9-CM
806.00	Closed fracture of C1-C4 level with unspecified spinal cord injury	Diagnosis	ICD-9-CM
806.01	Closed fracture of C1-C4 level with complete lesion of cord	Diagnosis	ICD-9-CM
806.02	Closed fracture of C1-C4 level with anterior cord syndrome	Diagnosis	ICD-9-CM
806.03	Closed fracture of C1-C4 level with central cord syndrome	Diagnosis	ICD-9-CM
806.04	Closed fracture of C1-C4 level with other specified spinal cord injury	Diagnosis	ICD-9-CM
806.05	Closed fracture of C5-C7 level with unspecified spinal cord injury	Diagnosis	ICD-9-CM
806.06	Closed fracture of C5-C7 level with complete lesion of cord	Diagnosis	ICD-9-CM
806.07	Closed fracture of C5-C7 level with anterior cord syndrome	Diagnosis	ICD-9-CM
806.08	Closed fracture of C5-C7 level with central cord syndrome	Diagnosis	ICD-9-CM
806.09	Closed fracture of C5-C7 level with other specified spinal cord injury	Diagnosis	ICD-9-CM
806.1	Open fracture of cervical vertebra with spinal cord injury	Diagnosis	ICD-9-CM
806.10	Open fracture of C1-C4 level with unspecified spinal cord injury	Diagnosis	ICD-9-CM
806.11	Open fracture of C1-C4 level with complete lesion of cord	Diagnosis	ICD-9-CM
806.12	Open fracture of C1-C4 level with anterior cord syndrome	Diagnosis	ICD-9-CM
806.13	Open fracture of C1-C4 level with central cord syndrome	Diagnosis	ICD-9-CM
806.14	Open fracture of C1-C4 level with other specified spinal cord injury	Diagnosis	ICD-9-CM
806.15	Open fracture of C5-C7 level with unspecified spinal cord injury	Diagnosis	ICD-9-CM
806.16	Open fracture of C5-C7 level with complete lesion of cord	Diagnosis	ICD-9-CM
806.17	Open fracture of C5-C7 level with anterior cord syndrome	Diagnosis	ICD-9-CM
806.18	Open fracture of C5-C7 level with central cord syndrome	Diagnosis	ICD-9-CM
806.19	Open fracture of C5-C7 level with other specified spinal cord injury	Diagnosis	ICD-9-CM
806.2	Closed fracture of dorsal (thoracic) vertebra with spinal cord injury	Diagnosis	ICD-9-CM
806.20	Closed fracture of T1-T6 level with unspecified spinal cord injury	Diagnosis	ICD-9-CM
806.21	Closed fracture of T1-T6 level with complete lesion of cord	Diagnosis	ICD-9-CM
806.22	Closed fracture of T1-T6 level with anterior cord syndrome	Diagnosis	ICD-9-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
806.23	Closed fracture of T1-T6 level with central cord syndrome	Diagnosis	ICD-9-CM
806.24	Closed fracture of T1-T6 level with other specified spinal cord injury	Diagnosis	ICD-9-CM
806.25	Closed fracture of T7-T12 level with unspecified spinal cord injury	Diagnosis	ICD-9-CM
806.26	Closed fracture of T7-T12 level with complete lesion of cord	Diagnosis	ICD-9-CM
806.27	Closed fracture of T7-T12 level with anterior cord syndrome	Diagnosis	ICD-9-CM
806.28	Closed fracture of T7-T12 level with central cord syndrome	Diagnosis	ICD-9-CM
806.29	Closed fracture of T7-T12 level with other specified spinal cord injury	Diagnosis	ICD-9-CM
806.3	Open fracture of dorsal vertebra with spinal cord injury	Diagnosis	ICD-9-CM
806.30	Open fracture of T1-T6 level with unspecified spinal cord injury	Diagnosis	ICD-9-CM
806.31	Open fracture of T1-T6 level with complete lesion of cord	Diagnosis	ICD-9-CM
806.32	Open fracture of T1-T6 level with anterior cord syndrome	Diagnosis	ICD-9-CM
806.33	Open fracture of T1-T6 level with central cord syndrome	Diagnosis	ICD-9-CM
806.34	Open fracture of T1-T6 level with other specified spinal cord injury	Diagnosis	ICD-9-CM
806.35	Open fracture of T7-T12 level with unspecified spinal cord injury	Diagnosis	ICD-9-CM
806.36	Open fracture of T7-T12 level with complete lesion of cord	Diagnosis	ICD-9-CM
806.37	Open fracture of T7-T12 level with anterior cord syndrome	Diagnosis	ICD-9-CM
806.38	Open fracture of T7-T12 level with central cord syndrome	Diagnosis	ICD-9-CM
806.39	Open fracture of T7-T12 level with other specified spinal cord injury	Diagnosis	ICD-9-CM
806.4	Closed fracture of lumbar spine with spinal cord injury	Diagnosis	ICD-9-CM
806.5	Open fracture of lumbar spine with spinal cord injury	Diagnosis	ICD-9-CM
806.6	Closed fracture of sacrum and coccyx with spinal cord injury	Diagnosis	ICD-9-CM
806.60	Closed fracture of sacrum and coccyx with unspecified spinal cord injury	Diagnosis	ICD-9-CM
806.61	Closed fracture of sacrum and coccyx with complete cauda equina lesion	Diagnosis	ICD-9-CM
806.62	Closed fracture of sacrum and coccyx with other cauda equina injury	Diagnosis	ICD-9-CM
806.69	Closed fracture of sacrum and coccyx with other spinal cord injury	Diagnosis	ICD-9-CM
806.7	Open fracture of sacrum and coccyx with spinal cord injury	Diagnosis	ICD-9-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
806.70	Open fracture of sacrum and coccyx with unspecified spinal cord injury	Diagnosis	ICD-9-CM
806.71	Open fracture of sacrum and coccyx with complete cauda equina lesion	Diagnosis	ICD-9-CM
806.72	Open fracture of sacrum and coccyx with other cauda equina injury	Diagnosis	ICD-9-CM
806.79	Open fracture of sacrum and coccyx with other spinal cord injury	Diagnosis	ICD-9-CM
806.8	Closed fracture of unspecified vertebra with spinal cord injury	Diagnosis	ICD-9-CM
806.9	Open fracture of unspecified vertebra with spinal cord injury	Diagnosis	ICD-9-CM
807	Fracture of rib(s), sternum, larynx, and trachea	Diagnosis	ICD-9-CM
807.0	Closed fracture of rib(s)	Diagnosis	ICD-9-CM
807.00	Closed fracture of rib(s), unspecified	Diagnosis	ICD-9-CM
807.01	Closed fracture of one rib	Diagnosis	ICD-9-CM
807.02	Closed fracture of two ribs	Diagnosis	ICD-9-CM
807.03	Closed fracture of three ribs	Diagnosis	ICD-9-CM
807.04	Closed fracture of four ribs	Diagnosis	ICD-9-CM
807.05	Closed fracture of five ribs	Diagnosis	ICD-9-CM
807.06	Closed fracture of six ribs	Diagnosis	ICD-9-CM
807.07	Closed fracture of seven ribs	Diagnosis	ICD-9-CM
807.08	Closed fracture of eight or more ribs	Diagnosis	ICD-9-CM
807.09	Closed fracture of multiple ribs, unspecified	Diagnosis	ICD-9-CM
807.1	Open fracture of rib(s)	Diagnosis	ICD-9-CM
807.10	Open fracture of rib(s), unspecified	Diagnosis	ICD-9-CM
807.11	Open fracture of one rib	Diagnosis	ICD-9-CM
807.12	Open fracture of two ribs	Diagnosis	ICD-9-CM
807.13	Open fracture of three ribs	Diagnosis	ICD-9-CM
807.14	Open fracture of four ribs	Diagnosis	ICD-9-CM
807.15	Open fracture of five ribs	Diagnosis	ICD-9-CM
807.16	Open fracture of six ribs	Diagnosis	ICD-9-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
807.17	Open fracture of seven ribs	Diagnosis	ICD-9-CM
807.18	Open fracture of eight or more ribs	Diagnosis	ICD-9-CM
807.19	Open fracture of multiple ribs, unspecified	Diagnosis	ICD-9-CM
807.2	Closed fracture of sternum	Diagnosis	ICD-9-CM
807.3	Open fracture of sternum	Diagnosis	ICD-9-CM
807.4	Flail chest	Diagnosis	ICD-9-CM
807.5	Closed fracture of larynx and trachea	Diagnosis	ICD-9-CM
807.6	Open fracture of larynx and trachea	Diagnosis	ICD-9-CM
808	Fracture of pelvis	Diagnosis	ICD-9-CM
808.0	Closed fracture of acetabulum	Diagnosis	ICD-9-CM
808.1	Open fracture of acetabulum	Diagnosis	ICD-9-CM
808.2	Closed fracture of pubis	Diagnosis	ICD-9-CM
808.3	Open fracture of pubis	Diagnosis	ICD-9-CM
808.4	Closed fracture of other specified part of pelvis	Diagnosis	ICD-9-CM
808.41	Closed fracture of ilium	Diagnosis	ICD-9-CM
808.42	Closed fracture of ischium	Diagnosis	ICD-9-CM
808.43	Multiple closed pelvic fractures with disruption of pelvic circle	Diagnosis	ICD-9-CM
808.44	Multiple closed pelvic fractures without disruption of pelvic circle	Diagnosis	ICD-9-CM
808.49	Closed fracture of other specified part of pelvis	Diagnosis	ICD-9-CM
808.5	Open fracture of other specified part of pelvis	Diagnosis	ICD-9-CM
808.51	Open fracture of ilium	Diagnosis	ICD-9-CM
808.52	Open fracture of ischium	Diagnosis	ICD-9-CM
808.53	Multiple open pelvic fractures with disruption of pelvic circle	Diagnosis	ICD-9-CM
808.54	Multiple open pelvic fractures without disruption of pelvic circle	Diagnosis	ICD-9-CM
808.59	Open fracture of other specified part of pelvis	Diagnosis	ICD-9-CM
808.8	Unspecified closed fracture of pelvis	Diagnosis	ICD-9-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
808.9	Unspecified open fracture of pelvis	Diagnosis	ICD-9-CM
809	Ill-defined fractures of bones of trunk	Diagnosis	ICD-9-CM
809.0	Fracture of bones of trunk, closed	Diagnosis	ICD-9-CM
809.1	Fracture of bones of trunk, open	Diagnosis	ICD-9-CM
810	Fracture of clavicle	Diagnosis	ICD-9-CM
810.0	Closed fracture of clavicle	Diagnosis	ICD-9-CM
810.00	Unspecified part of closed fracture of clavicle	Diagnosis	ICD-9-CM
810.01	Closed fracture of sternal end of clavicle	Diagnosis	ICD-9-CM
810.02	Closed fracture of shaft of clavicle	Diagnosis	ICD-9-CM
810.03	Closed fracture of acromial end of clavicle	Diagnosis	ICD-9-CM
810.1	Open fracture of clavicle	Diagnosis	ICD-9-CM
810.10	Unspecified part of open fracture of clavicle	Diagnosis	ICD-9-CM
810.11	Open fracture of sternal end of clavicle	Diagnosis	ICD-9-CM
810.12	Open fracture of shaft of clavicle	Diagnosis	ICD-9-CM
810.13	Open fracture of acromial end of clavicle	Diagnosis	ICD-9-CM
811	Fracture of scapula	Diagnosis	ICD-9-CM
811.0	Closed fracture of scapula	Diagnosis	ICD-9-CM
811.00	Closed fracture of unspecified part of scapula	Diagnosis	ICD-9-CM
811.01	Closed fracture of acromial process of scapula	Diagnosis	ICD-9-CM
811.02	Closed fracture of coracoid process of scapula	Diagnosis	ICD-9-CM
811.03	Closed fracture of glenoid cavity and neck of scapula	Diagnosis	ICD-9-CM
811.09	Closed fracture of other part of scapula	Diagnosis	ICD-9-CM
811.1	Open fracture of scapula	Diagnosis	ICD-9-CM
811.10	Open fracture of unspecified part of scapula	Diagnosis	ICD-9-CM
811.11	Open fracture of acromial process of scapula	Diagnosis	ICD-9-CM
811.12	Open fracture of coracoid process	Diagnosis	ICD-9-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
811.13	Open fracture of glenoid cavity and neck of scapula	Diagnosis	ICD-9-CM
811.19	Open fracture of other part of scapula	Diagnosis	ICD-9-CM
812	Fracture of humerus	Diagnosis	ICD-9-CM
812.0	Closed fracture of upper end of humerus	Diagnosis	ICD-9-CM
812.00	Closed fracture of unspecified part of upper end of humerus	Diagnosis	ICD-9-CM
812.01	Closed fracture of surgical neck of humerus	Diagnosis	ICD-9-CM
812.02	Closed fracture of anatomical neck of humerus	Diagnosis	ICD-9-CM
812.03	Closed fracture of greater tuberosity of humerus	Diagnosis	ICD-9-CM
812.09	Other closed fractures of upper end of humerus	Diagnosis	ICD-9-CM
812.1	Open fracture of upper end of humerus	Diagnosis	ICD-9-CM
812.10	Open fracture of unspecified part of upper end of humerus	Diagnosis	ICD-9-CM
812.11	Open fracture of surgical neck of humerus	Diagnosis	ICD-9-CM
812.12	Open fracture of anatomical neck of humerus	Diagnosis	ICD-9-CM
812.13	Open fracture of greater tuberosity of humerus	Diagnosis	ICD-9-CM
812.19	Other open fracture of upper end of humerus	Diagnosis	ICD-9-CM
812.2	Closed fracture of shaft or unspecified part of humerus	Diagnosis	ICD-9-CM
812.20	Closed fracture of unspecified part of humerus	Diagnosis	ICD-9-CM
812.21	Closed fracture of shaft of humerus	Diagnosis	ICD-9-CM
812.3	Open fracture of shaft or unspecified part of humerus	Diagnosis	ICD-9-CM
812.30	Open fracture of unspecified part of humerus	Diagnosis	ICD-9-CM
812.31	Open fracture of shaft of humerus	Diagnosis	ICD-9-CM
812.4	Closed fracture of lower end of humerus	Diagnosis	ICD-9-CM
812.40	Closed fracture of unspecified part of lower end of humerus	Diagnosis	ICD-9-CM
812.41	Closed fracture of supracondylar humerus	Diagnosis	ICD-9-CM
812.42	Closed fracture of lateral condyle of humerus	Diagnosis	ICD-9-CM
812.43	Closed fracture of medial condyle of humerus	Diagnosis	ICD-9-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
812.44	Closed fracture of unspecified condyle(s) of humerus	Diagnosis	ICD-9-CM
812.49	Other closed fracture of lower end of humerus	Diagnosis	ICD-9-CM
812.5	Open fracture of lower end of humerus	Diagnosis	ICD-9-CM
812.50	Open fracture of unspecified part of lower end of humerus	Diagnosis	ICD-9-CM
812.51	Open fracture of supracondylar humerus	Diagnosis	ICD-9-CM
812.52	Open fracture of lateral condyle of humerus	Diagnosis	ICD-9-CM
812.53	Open fracture of medial condyle of humerus	Diagnosis	ICD-9-CM
812.54	Open fracture of unspecified condyle(s) of humerus	Diagnosis	ICD-9-CM
812.59	Other open fracture of lower end of humerus	Diagnosis	ICD-9-CM
813	Fracture of radius and ulna	Diagnosis	ICD-9-CM
813.0	Closed fracture of upper end of radius and ulna	Diagnosis	ICD-9-CM
813.00	Unspecified fracture of radius and ulna, upper end of forearm, closed	Diagnosis	ICD-9-CM
813.01	Closed fracture of olecranon process of ulna	Diagnosis	ICD-9-CM
813.02	Closed fracture of coronoid process of ulna	Diagnosis	ICD-9-CM
813.03	Closed Monteggia's fracture	Diagnosis	ICD-9-CM
813.04	Other and unspecified closed fractures of proximal end of ulna (alone)	Diagnosis	ICD-9-CM
813.05	Closed fracture of head of radius	Diagnosis	ICD-9-CM
813.06	Closed fracture of neck of radius	Diagnosis	ICD-9-CM
813.07	Other and unspecified closed fractures of proximal end of radius (alone)	Diagnosis	ICD-9-CM
813.08	Closed fracture of radius with ulna, upper end (any part)	Diagnosis	ICD-9-CM
813.1	Open fracture of upper end of radius and ulna	Diagnosis	ICD-9-CM
813.10	Unspecified open fracture of upper end of forearm	Diagnosis	ICD-9-CM
813.11	Open fracture of olecranon process of ulna	Diagnosis	ICD-9-CM
813.12	Open fracture of coronoid process of ulna	Diagnosis	ICD-9-CM
813.13	Open Monteggia's fracture	Diagnosis	ICD-9-CM
813.14	Other and unspecified open fractures of proximal end of ulna (alone)	Diagnosis	ICD-9-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
813.15	Open fracture of head of radius	Diagnosis	ICD-9-CM
813.16	Open fracture of neck of radius	Diagnosis	ICD-9-CM
813.17	Other and unspecified open fractures of proximal end of radius (alone)	Diagnosis	ICD-9-CM
813.18	Open fracture of radius with ulna, upper end (any part)	Diagnosis	ICD-9-CM
813.2	Closed fracture of shaft of radius and ulna	Diagnosis	ICD-9-CM
813.20	Unspecified closed fracture of shaft of radius or ulna	Diagnosis	ICD-9-CM
813.21	Closed fracture of shaft of radius (alone)	Diagnosis	ICD-9-CM
813.22	Closed fracture of shaft of ulna (alone)	Diagnosis	ICD-9-CM
813.23	Closed fracture of shaft of radius with ulna	Diagnosis	ICD-9-CM
813.3	Open fracture of shaft of radius and ulna	Diagnosis	ICD-9-CM
813.30	Unspecified open fracture of shaft of radius or ulna	Diagnosis	ICD-9-CM
813.31	Open fracture of shaft of radius (alone)	Diagnosis	ICD-9-CM
813.32	Open fracture of shaft of ulna (alone)	Diagnosis	ICD-9-CM
813.33	Open fracture of shaft of radius with ulna	Diagnosis	ICD-9-CM
813.4	Closed fracture of lower end of radius and ulna	Diagnosis	ICD-9-CM
813.40	Unspecified closed fracture of lower end of forearm	Diagnosis	ICD-9-CM
813.41	Closed Colles' fracture	Diagnosis	ICD-9-CM
813.42	Other closed fractures of distal end of radius (alone)	Diagnosis	ICD-9-CM
813.43	Closed fracture of distal end of ulna (alone)	Diagnosis	ICD-9-CM
813.44	Closed fracture of lower end of radius with ulna	Diagnosis	ICD-9-CM
813.45	Torus fracture of radius (alone)	Diagnosis	ICD-9-CM
813.46	Torus fracture of ulna (alone)	Diagnosis	ICD-9-CM
813.47	Torus fracture of radius and ulna	Diagnosis	ICD-9-CM
813.5	Open fracture of lower end of radius and ulna	Diagnosis	ICD-9-CM
813.50	Unspecified open fracture of lower end of forearm	Diagnosis	ICD-9-CM
813.51	Open Colles' fracture	Diagnosis	ICD-9-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
813.52	Other open fractures of distal end of radius (alone)	Diagnosis	ICD-9-CM
813.53	Open fracture of distal end of ulna (alone)	Diagnosis	ICD-9-CM
813.54	Open fracture of lower end of radius with ulna	Diagnosis	ICD-9-CM
813.8	Closed fracture of unspecified part of radius with ulna	Diagnosis	ICD-9-CM
813.80	Closed fracture of unspecified part of forearm	Diagnosis	ICD-9-CM
813.81	Closed fracture of unspecified part of radius (alone)	Diagnosis	ICD-9-CM
813.82	Closed fracture of unspecified part of ulna (alone)	Diagnosis	ICD-9-CM
813.83	Closed fracture of unspecified part of radius with ulna	Diagnosis	ICD-9-CM
813.9	Open fracture of unspecified part of radius with ulna	Diagnosis	ICD-9-CM
813.90	Open fracture of unspecified part of forearm	Diagnosis	ICD-9-CM
813.91	Open fracture of unspecified part of radius (alone)	Diagnosis	ICD-9-CM
813.92	Open fracture of unspecified part of ulna (alone)	Diagnosis	ICD-9-CM
813.93	Open fracture of unspecified part of radius with ulna	Diagnosis	ICD-9-CM
818	Ill-defined fractures of upper limb	Diagnosis	ICD-9-CM
818.0	Ill-defined closed fractures of upper limb	Diagnosis	ICD-9-CM
818.1	Ill-defined open fractures of upper limb	Diagnosis	ICD-9-CM
819	Multiple fractures involving both upper limbs, and upper limb with rib(s) and sternum	Diagnosis	ICD-9-CM
819.0	Multiple closed fractures involving both upper limbs, and upper limb with rib(s) and sternum	Diagnosis	ICD-9-CM
819.1	Multiple open fractures involving both upper limbs, and upper limb with rib(s) and sternum	Diagnosis	ICD-9-CM
820	Fracture of neck of femur	Diagnosis	ICD-9-CM
820.0	Closed transcervical fracture	Diagnosis	ICD-9-CM
820.00	Closed fracture of unspecified intracapsular section of neck of femur	Diagnosis	ICD-9-CM
820.01	Closed fracture of epiphysis (separation) (upper) of neck of femur	Diagnosis	ICD-9-CM
820.02	Closed fracture of midcervical section of femur	Diagnosis	ICD-9-CM
820.03	Closed fracture of base of neck of femur	Diagnosis	ICD-9-CM
820.09	Other closed transcervical fracture of femur	Diagnosis	ICD-9-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
820.1	Open transcervical fracture	Diagnosis	ICD-9-CM
820.10	Open fracture of unspecified intracapsular section of neck of femur	Diagnosis	ICD-9-CM
820.11	Open fracture of epiphysis (separation) (upper) of neck of femur	Diagnosis	ICD-9-CM
820.12	Open fracture of midcervical section of femur	Diagnosis	ICD-9-CM
820.13	Open fracture of base of neck of femur	Diagnosis	ICD-9-CM
820.19	Other open transcervical fracture of femur	Diagnosis	ICD-9-CM
820.2	Closed pertrochanteric fracture of femur	Diagnosis	ICD-9-CM
820.20	Closed fracture of unspecified trochanteric section of femur	Diagnosis	ICD-9-CM
820.21	Closed fracture of intertrochanteric section of femur	Diagnosis	ICD-9-CM
820.22	Closed fracture of subtrochanteric section of femur	Diagnosis	ICD-9-CM
820.3	Open pertrochanteric fracture of femur	Diagnosis	ICD-9-CM
820.30	Open fracture of unspecified trochanteric section of femur	Diagnosis	ICD-9-CM
820.31	Open fracture of intertrochanteric section of femur	Diagnosis	ICD-9-CM
820.32	Open fracture of subtrochanteric section of femur	Diagnosis	ICD-9-CM
820.8	Closed fracture of unspecified part of neck of femur	Diagnosis	ICD-9-CM
820.9	Open fracture of unspecified part of neck of femur	Diagnosis	ICD-9-CM
821	Fracture of other and unspecified parts of femur	Diagnosis	ICD-9-CM
821.0	Closed fracture of shaft or unspecified part of femur	Diagnosis	ICD-9-CM
821.00	Closed fracture of unspecified part of femur	Diagnosis	ICD-9-CM
821.01	Closed fracture of shaft of femur	Diagnosis	ICD-9-CM
821.1	Open fracture of shaft or unspecified part of femur	Diagnosis	ICD-9-CM
821.10	Open fracture of unspecified part of femur	Diagnosis	ICD-9-CM
821.11	Open fracture of shaft of femur	Diagnosis	ICD-9-CM
821.2	Closed fracture of lower end of femur	Diagnosis	ICD-9-CM
821.20	Closed fracture of unspecified part of lower end of femur	Diagnosis	ICD-9-CM
821.21	Closed fracture of femoral condyle	Diagnosis	ICD-9-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
821.22	Closed fracture of lower epiphysis of femur	Diagnosis	ICD-9-CM
821.23	Closed supracondylar fracture of femur	Diagnosis	ICD-9-CM
821.29	Other closed fracture of lower end of femur	Diagnosis	ICD-9-CM
821.3	Open fracture of lower end of femur	Diagnosis	ICD-9-CM
821.30	Open fracture of unspecified part of lower end of femur	Diagnosis	ICD-9-CM
821.31	Open fracture of femoral condyle	Diagnosis	ICD-9-CM
821.32	Open fracture of lower epiphysis of femur	Diagnosis	ICD-9-CM
821.33	Open supracondylar fracture of femur	Diagnosis	ICD-9-CM
821.39	Other open fracture of lower end of femur	Diagnosis	ICD-9-CM
822	Fracture of patella	Diagnosis	ICD-9-CM
822.0	Closed fracture of patella	Diagnosis	ICD-9-CM
822.1	Open fracture of patella	Diagnosis	ICD-9-CM
823	Fracture of tibia and fibula	Diagnosis	ICD-9-CM
823.0	Closed fracture of upper end of tibia and fibula	Diagnosis	ICD-9-CM
823.00	Closed fracture of upper end of tibia	Diagnosis	ICD-9-CM
823.01	Closed fracture of upper end of fibula	Diagnosis	ICD-9-CM
823.02	Closed fracture of upper end of fibula with tibia	Diagnosis	ICD-9-CM
823.1	Open fracture of upper end of tibia and fibula	Diagnosis	ICD-9-CM
823.10	Open fracture of upper end of tibia	Diagnosis	ICD-9-CM
823.11	Open fracture of upper end of fibula	Diagnosis	ICD-9-CM
823.12	Open fracture of upper end of fibula with tibia	Diagnosis	ICD-9-CM
823.2	Closed fracture of shaft of tibia and fibula	Diagnosis	ICD-9-CM
823.20	Closed fracture of shaft of tibia	Diagnosis	ICD-9-CM
823.21	Closed fracture of shaft of fibula	Diagnosis	ICD-9-CM
823.22	Closed fracture of shaft of fibula with tibia	Diagnosis	ICD-9-CM
823.3	Open fracture of shaft of tibia and fibula	Diagnosis	ICD-9-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
823.30	Open fracture of shaft of tibia	Diagnosis	ICD-9-CM
823.31	Open fracture of shaft of fibula	Diagnosis	ICD-9-CM
823.32	Open fracture of shaft of fibula with tibia	Diagnosis	ICD-9-CM
823.4	Torus fracture of tibia and fibula	Diagnosis	ICD-9-CM
823.40	Torus fracture of tibia alone	Diagnosis	ICD-9-CM
823.41	Torus fracture of fibula alone	Diagnosis	ICD-9-CM
823.42	Torus fracture of fibula with tibia	Diagnosis	ICD-9-CM
823.8	Closed fracture of unspecified part of tibia and fibula	Diagnosis	ICD-9-CM
823.80	Closed fracture of unspecified part of tibia	Diagnosis	ICD-9-CM
823.81	Closed fracture of unspecified part of fibula	Diagnosis	ICD-9-CM
823.82	Closed fracture of unspecified part of fibula with tibia	Diagnosis	ICD-9-CM
823.9	Open fracture of unspecified part of tibia and fibula	Diagnosis	ICD-9-CM
823.90	Open fracture of unspecified part of tibia	Diagnosis	ICD-9-CM
823.91	Open fracture of unspecified part of fibula	Diagnosis	ICD-9-CM
823.92	Open fracture of unspecified part of fibula with tibia	Diagnosis	ICD-9-CM
824	Fracture of ankle	Diagnosis	ICD-9-CM
824.0	Closed fracture of medial malleolus	Diagnosis	ICD-9-CM
824.1	Open fracture of medial malleolus	Diagnosis	ICD-9-CM
824.2	Closed fracture of lateral malleolus	Diagnosis	ICD-9-CM
824.3	Open fracture of lateral malleolus	Diagnosis	ICD-9-CM
824.4	Closed bimalleolar fracture	Diagnosis	ICD-9-CM
824.5	Open bimalleolar fracture	Diagnosis	ICD-9-CM
824.6	Closed trimalleolar fracture	Diagnosis	ICD-9-CM
824.7	Open trimalleolar fracture	Diagnosis	ICD-9-CM
824.8	Unspecified closed fracture of ankle	Diagnosis	ICD-9-CM
824.9	Unspecified open fracture of ankle	Diagnosis	ICD-9-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
827	Other, multiple, and ill-defined fractures of lower limb	Diagnosis	ICD-9-CM
827.0	Other, multiple and ill-defined closed fractures of lower limb	Diagnosis	ICD-9-CM
827.1	Other, multiple and ill-defined open fractures of lower limb	Diagnosis	ICD-9-CM
828	Multiple fractures involving both lower limbs, lower with upper limb, and lower limb(s) with rib(s) and sternum	Diagnosis	ICD-9-CM
828.0	Multiple closed fractures involving both lower limbs, lower with upper limb, and lower limb(s) with rib(s) and sternum	Diagnosis	ICD-9-CM
828.1	Multiple fractures involving both lower limbs, lower with upper limb, and lower limb(s) with rib(s) and sternum, open	Diagnosis	ICD-9-CM
829	Fracture of unspecified bones	Diagnosis	ICD-9-CM
829.0	Closed fracture of unspecified bone	Diagnosis	ICD-9-CM
829.1	Open fracture of unspecified bone	Diagnosis	ICD-9-CM
860	Traumatic pneumothorax and hemothorax	Diagnosis	ICD-9-CM
860.0	Traumatic pneumothorax without mention of open wound into thorax	Diagnosis	ICD-9-CM
860.1	Traumatic pneumothorax with open wound into thorax	Diagnosis	ICD-9-CM
860.2	Traumatic hemothorax without mention of open wound into thorax	Diagnosis	ICD-9-CM
860.3	Traumatic hemothorax with open wound into thorax	Diagnosis	ICD-9-CM
860.4	Traumatic pneumohemothorax without mention of open wound into thorax	Diagnosis	ICD-9-CM
860.5	Traumatic pneumohemothorax with open wound into thorax	Diagnosis	ICD-9-CM
862.0	Diaphragm injury without mention of open wound into cavity	Diagnosis	ICD-9-CM
862.1	Diaphragm injury with open wound into cavity	Diagnosis	ICD-9-CM
862.8	Injury to multiple and unspecified intrathoracic organs without mention of open wound into cavity	Diagnosis	ICD-9-CM
862.9	Injury to multiple and unspecified intrathoracic organs with open wound into cavity	Diagnosis	ICD-9-CM
863.0	Stomach injury without mention of open wound into cavity	Diagnosis	ICD-9-CM
863.1	Stomach injury with open wound into cavity	Diagnosis	ICD-9-CM
863.2	Small intestine injury without mention of open wound into cavity	Diagnosis	ICD-9-CM
863.20	Small intestine injury, unspecified site, without mention of open wound into cavity	Diagnosis	ICD-9-CM
863.21	Duodenum injury without mention of open wound into cavity	Diagnosis	ICD-9-CM
863.29	Other injury to small intestine without mention of open wound into cavity	Diagnosis	ICD-9-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
863.3	Small intestine injury with open wound into cavity	Diagnosis	ICD-9-CM
863.30	Small intestine injury, unspecified site, with open wound into cavity	Diagnosis	ICD-9-CM
863.31	Duodenum injury with open wound into cavity	Diagnosis	ICD-9-CM
863.39	Other injury to small intestine with open wound into cavity	Diagnosis	ICD-9-CM
863.4	Colon or rectal injury without mention of open wound into cavity	Diagnosis	ICD-9-CM
863.40	Colon injury unspecified site, without mention of open wound into cavity	Diagnosis	ICD-9-CM
863.41	Ascending (right) colon injury without mention of open wound into cavity	Diagnosis	ICD-9-CM
863.42	Transverse colon injury without mention of open wound into cavity	Diagnosis	ICD-9-CM
863.43	Descending (left) colon injury without mention of open wound into cavity	Diagnosis	ICD-9-CM
863.44	Sigmoid colon injury without mention of open wound into cavity	Diagnosis	ICD-9-CM
863.45	Rectum injury without mention of open wound into cavity	Diagnosis	ICD-9-CM
863.46	Injury to multiple sites in colon and rectum without mention of open wound into cavity	Diagnosis	ICD-9-CM
863.49	Other colon and rectum injury, without mention of open wound into cavity	Diagnosis	ICD-9-CM
863.5	Injury to colon or rectum with open wound into cavity	Diagnosis	ICD-9-CM
863.50	Colon injury, unspecified site, with open wound into cavity	Diagnosis	ICD-9-CM
863.51	Ascending (right) colon injury with open wound into cavity	Diagnosis	ICD-9-CM
863.52	Transverse colon injury with open wound into cavity	Diagnosis	ICD-9-CM
863.53	Descending (left) colon injury with open wound into cavity	Diagnosis	ICD-9-CM
863.54	Sigmoid colon injury with open wound into cavity	Diagnosis	ICD-9-CM
863.55	Rectum injury with open wound into cavity	Diagnosis	ICD-9-CM
863.56	Injury to multiple sites in colon and rectum with open wound into cavity	Diagnosis	ICD-9-CM
863.59	Other injury to colon and rectum with open wound into cavity	Diagnosis	ICD-9-CM
863.8	Injury to other and unspecified gastrointestinal sites without mention of open wound into cavity	Diagnosis	ICD-9-CM
863.80	Gastrointestinal tract injury, unspecified site, without mention of open wound into cavity	Diagnosis	ICD-9-CM
863.81	Pancreas head injury without mention of open wound into cavity	Diagnosis	ICD-9-CM
863.82	Pancreas body injury without mention of open wound into cavity	Diagnosis	ICD-9-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
863.83	Pancreas tail injury without mention of open wound into cavity	Diagnosis	ICD-9-CM
863.84	Pancreas injury, multiple and unspecified sites, without mention of open wound into cavity	Diagnosis	ICD-9-CM
863.85	Appendix injury without mention of open wound into cavity	Diagnosis	ICD-9-CM
863.89	Injury to other and unspecified gastrointestinal sites without mention of open wound into cavity	Diagnosis	ICD-9-CM
863.9	Injury to other and unspecified gastrointestinal sites, with open wound into cavity	Diagnosis	ICD-9-CM
863.90	Gastrointestinal tract injury, unspecified site, with open wound into cavity	Diagnosis	ICD-9-CM
863.91	Pancreas head injury with open wound into cavity	Diagnosis	ICD-9-CM
863.92	Pancreas body injury with open wound into cavity	Diagnosis	ICD-9-CM
863.93	Pancreas tail injury with open wound into cavity	Diagnosis	ICD-9-CM
863.94	Pancreas injury, multiple and unspecified sites, with open wound into cavity	Diagnosis	ICD-9-CM
863.95	Appendix injury with open wound into cavity	Diagnosis	ICD-9-CM
863.99	Injury to other and unspecified gastrointestinal sites with open wound into cavity	Diagnosis	ICD-9-CM
864.1	Liver injury with open wound into cavity	Diagnosis	ICD-9-CM
864.10	Unspecified liver injury with open wound into cavity	Diagnosis	ICD-9-CM
864.11	Liver hematoma and contusion with open wound into cavity	Diagnosis	ICD-9-CM
864.12	Liver laceration, minor, with open wound into cavity	Diagnosis	ICD-9-CM
864.13	Liver laceration, moderate, with open wound into cavity	Diagnosis	ICD-9-CM
864.14	Liver laceration, major, with open wound into cavity	Diagnosis	ICD-9-CM
864.15	Liver injury with open wound into cavity, unspecified laceration	Diagnosis	ICD-9-CM
864.19	Other liver injury with open wound into cavity	Diagnosis	ICD-9-CM
865.1	Spleen injury with open wound into cavity	Diagnosis	ICD-9-CM
865.10	Unspecified spleen injury with open wound into cavity	Diagnosis	ICD-9-CM
865.11	Spleen hematoma, without rupture of capsule, with open wound into cavity	Diagnosis	ICD-9-CM
865.12	Capsular tears to spleen, without major disruption of parenchyma, with open wound into cavity	Diagnosis	ICD-9-CM
865.13	Spleen laceration extending into parenchyma, with open wound into cavity	Diagnosis	ICD-9-CM
865.14	Massive parenchyma disruption of spleen with open wound into cavity	Diagnosis	ICD-9-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
865.19	Other spleen injury with open wound into cavity	Diagnosis	ICD-9-CM
866	Injury to kidney	Diagnosis	ICD-9-CM
866.0	Kidney injury without mention of open wound into cavity	Diagnosis	ICD-9-CM
866.00	Unspecified kidney injury without mention of open wound into cavity	Diagnosis	ICD-9-CM
866.01	Kidney hematoma without rupture of capsule or mention of open wound into cavity	Diagnosis	ICD-9-CM
866.02	Kidney laceration without mention of open wound into cavity	Diagnosis	ICD-9-CM
866.03	Complete disruption of kidney parenchyma, without mention of open wound into cavity	Diagnosis	ICD-9-CM
866.1	Kidney injury with open wound into cavity	Diagnosis	ICD-9-CM
866.10	Unspecified kidney injury with open wound into cavity	Diagnosis	ICD-9-CM
866.11	Kidney hematoma, without rupture of capsule, with open wound into cavity	Diagnosis	ICD-9-CM
866.12	Kidney laceration with open wound into cavity	Diagnosis	ICD-9-CM
866.13	Complete disruption of kidney parenchyma, with open wound into cavity	Diagnosis	ICD-9-CM
867	Injury to pelvic organs	Diagnosis	ICD-9-CM
867.0	Bladder and urethra injury without mention of open wound into cavity	Diagnosis	ICD-9-CM
867.1	Bladder and urethra injury with open wound into cavity	Diagnosis	ICD-9-CM
867.2	Ureter injury without mention of open wound into cavity	Diagnosis	ICD-9-CM
867.3	Ureter injury with open wound into cavity	Diagnosis	ICD-9-CM
867.4	Uterus injury without mention of open wound into cavity	Diagnosis	ICD-9-CM
867.5	Uterus injury with open wound into cavity	Diagnosis	ICD-9-CM
867.6	Injury to other specified pelvic organs without mention of open wound into cavity	Diagnosis	ICD-9-CM
867.7	Injury to other specified pelvic organs with open wound into cavity	Diagnosis	ICD-9-CM
867.8	Injury to unspecified pelvic organ without mention of open wound into cavity	Diagnosis	ICD-9-CM
867.9	Injury to unspecified pelvic organ with open wound into cavity	Diagnosis	ICD-9-CM
873.0	Open wound of scalp, without mention of complication	Diagnosis	ICD-9-CM
873.1	Open wound of scalp, complicated	Diagnosis	ICD-9-CM
875.0	Open wound of chest (wall), without mention of complication	Diagnosis	ICD-9-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
875.1	Open wound of chest (wall), complicated	Diagnosis	ICD-9-CM
902.4	Renal blood vessel injury	Diagnosis	ICD-9-CM
902.40	Renal vessel(s) injury, unspecified	Diagnosis	ICD-9-CM
902.41	Renal artery injury	Diagnosis	ICD-9-CM
902.42	Renal vein injury	Diagnosis	ICD-9-CM
902.49	Renal blood vessel injury, other	Diagnosis	ICD-9-CM
902.55	Uterine artery injury	Diagnosis	ICD-9-CM
902.56	Uterine vein injury	Diagnosis	ICD-9-CM
902.81	Ovarian artery injury	Diagnosis	ICD-9-CM
902.82	Ovarian vein injury	Diagnosis	ICD-9-CM
925	Crushing injury of face, scalp, and neck	Diagnosis	ICD-9-CM
925.1	Crushing injury of face and scalp	Diagnosis	ICD-9-CM
925.2	Crushing injury of neck	Diagnosis	ICD-9-CM
926	Crushing injury of trunk	Diagnosis	ICD-9-CM
926.0	Crushing injury of external genitalia	Diagnosis	ICD-9-CM
926.1	Crushing injury of other specified sites of trunk	Diagnosis	ICD-9-CM
926.11	Crushing injury of back	Diagnosis	ICD-9-CM
926.12	Crushing injury of buttock	Diagnosis	ICD-9-CM
926.19	Crushing injury of other specified sites of trunk	Diagnosis	ICD-9-CM
926.8	Crushing injury of multiple sites of trunk	Diagnosis	ICD-9-CM
926.9	Crushing injury of unspecified site of trunk	Diagnosis	ICD-9-CM
927	Crushing injury of upper limb	Diagnosis	ICD-9-CM
927.0	Crushing injury of shoulder and upper arm	Diagnosis	ICD-9-CM
927.00	Crushing injury of shoulder region	Diagnosis	ICD-9-CM
927.01	Crushing injury of scapular region	Diagnosis	ICD-9-CM
927.02	Crushing injury of axillary region	Diagnosis	ICD-9-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
927.03	Crushing injury of upper arm	Diagnosis	ICD-9-CM
927.09	Crushing injury of multiple sites of upper arm	Diagnosis	ICD-9-CM
927.1	Crushing injury of elbow and forearm	Diagnosis	ICD-9-CM
927.10	Crushing injury of forearm	Diagnosis	ICD-9-CM
927.11	Crushing injury of elbow	Diagnosis	ICD-9-CM
927.2	Crushing injury of wrist and hand(s), except finger(s) alone	Diagnosis	ICD-9-CM
927.20	Crushing injury of hand(s)	Diagnosis	ICD-9-CM
927.21	Crushing injury of wrist	Diagnosis	ICD-9-CM
927.3	Crushing injury of finger(s)	Diagnosis	ICD-9-CM
927.8	Crushing injury of multiple sites of upper limb	Diagnosis	ICD-9-CM
927.9	Crushing injury of unspecified site of upper limb	Diagnosis	ICD-9-CM
928	Crushing injury of lower limb	Diagnosis	ICD-9-CM
928.0	Crushing injury of hip and thigh	Diagnosis	ICD-9-CM
928.00	Crushing injury of thigh	Diagnosis	ICD-9-CM
928.01	Crushing injury of hip	Diagnosis	ICD-9-CM
928.1	Crushing injury of knee and lower leg	Diagnosis	ICD-9-CM
928.10	Crushing injury of lower leg	Diagnosis	ICD-9-CM
928.11	Crushing injury of knee	Diagnosis	ICD-9-CM
928.2	Crushing injury of ankle and foot, excluding toe(s) alone	Diagnosis	ICD-9-CM
928.20	Crushing injury of foot	Diagnosis	ICD-9-CM
928.21	Crushing injury of ankle	Diagnosis	ICD-9-CM
928.3	Crushing injury of toe(s)	Diagnosis	ICD-9-CM
928.8	Crushing injury of multiple sites of lower limb	Diagnosis	ICD-9-CM
928.9	Crushing injury of unspecified site of lower limb	Diagnosis	ICD-9-CM
929	Crushing injury of multiple and unspecified sites	Diagnosis	ICD-9-CM
929.0	Crushing injury of multiple sites, not elsewhere classified	Diagnosis	ICD-9-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
929.9	Crushing injury of unspecified site	Diagnosis	ICD-9-CM
958.4	Traumatic shock	Diagnosis	ICD-9-CM
958.5	Traumatic anuria	Diagnosis	ICD-9-CM
958.7	Traumatic subcutaneous emphysema	Diagnosis	ICD-9-CM
996.7	Other complications of internal prosthetic device, implant, and graft	Diagnosis	ICD-9-CM
996.70	Other complications due to unspecified device, implant, and graft	Diagnosis	ICD-9-CM
996.71	Other complications due to heart valve prosthesis	Diagnosis	ICD-9-CM
996.72	Other complications due to other cardiac device, implant, and graft	Diagnosis	ICD-9-CM
996.73	Other complications due to renal dialysis device, implant, and graft	Diagnosis	ICD-9-CM
996.74	Other complications due to other vascular device, implant, and graft	Diagnosis	ICD-9-CM
996.75	Other complications due to nervous system device, implant, and graft	Diagnosis	ICD-9-CM
996.76	Other complications due to genitourinary device, implant, and graft	Diagnosis	ICD-9-CM
996.77	Other complications due to internal joint prosthesis	Diagnosis	ICD-9-CM
996.78	Other complications due to other internal orthopedic device, implant, and graft	Diagnosis	ICD-9-CM
996.79	Other complications due to other internal prosthetic device, implant, and graft	Diagnosis	ICD-9-CM
998.11	Hemorrhage complicating a procedure	Diagnosis	ICD-9-CM
998.12	Hematoma complicating a procedure	Diagnosis	ICD-9-CM
998.2	Accidental puncture or laceration during procedure	Diagnosis	ICD-9-CM
E805	Hit by rolling stock	Diagnosis	ICD-9-CM
E805.0	Railway employee hit by rolling stock	Diagnosis	ICD-9-CM
E805.1	Passenger on railway hit by rolling stock	Diagnosis	ICD-9-CM
E805.2	Pedestrian hit by rolling stock	Diagnosis	ICD-9-CM
E805.3	Pedal cyclist hit by rolling stock	Diagnosis	ICD-9-CM
E805.8	Other specified person hit by rolling stock	Diagnosis	ICD-9-CM
E805.9	Unspecified person hit by rolling stock	Diagnosis	ICD-9-CM
E870	Accidental cut, puncture, perforation, or hemorrhage during medical care	Diagnosis	ICD-9-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
E870.0	Accidental cut, puncture, perforation, or hemorrhage during surgical operation	Diagnosis	ICD-9-CM
E870.1	Accidental cut, puncture, perforation, or hemorrhage during infusion or transfusion	Diagnosis	ICD-9-CM
E870.2	Accidental cut, puncture, perforation, or hemorrhage during kidney dialysis or other perfusion	Diagnosis	ICD-9-CM
E870.3	Accidental cut, puncture, perforation, or hemorrhage during injection or vaccination	Diagnosis	ICD-9-CM
E870.4	Accidental cut, puncture, perforation, or hemorrhage during endoscopic examination	Diagnosis	ICD-9-CM
E870.5	Accidental cut, puncture, perforation, or hemorrhage during aspiration of fluid or tissue, puncture, and catheterization	Diagnosis	ICD-9-CM
E870.6	Accidental cut, puncture, perforation, or hemorrhage during heart catheterization	Diagnosis	ICD-9-CM
E870.7	Accidental cut, puncture, perforation, or hemorrhage during administration of enema	Diagnosis	ICD-9-CM
E870.8	Accidental cut, puncture, perforation, or hemorrhage during other specified medical care	Diagnosis	ICD-9-CM
E870.9	Accidental cut, puncture, perforation, or hemorrhage during unspecified medical care	Diagnosis	ICD-9-CM
E881	Accidental fall on or from ladders or scaffolding	Diagnosis	ICD-9-CM
E881.0	Accidental fall from ladder	Diagnosis	ICD-9-CM
E881.1	Accidental fall from scaffolding	Diagnosis	ICD-9-CM
E882	Accidental fall from or out of building or other structure	Diagnosis	ICD-9-CM
E883	Accidental fall into hole or other opening in surface	Diagnosis	ICD-9-CM
E883.0	Accident from diving or jumping into water (swimming pool)	Diagnosis	ICD-9-CM
E883.1	Accidental fall into well	Diagnosis	ICD-9-CM
E883.2	Accidental fall into storm drain or manhole	Diagnosis	ICD-9-CM
E883.9	Accidental fall into other hole or other opening in surface	Diagnosis	ICD-9-CM
E922	Accident caused by firearm, and air gun missiles	Diagnosis	ICD-9-CM
E922.0	Accident caused by handgun	Diagnosis	ICD-9-CM
E922.1	Accident caused by shotgun (automatic)	Diagnosis	ICD-9-CM
E922.2	Accident caused by hunting rifle	Diagnosis	ICD-9-CM
E922.3	Accident caused by military firearms	Diagnosis	ICD-9-CM
E922.4	Accident caused by air gun	Diagnosis	ICD-9-CM
E922.5	Accident caused by paintball gun	Diagnosis	ICD-9-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
E922.8	Accident caused by other specified firearm missile	Diagnosis	ICD-9-CM
E922.9	Accident caused by unspecified firearm missile	Diagnosis	ICD-9-CM
E923	Accident caused by explosive material	Diagnosis	ICD-9-CM
E923.0	Accident caused by fireworks	Diagnosis	ICD-9-CM
E923.1	Accident caused by blasting materials	Diagnosis	ICD-9-CM
E923.2	Accident caused by explosive gases	Diagnosis	ICD-9-CM
E923.8	Accident caused by other explosive materials	Diagnosis	ICD-9-CM
E923.9	Accident caused by unspecified explosive material	Diagnosis	ICD-9-CM
E955	Suicide and self-inflicted injury by firearms, air guns and explosives	Diagnosis	ICD-9-CM
E955.0	Suicide and self-inflicted injury by handgun	Diagnosis	ICD-9-CM
E955.1	Suicide and self-inflicted injury by shotgun	Diagnosis	ICD-9-CM
E955.2	Suicide and self-inflicted injury by hunting rifle	Diagnosis	ICD-9-CM
E955.3	Suicide and self-inflicted injury by military firearms	Diagnosis	ICD-9-CM
E955.4	Suicide and self-inflicted injury by other and unspecified firearm	Diagnosis	ICD-9-CM
E955.5	Suicide and self-inflicted injury by explosives	Diagnosis	ICD-9-CM
E955.6	Suicide and self-inflicted injury by air gun	Diagnosis	ICD-9-CM
E955.7	Suicide and self-inflicted injury by paintball gun	Diagnosis	ICD-9-CM
E955.9	Suicide and self-inflicted injury by firearms and explosives, unspecified	Diagnosis	ICD-9-CM
E960	Fight, brawl, rape	Diagnosis	ICD-9-CM
E960.0	Unarmed fight or brawl	Diagnosis	ICD-9-CM
E960.1	Rape	Diagnosis	ICD-9-CM
E965	Assault by firearms and explosives	Diagnosis	ICD-9-CM
E965.0	Assault by handgun	Diagnosis	ICD-9-CM
E965.1	Assault by shotgun	Diagnosis	ICD-9-CM
E965.2	Assault by hunting rifle	Diagnosis	ICD-9-CM
E965.3	Assault by military firearms	Diagnosis	ICD-9-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
E965.4	Assault by other and unspecified firearm	Diagnosis	ICD-9-CM
E965.5	Assault by antipersonnel bomb	Diagnosis	ICD-9-CM
E965.6	Assault by gasoline bomb	Diagnosis	ICD-9-CM
E965.7	Assault by letter bomb	Diagnosis	ICD-9-CM
E965.8	Assault by other specified explosive	Diagnosis	ICD-9-CM
E965.9	Assault by unspecified explosive	Diagnosis	ICD-9-CM
E970	Injury due to legal intervention by firearms	Diagnosis	ICD-9-CM
E985	Injury by firearms, air guns and explosives, undetermined whether accidentally or purposely inflicted	Diagnosis	ICD-9-CM
E985.0	Injury by handgun, undetermined whether accidentally or purposely inflicted	Diagnosis	ICD-9-CM
E985.1	Injury by shotgun, undetermined whether accidentally or purposely inflicted	Diagnosis	ICD-9-CM
E985.2	Injury by hunting rifle, undetermined whether accidentally or purposely inflicted	Diagnosis	ICD-9-CM
E985.3	Injury by military firearms, undetermined whether accidentally or purposely inflicted	Diagnosis	ICD-9-CM
E985.4	Injury by other and unspecified firearm, undetermined whether accidentally or purposely inflicted	Diagnosis	ICD-9-CM
E985.5	Injury by explosives, undetermined whether accidentally or purposely inflicted	Diagnosis	ICD-9-CM
E985.6	Injury by air gun, undetermined whether accidental, or purposefully inflicted	Diagnosis	ICD-9-CM
E985.7	Injury by paintball gun, undetermined whether accidentally or purposefully inflicted	Diagnosis	ICD-9-CM
D78.01	Intraoperative hemorrhage and hematoma of the spleen complicating a procedure on the spleen	Diagnosis	ICD-10-CM
D78.02	Intraoperative hemorrhage and hematoma of the spleen complicating other procedure	Diagnosis	ICD-10-CM
D78.11	Accidental puncture and laceration of the spleen during a procedure on the spleen	Diagnosis	ICD-10-CM
D78.12	Accidental puncture and laceration of the spleen during other procedure	Diagnosis	ICD-10-CM
D78.21	Postprocedural hemorrhage of the spleen following a procedure on the spleen	Diagnosis	ICD-10-CM
D78.22	Postprocedural hemorrhage of the spleen following other procedure	Diagnosis	ICD-10-CM
D78.31	Postprocedural hematoma of the spleen following a procedure on the spleen	Diagnosis	ICD-10-CM
D78.32	Postprocedural hematoma of the spleen following other procedure	Diagnosis	ICD-10-CM
E36.01	Intraoperative hemorrhage and hematoma of an endocrine system organ or structure complicating an endocrine system procedure	Diagnosis	ICD-10-CM
E36.02	Intraoperative hemorrhage and hematoma of an endocrine system organ or structure complicating other procedure	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
E36.11	Accidental puncture and laceration of an endocrine system organ or structure during an endocrine system procedure	Diagnosis	ICD-10-CM
E36.12	Accidental puncture and laceration of an endocrine system organ or structure during other procedure	Diagnosis	ICD-10-CM
E89.810	Postprocedural hemorrhage of an endocrine system organ or structure following an endocrine system procedure	Diagnosis	ICD-10-CM
E89.811	Postprocedural hemorrhage of an endocrine system organ or structure following other procedure	Diagnosis	ICD-10-CM
E89.820	Postprocedural hematoma of an endocrine system organ or structure following an endocrine system procedure	Diagnosis	ICD-10-CM
E89.821	Postprocedural hematoma of an endocrine system organ or structure following other procedure	Diagnosis	ICD-10-CM
G97.31	Intraoperative hemorrhage and hematoma of a nervous system organ or structure complicating a nervous system procedure	Diagnosis	ICD-10-CM
G97.32	Intraoperative hemorrhage and hematoma of a nervous system organ or structure complicating other procedure	Diagnosis	ICD-10-CM
G97.48	Accidental puncture and laceration of other nervous system organ or structure during a nervous system procedure	Diagnosis	ICD-10-CM
G97.49	Accidental puncture and laceration of other nervous system organ or structure during other procedure	Diagnosis	ICD-10-CM
G97.51	Postprocedural hemorrhage of a nervous system organ or structure following a nervous system procedure	Diagnosis	ICD-10-CM
G97.52	Postprocedural hemorrhage of a nervous system organ or structure following other procedure	Diagnosis	ICD-10-CM
G97.61	Postprocedural hematoma of a nervous system organ or structure following a nervous system procedure	Diagnosis	ICD-10-CM
G97.62	Postprocedural hematoma of a nervous system organ or structure following other procedure	Diagnosis	ICD-10-CM
H59.111	Intraoperative hemorrhage and hematoma of right eye and adnexa complicating an ophthalmic procedure	Diagnosis	ICD-10-CM
H59.112	Intraoperative hemorrhage and hematoma of left eye and adnexa complicating an ophthalmic procedure	Diagnosis	ICD-10-CM
H59.113	Intraoperative hemorrhage and hematoma of eye and adnexa complicating an ophthalmic procedure, bilateral	Diagnosis	ICD-10-CM
H59.119	Intraoperative hemorrhage and hematoma of unspecified eye and adnexa complicating an ophthalmic procedure	Diagnosis	ICD-10-CM
H59.121	Intraoperative hemorrhage and hematoma of right eye and adnexa complicating other procedure	Diagnosis	ICD-10-CM
H59.122	Intraoperative hemorrhage and hematoma of left eye and adnexa complicating other procedure	Diagnosis	ICD-10-CM
H59.123	Intraoperative hemorrhage and hematoma of eye and adnexa complicating other procedure, bilateral	Diagnosis	ICD-10-CM
H59.129	Intraoperative hemorrhage and hematoma of unspecified eye and adnexa complicating other procedure	Diagnosis	ICD-10-CM
H59.211	Accidental puncture and laceration of right eye and adnexa during an ophthalmic procedure	Diagnosis	ICD-10-CM
H59.212	Accidental puncture and laceration of left eye and adnexa during an ophthalmic procedure	Diagnosis	ICD-10-CM
H59.213	Accidental puncture and laceration of eye and adnexa during an ophthalmic procedure, bilateral	Diagnosis	ICD-10-CM
H59.219	Accidental puncture and laceration of unspecified eye and adnexa during an ophthalmic procedure	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
H59.221	Accidental puncture and laceration of right eye and adnexa during other procedure	Diagnosis	ICD-10-CM
H59.222	Accidental puncture and laceration of left eye and adnexa during other procedure	Diagnosis	ICD-10-CM
H59.223	Accidental puncture and laceration of eye and adnexa during other procedure, bilateral	Diagnosis	ICD-10-CM
H59.229	Accidental puncture and laceration of unspecified eye and adnexa during other procedure	Diagnosis	ICD-10-CM
H59.311	Postprocedural hemorrhage of right eye and adnexa following an ophthalmic procedure	Diagnosis	ICD-10-CM
H59.312	Postprocedural hemorrhage of left eye and adnexa following an ophthalmic procedure	Diagnosis	ICD-10-CM
H59.313	Postprocedural hemorrhage of eye and adnexa following an ophthalmic procedure, bilateral	Diagnosis	ICD-10-CM
H59.319	Postprocedural hemorrhage of unspecified eye and adnexa following an ophthalmic procedure	Diagnosis	ICD-10-CM
H59.321	Postprocedural hemorrhage of right eye and adnexa following other procedure	Diagnosis	ICD-10-CM
H59.322	Postprocedural hemorrhage of left eye and adnexa following other procedure	Diagnosis	ICD-10-CM
H59.323	Postprocedural hemorrhage of eye and adnexa following other procedure, bilateral	Diagnosis	ICD-10-CM
H59.329	Postprocedural hemorrhage of unspecified eye and adnexa following other procedure	Diagnosis	ICD-10-CM
H59.331	Postprocedural hematoma of right eye and adnexa following an ophthalmic procedure	Diagnosis	ICD-10-CM
H59.332	Postprocedural hematoma of left eye and adnexa following an ophthalmic procedure	Diagnosis	ICD-10-CM
H59.333	Postprocedural hematoma of eye and adnexa following an ophthalmic procedure, bilateral	Diagnosis	ICD-10-CM
H59.339	Postprocedural hematoma of unspecified eye and adnexa following an ophthalmic procedure	Diagnosis	ICD-10-CM
H59.341	Postprocedural hematoma of right eye and adnexa following other procedure	Diagnosis	ICD-10-CM
H59.342	Postprocedural hematoma of left eye and adnexa following other procedure	Diagnosis	ICD-10-CM
H59.343	Postprocedural hematoma of eye and adnexa following other procedure, bilateral	Diagnosis	ICD-10-CM
H59.349	Postprocedural hematoma of unspecified eye and adnexa following other procedure	Diagnosis	ICD-10-CM
H95.21	Intraoperative hemorrhage and hematoma of ear and mastoid process complicating a procedure on the ear and mastoid process	Diagnosis	ICD-10-CM
H95.22	Intraoperative hemorrhage and hematoma of ear and mastoid process complicating other procedure	Diagnosis	ICD-10-CM
H95.31	Accidental puncture and laceration of the ear and mastoid process during a procedure on the ear and mastoid process	Diagnosis	ICD-10-CM
H95.32	Accidental puncture and laceration of the ear and mastoid process during other procedure	Diagnosis	ICD-10-CM
H95.41	Postprocedural hemorrhage of ear and mastoid process following a procedure on the ear and mastoid process	Diagnosis	ICD-10-CM
H95.42	Postprocedural hemorrhage of ear and mastoid process following other procedure	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
H95.51	Postprocedural hematoma of ear and mastoid process following a procedure on the ear and mastoid process	Diagnosis	ICD-10-CM
H95.52	Postprocedural hematoma of ear and mastoid process following other procedure	Diagnosis	ICD-10-CM
I97.410	Intraoperative hemorrhage and hematoma of a circulatory system organ or structure complicating a cardiac catheterization	Diagnosis	ICD-10-CM
I97.411	Intraoperative hemorrhage and hematoma of a circulatory system organ or structure complicating a cardiac bypass	Diagnosis	ICD-10-CM
I97.418	Intraoperative hemorrhage and hematoma of a circulatory system organ or structure complicating other circulatory system	Diagnosis	ICD-10-CM
I97.42	Intraoperative hemorrhage and hematoma of a circulatory system organ or structure complicating other procedure	Diagnosis	ICD-10-CM
I97.51	Accidental puncture and laceration of a circulatory system organ or structure during a circulatory system procedure	Diagnosis	ICD-10-CM
I97.52	Accidental puncture and laceration of a circulatory system organ or structure during other procedure	Diagnosis	ICD-10-CM
I97.610	Postprocedural hemorrhage of a circulatory system organ or structure following a cardiac catheterization	Diagnosis	ICD-10-CM
I97.611	Postprocedural hemorrhage of a circulatory system organ or structure following cardiac bypass	Diagnosis	ICD-10-CM
I97.618	Postprocedural hemorrhage of a circulatory system organ or structure following other circulatory system procedure	Diagnosis	ICD-10-CM
I97.620	Postprocedural hemorrhage of a circulatory system organ or structure following other procedure	Diagnosis	ICD-10-CM
I97.621	Postprocedural hematoma of a circulatory system organ or structure following other procedure	Diagnosis	ICD-10-CM
I97.630	Postprocedural hematoma of a circulatory system organ or structure following a cardiac catheterization	Diagnosis	ICD-10-CM
I97.631	Postprocedural hematoma of a circulatory system organ or structure following cardiac bypass	Diagnosis	ICD-10-CM
I97.638	Postprocedural hematoma of a circulatory system organ or structure following other circulatory system procedure	Diagnosis	ICD-10-CM
J95.61	Intraoperative hemorrhage and hematoma of a respiratory system organ or structure complicating a respiratory system procedure	Diagnosis	ICD-10-CM
J95.62	Intraoperative hemorrhage and hematoma of a respiratory system organ or structure complicating other procedure	Diagnosis	ICD-10-CM
J95.71	Accidental puncture and laceration of a respiratory system organ or structure during a respiratory system procedure	Diagnosis	ICD-10-CM
J95.72	Accidental puncture and laceration of a respiratory system organ or structure during other procedure	Diagnosis	ICD-10-CM
J95.830	Postprocedural hemorrhage of a respiratory system organ or structure following a respiratory system procedure	Diagnosis	ICD-10-CM
J95.831	Postprocedural hemorrhage of a respiratory system organ or structure following other procedure	Diagnosis	ICD-10-CM
J95.860	Postprocedural hematoma of a respiratory system organ or structure following a respiratory system procedure	Diagnosis	ICD-10-CM
J95.861	Postprocedural hematoma of a respiratory system organ or structure following other procedure	Diagnosis	ICD-10-CM
K91.61	Intraoperative hemorrhage and hematoma of a digestive system organ or structure complicating a digestive system procedure	Diagnosis	ICD-10-CM
K91.62	Intraoperative hemorrhage and hematoma of a digestive system organ or structure complicating other procedure	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
K91.71	Accidental puncture and laceration of a digestive system organ or structure during a digestive system procedure	Diagnosis	ICD-10-CM
K91.72	Accidental puncture and laceration of a digestive system organ or structure during other procedure	Diagnosis	ICD-10-CM
K91.840	Postprocedural hemorrhage of a digestive system organ or structure following a digestive system procedure	Diagnosis	ICD-10-CM
K91.841	Postprocedural hemorrhage of a digestive system organ or structure following other procedure	Diagnosis	ICD-10-CM
K91.870	Postprocedural hematoma of a digestive system organ or structure following a digestive system procedure	Diagnosis	ICD-10-CM
K91.871	Postprocedural hematoma of a digestive system organ or structure following other procedure	Diagnosis	ICD-10-CM
L76.01	Intraoperative hemorrhage and hematoma of skin and subcutaneous tissue complicating a dermatologic procedure	Diagnosis	ICD-10-CM
L76.02	Intraoperative hemorrhage and hematoma of skin and subcutaneous tissue complicating other procedure	Diagnosis	ICD-10-CM
L76.11	Accidental puncture and laceration of skin and subcutaneous tissue during a dermatologic procedure	Diagnosis	ICD-10-CM
L76.12	Accidental puncture and laceration of skin and subcutaneous tissue during other procedure	Diagnosis	ICD-10-CM
L76.21	Postprocedural hemorrhage of skin and subcutaneous tissue following a dermatologic procedure	Diagnosis	ICD-10-CM
L76.22	Postprocedural hemorrhage of skin and subcutaneous tissue following other procedure	Diagnosis	ICD-10-CM
L76.31	Postprocedural hematoma of skin and subcutaneous tissue following a dermatologic procedure	Diagnosis	ICD-10-CM
L76.32	Postprocedural hematoma of skin and subcutaneous tissue following other procedure	Diagnosis	ICD-10-CM
M96.810	Intraoperative hemorrhage and hematoma of a musculoskeletal structure complicating a musculoskeletal system procedure	Diagnosis	ICD-10-CM
M96.811	Intraoperative hemorrhage and hematoma of a musculoskeletal structure complicating other procedure	Diagnosis	ICD-10-CM
M96.820	Accidental puncture and laceration of a musculoskeletal structure during a musculoskeletal system procedure	Diagnosis	ICD-10-CM
M96.821	Accidental puncture and laceration of a musculoskeletal structure during other procedure	Diagnosis	ICD-10-CM
M96.830	Postprocedural hemorrhage of a musculoskeletal structure following a musculoskeletal system procedure	Diagnosis	ICD-10-CM
M96.831	Postprocedural hemorrhage of a musculoskeletal structure following other procedure	Diagnosis	ICD-10-CM
M96.840	Postprocedural hematoma of a musculoskeletal structure following a musculoskeletal system procedure	Diagnosis	ICD-10-CM
M96.841	Postprocedural hematoma of a musculoskeletal structure following other procedure	Diagnosis	ICD-10-CM
N99.61	Intraoperative hemorrhage and hematoma of a genitourinary system organ or structure complicating a genitourinary system	Diagnosis	ICD-10-CM
N99.62	Intraoperative hemorrhage and hematoma of a genitourinary system organ or structure complicating other procedure	Diagnosis	ICD-10-CM
N99.71	Accidental puncture and laceration of a genitourinary system organ or structure during a genitourinary system procedure	Diagnosis	ICD-10-CM
N99.72	Accidental puncture and laceration of a genitourinary system organ or structure during other procedure	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
N99.820	Postprocedural hemorrhage of a genitourinary system organ or structure following a genitourinary system procedure	Diagnosis	ICD-10-CM
N99.821	Postprocedural hemorrhage of a genitourinary system organ or structure following other procedure	Diagnosis	ICD-10-CM
N99.840	Postprocedural hematoma of a genitourinary system organ or structure following a genitourinary system procedure	Diagnosis	ICD-10-CM
N99.841	Postprocedural hematoma of a genitourinary system organ or structure following other procedure	Diagnosis	ICD-10-CM
S01.00XA	Unspecified open wound of scalp, initial encounter	Diagnosis	ICD-10-CM
S01.01XA	Laceration without foreign body of scalp, initial encounter	Diagnosis	ICD-10-CM
S01.02XA	Laceration with foreign body of scalp, initial encounter	Diagnosis	ICD-10-CM
S01.03XA	Puncture wound without foreign body of scalp, initial encounter	Diagnosis	ICD-10-CM
S01.04XA	Puncture wound with foreign body of scalp, initial encounter	Diagnosis	ICD-10-CM
S01.05XA	Open bite of scalp, initial encounter	Diagnosis	ICD-10-CM
S02.0XXA	Fracture of vault of skull, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S02.0XXB	Fracture of vault of skull, initial encounter for open fracture	Diagnosis	ICD-10-CM
S02.101A	Fracture of base of skull, right side, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S02.101B	Fracture of base of skull, right side, initial encounter for open fracture	Diagnosis	ICD-10-CM
S02.102A	Fracture of base of skull, left side, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S02.102B	Fracture of base of skull, left side, initial encounter for open fracture	Diagnosis	ICD-10-CM
S02.109A	Fracture of base of skull, unspecified side, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S02.109B	Fracture of base of skull, unspecified side, initial encounter for open fracture	Diagnosis	ICD-10-CM
S02.110A	Type I occipital condyle fracture, unspecified side, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S02.110B	Type I occipital condyle fracture, unspecified side, initial encounter for open fracture	Diagnosis	ICD-10-CM
S02.111A	Type II occipital condyle fracture, unspecified side, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S02.111B	Type II occipital condyle fracture, unspecified side, initial encounter for open fracture	Diagnosis	ICD-10-CM
S02.112A	Type III occipital condyle fracture, unspecified side, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S02.112B	Type III occipital condyle fracture, unspecified side, initial encounter for open fracture	Diagnosis	ICD-10-CM
S02.113A	Unspecified occipital condyle fracture, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S02.113B	Unspecified occipital condyle fracture, initial encounter for open fracture	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S02.118A	Other fracture of occiput, unspecified side, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S02.118B	Other fracture of occiput, unspecified side, initial encounter for open fracture	Diagnosis	ICD-10-CM
S02.119A	Unspecified fracture of occiput, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S02.119B	Unspecified fracture of occiput, initial encounter for open fracture	Diagnosis	ICD-10-CM
S02.11AA	Type I occipital condyle fracture, right side, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S02.11AB	Type I occipital condyle fracture, right side, initial encounter for open fracture	Diagnosis	ICD-10-CM
S02.11BA	Type I occipital condyle fracture, left side, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S02.11BB	Type I occipital condyle fracture, left side, initial encounter for open fracture	Diagnosis	ICD-10-CM
S02.11CA	Type II occipital condyle fracture, right side, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S02.11CB	Type II occipital condyle fracture, right side, initial encounter for open fracture	Diagnosis	ICD-10-CM
S02.11DA	Type II occipital condyle fracture, left side, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S02.11DB	Type II occipital condyle fracture, left side, initial encounter for open fracture	Diagnosis	ICD-10-CM
S02.11EA	Type III occipital condyle fracture, right side, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S02.11EB	Type III occipital condyle fracture, right side, initial encounter for open fracture	Diagnosis	ICD-10-CM
S02.11FA	Type III occipital condyle fracture, left side, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S02.11FB	Type III occipital condyle fracture, left side, initial encounter for open fracture	Diagnosis	ICD-10-CM
S02.11GA	Other fracture of occiput, right side, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S02.11GB	Other fracture of occiput, right side, initial encounter for open fracture	Diagnosis	ICD-10-CM
S02.11HA	Other fracture of occiput, left side, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S02.11HB	Other fracture of occiput, left side, initial encounter for open fracture	Diagnosis	ICD-10-CM
S02.19XA	Other fracture of base of skull, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S02.19XB	Other fracture of base of skull, initial encounter for open fracture	Diagnosis	ICD-10-CM
S02.2XXA	Fracture of nasal bones, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S02.2XXB	Fracture of nasal bones, initial encounter for open fracture	Diagnosis	ICD-10-CM
S02.30XA	Fracture of orbital floor, unspecified side, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S02.30XB	Fracture of orbital floor, unspecified side, initial encounter for open fracture	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S02.31XA	Fracture of orbital floor, right side, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S02.31XB	Fracture of orbital floor, right side, initial encounter for open fracture	Diagnosis	ICD-10-CM
S02.32XA	Fracture of orbital floor, left side, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S02.32XB	Fracture of orbital floor, left side, initial encounter for open fracture	Diagnosis	ICD-10-CM
S02.400A	Malar fracture, unspecified side, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S02.400B	Malar fracture, unspecified side, initial encounter for open fracture	Diagnosis	ICD-10-CM
S02.401A	Maxillary fracture, unspecified side, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S02.401B	Maxillary fracture, unspecified side, initial encounter for open fracture	Diagnosis	ICD-10-CM
S02.402A	Zygomatic fracture, unspecified side, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S02.402B	Zygomatic fracture, unspecified side, initial encounter for open fracture	Diagnosis	ICD-10-CM
S02.40AA	Malar fracture, right side, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S02.40AB	Malar fracture, right side, initial encounter for open fracture	Diagnosis	ICD-10-CM
S02.40BA	Malar fracture, left side, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S02.40BB	Malar fracture, left side, initial encounter for open fracture	Diagnosis	ICD-10-CM
S02.40CA	Maxillary fracture, right side, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S02.40CB	Maxillary fracture, right side, initial encounter for open fracture	Diagnosis	ICD-10-CM
S02.40DA	Maxillary fracture, left side, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S02.40DB	Maxillary fracture, left side, initial encounter for open fracture	Diagnosis	ICD-10-CM
S02.40EA	Zygomatic fracture, right side, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S02.40EB	Zygomatic fracture, right side, initial encounter for open fracture	Diagnosis	ICD-10-CM
S02.40FA	Zygomatic fracture, left side, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S02.40FB	Zygomatic fracture, left side, initial encounter for open fracture	Diagnosis	ICD-10-CM
S02.411A	LeFort I fracture, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S02.411B	LeFort I fracture, initial encounter for open fracture	Diagnosis	ICD-10-CM
S02.412A	LeFort II fracture, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S02.412B	LeFort II fracture, initial encounter for open fracture	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S02.413A	LeFort III fracture, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S02.413B	LeFort III fracture, initial encounter for open fracture	Diagnosis	ICD-10-CM
S02.42XA	Fracture of alveolus of maxilla, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S02.42XB	Fracture of alveolus of maxilla, initial encounter for open fracture	Diagnosis	ICD-10-CM
S02.600A	Fracture of unspecified part of body of mandible, unspecified side, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S02.600B	Fracture of unspecified part of body of mandible, unspecified side, initial encounter for open fracture	Diagnosis	ICD-10-CM
S02.601A	Fracture of unspecified part of body of right mandible, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S02.601B	Fracture of unspecified part of body of right mandible, initial encounter for open fracture	Diagnosis	ICD-10-CM
S02.602A	Fracture of unspecified part of body of left mandible, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S02.602B	Fracture of unspecified part of body of left mandible, initial encounter for open fracture	Diagnosis	ICD-10-CM
S02.609A	Fracture of mandible, unspecified, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S02.609B	Fracture of mandible, unspecified, initial encounter for open fracture	Diagnosis	ICD-10-CM
S02.610A	Fracture of condylar process of mandible, unspecified side, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S02.610B	Fracture of condylar process of mandible, unspecified side, initial encounter for open fracture	Diagnosis	ICD-10-CM
S02.611A	Fracture of condylar process of right mandible, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S02.611B	Fracture of condylar process of right mandible, initial encounter for open fracture	Diagnosis	ICD-10-CM
S02.612A	Fracture of condylar process of left mandible, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S02.612B	Fracture of condylar process of left mandible, initial encounter for open fracture	Diagnosis	ICD-10-CM
S02.620A	Fracture of subcondylar process of mandible, unspecified side, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S02.620B	Fracture of subcondylar process of mandible, unspecified side, initial encounter for open fracture	Diagnosis	ICD-10-CM
S02.621A	Fracture of subcondylar process of right mandible, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S02.621B	Fracture of subcondylar process of right mandible, initial encounter for open fracture	Diagnosis	ICD-10-CM
S02.622A	Fracture of subcondylar process of left mandible, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S02.622B	Fracture of subcondylar process of left mandible, initial encounter for open fracture	Diagnosis	ICD-10-CM
S02.630A	Fracture of coronoid process of mandible, unspecified side, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S02.630B	Fracture of coronoid process of mandible, unspecified side, initial encounter for open fracture	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S02.631A	Fracture of coronoid process of right mandible, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S02.631B	Fracture of coronoid process of right mandible, initial encounter for open fracture	Diagnosis	ICD-10-CM
S02.632A	Fracture of coronoid process of left mandible, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S02.632B	Fracture of coronoid process of left mandible, initial encounter for open fracture	Diagnosis	ICD-10-CM
S02.640A	Fracture of ramus of mandible, unspecified side, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S02.640B	Fracture of ramus of mandible, unspecified side, initial encounter for open fracture	Diagnosis	ICD-10-CM
S02.641A	Fracture of ramus of right mandible, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S02.641B	Fracture of ramus of right mandible, initial encounter for open fracture	Diagnosis	ICD-10-CM
S02.642A	Fracture of ramus of left mandible, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S02.642B	Fracture of ramus of left mandible, initial encounter for open fracture	Diagnosis	ICD-10-CM
S02.650A	Fracture of angle of mandible, unspecified side, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S02.650B	Fracture of angle of mandible, unspecified side, initial encounter for open fracture	Diagnosis	ICD-10-CM
S02.651A	Fracture of angle of right mandible, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S02.651B	Fracture of angle of right mandible, initial encounter for open fracture	Diagnosis	ICD-10-CM
S02.652A	Fracture of angle of left mandible, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S02.652B	Fracture of angle of left mandible, initial encounter for open fracture	Diagnosis	ICD-10-CM
S02.66XA	Fracture of symphysis of mandible, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S02.66XB	Fracture of symphysis of mandible, initial encounter for open fracture	Diagnosis	ICD-10-CM
S02.670A	Fracture of alveolus of mandible, unspecified side, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S02.670B	Fracture of alveolus of mandible, unspecified side, initial encounter for open fracture	Diagnosis	ICD-10-CM
S02.671A	Fracture of alveolus of right mandible, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S02.671B	Fracture of alveolus of right mandible, initial encounter for open fracture	Diagnosis	ICD-10-CM
S02.672A	Fracture of alveolus of left mandible, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S02.672B	Fracture of alveolus of left mandible, initial encounter for open fracture	Diagnosis	ICD-10-CM
S02.69XA	Fracture of mandible of other specified site, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S02.69XB	Fracture of mandible of other specified site, initial encounter for open fracture	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S02.80XA	Fracture of other specified skull and facial bones, unspecified side, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S02.80XB	Fracture of other specified skull and facial bones, unspecified side, initial encounter for open fracture	Diagnosis	ICD-10-CM
S02.81XA	Fracture of other specified skull and facial bones, right side, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S02.81XB	Fracture of other specified skull and facial bones, right side, initial encounter for open fracture	Diagnosis	ICD-10-CM
S02.82XA	Fracture of other specified skull and facial bones, left side, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S02.82XB	Fracture of other specified skull and facial bones, left side, initial encounter for open fracture	Diagnosis	ICD-10-CM
S02.91XA	Unspecified fracture of skull, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S02.91XB	Unspecified fracture of skull, initial encounter for open fracture	Diagnosis	ICD-10-CM
S02.92XA	Unspecified fracture of facial bones, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S02.92XB	Unspecified fracture of facial bones, initial encounter for open fracture	Diagnosis	ICD-10-CM
S06.330A	Contusion and laceration of cerebrum, unspecified, without loss of consciousness, initial encounter	Diagnosis	ICD-10-CM
S06.331A	Contusion and laceration of cerebrum, unspecified, with loss of consciousness of 30 minutes or less, initial encounter	Diagnosis	ICD-10-CM
S06.332A	Contusion and laceration of cerebrum, unspecified, with loss of consciousness of 31 minutes to 59 minutes, initial encounter	Diagnosis	ICD-10-CM
S06.333A	Contusion and laceration of cerebrum, unspecified, with loss of consciousness of 1 hour to 5 hours 59 minutes, initial encounter	Diagnosis	ICD-10-CM
S06.334A	Contusion and laceration of cerebrum, unspecified, with loss of consciousness of 6 hours to 24 hours, initial encounter	Diagnosis	ICD-10-CM
S06.335A	Contusion and laceration of cerebrum, unspecified, with loss of consciousness greater than 24 hours with return to pre-existing conscious level, initial encounter	Diagnosis	ICD-10-CM
S06.336A	Contusion and laceration of cerebrum, unspecified, with loss of consciousness greater than 24 hours without return to pre-existing conscious level with patient surviving, initial encounter	Diagnosis	ICD-10-CM
S06.337A	Contusion and laceration of cerebrum, unspecified, with loss of consciousness of any duration with death due to brain injury prior to regaining consciousness, initial encounter	Diagnosis	ICD-10-CM
S06.338A	Contusion and laceration of cerebrum, unspecified, with loss of consciousness of any duration with death due to other cause prior to regaining consciousness, initial encounter	Diagnosis	ICD-10-CM
S06.339A	Contusion and laceration of cerebrum, unspecified, with loss of consciousness of unspecified duration, initial encounter	Diagnosis	ICD-10-CM
S06.360A	Traumatic hemorrhage of cerebrum, unspecified, without loss of consciousness, initial encounter	Diagnosis	ICD-10-CM
S06.361A	Traumatic hemorrhage of cerebrum, unspecified, with loss of consciousness of 30 minutes or less, initial encounter	Diagnosis	ICD-10-CM
S06.362A	Traumatic hemorrhage of cerebrum, unspecified, with loss of consciousness of 31 minutes to 59 minutes, initial encounter	Diagnosis	ICD-10-CM
S06.363A	Traumatic hemorrhage of cerebrum, unspecified, with loss of consciousness of 1 hours to 5 hours 59 minutes, initial encounter	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S06.364A	Traumatic hemorrhage of cerebrum, unspecified, with loss of consciousness of 6 hours to 24 hours, initial encounter	Diagnosis	ICD-10-CM
S06.365A	Traumatic hemorrhage of cerebrum, unspecified, with loss of consciousness greater than 24 hours with return to pre-existing conscious level, initial encounter	Diagnosis	ICD-10-CM
S06.366A	Traumatic hemorrhage of cerebrum, unspecified, with loss of consciousness greater than 24 hours without return to pre-existing conscious level with patient surviving, initial encounter	Diagnosis	ICD-10-CM
S06.367A	Traumatic hemorrhage of cerebrum, unspecified, with loss of consciousness of any duration with death due to brain injury prior to regaining consciousness, initial encounter	Diagnosis	ICD-10-CM
S06.368A	Traumatic hemorrhage of cerebrum, unspecified, with loss of consciousness of any duration with death due to other cause prior to regaining consciousness, initial encounter	Diagnosis	ICD-10-CM
S06.369A	Traumatic hemorrhage of cerebrum, unspecified, with loss of consciousness of unspecified duration, initial encounter	Diagnosis	ICD-10-CM
S06.4X0A	Epidural hemorrhage without loss of consciousness, initial encounter	Diagnosis	ICD-10-CM
S06.4X1A	Epidural hemorrhage with loss of consciousness of 30 minutes or less, initial encounter	Diagnosis	ICD-10-CM
S06.4X2A	Epidural hemorrhage with loss of consciousness of 31 minutes to 59 minutes, initial encounter	Diagnosis	ICD-10-CM
S06.4X3A	Epidural hemorrhage with loss of consciousness of 1 hour to 5 hours 59 minutes, initial encounter	Diagnosis	ICD-10-CM
S06.4X4A	Epidural hemorrhage with loss of consciousness of 6 hours to 24 hours, initial encounter	Diagnosis	ICD-10-CM
S06.4X5A	Epidural hemorrhage with loss of consciousness greater than 24 hours with return to pre-existing conscious level, initial encounter	Diagnosis	ICD-10-CM
S06.4X6A	Epidural hemorrhage with loss of consciousness greater than 24 hours without return to pre-existing conscious level with patient surviving, initial encounter	Diagnosis	ICD-10-CM
S06.4X7A	Epidural hemorrhage with loss of consciousness of any duration with death due to brain injury prior to regaining consciousness, initial encounter	Diagnosis	ICD-10-CM
S06.4X8A	Epidural hemorrhage with loss of consciousness of any duration with death due to other causes prior to regaining consciousness, initial encounter	Diagnosis	ICD-10-CM
S06.4X9A	Epidural hemorrhage with loss of consciousness of unspecified duration, initial encounter	Diagnosis	ICD-10-CM
S06.5X0A	Traumatic subdural hemorrhage without loss of consciousness, initial encounter	Diagnosis	ICD-10-CM
S06.5X1A	Traumatic subdural hemorrhage with loss of consciousness of 30 minutes or less, initial encounter	Diagnosis	ICD-10-CM
S06.5X2A	Traumatic subdural hemorrhage with loss of consciousness of 31 minutes to 59 minutes, initial encounter	Diagnosis	ICD-10-CM
S06.5X3A	Traumatic subdural hemorrhage with loss of consciousness of 1 hour to 5 hours 59 minutes, initial encounter	Diagnosis	ICD-10-CM
S06.5X4A	Traumatic subdural hemorrhage with loss of consciousness of 6 hours to 24 hours, initial encounter	Diagnosis	ICD-10-CM
S06.5X5A	Traumatic subdural hemorrhage with loss of consciousness greater than 24 hours with return to pre-existing conscious level, initial encounter	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S06.5X6A	Traumatic subdural hemorrhage with loss of consciousness greater than 24 hours without return to pre-existing conscious level with patient surviving, initial encounter	Diagnosis	ICD-10-CM
S06.5X7A	Traumatic subdural hemorrhage with loss of consciousness of any duration with death due to brain injury before regaining consciousness, initial encounter	Diagnosis	ICD-10-CM
S06.5X8A	Traumatic subdural hemorrhage with loss of consciousness of any duration with death due to other cause before regaining consciousness, initial encounter	Diagnosis	ICD-10-CM
S06.5X9A	Traumatic subdural hemorrhage with loss of consciousness of unspecified duration, initial encounter	Diagnosis	ICD-10-CM
S06.6X0A	Traumatic subarachnoid hemorrhage without loss of consciousness, initial encounter	Diagnosis	ICD-10-CM
S06.6X1A	Traumatic subarachnoid hemorrhage with loss of consciousness of 30 minutes or less, initial encounter	Diagnosis	ICD-10-CM
S06.6X2A	Traumatic subarachnoid hemorrhage with loss of consciousness of 31 minutes to 59 minutes, initial encounter	Diagnosis	ICD-10-CM
S06.6X3A	Traumatic subarachnoid hemorrhage with loss of consciousness of 1 hour to 5 hours 59 minutes, initial encounter	Diagnosis	ICD-10-CM
S06.6X4A	Traumatic subarachnoid hemorrhage with loss of consciousness of 6 hours to 24 hours, initial encounter	Diagnosis	ICD-10-CM
S06.6X5A	Traumatic subarachnoid hemorrhage with loss of consciousness greater than 24 hours with return to pre-existing conscious level, initial encounter	Diagnosis	ICD-10-CM
S06.6X6A	Traumatic subarachnoid hemorrhage with loss of consciousness greater than 24 hours without return to pre-existing conscious level with patient surviving, initial encounter	Diagnosis	ICD-10-CM
S06.6X7A	Traumatic subarachnoid hemorrhage with loss of consciousness of any duration with death due to brain injury prior to regaining consciousness, initial encounter	Diagnosis	ICD-10-CM
S06.6X8A	Traumatic subarachnoid hemorrhage with loss of consciousness of any duration with death due to other cause prior to regaining consciousness, initial encounter	Diagnosis	ICD-10-CM
S06.6X9A	Traumatic subarachnoid hemorrhage with loss of consciousness of unspecified duration, initial encounter	Diagnosis	ICD-10-CM
S06.890A	Other specified intracranial injury without loss of consciousness, initial encounter	Diagnosis	ICD-10-CM
S06.891A	Other specified intracranial injury with loss of consciousness of 30 minutes or less, initial encounter	Diagnosis	ICD-10-CM
S06.892A	Other specified intracranial injury with loss of consciousness of 31 minutes to 59 minutes, initial encounter	Diagnosis	ICD-10-CM
S06.893A	Other specified intracranial injury with loss of consciousness of 1 hour to 5 hours 59 minutes, initial encounter	Diagnosis	ICD-10-CM
S06.894A	Other specified intracranial injury with loss of consciousness of 6 hours to 24 hours, initial encounter	Diagnosis	ICD-10-CM
S06.895A	Other specified intracranial injury with loss of consciousness greater than 24 hours with return to pre-existing conscious level, initial encounter	Diagnosis	ICD-10-CM
S06.896A	Other specified intracranial injury with loss of consciousness greater than 24 hours without return to pre-existing conscious level with patient surviving, initial encounter	Diagnosis	ICD-10-CM
S06.897A	Other specified intracranial injury with loss of consciousness of any duration with death due to brain injury prior to regaining consciousness, initial encounter	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S06.898A	Other specified intracranial injury with loss of consciousness of any duration with death due to other cause prior to regaining consciousness. initial encounter	Diagnosis	ICD-10-CM
S06.899A	Other specified intracranial injury with loss of consciousness of unspecified duration, initial encounter	Diagnosis	ICD-10-CM
S06.9X0A	Unspecified intracranial injury without loss of consciousness, initial encounter	Diagnosis	ICD-10-CM
S06.9X1A	Unspecified intracranial injury with loss of consciousness of 30 minutes or less, initial encounter	Diagnosis	ICD-10-CM
S06.9X2A	Unspecified intracranial injury with loss of consciousness of 31 minutes to 59 minutes, initial encounter	Diagnosis	ICD-10-CM
S06.9X3A	Unspecified intracranial injury with loss of consciousness of 1 hour to 5 hours 59 minutes, initial encounter	Diagnosis	ICD-10-CM
S06.9X4A	Unspecified intracranial injury with loss of consciousness of 6 hours to 24 hours, initial encounter	Diagnosis	ICD-10-CM
S06.9X5A	Unspecified intracranial injury with loss of consciousness greater than 24 hours with return to pre-existing conscious level, initial encounter	Diagnosis	ICD-10-CM
S06.9X6A	Unspecified intracranial injury with loss of consciousness greater than 24 hours without return to pre-existing conscious level with patient surviving, initial encounter	Diagnosis	ICD-10-CM
S06.9X7A	Unspecified intracranial injury with loss of consciousness of any duration with death due to brain injury prior to regaining consciousness, initial encounter	Diagnosis	ICD-10-CM
S06.9X8A	Unspecified intracranial injury with loss of consciousness of any duration with death due to other cause prior to regaining consciousness, initial encounter	Diagnosis	ICD-10-CM
S06.9X9A	Unspecified intracranial injury with loss of consciousness of unspecified duration, initial encounter	Diagnosis	ICD-10-CM
S07.0XXA	Crushing injury of face, initial encounter	Diagnosis	ICD-10-CM
S07.1XXA	Crushing injury of skull, initial encounter	Diagnosis	ICD-10-CM
S07.8XXA	Crushing injury of other parts of head, initial encounter	Diagnosis	ICD-10-CM
S07.9XXA	Crushing injury of head, part unspecified, initial encounter	Diagnosis	ICD-10-CM
S08.0XXA	Avulsion of scalp, initial encounter	Diagnosis	ICD-10-CM
S12.000A	Unspecified displaced fracture of first cervical vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S12.000B	Unspecified displaced fracture of first cervical vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S12.001A	Unspecified nondisplaced fracture of first cervical vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S12.001B	Unspecified nondisplaced fracture of first cervical vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S12.01XA	Stable burst fracture of first cervical vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S12.01XB	Stable burst fracture of first cervical vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S12.02XA	Unstable burst fracture of first cervical vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S12.02XB	Unstable burst fracture of first cervical vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S12.030A	Displaced posterior arch fracture of first cervical vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S12.030B	Displaced posterior arch fracture of first cervical vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S12.031A	Nondisplaced posterior arch fracture of first cervical vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S12.031B	Nondisplaced posterior arch fracture of first cervical vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S12.040A	Displaced lateral mass fracture of first cervical vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S12.040B	Displaced lateral mass fracture of first cervical vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S12.041A	Nondisplaced lateral mass fracture of first cervical vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S12.041B	Nondisplaced lateral mass fracture of first cervical vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S12.090A	Other displaced fracture of first cervical vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S12.090B	Other displaced fracture of first cervical vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S12.091A	Other nondisplaced fracture of first cervical vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S12.091B	Other nondisplaced fracture of first cervical vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S12.100A	Unspecified displaced fracture of second cervical vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S12.100B	Unspecified displaced fracture of second cervical vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S12.101A	Unspecified nondisplaced fracture of second cervical vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S12.101B	Unspecified nondisplaced fracture of second cervical vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S12.110A	Anterior displaced Type II dens fracture, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S12.110B	Anterior displaced Type II dens fracture, initial encounter for open fracture	Diagnosis	ICD-10-CM
S12.111A	Posterior displaced Type II dens fracture, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S12.111B	Posterior displaced Type II dens fracture, initial encounter for open fracture	Diagnosis	ICD-10-CM
S12.112A	Nondisplaced Type II dens fracture, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S12.112B	Nondisplaced Type II dens fracture, initial encounter for open fracture	Diagnosis	ICD-10-CM
S12.120A	Other displaced dens fracture, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S12.120B	Other displaced dens fracture, initial encounter for open fracture	Diagnosis	ICD-10-CM
S12.121A	Other nondisplaced dens fracture, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S12.121B	Other nondisplaced dens fracture, initial encounter for open fracture	Diagnosis	ICD-10-CM
S12.130A	Unspecified traumatic displaced spondylolisthesis of second cervical vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S12.130B	Unspecified traumatic displaced spondylolisthesis of second cervical vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S12.131A	Unspecified traumatic nondisplaced spondylolisthesis of second cervical vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S12.131B	Unspecified traumatic nondisplaced spondylolisthesis of second cervical vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S12.14XA	Type III traumatic spondylolisthesis of second cervical vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S12.14XB	Type III traumatic spondylolisthesis of second cervical vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S12.150A	Other traumatic displaced spondylolisthesis of second cervical vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S12.150B	Other traumatic displaced spondylolisthesis of second cervical vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S12.151A	Other traumatic nondisplaced spondylolisthesis of second cervical vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S12.151B	Other traumatic nondisplaced spondylolisthesis of second cervical vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S12.190A	Other displaced fracture of second cervical vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S12.190B	Other displaced fracture of second cervical vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S12.191A	Other nondisplaced fracture of second cervical vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S12.191B	Other nondisplaced fracture of second cervical vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S12.200A	Unspecified displaced fracture of third cervical vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S12.200B	Unspecified displaced fracture of third cervical vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S12.201A	Unspecified nondisplaced fracture of third cervical vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S12.201B	Unspecified nondisplaced fracture of third cervical vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S12.230A	Unspecified traumatic displaced spondylolisthesis of third cervical vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S12.230B	Unspecified traumatic displaced spondylolisthesis of third cervical vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S12.231A	Unspecified traumatic nondisplaced spondylolisthesis of third cervical vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S12.231B	Unspecified traumatic nondisplaced spondylolisthesis of third cervical vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S12.24XA	Type III traumatic spondylolisthesis of third cervical vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S12.24XB	Type III traumatic spondylolisthesis of third cervical vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S12.250A	Other traumatic displaced spondylolisthesis of third cervical vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S12.250B	Other traumatic displaced spondylolisthesis of third cervical vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S12.251A	Other traumatic nondisplaced spondylolisthesis of third cervical vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S12.251B	Other traumatic nondisplaced spondylolisthesis of third cervical vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S12.290A	Other displaced fracture of third cervical vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S12.290B	Other displaced fracture of third cervical vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S12.291A	Other nondisplaced fracture of third cervical vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S12.291B	Other nondisplaced fracture of third cervical vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S12.300A	Unspecified displaced fracture of fourth cervical vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S12.300B	Unspecified displaced fracture of fourth cervical vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S12.301A	Unspecified nondisplaced fracture of fourth cervical vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S12.301B	Unspecified nondisplaced fracture of fourth cervical vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S12.330A	Unspecified traumatic displaced spondylolisthesis of fourth cervical vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S12.330B	Unspecified traumatic displaced spondylolisthesis of fourth cervical vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S12.331A	Unspecified traumatic nondisplaced spondylolisthesis of fourth cervical vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S12.331B	Unspecified traumatic nondisplaced spondylolisthesis of fourth cervical vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S12.34XA	Type III traumatic spondylolisthesis of fourth cervical vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S12.34XB	Type III traumatic spondylolisthesis of fourth cervical vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S12.350A	Other traumatic displaced spondylolisthesis of fourth cervical vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S12.350B	Other traumatic displaced spondylolisthesis of fourth cervical vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S12.351A	Other traumatic nondisplaced spondylolisthesis of fourth cervical vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S12.351B	Other traumatic nondisplaced spondylolisthesis of fourth cervical vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S12.390A	Other displaced fracture of fourth cervical vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S12.390B	Other displaced fracture of fourth cervical vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S12.391A	Other nondisplaced fracture of fourth cervical vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S12.391B	Other nondisplaced fracture of fourth cervical vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S12.400A	Unspecified displaced fracture of fifth cervical vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S12.400B	Unspecified displaced fracture of fifth cervical vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S12.401A	Unspecified nondisplaced fracture of fifth cervical vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S12.401B	Unspecified nondisplaced fracture of fifth cervical vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S12.430A	Unspecified traumatic displaced spondylolisthesis of fifth cervical vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S12.430B	Unspecified traumatic displaced spondylolisthesis of fifth cervical vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S12.431A	Unspecified traumatic nondisplaced spondylolisthesis of fifth cervical vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S12.431B	Unspecified traumatic nondisplaced spondylolisthesis of fifth cervical vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S12.44XA	Type III traumatic spondylolisthesis of fifth cervical vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S12.44XB	Type III traumatic spondylolisthesis of fifth cervical vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S12.450A	Other traumatic displaced spondylolisthesis of fifth cervical vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S12.450B	Other traumatic displaced spondylolisthesis of fifth cervical vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S12.451A	Other traumatic nondisplaced spondylolisthesis of fifth cervical vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S12.451B	Other traumatic nondisplaced spondylolisthesis of fifth cervical vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S12.490A	Other displaced fracture of fifth cervical vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S12.490B	Other displaced fracture of fifth cervical vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S12.491A	Other nondisplaced fracture of fifth cervical vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S12.491B	Other nondisplaced fracture of fifth cervical vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S12.500A	Unspecified displaced fracture of sixth cervical vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S12.500B	Unspecified displaced fracture of sixth cervical vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S12.501A	Unspecified nondisplaced fracture of sixth cervical vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S12.501B	Unspecified nondisplaced fracture of sixth cervical vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S12.530A	Unspecified traumatic displaced spondylolisthesis of sixth cervical vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S12.530B	Unspecified traumatic displaced spondylolisthesis of sixth cervical vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S12.531A	Unspecified traumatic nondisplaced spondylolisthesis of sixth cervical vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S12.531B	Unspecified traumatic nondisplaced spondylolisthesis of sixth cervical vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S12.54XA	Type III traumatic spondylolisthesis of sixth cervical vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S12.54XB	Type III traumatic spondylolisthesis of sixth cervical vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S12.550A	Other traumatic displaced spondylolisthesis of sixth cervical vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S12.550B	Other traumatic displaced spondylolisthesis of sixth cervical vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S12.551A	Other traumatic nondisplaced spondylolisthesis of sixth cervical vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S12.551B	Other traumatic nondisplaced spondylolisthesis of sixth cervical vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S12.590A	Other displaced fracture of sixth cervical vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S12.590B	Other displaced fracture of sixth cervical vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S12.591A	Other nondisplaced fracture of sixth cervical vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S12.591B	Other nondisplaced fracture of sixth cervical vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S12.600A	Unspecified displaced fracture of seventh cervical vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S12.600B	Unspecified displaced fracture of seventh cervical vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S12.601A	Unspecified nondisplaced fracture of seventh cervical vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S12.601B	Unspecified nondisplaced fracture of seventh cervical vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S12.630A	Unspecified traumatic displaced spondylolisthesis of seventh cervical vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S12.630B	Unspecified traumatic displaced spondylolisthesis of seventh cervical vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S12.631A	Unspecified traumatic nondisplaced spondylolisthesis of seventh cervical vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S12.631B	Unspecified traumatic nondisplaced spondylolisthesis of seventh cervical vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S12.64XA	Type III traumatic spondylolisthesis of seventh cervical vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S12.64XB	Type III traumatic spondylolisthesis of seventh cervical vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S12.650A	Other traumatic displaced spondylolisthesis of seventh cervical vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S12.650B	Other traumatic displaced spondylolisthesis of seventh cervical vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S12.651A	Other traumatic nondisplaced spondylolisthesis of seventh cervical vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S12.651B	Other traumatic nondisplaced spondylolisthesis of seventh cervical vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S12.690A	Other displaced fracture of seventh cervical vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S12.690B	Other displaced fracture of seventh cervical vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S12.691A	Other nondisplaced fracture of seventh cervical vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S12.691B	Other nondisplaced fracture of seventh cervical vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S12.8XXA	Fracture of other parts of neck, initial encounter	Diagnosis	ICD-10-CM
S12.9XXA	Fracture of neck, unspecified, initial encounter	Diagnosis	ICD-10-CM
S14.101A	Unspecified injury at C1 level of cervical spinal cord, initial encounter	Diagnosis	ICD-10-CM
S14.102A	Unspecified injury at C2 level of cervical spinal cord, initial encounter	Diagnosis	ICD-10-CM
S14.103A	Unspecified injury at C3 level of cervical spinal cord, initial encounter	Diagnosis	ICD-10-CM
S14.104A	Unspecified injury at C4 level of cervical spinal cord, initial encounter	Diagnosis	ICD-10-CM
S14.105A	Unspecified injury at C5 level of cervical spinal cord, initial encounter	Diagnosis	ICD-10-CM
S14.106A	Unspecified injury at C6 level of cervical spinal cord, initial encounter	Diagnosis	ICD-10-CM
S14.107A	Unspecified injury at C7 level of cervical spinal cord, initial encounter	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S14.109A	Unspecified injury at unspecified level of cervical spinal cord, initial encounter	Diagnosis	ICD-10-CM
S14.111A	Complete lesion at C1 level of cervical spinal cord, initial encounter	Diagnosis	ICD-10-CM
S14.112A	Complete lesion at C2 level of cervical spinal cord, initial encounter	Diagnosis	ICD-10-CM
S14.113A	Complete lesion at C3 level of cervical spinal cord, initial encounter	Diagnosis	ICD-10-CM
S14.114A	Complete lesion at C4 level of cervical spinal cord, initial encounter	Diagnosis	ICD-10-CM
S14.115A	Complete lesion at C5 level of cervical spinal cord, initial encounter	Diagnosis	ICD-10-CM
S14.116A	Complete lesion at C6 level of cervical spinal cord, initial encounter	Diagnosis	ICD-10-CM
S14.117A	Complete lesion at C7 level of cervical spinal cord, initial encounter	Diagnosis	ICD-10-CM
S14.121A	Central cord syndrome at C1 level of cervical spinal cord, initial encounter	Diagnosis	ICD-10-CM
S14.122A	Central cord syndrome at C2 level of cervical spinal cord, initial encounter	Diagnosis	ICD-10-CM
S14.123A	Central cord syndrome at C3 level of cervical spinal cord, initial encounter	Diagnosis	ICD-10-CM
S14.124A	Central cord syndrome at C4 level of cervical spinal cord, initial encounter	Diagnosis	ICD-10-CM
S14.125A	Central cord syndrome at C5 level of cervical spinal cord, initial encounter	Diagnosis	ICD-10-CM
S14.126A	Central cord syndrome at C6 level of cervical spinal cord, initial encounter	Diagnosis	ICD-10-CM
S14.127A	Central cord syndrome at C7 level of cervical spinal cord, initial encounter	Diagnosis	ICD-10-CM
S14.131A	Anterior cord syndrome at C1 level of cervical spinal cord, initial encounter	Diagnosis	ICD-10-CM
S14.132A	Anterior cord syndrome at C2 level of cervical spinal cord, initial encounter	Diagnosis	ICD-10-CM
S14.133A	Anterior cord syndrome at C3 level of cervical spinal cord, initial encounter	Diagnosis	ICD-10-CM
S14.134A	Anterior cord syndrome at C4 level of cervical spinal cord, initial encounter	Diagnosis	ICD-10-CM
S14.135A	Anterior cord syndrome at C5 level of cervical spinal cord, initial encounter	Diagnosis	ICD-10-CM
S14.136A	Anterior cord syndrome at C6 level of cervical spinal cord, initial encounter	Diagnosis	ICD-10-CM
S14.137A	Anterior cord syndrome at C7 level of cervical spinal cord, initial encounter	Diagnosis	ICD-10-CM
S14.151A	Other incomplete lesion at C1 level of cervical spinal cord, initial encounter	Diagnosis	ICD-10-CM
S14.152A	Other incomplete lesion at C2 level of cervical spinal cord, initial encounter	Diagnosis	ICD-10-CM
S14.153A	Other incomplete lesion at C3 level of cervical spinal cord, initial encounter	Diagnosis	ICD-10-CM
S14.154A	Other incomplete lesion at C4 level of cervical spinal cord, initial encounter	Diagnosis	ICD-10-CM
S14.155A	Other incomplete lesion at C5 level of cervical spinal cord, initial encounter	Diagnosis	ICD-10-CM
S14.156A	Other incomplete lesion at C6 level of cervical spinal cord, initial encounter	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S14.157A	Other incomplete lesion at C7 level of cervical spinal cord, initial encounter	Diagnosis	ICD-10-CM
S17.0XXA	Crushing injury of larynx and trachea, initial encounter	Diagnosis	ICD-10-CM
S17.8XXA	Crushing injury of other specified parts of neck, initial encounter	Diagnosis	ICD-10-CM
S17.9XXA	Crushing injury of neck, part unspecified, initial encounter	Diagnosis	ICD-10-CM
S21.101A	Unspecified open wound of right front wall of thorax without penetration into thoracic cavity, initial encounter	Diagnosis	ICD-10-CM
S21.102A	Unspecified open wound of left front wall of thorax without penetration into thoracic cavity, initial encounter	Diagnosis	ICD-10-CM
S21.109A	Unspecified open wound of unspecified front wall of thorax without penetration into thoracic cavity, initial encounter	Diagnosis	ICD-10-CM
S21.111A	Laceration without foreign body of right front wall of thorax without penetration into thoracic cavity, initial encounter	Diagnosis	ICD-10-CM
S21.112A	Laceration without foreign body of left front wall of thorax without penetration into thoracic cavity, initial encounter	Diagnosis	ICD-10-CM
S21.119A	Laceration without foreign body of unspecified front wall of thorax without penetration into thoracic cavity, initial encounter	Diagnosis	ICD-10-CM
S21.121A	Laceration with foreign body of right front wall of thorax without penetration into thoracic cavity, initial encounter	Diagnosis	ICD-10-CM
S21.122A	Laceration with foreign body of left front wall of thorax without penetration into thoracic cavity, initial encounter	Diagnosis	ICD-10-CM
S21.129A	Laceration with foreign body of unspecified front wall of thorax without penetration into thoracic cavity, initial encounter	Diagnosis	ICD-10-CM
S21.131A	Puncture wound without foreign body of right front wall of thorax without penetration into thoracic cavity, initial encounter	Diagnosis	ICD-10-CM
S21.132A	Puncture wound without foreign body of left front wall of thorax without penetration into thoracic cavity, initial encounter	Diagnosis	ICD-10-CM
S21.139A	Puncture wound without foreign body of unspecified front wall of thorax without penetration into thoracic cavity, initial encounter	Diagnosis	ICD-10-CM
S21.141A	Puncture wound with foreign body of right front wall of thorax without penetration into thoracic cavity, initial encounter	Diagnosis	ICD-10-CM
S21.142A	Puncture wound with foreign body of left front wall of thorax without penetration into thoracic cavity, initial encounter	Diagnosis	ICD-10-CM
S21.149A	Puncture wound with foreign body of unspecified front wall of thorax without penetration into thoracic cavity, initial encounter	Diagnosis	ICD-10-CM
S21.151A	Open bite of right front wall of thorax without penetration into thoracic cavity, initial encounter	Diagnosis	ICD-10-CM
S21.152A	Open bite of left front wall of thorax without penetration into thoracic cavity, initial encounter	Diagnosis	ICD-10-CM
S21.159A	Open bite of unspecified front wall of thorax without penetration into thoracic cavity, initial encounter	Diagnosis	ICD-10-CM
S21.301A	Unspecified open wound of right front wall of thorax with penetration into thoracic cavity, initial encounter	Diagnosis	ICD-10-CM
S21.302A	Unspecified open wound of left front wall of thorax with penetration into thoracic cavity, initial encounter	Diagnosis	ICD-10-CM
S21.309A	Unspecified open wound of unspecified front wall of thorax with penetration into thoracic cavity, initial encounter	Diagnosis	ICD-10-CM
S21.311A	Laceration without foreign body of right front wall of thorax with penetration into thoracic cavity, initial encounter	Diagnosis	ICD-10-CM
S21.312A	Laceration without foreign body of left front wall of thorax with penetration into thoracic cavity, initial encounter	Diagnosis	ICD-10-CM
S21.319A	Laceration without foreign body of unspecified front wall of thorax with penetration into thoracic cavity, initial encounter	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S21.321A	Laceration with foreign body of right front wall of thorax with penetration into thoracic cavity, initial encounter	Diagnosis	ICD-10-CM
S21.322A	Laceration with foreign body of left front wall of thorax with penetration into thoracic cavity, initial encounter	Diagnosis	ICD-10-CM
S21.329A	Laceration with foreign body of unspecified front wall of thorax with penetration into thoracic cavity, initial encounter	Diagnosis	ICD-10-CM
S21.331A	Puncture wound without foreign body of right front wall of thorax with penetration into thoracic cavity, initial encounter	Diagnosis	ICD-10-CM
S21.332A	Puncture wound without foreign body of left front wall of thorax with penetration into thoracic cavity, initial encounter	Diagnosis	ICD-10-CM
S21.339A	Puncture wound without foreign body of unspecified front wall of thorax with penetration into thoracic cavity, initial encounter	Diagnosis	ICD-10-CM
S21.341A	Puncture wound with foreign body of right front wall of thorax with penetration into thoracic cavity, initial encounter	Diagnosis	ICD-10-CM
S21.342A	Puncture wound with foreign body of left front wall of thorax with penetration into thoracic cavity, initial encounter	Diagnosis	ICD-10-CM
S21.349A	Puncture wound with foreign body of unspecified front wall of thorax with penetration into thoracic cavity, initial encounter	Diagnosis	ICD-10-CM
S21.351A	Open bite of right front wall of thorax with penetration into thoracic cavity, initial encounter	Diagnosis	ICD-10-CM
S21.352A	Open bite of left front wall of thorax with penetration into thoracic cavity, initial encounter	Diagnosis	ICD-10-CM
S21.359A	Open bite of unspecified front wall of thorax with penetration into thoracic cavity, initial encounter	Diagnosis	ICD-10-CM
S21.401A	Unspecified open wound of right back wall of thorax with penetration into thoracic cavity, initial encounter	Diagnosis	ICD-10-CM
S21.402A	Unspecified open wound of left back wall of thorax with penetration into thoracic cavity, initial encounter	Diagnosis	ICD-10-CM
S21.409A	Unspecified open wound of unspecified back wall of thorax with penetration into thoracic cavity, initial encounter	Diagnosis	ICD-10-CM
S21.411A	Laceration without foreign body of right back wall of thorax with penetration into thoracic cavity, initial encounter	Diagnosis	ICD-10-CM
S21.412A	Laceration without foreign body of left back wall of thorax with penetration into thoracic cavity, initial encounter	Diagnosis	ICD-10-CM
S21.419A	Laceration without foreign body of unspecified back wall of thorax with penetration into thoracic cavity, initial encounter	Diagnosis	ICD-10-CM
S21.421A	Laceration with foreign body of right back wall of thorax with penetration into thoracic cavity, initial encounter	Diagnosis	ICD-10-CM
S21.422A	Laceration with foreign body of left back wall of thorax with penetration into thoracic cavity, initial encounter	Diagnosis	ICD-10-CM
S21.429A	Laceration with foreign body of unspecified back wall of thorax with penetration into thoracic cavity, initial encounter	Diagnosis	ICD-10-CM
S21.431A	Puncture wound without foreign body of right back wall of thorax with penetration into thoracic cavity, initial encounter	Diagnosis	ICD-10-CM
S21.432A	Puncture wound without foreign body of left back wall of thorax with penetration into thoracic cavity, initial encounter	Diagnosis	ICD-10-CM
S21.439A	Puncture wound without foreign body of unspecified back wall of thorax with penetration into thoracic cavity, initial encounter	Diagnosis	ICD-10-CM
S21.441A	Puncture wound with foreign body of right back wall of thorax with penetration into thoracic cavity, initial encounter	Diagnosis	ICD-10-CM
S21.442A	Puncture wound with foreign body of left back wall of thorax with penetration into thoracic cavity, initial encounter	Diagnosis	ICD-10-CM
S21.449A	Puncture wound with foreign body of unspecified back wall of thorax with penetration into thoracic cavity, initial encounter	Diagnosis	ICD-10-CM
S21.451A	Open bite of right back wall of thorax with penetration into thoracic cavity, initial encounter	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S21.452A	Open bite of left back wall of thorax with penetration into thoracic cavity, initial encounter	Diagnosis	ICD-10-CM
S21.459A	Open bite of unspecified back wall of thorax with penetration into thoracic cavity, initial encounter	Diagnosis	ICD-10-CM
S21.90XA	Unspecified open wound of unspecified part of thorax, initial encounter	Diagnosis	ICD-10-CM
S21.91XA	Laceration without foreign body of unspecified part of thorax, initial encounter	Diagnosis	ICD-10-CM
S21.92XA	Laceration with foreign body of unspecified part of thorax, initial encounter	Diagnosis	ICD-10-CM
S21.93XA	Puncture wound without foreign body of unspecified part of thorax, initial encounter	Diagnosis	ICD-10-CM
S21.94XA	Puncture wound with foreign body of unspecified part of thorax, initial encounter	Diagnosis	ICD-10-CM
S21.95XA	Open bite of unspecified part of thorax, initial encounter	Diagnosis	ICD-10-CM
S22.000A	Wedge compression fracture of unspecified thoracic vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S22.000B	Wedge compression fracture of unspecified thoracic vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S22.001A	Stable burst fracture of unspecified thoracic vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S22.001B	Stable burst fracture of unspecified thoracic vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S22.002A	Unstable burst fracture of unspecified thoracic vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S22.002B	Unstable burst fracture of unspecified thoracic vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S22.008A	Other fracture of unspecified thoracic vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S22.008B	Other fracture of unspecified thoracic vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S22.009A	Unspecified fracture of unspecified thoracic vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S22.009B	Unspecified fracture of unspecified thoracic vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S22.010A	Wedge compression fracture of first thoracic vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S22.010B	Wedge compression fracture of first thoracic vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S22.011A	Stable burst fracture of first thoracic vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S22.011B	Stable burst fracture of first thoracic vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S22.012A	Unstable burst fracture of first thoracic vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S22.012B	Unstable burst fracture of first thoracic vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S22.018A	Other fracture of first thoracic vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S22.018B	Other fracture of first thoracic vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S22.019A	Unspecified fracture of first thoracic vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S22.019B	Unspecified fracture of first thoracic vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S22.020A	Wedge compression fracture of second thoracic vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S22.020B	Wedge compression fracture of second thoracic vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S22.021A	Stable burst fracture of second thoracic vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S22.021B	Stable burst fracture of second thoracic vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S22.022A	Unstable burst fracture of second thoracic vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S22.022B	Unstable burst fracture of second thoracic vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S22.028A	Other fracture of second thoracic vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S22.028B	Other fracture of second thoracic vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S22.029A	Unspecified fracture of second thoracic vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S22.029B	Unspecified fracture of second thoracic vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S22.030A	Wedge compression fracture of third thoracic vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S22.030B	Wedge compression fracture of third thoracic vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S22.031A	Stable burst fracture of third thoracic vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S22.031B	Stable burst fracture of third thoracic vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S22.032A	Unstable burst fracture of third thoracic vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S22.032B	Unstable burst fracture of third thoracic vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S22.038A	Other fracture of third thoracic vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S22.038B	Other fracture of third thoracic vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S22.039A	Unspecified fracture of third thoracic vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S22.039B	Unspecified fracture of third thoracic vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S22.040A	Wedge compression fracture of fourth thoracic vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S22.040B	Wedge compression fracture of fourth thoracic vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S22.041A	Stable burst fracture of fourth thoracic vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S22.041B	Stable burst fracture of fourth thoracic vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S22.042A	Unstable burst fracture of fourth thoracic vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S22.042B	Unstable burst fracture of fourth thoracic vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S22.048A	Other fracture of fourth thoracic vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S22.048B	Other fracture of fourth thoracic vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S22.049A	Unspecified fracture of fourth thoracic vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S22.049B	Unspecified fracture of fourth thoracic vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S22.050A	Wedge compression fracture of T5-T6 vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S22.050B	Wedge compression fracture of T5-T6 vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S22.051A	Stable burst fracture of T5-T6 vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S22.051B	Stable burst fracture of T5-T6 vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S22.052A	Unstable burst fracture of T5-T6 vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S22.052B	Unstable burst fracture of T5-T6 vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S22.058A	Other fracture of T5-T6 vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S22.058B	Other fracture of T5-T6 vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S22.059A	Unspecified fracture of T5-T6 vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S22.059B	Unspecified fracture of T5-T6 vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S22.060A	Wedge compression fracture of T7-T8 vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S22.060B	Wedge compression fracture of T7-T8 vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S22.061A	Stable burst fracture of T7-T8 vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S22.061B	Stable burst fracture of T7-T8 vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S22.062A	Unstable burst fracture of T7-T8 vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S22.062B	Unstable burst fracture of T7-T8 vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S22.068A	Other fracture of T7-T8 thoracic vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S22.068B	Other fracture of T7-T8 thoracic vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S22.069A	Unspecified fracture of T7-T8 vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S22.069B	Unspecified fracture of T7-T8 vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S22.070A	Wedge compression fracture of T9-T10 vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S22.070B	Wedge compression fracture of T9-T10 vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S22.071A	Stable burst fracture of T9-T10 vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S22.071B	Stable burst fracture of T9-T10 vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S22.072A	Unstable burst fracture of T9-T10 vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S22.072B	Unstable burst fracture of T9-T10 vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S22.078A	Other fracture of T9-T10 vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S22.078B	Other fracture of T9-T10 vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S22.079A	Unspecified fracture of T9-T10 vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S22.079B	Unspecified fracture of T9-T10 vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S22.080A	Wedge compression fracture of T11-T12 vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S22.080B	Wedge compression fracture of T11-T12 vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S22.081A	Stable burst fracture of T11-T12 vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S22.081B	Stable burst fracture of T11-T12 vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S22.082A	Unstable burst fracture of T11-T12 vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S22.082B	Unstable burst fracture of T11-T12 vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S22.088A	Other fracture of T11-T12 vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S22.088B	Other fracture of T11-T12 vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S22.089A	Unspecified fracture of T11-T12 vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S22.089B	Unspecified fracture of T11-T12 vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S22.20XA	Unspecified fracture of sternum, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S22.20XB	Unspecified fracture of sternum, initial encounter for open fracture	Diagnosis	ICD-10-CM
S22.21XA	Fracture of manubrium, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S22.21XB	Fracture of manubrium, initial encounter for open fracture	Diagnosis	ICD-10-CM
S22.22XA	Fracture of body of sternum, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S22.22XB	Fracture of body of sternum, initial encounter for open fracture	Diagnosis	ICD-10-CM
S22.23XA	Sternal manubrial dissociation, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S22.23XB	Sternal manubrial dissociation, initial encounter for open fracture	Diagnosis	ICD-10-CM
S22.24XA	Fracture of xiphoid process, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S22.24XB	Fracture of xiphoid process, initial encounter for open fracture	Diagnosis	ICD-10-CM
S22.31XA	Fracture of one rib, right side, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S22.31XB	Fracture of one rib, right side, initial encounter for open fracture	Diagnosis	ICD-10-CM
S22.32XA	Fracture of one rib, left side, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S22.32XB	Fracture of one rib, left side, initial encounter for open fracture	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S22.39XA	Fracture of one rib, unspecified side, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S22.39XB	Fracture of one rib, unspecified side, initial encounter for open fracture	Diagnosis	ICD-10-CM
S22.41XA	Multiple fractures of ribs, right side, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S22.41XB	Multiple fractures of ribs, right side, initial encounter for open fracture	Diagnosis	ICD-10-CM
S22.42XA	Multiple fractures of ribs, left side, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S22.42XB	Multiple fractures of ribs, left side, initial encounter for open fracture	Diagnosis	ICD-10-CM
S22.43XA	Multiple fractures of ribs, bilateral, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S22.43XB	Multiple fractures of ribs, bilateral, initial encounter for open fracture	Diagnosis	ICD-10-CM
S22.49XA	Multiple fractures of ribs, unspecified side, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S22.49XB	Multiple fractures of ribs, unspecified side, initial encounter for open fracture	Diagnosis	ICD-10-CM
S22.5XXA	Flail chest, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S22.5XXB	Flail chest, initial encounter for open fracture	Diagnosis	ICD-10-CM
S22.9XXA	Fracture of bony thorax, part unspecified, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S22.9XXB	Fracture of bony thorax, part unspecified, initial encounter for open fracture	Diagnosis	ICD-10-CM
S24.101A	Unspecified injury at T1 level of thoracic spinal cord, initial encounter	Diagnosis	ICD-10-CM
S24.102A	Unspecified injury at T2-T6 level of thoracic spinal cord, initial encounter	Diagnosis	ICD-10-CM
S24.103A	Unspecified injury at T7-T10 level of thoracic spinal cord, initial encounter	Diagnosis	ICD-10-CM
S24.104A	Unspecified injury at T11-T12 level of thoracic spinal cord, initial encounter	Diagnosis	ICD-10-CM
S24.109A	Unspecified injury at unspecified level of thoracic spinal cord, initial encounter	Diagnosis	ICD-10-CM
S24.111A	Complete lesion at T1 level of thoracic spinal cord, initial encounter	Diagnosis	ICD-10-CM
S24.112A	Complete lesion at T2-T6 level of thoracic spinal cord, initial encounter	Diagnosis	ICD-10-CM
S24.113A	Complete lesion at T7-T10 level of thoracic spinal cord, initial encounter	Diagnosis	ICD-10-CM
S24.114A	Complete lesion at T11-T12 level of thoracic spinal cord, initial encounter	Diagnosis	ICD-10-CM
S24.131A	Anterior cord syndrome at T1 level of thoracic spinal cord, initial encounter	Diagnosis	ICD-10-CM
S24.132A	Anterior cord syndrome at T2-T6 level of thoracic spinal cord, initial encounter	Diagnosis	ICD-10-CM
S24.133A	Anterior cord syndrome at T7-T10 level of thoracic spinal cord, initial encounter	Diagnosis	ICD-10-CM
S24.134A	Anterior cord syndrome at T11-T12 level of thoracic spinal cord, initial encounter	Diagnosis	ICD-10-CM
S24.151A	Other incomplete lesion at T1 level of thoracic spinal cord, initial encounter	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S24.152A	Other incomplete lesion at T2-T6 level of thoracic spinal cord, initial encounter	Diagnosis	ICD-10-CM
S24.153A	Other incomplete lesion at T7-T10 level of thoracic spinal cord, initial encounter	Diagnosis	ICD-10-CM
S24.154A	Other incomplete lesion at T11-T12 level of thoracic spinal cord, initial encounter	Diagnosis	ICD-10-CM
S27.0XXA	Traumatic pneumothorax, initial encounter	Diagnosis	ICD-10-CM
S27.1XXA	Traumatic hemothorax, initial encounter	Diagnosis	ICD-10-CM
S27.2XXA	Traumatic hemopneumothorax, initial encounter	Diagnosis	ICD-10-CM
S27.802A	Contusion of diaphragm, initial encounter	Diagnosis	ICD-10-CM
S27.803A	Laceration of diaphragm, initial encounter	Diagnosis	ICD-10-CM
S27.808A	Other injury of diaphragm, initial encounter	Diagnosis	ICD-10-CM
S27.809A	Unspecified injury of diaphragm, initial encounter	Diagnosis	ICD-10-CM
S27.9XXA	Injury of unspecified intrathoracic organ, initial encounter	Diagnosis	ICD-10-CM
S28.0XXA	Crushed chest, initial encounter	Diagnosis	ICD-10-CM
S28.1XXA	Traumatic amputation (partial) of part of thorax, except breast, initial encounter	Diagnosis	ICD-10-CM
S29.021A	Laceration of muscle and tendon of front wall of thorax, initial encounter	Diagnosis	ICD-10-CM
S29.029A	Laceration of muscle and tendon of unspecified wall of thorax, initial encounter	Diagnosis	ICD-10-CM
S31.001A	Unspecified open wound of lower back and pelvis with penetration into retroperitoneum, initial encounter	Diagnosis	ICD-10-CM
S31.609A	Unspecified open wound of abdominal wall, unspecified quadrant with penetration into peritoneal cavity, initial encounter	Diagnosis	ICD-10-CM
S32.000A	Wedge compression fracture of unspecified lumbar vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.000B	Wedge compression fracture of unspecified lumbar vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.001A	Stable burst fracture of unspecified lumbar vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.001B	Stable burst fracture of unspecified lumbar vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.002A	Unstable burst fracture of unspecified lumbar vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.002B	Unstable burst fracture of unspecified lumbar vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.008A	Other fracture of unspecified lumbar vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.008B	Other fracture of unspecified lumbar vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.009A	Unspecified fracture of unspecified lumbar vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.009B	Unspecified fracture of unspecified lumbar vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.010A	Wedge compression fracture of first lumbar vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S32.010B	Wedge compression fracture of first lumbar vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.011A	Stable burst fracture of first lumbar vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.011B	Stable burst fracture of first lumbar vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.012A	Unstable burst fracture of first lumbar vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.012B	Unstable burst fracture of first lumbar vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.018A	Other fracture of first lumbar vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.018B	Other fracture of first lumbar vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.019A	Unspecified fracture of first lumbar vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.019B	Unspecified fracture of first lumbar vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.020A	Wedge compression fracture of second lumbar vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.020B	Wedge compression fracture of second lumbar vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.021A	Stable burst fracture of second lumbar vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.021B	Stable burst fracture of second lumbar vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.022A	Unstable burst fracture of second lumbar vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.022B	Unstable burst fracture of second lumbar vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.028A	Other fracture of second lumbar vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.028B	Other fracture of second lumbar vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.029A	Unspecified fracture of second lumbar vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.029B	Unspecified fracture of second lumbar vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.030A	Wedge compression fracture of third lumbar vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.030B	Wedge compression fracture of third lumbar vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.031A	Stable burst fracture of third lumbar vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.031B	Stable burst fracture of third lumbar vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.032A	Unstable burst fracture of third lumbar vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.032B	Unstable burst fracture of third lumbar vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.038A	Other fracture of third lumbar vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.038B	Other fracture of third lumbar vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.039A	Unspecified fracture of third lumbar vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S32.039B	Unspecified fracture of third lumbar vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.040A	Wedge compression fracture of fourth lumbar vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.040B	Wedge compression fracture of fourth lumbar vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.041A	Stable burst fracture of fourth lumbar vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.041B	Stable burst fracture of fourth lumbar vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.042A	Unstable burst fracture of fourth lumbar vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.042B	Unstable burst fracture of fourth lumbar vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.048A	Other fracture of fourth lumbar vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.048B	Other fracture of fourth lumbar vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.049A	Unspecified fracture of fourth lumbar vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.049B	Unspecified fracture of fourth lumbar vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.050A	Wedge compression fracture of fifth lumbar vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.050B	Wedge compression fracture of fifth lumbar vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.051A	Stable burst fracture of fifth lumbar vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.051B	Stable burst fracture of fifth lumbar vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.052A	Unstable burst fracture of fifth lumbar vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.052B	Unstable burst fracture of fifth lumbar vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.058A	Other fracture of fifth lumbar vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.058B	Other fracture of fifth lumbar vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.059A	Unspecified fracture of fifth lumbar vertebra, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.059B	Unspecified fracture of fifth lumbar vertebra, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.10XA	Unspecified fracture of sacrum, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.10XB	Unspecified fracture of sacrum, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.110A	Nondisplaced Zone I fracture of sacrum, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.110B	Nondisplaced Zone I fracture of sacrum, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.111A	Minimally displaced Zone I fracture of sacrum, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.111B	Minimally displaced Zone I fracture of sacrum, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.112A	Severely displaced Zone I fracture of sacrum, initial encounter for closed fracture	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S32.112B	Severely displaced Zone I fracture of sacrum, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.119A	Unspecified Zone I fracture of sacrum, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.119B	Unspecified Zone I fracture of sacrum, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.120A	Nondisplaced Zone II fracture of sacrum, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.120B	Nondisplaced Zone II fracture of sacrum, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.121A	Minimally displaced Zone II fracture of sacrum, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.121B	Minimally displaced Zone II fracture of sacrum, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.122A	Severely displaced Zone II fracture of sacrum, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.122B	Severely displaced Zone II fracture of sacrum, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.129A	Unspecified Zone II fracture of sacrum, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.129B	Unspecified Zone II fracture of sacrum, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.130A	Nondisplaced Zone III fracture of sacrum, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.130B	Nondisplaced Zone III fracture of sacrum, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.131A	Minimally displaced Zone III fracture of sacrum, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.131B	Minimally displaced Zone III fracture of sacrum, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.132A	Severely displaced Zone III fracture of sacrum, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.132B	Severely displaced Zone III fracture of sacrum, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.139A	Unspecified Zone III fracture of sacrum, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.139B	Unspecified Zone III fracture of sacrum, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.14XA	Type 1 fracture of sacrum, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.14XB	Type 1 fracture of sacrum, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.15XA	Type 2 fracture of sacrum, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.15XB	Type 2 fracture of sacrum, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.16XA	Type 3 fracture of sacrum, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.16XB	Type 3 fracture of sacrum, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.17XA	Type 4 fracture of sacrum, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.17XB	Type 4 fracture of sacrum, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.19XA	Other fracture of sacrum, initial encounter for closed fracture	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S32.19XB	Other fracture of sacrum, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.2XXA	Fracture of coccyx, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.2XXB	Fracture of coccyx, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.301A	Unspecified fracture of right ilium, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.301B	Unspecified fracture of right ilium, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.302A	Unspecified fracture of left ilium, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.302B	Unspecified fracture of left ilium, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.309A	Unspecified fracture of unspecified ilium, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.309B	Unspecified fracture of unspecified ilium, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.311A	Displaced avulsion fracture of right ilium, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.311B	Displaced avulsion fracture of right ilium, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.312A	Displaced avulsion fracture of left ilium, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.312B	Displaced avulsion fracture of left ilium, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.313A	Displaced avulsion fracture of unspecified ilium, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.313B	Displaced avulsion fracture of unspecified ilium, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.314A	Nondisplaced avulsion fracture of right ilium, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.314B	Nondisplaced avulsion fracture of right ilium, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.315A	Nondisplaced avulsion fracture of left ilium, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.315B	Nondisplaced avulsion fracture of left ilium, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.316A	Nondisplaced avulsion fracture of unspecified ilium, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.316B	Nondisplaced avulsion fracture of unspecified ilium, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.391A	Other fracture of right ilium, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.391B	Other fracture of right ilium, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.392A	Other fracture of left ilium, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.392B	Other fracture of left ilium, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.399A	Other fracture of unspecified ilium, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.399B	Other fracture of unspecified ilium, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.401A	Unspecified fracture of right acetabulum, initial encounter for closed fracture	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S32.401B	Unspecified fracture of right acetabulum, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.402A	Unspecified fracture of left acetabulum, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.402B	Unspecified fracture of left acetabulum, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.409A	Unspecified fracture of unspecified acetabulum, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.409B	Unspecified fracture of unspecified acetabulum, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.411A	Displaced fracture of anterior wall of right acetabulum, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.411B	Displaced fracture of anterior wall of right acetabulum, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.412A	Displaced fracture of anterior wall of left acetabulum, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.412B	Displaced fracture of anterior wall of left acetabulum, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.413A	Displaced fracture of anterior wall of unspecified acetabulum, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.413B	Displaced fracture of anterior wall of unspecified acetabulum, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.414A	Nondisplaced fracture of anterior wall of right acetabulum, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.414B	Nondisplaced fracture of anterior wall of right acetabulum, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.415A	Nondisplaced fracture of anterior wall of left acetabulum, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.415B	Nondisplaced fracture of anterior wall of left acetabulum, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.416A	Nondisplaced fracture of anterior wall of unspecified acetabulum, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.416B	Nondisplaced fracture of anterior wall of unspecified acetabulum, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.421A	Displaced fracture of posterior wall of right acetabulum, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.421B	Displaced fracture of posterior wall of right acetabulum, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.422A	Displaced fracture of posterior wall of left acetabulum, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.422B	Displaced fracture of posterior wall of left acetabulum, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.423A	Displaced fracture of posterior wall of unspecified acetabulum, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.423B	Displaced fracture of posterior wall of unspecified acetabulum, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.424A	Nondisplaced fracture of posterior wall of right acetabulum, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.424B	Nondisplaced fracture of posterior wall of right acetabulum, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.425A	Nondisplaced fracture of posterior wall of left acetabulum, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.425B	Nondisplaced fracture of posterior wall of left acetabulum, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.426A	Nondisplaced fracture of posterior wall of unspecified acetabulum, initial encounter for closed fracture	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S32.426B	Nondisplaced fracture of posterior wall of unspecified acetabulum, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.431A	Displaced fracture of anterior column [iliopubic] of right acetabulum, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.431B	Displaced fracture of anterior column [iliopubic] of right acetabulum, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.432A	Displaced fracture of anterior column [iliopubic] of left acetabulum, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.432B	Displaced fracture of anterior column [iliopubic] of left acetabulum, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.433A	Displaced fracture of anterior column [iliopubic] of unspecified acetabulum, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.433B	Displaced fracture of anterior column [iliopubic] of unspecified acetabulum, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.434A	Nondisplaced fracture of anterior column [iliopubic] of right acetabulum, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.434B	Nondisplaced fracture of anterior column [iliopubic] of right acetabulum, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.435A	Nondisplaced fracture of anterior column [iliopubic] of left acetabulum, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.435B	Nondisplaced fracture of anterior column [iliopubic] of left acetabulum, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.436A	Nondisplaced fracture of anterior column [iliopubic] of unspecified acetabulum, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.436B	Nondisplaced fracture of anterior column [iliopubic] of unspecified acetabulum, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.441A	Displaced fracture of posterior column [ilioischial] of right acetabulum, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.441B	Displaced fracture of posterior column [ilioischial] of right acetabulum, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.442A	Displaced fracture of posterior column [ilioischial] of left acetabulum, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.442B	Displaced fracture of posterior column [ilioischial] of left acetabulum, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.443A	Displaced fracture of posterior column [ilioischial] of unspecified acetabulum, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.443B	Displaced fracture of posterior column [ilioischial] of unspecified acetabulum, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.444A	Nondisplaced fracture of posterior column [ilioischial] of right acetabulum, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.444B	Nondisplaced fracture of posterior column [ilioischial] of right acetabulum, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.445A	Nondisplaced fracture of posterior column [ilioischial] of left acetabulum, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.445B	Nondisplaced fracture of posterior column [ilioischial] of left acetabulum, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.446A	Nondisplaced fracture of posterior column [ilioischial] of unspecified acetabulum, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.446B	Nondisplaced fracture of posterior column [ilioischial] of unspecified acetabulum, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.451A	Displaced transverse fracture of right acetabulum, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.451B	Displaced transverse fracture of right acetabulum, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.452A	Displaced transverse fracture of left acetabulum, initial encounter for closed fracture	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S32.452B	Displaced transverse fracture of left acetabulum, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.453A	Displaced transverse fracture of unspecified acetabulum, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.453B	Displaced transverse fracture of unspecified acetabulum, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.454A	Nondisplaced transverse fracture of right acetabulum, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.454B	Nondisplaced transverse fracture of right acetabulum, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.455A	Nondisplaced transverse fracture of left acetabulum, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.455B	Nondisplaced transverse fracture of left acetabulum, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.456A	Nondisplaced transverse fracture of unspecified acetabulum, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.456B	Nondisplaced transverse fracture of unspecified acetabulum, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.461A	Displaced associated transverse-posterior fracture of right acetabulum, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.461B	Displaced associated transverse-posterior fracture of right acetabulum, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.462A	Displaced associated transverse-posterior fracture of left acetabulum, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.462B	Displaced associated transverse-posterior fracture of left acetabulum, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.463A	Displaced associated transverse-posterior fracture of unspecified acetabulum, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.463B	Displaced associated transverse-posterior fracture of unspecified acetabulum, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.464A	Nondisplaced associated transverse-posterior fracture of right acetabulum, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.464B	Nondisplaced associated transverse-posterior fracture of right acetabulum, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.465A	Nondisplaced associated transverse-posterior fracture of left acetabulum, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.465B	Nondisplaced associated transverse-posterior fracture of left acetabulum, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.466A	Nondisplaced associated transverse-posterior fracture of unspecified acetabulum, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.466B	Nondisplaced associated transverse-posterior fracture of unspecified acetabulum, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.471A	Displaced fracture of medial wall of right acetabulum, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.471B	Displaced fracture of medial wall of right acetabulum, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.472A	Displaced fracture of medial wall of left acetabulum, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.472B	Displaced fracture of medial wall of left acetabulum, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.473A	Displaced fracture of medial wall of unspecified acetabulum, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.473B	Displaced fracture of medial wall of unspecified acetabulum, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.474A	Nondisplaced fracture of medial wall of right acetabulum, initial encounter for closed fracture	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S32.474B	Nondisplaced fracture of medial wall of right acetabulum, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.475A	Nondisplaced fracture of medial wall of left acetabulum, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.475B	Nondisplaced fracture of medial wall of left acetabulum, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.476A	Nondisplaced fracture of medial wall of unspecified acetabulum, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.476B	Nondisplaced fracture of medial wall of unspecified acetabulum, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.481A	Displaced dome fracture of right acetabulum, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.481B	Displaced dome fracture of right acetabulum, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.482A	Displaced dome fracture of left acetabulum, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.482B	Displaced dome fracture of left acetabulum, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.483A	Displaced dome fracture of unspecified acetabulum, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.483B	Displaced dome fracture of unspecified acetabulum, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.484A	Nondisplaced dome fracture of right acetabulum, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.484B	Nondisplaced dome fracture of right acetabulum, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.485A	Nondisplaced dome fracture of left acetabulum, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.485B	Nondisplaced dome fracture of left acetabulum, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.486A	Nondisplaced dome fracture of unspecified acetabulum, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.486B	Nondisplaced dome fracture of unspecified acetabulum, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.491A	Other specified fracture of right acetabulum, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.491B	Other specified fracture of right acetabulum, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.492A	Other specified fracture of left acetabulum, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.492B	Other specified fracture of left acetabulum, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.499A	Other specified fracture of unspecified acetabulum, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.499B	Other specified fracture of unspecified acetabulum, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.501A	Unspecified fracture of right pubis, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.501B	Unspecified fracture of right pubis, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.502A	Unspecified fracture of left pubis, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.502B	Unspecified fracture of left pubis, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.509A	Unspecified fracture of unspecified pubis, initial encounter for closed fracture	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S32.509B	Unspecified fracture of unspecified pubis, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.511A	Fracture of superior rim of right pubis, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.511B	Fracture of superior rim of right pubis, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.512A	Fracture of superior rim of left pubis, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.512B	Fracture of superior rim of left pubis, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.519A	Fracture of superior rim of unspecified pubis, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.519B	Fracture of superior rim of unspecified pubis, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.591A	Other specified fracture of right pubis, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.591B	Other specified fracture of right pubis, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.592A	Other specified fracture of left pubis, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.592B	Other specified fracture of left pubis, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.599A	Other specified fracture of unspecified pubis, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.599B	Other specified fracture of unspecified pubis, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.601A	Unspecified fracture of right ischium, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.601B	Unspecified fracture of right ischium, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.602A	Unspecified fracture of left ischium, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.602B	Unspecified fracture of left ischium, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.609A	Unspecified fracture of unspecified ischium, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.609B	Unspecified fracture of unspecified ischium, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.611A	Displaced avulsion fracture of right ischium, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.611B	Displaced avulsion fracture of right ischium, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.612A	Displaced avulsion fracture of left ischium, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.612B	Displaced avulsion fracture of left ischium, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.613A	Displaced avulsion fracture of unspecified ischium, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.613B	Displaced avulsion fracture of unspecified ischium, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.614A	Nondisplaced avulsion fracture of right ischium, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.614B	Nondisplaced avulsion fracture of right ischium, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.615A	Nondisplaced avulsion fracture of left ischium, initial encounter for closed fracture	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S32.615B	Nondisplaced avulsion fracture of left ischium, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.616A	Nondisplaced avulsion fracture of unspecified ischium, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.616B	Nondisplaced avulsion fracture of unspecified ischium, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.691A	Other specified fracture of right ischium, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.691B	Other specified fracture of right ischium, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.692A	Other specified fracture of left ischium, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.692B	Other specified fracture of left ischium, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.699A	Other specified fracture of unspecified ischium, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.699B	Other specified fracture of unspecified ischium, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.810A	Multiple fractures of pelvis with stable disruption of pelvic ring, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.810B	Multiple fractures of pelvis with stable disruption of pelvic ring, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.811A	Multiple fractures of pelvis with unstable disruption of pelvic ring, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.811B	Multiple fractures of pelvis with unstable disruption of pelvic ring, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.82XA	Multiple fractures of pelvis without disruption of pelvic ring, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.82XB	Multiple fractures of pelvis without disruption of pelvic ring, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.89XA	Fracture of other parts of pelvis, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.89XB	Fracture of other parts of pelvis, initial encounter for open fracture	Diagnosis	ICD-10-CM
S32.9XXA	Fracture of unspecified parts of lumbosacral spine and pelvis, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S32.9XXB	Fracture of unspecified parts of lumbosacral spine and pelvis, initial encounter for open fracture	Diagnosis	ICD-10-CM
S34.101A	Unspecified injury to L1 level of lumbar spinal cord, initial encounter	Diagnosis	ICD-10-CM
S34.102A	Unspecified injury to L2 level of lumbar spinal cord, initial encounter	Diagnosis	ICD-10-CM
S34.103A	Unspecified injury to L3 level of lumbar spinal cord, initial encounter	Diagnosis	ICD-10-CM
S34.104A	Unspecified injury to L4 level of lumbar spinal cord, initial encounter	Diagnosis	ICD-10-CM
S34.105A	Unspecified injury to L5 level of lumbar spinal cord, initial encounter	Diagnosis	ICD-10-CM
S34.109A	Unspecified injury to unspecified level of lumbar spinal cord, initial encounter	Diagnosis	ICD-10-CM
S34.111A	Complete lesion of L1 level of lumbar spinal cord, initial encounter	Diagnosis	ICD-10-CM
S34.112A	Complete lesion of L2 level of lumbar spinal cord, initial encounter	Diagnosis	ICD-10-CM
S34.113A	Complete lesion of L3 level of lumbar spinal cord, initial encounter	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S34.114A	Complete lesion of L4 level of lumbar spinal cord, initial encounter	Diagnosis	ICD-10-CM
S34.115A	Complete lesion of L5 level of lumbar spinal cord, initial encounter	Diagnosis	ICD-10-CM
S34.119A	Complete lesion of unspecified level of lumbar spinal cord, initial encounter	Diagnosis	ICD-10-CM
S34.121A	Incomplete lesion of L1 level of lumbar spinal cord, initial encounter	Diagnosis	ICD-10-CM
S34.122A	Incomplete lesion of L2 level of lumbar spinal cord, initial encounter	Diagnosis	ICD-10-CM
S34.123A	Incomplete lesion of L3 level of lumbar spinal cord, initial encounter	Diagnosis	ICD-10-CM
S34.124A	Incomplete lesion of L4 level of lumbar spinal cord, initial encounter	Diagnosis	ICD-10-CM
S34.125A	Incomplete lesion of L5 level of lumbar spinal cord, initial encounter	Diagnosis	ICD-10-CM
S34.129A	Incomplete lesion of unspecified level of lumbar spinal cord, initial encounter	Diagnosis	ICD-10-CM
S34.131A	Complete lesion of sacral spinal cord, initial encounter	Diagnosis	ICD-10-CM
S34.132A	Incomplete lesion of sacral spinal cord, initial encounter	Diagnosis	ICD-10-CM
S34.139A	Unspecified injury to sacral spinal cord, initial encounter	Diagnosis	ICD-10-CM
S34.3XXA	Injury of cauda equina, initial encounter	Diagnosis	ICD-10-CM
S35.401A	Unspecified injury of right renal artery, initial encounter	Diagnosis	ICD-10-CM
S35.402A	Unspecified injury of left renal artery, initial encounter	Diagnosis	ICD-10-CM
S35.403A	Unspecified injury of unspecified renal artery, initial encounter	Diagnosis	ICD-10-CM
S35.404A	Unspecified injury of right renal vein, initial encounter	Diagnosis	ICD-10-CM
S35.405A	Unspecified injury of left renal vein, initial encounter	Diagnosis	ICD-10-CM
S35.406A	Unspecified injury of unspecified renal vein, initial encounter	Diagnosis	ICD-10-CM
S35.411A	Laceration of right renal artery, initial encounter	Diagnosis	ICD-10-CM
S35.412A	Laceration of left renal artery, initial encounter	Diagnosis	ICD-10-CM
S35.413A	Laceration of unspecified renal artery, initial encounter	Diagnosis	ICD-10-CM
S35.414A	Laceration of right renal vein, initial encounter	Diagnosis	ICD-10-CM
S35.415A	Laceration of left renal vein, initial encounter	Diagnosis	ICD-10-CM
S35.416A	Laceration of unspecified renal vein, initial encounter	Diagnosis	ICD-10-CM
S35.491A	Other specified injury of right renal artery, initial encounter	Diagnosis	ICD-10-CM
S35.492A	Other specified injury of left renal artery, initial encounter	Diagnosis	ICD-10-CM
S35.493A	Other specified injury of unspecified renal artery, initial encounter	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S35.494A	Other specified injury of right renal vein, initial encounter	Diagnosis	ICD-10-CM
S35.495A	Other specified injury of left renal vein, initial encounter	Diagnosis	ICD-10-CM
S35.496A	Other specified injury of unspecified renal vein, initial encounter	Diagnosis	ICD-10-CM
S35.531A	Injury of right uterine artery, initial encounter	Diagnosis	ICD-10-CM
S35.532A	Injury of left uterine artery, initial encounter	Diagnosis	ICD-10-CM
S35.533A	Injury of unspecified uterine artery, initial encounter	Diagnosis	ICD-10-CM
S35.534A	Injury of right uterine vein, initial encounter	Diagnosis	ICD-10-CM
S35.535A	Injury of left uterine vein, initial encounter	Diagnosis	ICD-10-CM
S35.536A	Injury of unspecified uterine vein, initial encounter	Diagnosis	ICD-10-CM
S35.8X1A	Laceration of other blood vessels at abdomen, lower back and pelvis level, initial encounter	Diagnosis	ICD-10-CM
S35.8X8A	Other specified injury of other blood vessels at abdomen, lower back and pelvis level, initial encounter	Diagnosis	ICD-10-CM
S35.8X9A	Unspecified injury of other blood vessels at abdomen, lower back and pelvis level, initial encounter	Diagnosis	ICD-10-CM
S36.00XA	Unspecified injury of spleen, initial encounter	Diagnosis	ICD-10-CM
S36.020A	Minor contusion of spleen, initial encounter	Diagnosis	ICD-10-CM
S36.021A	Major contusion of spleen, initial encounter	Diagnosis	ICD-10-CM
S36.029A	Unspecified contusion of spleen, initial encounter	Diagnosis	ICD-10-CM
S36.030A	Superficial (capsular) laceration of spleen, initial encounter	Diagnosis	ICD-10-CM
S36.031A	Moderate laceration of spleen, initial encounter	Diagnosis	ICD-10-CM
S36.032A	Major laceration of spleen, initial encounter	Diagnosis	ICD-10-CM
S36.09XA	Other injury of spleen, initial encounter	Diagnosis	ICD-10-CM
S36.112A	Contusion of liver, initial encounter	Diagnosis	ICD-10-CM
S36.113A	Laceration of liver, unspecified degree, initial encounter	Diagnosis	ICD-10-CM
S36.114A	Minor laceration of liver, initial encounter	Diagnosis	ICD-10-CM
S36.115A	Moderate laceration of liver, initial encounter	Diagnosis	ICD-10-CM
S36.116A	Major laceration of liver, initial encounter	Diagnosis	ICD-10-CM
S36.118A	Other injury of liver, initial encounter	Diagnosis	ICD-10-CM
S36.119A	Unspecified injury of liver, initial encounter	Diagnosis	ICD-10-CM
S36.200A	Unspecified injury of head of pancreas, initial encounter	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S36.201A	Unspecified injury of body of pancreas, initial encounter	Diagnosis	ICD-10-CM
S36.202A	Unspecified injury of tail of pancreas, initial encounter	Diagnosis	ICD-10-CM
S36.209A	Unspecified injury of unspecified part of pancreas, initial encounter	Diagnosis	ICD-10-CM
S36.220A	Contusion of head of pancreas, initial encounter	Diagnosis	ICD-10-CM
S36.221A	Contusion of body of pancreas, initial encounter	Diagnosis	ICD-10-CM
S36.222A	Contusion of tail of pancreas, initial encounter	Diagnosis	ICD-10-CM
S36.229A	Contusion of unspecified part of pancreas, initial encounter	Diagnosis	ICD-10-CM
S36.230A	Laceration of head of pancreas, unspecified degree, initial encounter	Diagnosis	ICD-10-CM
S36.231A	Laceration of body of pancreas, unspecified degree, initial encounter	Diagnosis	ICD-10-CM
S36.232A	Laceration of tail of pancreas, unspecified degree, initial encounter	Diagnosis	ICD-10-CM
S36.239A	Laceration of unspecified part of pancreas, unspecified degree, initial encounter	Diagnosis	ICD-10-CM
S36.240A	Minor laceration of head of pancreas, initial encounter	Diagnosis	ICD-10-CM
S36.241A	Minor laceration of body of pancreas, initial encounter	Diagnosis	ICD-10-CM
S36.242A	Minor laceration of tail of pancreas, initial encounter	Diagnosis	ICD-10-CM
S36.249A	Minor laceration of unspecified part of pancreas, initial encounter	Diagnosis	ICD-10-CM
S36.250A	Moderate laceration of head of pancreas, initial encounter	Diagnosis	ICD-10-CM
S36.251A	Moderate laceration of body of pancreas, initial encounter	Diagnosis	ICD-10-CM
S36.252A	Moderate laceration of tail of pancreas, initial encounter	Diagnosis	ICD-10-CM
S36.259A	Moderate laceration of unspecified part of pancreas, initial encounter	Diagnosis	ICD-10-CM
S36.260A	Major laceration of head of pancreas, initial encounter	Diagnosis	ICD-10-CM
S36.261A	Major laceration of body of pancreas, initial encounter	Diagnosis	ICD-10-CM
S36.262A	Major laceration of tail of pancreas, initial encounter	Diagnosis	ICD-10-CM
S36.269A	Major laceration of unspecified part of pancreas, initial encounter	Diagnosis	ICD-10-CM
S36.290A	Other injury of head of pancreas, initial encounter	Diagnosis	ICD-10-CM
S36.291A	Other injury of body of pancreas, initial encounter	Diagnosis	ICD-10-CM
S36.292A	Other injury of tail of pancreas, initial encounter	Diagnosis	ICD-10-CM
S36.299A	Other injury of unspecified part of pancreas, initial encounter	Diagnosis	ICD-10-CM
S36.30XA	Unspecified injury of stomach, initial encounter	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S36.32XA	Contusion of stomach, initial encounter	Diagnosis	ICD-10-CM
S36.33XA	Laceration of stomach, initial encounter	Diagnosis	ICD-10-CM
S36.39XA	Other injury of stomach, initial encounter	Diagnosis	ICD-10-CM
S36.400A	Unspecified injury of duodenum, initial encounter	Diagnosis	ICD-10-CM
S36.408A	Unspecified injury of other part of small intestine, initial encounter	Diagnosis	ICD-10-CM
S36.409A	Unspecified injury of unspecified part of small intestine, initial encounter	Diagnosis	ICD-10-CM
S36.410A	Primary blast injury of duodenum, initial encounter	Diagnosis	ICD-10-CM
S36.418A	Primary blast injury of other part of small intestine, initial encounter	Diagnosis	ICD-10-CM
S36.419A	Primary blast injury of unspecified part of small intestine, initial encounter	Diagnosis	ICD-10-CM
S36.420A	Contusion of duodenum, initial encounter	Diagnosis	ICD-10-CM
S36.428A	Contusion of other part of small intestine, initial encounter	Diagnosis	ICD-10-CM
S36.429A	Contusion of unspecified part of small intestine, initial encounter	Diagnosis	ICD-10-CM
S36.430A	Laceration of duodenum, initial encounter	Diagnosis	ICD-10-CM
S36.438A	Laceration of other part of small intestine, initial encounter	Diagnosis	ICD-10-CM
S36.439A	Laceration of unspecified part of small intestine, initial encounter	Diagnosis	ICD-10-CM
S36.490A	Other injury of duodenum, initial encounter	Diagnosis	ICD-10-CM
S36.498A	Other injury of other part of small intestine, initial encounter	Diagnosis	ICD-10-CM
S36.499A	Other injury of unspecified part of small intestine, initial encounter	Diagnosis	ICD-10-CM
S36.500A	Unspecified injury of ascending [right] colon, initial encounter	Diagnosis	ICD-10-CM
S36.501A	Unspecified injury of transverse colon, initial encounter	Diagnosis	ICD-10-CM
S36.502A	Unspecified injury of descending [left] colon, initial encounter	Diagnosis	ICD-10-CM
S36.503A	Unspecified injury of sigmoid colon, initial encounter	Diagnosis	ICD-10-CM
S36.508A	Unspecified injury of other part of colon, initial encounter	Diagnosis	ICD-10-CM
S36.509A	Unspecified injury of unspecified part of colon, initial encounter	Diagnosis	ICD-10-CM
S36.510A	Primary blast injury of ascending [right] colon, initial encounter	Diagnosis	ICD-10-CM
S36.511A	Primary blast injury of transverse colon, initial encounter	Diagnosis	ICD-10-CM
S36.512A	Primary blast injury of descending [left] colon, initial encounter	Diagnosis	ICD-10-CM
S36.513A	Primary blast injury of sigmoid colon, initial encounter	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S36.518A	Primary blast injury of other part of colon, initial encounter	Diagnosis	ICD-10-CM
S36.519A	Primary blast injury of unspecified part of colon, initial encounter	Diagnosis	ICD-10-CM
S36.520A	Contusion of ascending [right] colon, initial encounter	Diagnosis	ICD-10-CM
S36.521A	Contusion of transverse colon, initial encounter	Diagnosis	ICD-10-CM
S36.522A	Contusion of descending [left] colon, initial encounter	Diagnosis	ICD-10-CM
S36.523A	Contusion of sigmoid colon, initial encounter	Diagnosis	ICD-10-CM
S36.528A	Contusion of other part of colon, initial encounter	Diagnosis	ICD-10-CM
S36.529A	Contusion of unspecified part of colon, initial encounter	Diagnosis	ICD-10-CM
S36.530A	Laceration of ascending [right] colon, initial encounter	Diagnosis	ICD-10-CM
S36.531A	Laceration of transverse colon, initial encounter	Diagnosis	ICD-10-CM
S36.532A	Laceration of descending [left] colon, initial encounter	Diagnosis	ICD-10-CM
S36.533A	Laceration of sigmoid colon, initial encounter	Diagnosis	ICD-10-CM
S36.538A	Laceration of other part of colon, initial encounter	Diagnosis	ICD-10-CM
S36.539A	Laceration of unspecified part of colon, initial encounter	Diagnosis	ICD-10-CM
S36.590A	Other injury of ascending [right] colon, initial encounter	Diagnosis	ICD-10-CM
S36.591A	Other injury of transverse colon, initial encounter	Diagnosis	ICD-10-CM
S36.592A	Other injury of descending [left] colon, initial encounter	Diagnosis	ICD-10-CM
S36.593A	Other injury of sigmoid colon, initial encounter	Diagnosis	ICD-10-CM
S36.598A	Other injury of other part of colon, initial encounter	Diagnosis	ICD-10-CM
S36.599A	Other injury of unspecified part of colon, initial encounter	Diagnosis	ICD-10-CM
S36.60XA	Unspecified injury of rectum, initial encounter	Diagnosis	ICD-10-CM
S36.61XA	Primary blast injury of rectum, initial encounter	Diagnosis	ICD-10-CM
S36.62XA	Contusion of rectum, initial encounter	Diagnosis	ICD-10-CM
S36.63XA	Laceration of rectum, initial encounter	Diagnosis	ICD-10-CM
S36.69XA	Other injury of rectum, initial encounter	Diagnosis	ICD-10-CM
S36.899A	Unspecified injury of other intra-abdominal organs, initial encounter	Diagnosis	ICD-10-CM
S36.90XA	Unspecified injury of unspecified intra-abdominal organ, initial encounter	Diagnosis	ICD-10-CM
S37.001A	Unspecified injury of right kidney, initial encounter	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S37.002A	Unspecified injury of left kidney, initial encounter	Diagnosis	ICD-10-CM
S37.009A	Unspecified injury of unspecified kidney, initial encounter	Diagnosis	ICD-10-CM
S37.011A	Minor contusion of right kidney, initial encounter	Diagnosis	ICD-10-CM
S37.012A	Minor contusion of left kidney, initial encounter	Diagnosis	ICD-10-CM
S37.019A	Minor contusion of unspecified kidney, initial encounter	Diagnosis	ICD-10-CM
S37.021A	Major contusion of right kidney, initial encounter	Diagnosis	ICD-10-CM
S37.022A	Major contusion of left kidney, initial encounter	Diagnosis	ICD-10-CM
S37.029A	Major contusion of unspecified kidney, initial encounter	Diagnosis	ICD-10-CM
S37.031A	Laceration of right kidney, unspecified degree, initial encounter	Diagnosis	ICD-10-CM
S37.032A	Laceration of left kidney, unspecified degree, initial encounter	Diagnosis	ICD-10-CM
S37.039A	Laceration of unspecified kidney, unspecified degree, initial encounter	Diagnosis	ICD-10-CM
S37.041A	Minor laceration of right kidney, initial encounter	Diagnosis	ICD-10-CM
S37.042A	Minor laceration of left kidney, initial encounter	Diagnosis	ICD-10-CM
S37.049A	Minor laceration of unspecified kidney, initial encounter	Diagnosis	ICD-10-CM
S37.051A	Moderate laceration of right kidney, initial encounter	Diagnosis	ICD-10-CM
S37.052A	Moderate laceration of left kidney, initial encounter	Diagnosis	ICD-10-CM
S37.059A	Moderate laceration of unspecified kidney, initial encounter	Diagnosis	ICD-10-CM
S37.061A	Major laceration of right kidney, initial encounter	Diagnosis	ICD-10-CM
S37.062A	Major laceration of left kidney, initial encounter	Diagnosis	ICD-10-CM
S37.069A	Major laceration of unspecified kidney, initial encounter	Diagnosis	ICD-10-CM
S37.091A	Other injury of right kidney, initial encounter	Diagnosis	ICD-10-CM
S37.092A	Other injury of left kidney, initial encounter	Diagnosis	ICD-10-CM
S37.099A	Other injury of unspecified kidney, initial encounter	Diagnosis	ICD-10-CM
S37.10XA	Unspecified injury of ureter, initial encounter	Diagnosis	ICD-10-CM
S37.12XA	Contusion of ureter, initial encounter	Diagnosis	ICD-10-CM
S37.13XA	Laceration of ureter, initial encounter	Diagnosis	ICD-10-CM
S37.19XA	Other injury of ureter, initial encounter	Diagnosis	ICD-10-CM
S37.20XA	Unspecified injury of bladder, initial encounter	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S37.22XA	Contusion of bladder, initial encounter	Diagnosis	ICD-10-CM
S37.23XA	Laceration of bladder, initial encounter	Diagnosis	ICD-10-CM
S37.29XA	Other injury of bladder, initial encounter	Diagnosis	ICD-10-CM
S37.30XA	Unspecified injury of urethra, initial encounter	Diagnosis	ICD-10-CM
S37.32XA	Contusion of urethra, initial encounter	Diagnosis	ICD-10-CM
S37.33XA	Laceration of urethra, initial encounter	Diagnosis	ICD-10-CM
S37.39XA	Other injury of urethra, initial encounter	Diagnosis	ICD-10-CM
S37.401A	Unspecified injury of ovary, unilateral, initial encounter	Diagnosis	ICD-10-CM
S37.402A	Unspecified injury of ovary, bilateral, initial encounter	Diagnosis	ICD-10-CM
S37.409A	Unspecified injury of ovary, unspecified, initial encounter	Diagnosis	ICD-10-CM
S37.421A	Contusion of ovary, unilateral, initial encounter	Diagnosis	ICD-10-CM
S37.422A	Contusion of ovary, bilateral, initial encounter	Diagnosis	ICD-10-CM
S37.429A	Contusion of ovary, unspecified, initial encounter	Diagnosis	ICD-10-CM
S37.431A	Laceration of ovary, unilateral, initial encounter	Diagnosis	ICD-10-CM
S37.432A	Laceration of ovary, bilateral, initial encounter	Diagnosis	ICD-10-CM
S37.439A	Laceration of ovary, unspecified, initial encounter	Diagnosis	ICD-10-CM
S37.491A	Other injury of ovary, unilateral, initial encounter	Diagnosis	ICD-10-CM
S37.492A	Other injury of ovary, bilateral, initial encounter	Diagnosis	ICD-10-CM
S37.499A	Other injury of ovary, unspecified, initial encounter	Diagnosis	ICD-10-CM
S37.501A	Unspecified injury of fallopian tube, unilateral, initial encounter	Diagnosis	ICD-10-CM
S37.502A	Unspecified injury of fallopian tube, bilateral, initial encounter	Diagnosis	ICD-10-CM
S37.509A	Unspecified injury of fallopian tube, unspecified, initial encounter	Diagnosis	ICD-10-CM
S37.511A	Primary blast injury of fallopian tube, unilateral, initial encounter	Diagnosis	ICD-10-CM
S37.512A	Primary blast injury of fallopian tube, bilateral, initial encounter	Diagnosis	ICD-10-CM
S37.519A	Primary blast injury of fallopian tube, unspecified, initial encounter	Diagnosis	ICD-10-CM
S37.521A	Contusion of fallopian tube, unilateral, initial encounter	Diagnosis	ICD-10-CM
S37.522A	Contusion of fallopian tube, bilateral, initial encounter	Diagnosis	ICD-10-CM
S37.529A	Contusion of fallopian tube, unspecified, initial encounter	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S37.531A	Laceration of fallopian tube, unilateral, initial encounter	Diagnosis	ICD-10-CM
S37.532A	Laceration of fallopian tube, bilateral, initial encounter	Diagnosis	ICD-10-CM
S37.539A	Laceration of fallopian tube, unspecified, initial encounter	Diagnosis	ICD-10-CM
S37.591A	Other injury of fallopian tube, unilateral, initial encounter	Diagnosis	ICD-10-CM
S37.592A	Other injury of fallopian tube, bilateral, initial encounter	Diagnosis	ICD-10-CM
S37.599A	Other injury of fallopian tube, unspecified, initial encounter	Diagnosis	ICD-10-CM
S37.60XA	Unspecified injury of uterus, initial encounter	Diagnosis	ICD-10-CM
S37.62XA	Contusion of uterus, initial encounter	Diagnosis	ICD-10-CM
S37.63XA	Laceration of uterus, initial encounter	Diagnosis	ICD-10-CM
S37.69XA	Other injury of uterus, initial encounter	Diagnosis	ICD-10-CM
S37.822A	Contusion of prostate, initial encounter	Diagnosis	ICD-10-CM
S37.823A	Laceration of prostate, initial encounter	Diagnosis	ICD-10-CM
S37.828A	Other injury of prostate, initial encounter	Diagnosis	ICD-10-CM
S37.829A	Unspecified injury of prostate, initial encounter	Diagnosis	ICD-10-CM
S37.892A	Contusion of other urinary and pelvic organ, initial encounter	Diagnosis	ICD-10-CM
S37.893A	Laceration of other urinary and pelvic organ, initial encounter	Diagnosis	ICD-10-CM
S37.898A	Other injury of other urinary and pelvic organ, initial encounter	Diagnosis	ICD-10-CM
S37.899A	Unspecified injury of other urinary and pelvic organ, initial encounter	Diagnosis	ICD-10-CM
S37.90XA	Unspecified injury of unspecified urinary and pelvic organ, initial encounter	Diagnosis	ICD-10-CM
S37.92XA	Contusion of unspecified urinary and pelvic organ, initial encounter	Diagnosis	ICD-10-CM
S37.93XA	Laceration of unspecified urinary and pelvic organ, initial encounter	Diagnosis	ICD-10-CM
S37.99XA	Other injury of unspecified urinary and pelvic organ, initial encounter	Diagnosis	ICD-10-CM
S38.001A	Crushing injury of unspecified external genital organs, male, initial encounter	Diagnosis	ICD-10-CM
S38.002A	Crushing injury of unspecified external genital organs, female, initial encounter	Diagnosis	ICD-10-CM
S38.01XA	Crushing injury of penis, initial encounter	Diagnosis	ICD-10-CM
S38.02XA	Crushing injury of scrotum and testis, initial encounter	Diagnosis	ICD-10-CM
S38.03XA	Crushing injury of vulva, initial encounter	Diagnosis	ICD-10-CM
S38.1XXA	Crushing injury of abdomen, lower back, and pelvis, initial encounter	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S42.001A	Fracture of unspecified part of right clavicle, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.001B	Fracture of unspecified part of right clavicle, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.002A	Fracture of unspecified part of left clavicle, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.002B	Fracture of unspecified part of left clavicle, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.009A	Fracture of unspecified part of unspecified clavicle, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.009B	Fracture of unspecified part of unspecified clavicle, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.011A	Anterior displaced fracture of sternal end of right clavicle, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.011B	Anterior displaced fracture of sternal end of right clavicle, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.012A	Anterior displaced fracture of sternal end of left clavicle, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.012B	Anterior displaced fracture of sternal end of left clavicle, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.013A	Anterior displaced fracture of sternal end of unspecified clavicle, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.013B	Anterior displaced fracture of sternal end of unspecified clavicle, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.014A	Posterior displaced fracture of sternal end of right clavicle, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.014B	Posterior displaced fracture of sternal end of right clavicle, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.015A	Posterior displaced fracture of sternal end of left clavicle, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.015B	Posterior displaced fracture of sternal end of left clavicle, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.016A	Posterior displaced fracture of sternal end of unspecified clavicle, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.016B	Posterior displaced fracture of sternal end of unspecified clavicle, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.017A	Nondisplaced fracture of sternal end of right clavicle, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.017B	Nondisplaced fracture of sternal end of right clavicle, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.018A	Nondisplaced fracture of sternal end of left clavicle, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.018B	Nondisplaced fracture of sternal end of left clavicle, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.019A	Nondisplaced fracture of sternal end of unspecified clavicle, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.019B	Nondisplaced fracture of sternal end of unspecified clavicle, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.021A	Displaced fracture of shaft of right clavicle, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.021B	Displaced fracture of shaft of right clavicle, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.022A	Displaced fracture of shaft of left clavicle, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.022B	Displaced fracture of shaft of left clavicle, initial encounter for open fracture	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S42.023A	Displaced fracture of shaft of unspecified clavicle, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.023B	Displaced fracture of shaft of unspecified clavicle, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.024A	Nondisplaced fracture of shaft of right clavicle, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.024B	Nondisplaced fracture of shaft of right clavicle, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.025A	Nondisplaced fracture of shaft of left clavicle, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.025B	Nondisplaced fracture of shaft of left clavicle, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.026A	Nondisplaced fracture of shaft of unspecified clavicle, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.026B	Nondisplaced fracture of shaft of unspecified clavicle, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.031A	Displaced fracture of lateral end of right clavicle, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.031B	Displaced fracture of lateral end of right clavicle, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.032A	Displaced fracture of lateral end of left clavicle, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.032B	Displaced fracture of lateral end of left clavicle, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.033A	Displaced fracture of lateral end of unspecified clavicle, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.033B	Displaced fracture of lateral end of unspecified clavicle, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.034A	Nondisplaced fracture of lateral end of right clavicle, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.034B	Nondisplaced fracture of lateral end of right clavicle, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.035A	Nondisplaced fracture of lateral end of left clavicle, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.035B	Nondisplaced fracture of lateral end of left clavicle, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.036A	Nondisplaced fracture of lateral end of unspecified clavicle, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.036B	Nondisplaced fracture of lateral end of unspecified clavicle, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.101A	Fracture of unspecified part of scapula, right shoulder, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.101B	Fracture of unspecified part of scapula, right shoulder, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.102A	Fracture of unspecified part of scapula, left shoulder, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.102B	Fracture of unspecified part of scapula, left shoulder, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.109A	Fracture of unspecified part of scapula, unspecified shoulder, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.109B	Fracture of unspecified part of scapula, unspecified shoulder, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.111A	Displaced fracture of body of scapula, right shoulder, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.111B	Displaced fracture of body of scapula, right shoulder, initial encounter for open fracture	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S42.112A	Displaced fracture of body of scapula, left shoulder, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.112B	Displaced fracture of body of scapula, left shoulder, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.113A	Displaced fracture of body of scapula, unspecified shoulder, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.113B	Displaced fracture of body of scapula, unspecified shoulder, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.114A	Nondisplaced fracture of body of scapula, right shoulder, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.114B	Nondisplaced fracture of body of scapula, right shoulder, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.115A	Nondisplaced fracture of body of scapula, left shoulder, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.115B	Nondisplaced fracture of body of scapula, left shoulder, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.116A	Nondisplaced fracture of body of scapula, unspecified shoulder, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.116B	Nondisplaced fracture of body of scapula, unspecified shoulder, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.121A	Displaced fracture of acromial process, right shoulder, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.121B	Displaced fracture of acromial process, right shoulder, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.122A	Displaced fracture of acromial process, left shoulder, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.122B	Displaced fracture of acromial process, left shoulder, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.123A	Displaced fracture of acromial process, unspecified shoulder, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.123B	Displaced fracture of acromial process, unspecified shoulder, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.124A	Nondisplaced fracture of acromial process, right shoulder, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.124B	Nondisplaced fracture of acromial process, right shoulder, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.125A	Nondisplaced fracture of acromial process, left shoulder, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.125B	Nondisplaced fracture of acromial process, left shoulder, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.126A	Nondisplaced fracture of acromial process, unspecified shoulder, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.126B	Nondisplaced fracture of acromial process, unspecified shoulder, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.131A	Displaced fracture of coracoid process, right shoulder, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.131B	Displaced fracture of coracoid process, right shoulder, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.132A	Displaced fracture of coracoid process, left shoulder, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.132B	Displaced fracture of coracoid process, left shoulder, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.133A	Displaced fracture of coracoid process, unspecified shoulder, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.133B	Displaced fracture of coracoid process, unspecified shoulder, initial encounter for open fracture	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S42.134A	Nondisplaced fracture of coracoid process, right shoulder, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.134B	Nondisplaced fracture of coracoid process, right shoulder, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.135A	Nondisplaced fracture of coracoid process, left shoulder, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.135B	Nondisplaced fracture of coracoid process, left shoulder, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.136A	Nondisplaced fracture of coracoid process, unspecified shoulder, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.136B	Nondisplaced fracture of coracoid process, unspecified shoulder, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.141A	Displaced fracture of glenoid cavity of scapula, right shoulder, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.141B	Displaced fracture of glenoid cavity of scapula, right shoulder, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.142A	Displaced fracture of glenoid cavity of scapula, left shoulder, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.142B	Displaced fracture of glenoid cavity of scapula, left shoulder, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.143A	Displaced fracture of glenoid cavity of scapula, unspecified shoulder, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.143B	Displaced fracture of glenoid cavity of scapula, unspecified shoulder, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.144A	Nondisplaced fracture of glenoid cavity of scapula, right shoulder, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.144B	Nondisplaced fracture of glenoid cavity of scapula, right shoulder, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.145A	Nondisplaced fracture of glenoid cavity of scapula, left shoulder, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.145B	Nondisplaced fracture of glenoid cavity of scapula, left shoulder, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.146A	Nondisplaced fracture of glenoid cavity of scapula, unspecified shoulder, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.146B	Nondisplaced fracture of glenoid cavity of scapula, unspecified shoulder, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.151A	Displaced fracture of neck of scapula, right shoulder, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.151B	Displaced fracture of neck of scapula, right shoulder, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.152A	Displaced fracture of neck of scapula, left shoulder, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.152B	Displaced fracture of neck of scapula, left shoulder, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.153A	Displaced fracture of neck of scapula, unspecified shoulder, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.153B	Displaced fracture of neck of scapula, unspecified shoulder, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.154A	Nondisplaced fracture of neck of scapula, right shoulder, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.154B	Nondisplaced fracture of neck of scapula, right shoulder, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.155A	Nondisplaced fracture of neck of scapula, left shoulder, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.155B	Nondisplaced fracture of neck of scapula, left shoulder, initial encounter for open fracture	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S42.156A	Nondisplaced fracture of neck of scapula, unspecified shoulder, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.156B	Nondisplaced fracture of neck of scapula, unspecified shoulder, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.191A	Fracture of other part of scapula, right shoulder, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.191B	Fracture of other part of scapula, right shoulder, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.192A	Fracture of other part of scapula, left shoulder, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.192B	Fracture of other part of scapula, left shoulder, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.199A	Fracture of other part of scapula, unspecified shoulder, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.199B	Fracture of other part of scapula, unspecified shoulder, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.201A	Unspecified fracture of upper end of right humerus, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.201B	Unspecified fracture of upper end of right humerus, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.202A	Unspecified fracture of upper end of left humerus, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.202B	Unspecified fracture of upper end of left humerus, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.209A	Unspecified fracture of upper end of unspecified humerus, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.209B	Unspecified fracture of upper end of unspecified humerus, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.211A	Unspecified displaced fracture of surgical neck of right humerus, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.211B	Unspecified displaced fracture of surgical neck of right humerus, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.212A	Unspecified displaced fracture of surgical neck of left humerus, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.212B	Unspecified displaced fracture of surgical neck of left humerus, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.213A	Unspecified displaced fracture of surgical neck of unspecified humerus, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.213B	Unspecified displaced fracture of surgical neck of unspecified humerus, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.214A	Unspecified nondisplaced fracture of surgical neck of right humerus, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.214B	Unspecified nondisplaced fracture of surgical neck of right humerus, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.215A	Unspecified nondisplaced fracture of surgical neck of left humerus, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.215B	Unspecified nondisplaced fracture of surgical neck of left humerus, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.216A	Unspecified nondisplaced fracture of surgical neck of unspecified humerus, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.216B	Unspecified nondisplaced fracture of surgical neck of unspecified humerus, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.221A	2-part displaced fracture of surgical neck of right humerus, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.221B	2-part displaced fracture of surgical neck of right humerus, initial encounter for open fracture	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S42.222A	2-part displaced fracture of surgical neck of left humerus, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.222B	2-part displaced fracture of surgical neck of left humerus, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.223A	2-part displaced fracture of surgical neck of unspecified humerus, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.223B	2-part displaced fracture of surgical neck of unspecified humerus, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.224A	2-part nondisplaced fracture of surgical neck of right humerus, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.224B	2-part nondisplaced fracture of surgical neck of right humerus, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.225A	2-part nondisplaced fracture of surgical neck of left humerus, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.225B	2-part nondisplaced fracture of surgical neck of left humerus, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.226A	2-part nondisplaced fracture of surgical neck of unspecified humerus, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.226B	2-part nondisplaced fracture of surgical neck of unspecified humerus, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.231A	3-part fracture of surgical neck of right humerus, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.231B	3-part fracture of surgical neck of right humerus, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.232A	3-part fracture of surgical neck of left humerus, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.232B	3-part fracture of surgical neck of left humerus, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.239A	3-part fracture of surgical neck of unspecified humerus, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.239B	3-part fracture of surgical neck of unspecified humerus, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.241A	4-part fracture of surgical neck of right humerus, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.241B	4-part fracture of surgical neck of right humerus, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.242A	4-part fracture of surgical neck of left humerus, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.242B	4-part fracture of surgical neck of left humerus, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.249A	4-part fracture of surgical neck of unspecified humerus, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.249B	4-part fracture of surgical neck of unspecified humerus, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.251A	Displaced fracture of greater tuberosity of right humerus, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.251B	Displaced fracture of greater tuberosity of right humerus, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.252A	Displaced fracture of greater tuberosity of left humerus, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.252B	Displaced fracture of greater tuberosity of left humerus, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.253A	Displaced fracture of greater tuberosity of unspecified humerus, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.253B	Displaced fracture of greater tuberosity of unspecified humerus, initial encounter for open fracture	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S42.254A	Nondisplaced fracture of greater tuberosity of right humerus, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.254B	Nondisplaced fracture of greater tuberosity of right humerus, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.255A	Nondisplaced fracture of greater tuberosity of left humerus, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.255B	Nondisplaced fracture of greater tuberosity of left humerus, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.256A	Nondisplaced fracture of greater tuberosity of unspecified humerus, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.256B	Nondisplaced fracture of greater tuberosity of unspecified humerus, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.261A	Displaced fracture of lesser tuberosity of right humerus, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.261B	Displaced fracture of lesser tuberosity of right humerus, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.262A	Displaced fracture of lesser tuberosity of left humerus, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.262B	Displaced fracture of lesser tuberosity of left humerus, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.263A	Displaced fracture of lesser tuberosity of unspecified humerus, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.263B	Displaced fracture of lesser tuberosity of unspecified humerus, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.264A	Nondisplaced fracture of lesser tuberosity of right humerus, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.264B	Nondisplaced fracture of lesser tuberosity of right humerus, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.265A	Nondisplaced fracture of lesser tuberosity of left humerus, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.265B	Nondisplaced fracture of lesser tuberosity of left humerus, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.266A	Nondisplaced fracture of lesser tuberosity of unspecified humerus, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.266B	Nondisplaced fracture of lesser tuberosity of unspecified humerus, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.271A	Torus fracture of upper end of right humerus, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.272A	Torus fracture of upper end of left humerus, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.279A	Torus fracture of upper end of unspecified humerus, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.291A	Other displaced fracture of upper end of right humerus, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.291B	Other displaced fracture of upper end of right humerus, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.292A	Other displaced fracture of upper end of left humerus, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.292B	Other displaced fracture of upper end of left humerus, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.293A	Other displaced fracture of upper end of unspecified humerus, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.293B	Other displaced fracture of upper end of unspecified humerus, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.294A	Other nondisplaced fracture of upper end of right humerus, initial encounter for closed fracture	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S42.294B	Other nondisplaced fracture of upper end of right humerus, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.295A	Other nondisplaced fracture of upper end of left humerus, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.295B	Other nondisplaced fracture of upper end of left humerus, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.296A	Other nondisplaced fracture of upper end of unspecified humerus, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.296B	Other nondisplaced fracture of upper end of unspecified humerus, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.301A	Unspecified fracture of shaft of humerus, right arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.301B	Unspecified fracture of shaft of humerus, right arm, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.302A	Unspecified fracture of shaft of humerus, left arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.302B	Unspecified fracture of shaft of humerus, left arm, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.309A	Unspecified fracture of shaft of humerus, unspecified arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.309B	Unspecified fracture of shaft of humerus, unspecified arm, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.311A	Greenstick fracture of shaft of humerus, right arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.312A	Greenstick fracture of shaft of humerus, left arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.319A	Greenstick fracture of shaft of humerus, unspecified arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.321A	Displaced transverse fracture of shaft of humerus, right arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.321B	Displaced transverse fracture of shaft of humerus, right arm, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.322A	Displaced transverse fracture of shaft of humerus, left arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.322B	Displaced transverse fracture of shaft of humerus, left arm, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.323A	Displaced transverse fracture of shaft of humerus, unspecified arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.323B	Displaced transverse fracture of shaft of humerus, unspecified arm, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.324A	Nondisplaced transverse fracture of shaft of humerus, right arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.324B	Nondisplaced transverse fracture of shaft of humerus, right arm, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.325A	Nondisplaced transverse fracture of shaft of humerus, left arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.325B	Nondisplaced transverse fracture of shaft of humerus, left arm, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.326A	Nondisplaced transverse fracture of shaft of humerus, unspecified arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.326B	Nondisplaced transverse fracture of shaft of humerus, unspecified arm, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.331A	Displaced oblique fracture of shaft of humerus, right arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.331B	Displaced oblique fracture of shaft of humerus, right arm, initial encounter for open fracture	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S42.332A	Displaced oblique fracture of shaft of humerus, left arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.332B	Displaced oblique fracture of shaft of humerus, left arm, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.333A	Displaced oblique fracture of shaft of humerus, unspecified arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.333B	Displaced oblique fracture of shaft of humerus, unspecified arm, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.334A	Nondisplaced oblique fracture of shaft of humerus, right arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.334B	Nondisplaced oblique fracture of shaft of humerus, right arm, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.335A	Nondisplaced oblique fracture of shaft of humerus, left arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.335B	Nondisplaced oblique fracture of shaft of humerus, left arm, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.336A	Nondisplaced oblique fracture of shaft of humerus, unspecified arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.336B	Nondisplaced oblique fracture of shaft of humerus, unspecified arm, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.341A	Displaced spiral fracture of shaft of humerus, right arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.341B	Displaced spiral fracture of shaft of humerus, right arm, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.342A	Displaced spiral fracture of shaft of humerus, left arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.342B	Displaced spiral fracture of shaft of humerus, left arm, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.343A	Displaced spiral fracture of shaft of humerus, unspecified arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.343B	Displaced spiral fracture of shaft of humerus, unspecified arm, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.344A	Nondisplaced spiral fracture of shaft of humerus, right arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.344B	Nondisplaced spiral fracture of shaft of humerus, right arm, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.345A	Nondisplaced spiral fracture of shaft of humerus, left arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.345B	Nondisplaced spiral fracture of shaft of humerus, left arm, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.346A	Nondisplaced spiral fracture of shaft of humerus, unspecified arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.346B	Nondisplaced spiral fracture of shaft of humerus, unspecified arm, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.351A	Displaced comminuted fracture of shaft of humerus, right arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.351B	Displaced comminuted fracture of shaft of humerus, right arm, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.352A	Displaced comminuted fracture of shaft of humerus, left arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.352B	Displaced comminuted fracture of shaft of humerus, left arm, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.353A	Displaced comminuted fracture of shaft of humerus, unspecified arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.353B	Displaced comminuted fracture of shaft of humerus, unspecified arm, initial encounter for open fracture	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S42.354A	Nondisplaced comminuted fracture of shaft of humerus, right arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.354B	Nondisplaced comminuted fracture of shaft of humerus, right arm, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.355A	Nondisplaced comminuted fracture of shaft of humerus, left arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.355B	Nondisplaced comminuted fracture of shaft of humerus, left arm, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.356A	Nondisplaced comminuted fracture of shaft of humerus, unspecified arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.356B	Nondisplaced comminuted fracture of shaft of humerus, unspecified arm, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.361A	Displaced segmental fracture of shaft of humerus, right arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.361B	Displaced segmental fracture of shaft of humerus, right arm, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.362A	Displaced segmental fracture of shaft of humerus, left arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.362B	Displaced segmental fracture of shaft of humerus, left arm, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.363A	Displaced segmental fracture of shaft of humerus, unspecified arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.363B	Displaced segmental fracture of shaft of humerus, unspecified arm, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.364A	Nondisplaced segmental fracture of shaft of humerus, right arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.364B	Nondisplaced segmental fracture of shaft of humerus, right arm, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.365A	Nondisplaced segmental fracture of shaft of humerus, left arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.365B	Nondisplaced segmental fracture of shaft of humerus, left arm, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.366A	Nondisplaced segmental fracture of shaft of humerus, unspecified arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.366B	Nondisplaced segmental fracture of shaft of humerus, unspecified arm, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.391A	Other fracture of shaft of right humerus, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.391B	Other fracture of shaft of right humerus, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.392A	Other fracture of shaft of left humerus, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.392B	Other fracture of shaft of left humerus, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.399A	Other fracture of shaft of unspecified humerus, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.399B	Other fracture of shaft of unspecified humerus, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.401A	Unspecified fracture of lower end of right humerus, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.401B	Unspecified fracture of lower end of right humerus, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.402A	Unspecified fracture of lower end of left humerus, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.402B	Unspecified fracture of lower end of left humerus, initial encounter for open fracture	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S42.409A	Unspecified fracture of lower end of unspecified humerus, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.409B	Unspecified fracture of lower end of unspecified humerus, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.411A	Displaced simple supracondylar fracture without intercondylar fracture of right humerus, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.411B	Displaced simple supracondylar fracture without intercondylar fracture of right humerus, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.412A	Displaced simple supracondylar fracture without intercondylar fracture of left humerus, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.412B	Displaced simple supracondylar fracture without intercondylar fracture of left humerus, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.413A	Displaced simple supracondylar fracture without intercondylar fracture of unspecified humerus, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.413B	Displaced simple supracondylar fracture without intercondylar fracture of unspecified humerus, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.414A	Nondisplaced simple supracondylar fracture without intercondylar fracture of right humerus, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.414B	Nondisplaced simple supracondylar fracture without intercondylar fracture of right humerus, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.415A	Nondisplaced simple supracondylar fracture without intercondylar fracture of left humerus, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.415B	Nondisplaced simple supracondylar fracture without intercondylar fracture of left humerus, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.416A	Nondisplaced simple supracondylar fracture without intercondylar fracture of unspecified humerus, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.416B	Nondisplaced simple supracondylar fracture without intercondylar fracture of unspecified humerus, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.421A	Displaced comminuted supracondylar fracture without intercondylar fracture of right humerus, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.421B	Displaced comminuted supracondylar fracture without intercondylar fracture of right humerus, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.422A	Displaced comminuted supracondylar fracture without intercondylar fracture of left humerus, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.422B	Displaced comminuted supracondylar fracture without intercondylar fracture of left humerus, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.423A	Displaced comminuted supracondylar fracture without intercondylar fracture of unspecified humerus, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.423B	Displaced comminuted supracondylar fracture without intercondylar fracture of unspecified humerus, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.424A	Nondisplaced comminuted supracondylar fracture without intercondylar fracture of right humerus, initial encounter for closed fracture	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S42.424B	Nondisplaced comminuted supracondylar fracture without intercondylar fracture of right humerus, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.425A	Nondisplaced comminuted supracondylar fracture without intercondylar fracture of left humerus, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.425B	Nondisplaced comminuted supracondylar fracture without intercondylar fracture of left humerus, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.426A	Nondisplaced comminuted supracondylar fracture without intercondylar fracture of unspecified humerus, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.426B	Nondisplaced comminuted supracondylar fracture without intercondylar fracture of unspecified humerus, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.431A	Displaced fracture (avulsion) of lateral epicondyle of right humerus, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.431B	Displaced fracture (avulsion) of lateral epicondyle of right humerus, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.432A	Displaced fracture (avulsion) of lateral epicondyle of left humerus, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.432B	Displaced fracture (avulsion) of lateral epicondyle of left humerus, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.433A	Displaced fracture (avulsion) of lateral epicondyle of unspecified humerus, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.433B	Displaced fracture (avulsion) of lateral epicondyle of unspecified humerus, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.434A	Nondisplaced fracture (avulsion) of lateral epicondyle of right humerus, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.434B	Nondisplaced fracture (avulsion) of lateral epicondyle of right humerus, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.435A	Nondisplaced fracture (avulsion) of lateral epicondyle of left humerus, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.435B	Nondisplaced fracture (avulsion) of lateral epicondyle of left humerus, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.436A	Nondisplaced fracture (avulsion) of lateral epicondyle of unspecified humerus, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.436B	Nondisplaced fracture (avulsion) of lateral epicondyle of unspecified humerus, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.441A	Displaced fracture (avulsion) of medial epicondyle of right humerus, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.441B	Displaced fracture (avulsion) of medial epicondyle of right humerus, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.442A	Displaced fracture (avulsion) of medial epicondyle of left humerus, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.442B	Displaced fracture (avulsion) of medial epicondyle of left humerus, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.443A	Displaced fracture (avulsion) of medial epicondyle of unspecified humerus, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.443B	Displaced fracture (avulsion) of medial epicondyle of unspecified humerus, initial encounter for open fracture	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S42.444A	Nondisplaced fracture (avulsion) of medial epicondyle of right humerus, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.444B	Nondisplaced fracture (avulsion) of medial epicondyle of right humerus, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.445A	Nondisplaced fracture (avulsion) of medial epicondyle of left humerus, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.445B	Nondisplaced fracture (avulsion) of medial epicondyle of left humerus, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.446A	Nondisplaced fracture (avulsion) of medial epicondyle of unspecified humerus, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.446B	Nondisplaced fracture (avulsion) of medial epicondyle of unspecified humerus, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.447A	Incarcerated fracture (avulsion) of medial epicondyle of right humerus, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.447B	Incarcerated fracture (avulsion) of medial epicondyle of right humerus, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.448A	Incarcerated fracture (avulsion) of medial epicondyle of left humerus, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.448B	Incarcerated fracture (avulsion) of medial epicondyle of left humerus, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.449A	Incarcerated fracture (avulsion) of medial epicondyle of unspecified humerus, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.449B	Incarcerated fracture (avulsion) of medial epicondyle of unspecified humerus, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.451A	Displaced fracture of lateral condyle of right humerus, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.451B	Displaced fracture of lateral condyle of right humerus, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.452A	Displaced fracture of lateral condyle of left humerus, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.452B	Displaced fracture of lateral condyle of left humerus, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.453A	Displaced fracture of lateral condyle of unspecified humerus, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.453B	Displaced fracture of lateral condyle of unspecified humerus, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.454A	Nondisplaced fracture of lateral condyle of right humerus, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.454B	Nondisplaced fracture of lateral condyle of right humerus, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.455A	Nondisplaced fracture of lateral condyle of left humerus, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.455B	Nondisplaced fracture of lateral condyle of left humerus, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.456A	Nondisplaced fracture of lateral condyle of unspecified humerus, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.456B	Nondisplaced fracture of lateral condyle of unspecified humerus, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.461A	Displaced fracture of medial condyle of right humerus, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.461B	Displaced fracture of medial condyle of right humerus, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.462A	Displaced fracture of medial condyle of left humerus, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.462B	Displaced fracture of medial condyle of left humerus, initial encounter for open fracture	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S42.463A	Displaced fracture of medial condyle of unspecified humerus, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.463B	Displaced fracture of medial condyle of unspecified humerus, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.464A	Nondisplaced fracture of medial condyle of right humerus, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.464B	Nondisplaced fracture of medial condyle of right humerus, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.465A	Nondisplaced fracture of medial condyle of left humerus, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.465B	Nondisplaced fracture of medial condyle of left humerus, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.466A	Nondisplaced fracture of medial condyle of unspecified humerus, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.466B	Nondisplaced fracture of medial condyle of unspecified humerus, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.471A	Displaced transcondylar fracture of right humerus, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.471B	Displaced transcondylar fracture of right humerus, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.472A	Displaced transcondylar fracture of left humerus, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.472B	Displaced transcondylar fracture of left humerus, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.473A	Displaced transcondylar fracture of unspecified humerus, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.473B	Displaced transcondylar fracture of unspecified humerus, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.474A	Nondisplaced transcondylar fracture of right humerus, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.474B	Nondisplaced transcondylar fracture of right humerus, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.475A	Nondisplaced transcondylar fracture of left humerus, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.475B	Nondisplaced transcondylar fracture of left humerus, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.476A	Nondisplaced transcondylar fracture of unspecified humerus, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.476B	Nondisplaced transcondylar fracture of unspecified humerus, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.481A	Torus fracture of lower end of right humerus, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.482A	Torus fracture of lower end of left humerus, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.489A	Torus fracture of lower end of unspecified humerus, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.491A	Other displaced fracture of lower end of right humerus, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.491B	Other displaced fracture of lower end of right humerus, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.492A	Other displaced fracture of lower end of left humerus, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.492B	Other displaced fracture of lower end of left humerus, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.493A	Other displaced fracture of lower end of unspecified humerus, initial encounter for closed fracture	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S42.493B	Other displaced fracture of lower end of unspecified humerus, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.494A	Other nondisplaced fracture of lower end of right humerus, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.494B	Other nondisplaced fracture of lower end of right humerus, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.495A	Other nondisplaced fracture of lower end of left humerus, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.495B	Other nondisplaced fracture of lower end of left humerus, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.496A	Other nondisplaced fracture of lower end of unspecified humerus, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.496B	Other nondisplaced fracture of lower end of unspecified humerus, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.90XA	Fracture of unspecified shoulder girdle, part unspecified, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.90XB	Fracture of unspecified shoulder girdle, part unspecified, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.91XA	Fracture of right shoulder girdle, part unspecified, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.91XB	Fracture of right shoulder girdle, part unspecified, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.92XA	Fracture of left shoulder girdle, part unspecified, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.92XB	Fracture of left shoulder girdle, part unspecified, initial encounter for open fracture	Diagnosis	ICD-10-CM
S47.1XXA	Crushing injury of right shoulder and upper arm, initial encounter	Diagnosis	ICD-10-CM
S47.2XXA	Crushing injury of left shoulder and upper arm, initial encounter	Diagnosis	ICD-10-CM
S47.9XXA	Crushing injury of shoulder and upper arm, unspecified arm, initial encounter	Diagnosis	ICD-10-CM
S49.001A	Unspecified physeal fracture of upper end of humerus, right arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S49.002A	Unspecified physeal fracture of upper end of humerus, left arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S49.009A	Unspecified physeal fracture of upper end of humerus, unspecified arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S49.011A	Salter-Harris Type I physeal fracture of upper end of humerus, right arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S49.012A	Salter-Harris Type I physeal fracture of upper end of humerus, left arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S49.019A	Salter-Harris Type I physeal fracture of upper end of humerus, unspecified arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S49.021A	Salter-Harris Type II physeal fracture of upper end of humerus, right arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S49.022A	Salter-Harris Type II physeal fracture of upper end of humerus, left arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S49.029A	Salter-Harris Type II physeal fracture of upper end of humerus, unspecified arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S49.031A	Salter-Harris Type III physeal fracture of upper end of humerus, right arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S49.032A	Salter-Harris Type III physeal fracture of upper end of humerus, left arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S49.039A	Salter-Harris Type III physeal fracture of upper end of humerus, unspecified arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S49.041A	Salter-Harris Type IV physeal fracture of upper end of humerus, right arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S49.042A	Salter-Harris Type IV physeal fracture of upper end of humerus, left arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S49.049A	Salter-Harris Type IV physeal fracture of upper end of humerus, unspecified arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S49.091A	Other physeal fracture of upper end of humerus, right arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S49.092A	Other physeal fracture of upper end of humerus, left arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S49.099A	Other physeal fracture of upper end of humerus, unspecified arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S49.101A	Unspecified physeal fracture of lower end of humerus, right arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S49.102A	Unspecified physeal fracture of lower end of humerus, left arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S49.109A	Unspecified physeal fracture of lower end of humerus, unspecified arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S49.111A	Salter-Harris Type I physeal fracture of lower end of humerus, right arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S49.112A	Salter-Harris Type I physeal fracture of lower end of humerus, left arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S49.119A	Salter-Harris Type I physeal fracture of lower end of humerus, unspecified arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S49.121A	Salter-Harris Type II physeal fracture of lower end of humerus, right arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S49.122A	Salter-Harris Type II physeal fracture of lower end of humerus, left arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S49.129A	Salter-Harris Type II physeal fracture of lower end of humerus, unspecified arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S49.131A	Salter-Harris Type III physeal fracture of lower end of humerus, right arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S49.132A	Salter-Harris Type III physeal fracture of lower end of humerus, left arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S49.139A	Salter-Harris Type III physeal fracture of lower end of humerus, unspecified arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S49.141A	Salter-Harris Type IV physeal fracture of lower end of humerus, right arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S49.142A	Salter-Harris Type IV physeal fracture of lower end of humerus, left arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S49.149A	Salter-Harris Type IV physeal fracture of lower end of humerus, unspecified arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S49.191A	Other physeal fracture of lower end of humerus, right arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S49.192A	Other physeal fracture of lower end of humerus, left arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S49.199A	Other physeal fracture of lower end of humerus, unspecified arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.001A	Unspecified fracture of upper end of right ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.001B	Unspecified fracture of upper end of right ulna, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.001C	Unspecified fracture of upper end of right ulna, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.002A	Unspecified fracture of upper end of left ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S52.002B	Unspecified fracture of upper end of left ulna, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.002C	Unspecified fracture of upper end of left ulna, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.009A	Unspecified fracture of upper end of unspecified ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.009B	Unspecified fracture of upper end of unspecified ulna, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.009C	Unspecified fracture of upper end of unspecified ulna, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.011A	Torus fracture of upper end of right ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.012A	Torus fracture of upper end of left ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.019A	Torus fracture of upper end of unspecified ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.021A	Displaced fracture of olecranon process without intraarticular extension of right ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.021B	Displaced fracture of olecranon process without intraarticular extension of right ulna, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.021C	Displaced fracture of olecranon process without intraarticular extension of right ulna, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.022A	Displaced fracture of olecranon process without intraarticular extension of left ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.022B	Displaced fracture of olecranon process without intraarticular extension of left ulna, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.022C	Displaced fracture of olecranon process without intraarticular extension of left ulna, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.023A	Displaced fracture of olecranon process without intraarticular extension of unspecified ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.023B	Displaced fracture of olecranon process without intraarticular extension of unspecified ulna, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.023C	Displaced fracture of olecranon process without intraarticular extension of unspecified ulna, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.024A	Nondisplaced fracture of olecranon process without intraarticular extension of right ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.024B	Nondisplaced fracture of olecranon process without intraarticular extension of right ulna, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.024C	Nondisplaced fracture of olecranon process without intraarticular extension of right ulna, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.025A	Nondisplaced fracture of olecranon process without intraarticular extension of left ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S52.025B	Nondisplaced fracture of olecranon process without intraarticular extension of left ulna, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.025C	Nondisplaced fracture of olecranon process without intraarticular extension of left ulna, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.026A	Nondisplaced fracture of olecranon process without intraarticular extension of unspecified ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.026B	Nondisplaced fracture of olecranon process without intraarticular extension of unspecified ulna, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.026C	Nondisplaced fracture of olecranon process without intraarticular extension of unspecified ulna, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.031A	Displaced fracture of olecranon process with intraarticular extension of right ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.031B	Displaced fracture of olecranon process with intraarticular extension of right ulna, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.031C	Displaced fracture of olecranon process with intraarticular extension of right ulna, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.032A	Displaced fracture of olecranon process with intraarticular extension of left ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.032B	Displaced fracture of olecranon process with intraarticular extension of left ulna, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.032C	Displaced fracture of olecranon process with intraarticular extension of left ulna, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.033A	Displaced fracture of olecranon process with intraarticular extension of unspecified ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.033B	Displaced fracture of olecranon process with intraarticular extension of unspecified ulna, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.033C	Displaced fracture of olecranon process with intraarticular extension of unspecified ulna, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.034A	Nondisplaced fracture of olecranon process with intraarticular extension of right ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.034B	Nondisplaced fracture of olecranon process with intraarticular extension of right ulna, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.034C	Nondisplaced fracture of olecranon process with intraarticular extension of right ulna, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S52.035A	Nondisplaced fracture of olecranon process with intraarticular extension of left ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.035B	Nondisplaced fracture of olecranon process with intraarticular extension of left ulna, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.035C	Nondisplaced fracture of olecranon process with intraarticular extension of left ulna, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.036A	Nondisplaced fracture of olecranon process with intraarticular extension of unspecified ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.036B	Nondisplaced fracture of olecranon process with intraarticular extension of unspecified ulna, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.036C	Nondisplaced fracture of olecranon process with intraarticular extension of unspecified ulna, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.041A	Displaced fracture of coronoid process of right ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.041B	Displaced fracture of coronoid process of right ulna, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.041C	Displaced fracture of coronoid process of right ulna, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.042A	Displaced fracture of coronoid process of left ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.042B	Displaced fracture of coronoid process of left ulna, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.042C	Displaced fracture of coronoid process of left ulna, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.043A	Displaced fracture of coronoid process of unspecified ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.043B	Displaced fracture of coronoid process of unspecified ulna, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.043C	Displaced fracture of coronoid process of unspecified ulna, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.044A	Nondisplaced fracture of coronoid process of right ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.044B	Nondisplaced fracture of coronoid process of right ulna, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.044C	Nondisplaced fracture of coronoid process of right ulna, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.045A	Nondisplaced fracture of coronoid process of left ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.045B	Nondisplaced fracture of coronoid process of left ulna, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.045C	Nondisplaced fracture of coronoid process of left ulna, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.046A	Nondisplaced fracture of coronoid process of unspecified ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.046B	Nondisplaced fracture of coronoid process of unspecified ulna, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.046C	Nondisplaced fracture of coronoid process of unspecified ulna, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.091A	Other fracture of upper end of right ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.091B	Other fracture of upper end of right ulna, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S52.091C	Other fracture of upper end of right ulna, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.092A	Other fracture of upper end of left ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.092B	Other fracture of upper end of left ulna, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.092C	Other fracture of upper end of left ulna, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.099A	Other fracture of upper end of unspecified ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.099B	Other fracture of upper end of unspecified ulna, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.099C	Other fracture of upper end of unspecified ulna, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.101A	Unspecified fracture of upper end of right radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.101B	Unspecified fracture of upper end of right radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.101C	Unspecified fracture of upper end of right radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.102A	Unspecified fracture of upper end of left radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.102B	Unspecified fracture of upper end of left radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.102C	Unspecified fracture of upper end of left radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.109A	Unspecified fracture of upper end of unspecified radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.109B	Unspecified fracture of upper end of unspecified radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.109C	Unspecified fracture of upper end of unspecified radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.111A	Torus fracture of upper end of right radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.112A	Torus fracture of upper end of left radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.119A	Torus fracture of upper end of unspecified radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.121A	Displaced fracture of head of right radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.121B	Displaced fracture of head of right radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.121C	Displaced fracture of head of right radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.122A	Displaced fracture of head of left radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.122B	Displaced fracture of head of left radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.122C	Displaced fracture of head of left radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.123A	Displaced fracture of head of unspecified radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.123B	Displaced fracture of head of unspecified radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.123C	Displaced fracture of head of unspecified radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.124A	Nondisplaced fracture of head of right radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.124B	Nondisplaced fracture of head of right radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S52.124C	Nondisplaced fracture of head of right radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.125A	Nondisplaced fracture of head of left radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.125B	Nondisplaced fracture of head of left radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.125C	Nondisplaced fracture of head of left radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.126A	Nondisplaced fracture of head of unspecified radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.126B	Nondisplaced fracture of head of unspecified radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.126C	Nondisplaced fracture of head of unspecified radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.131A	Displaced fracture of neck of right radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.131B	Displaced fracture of neck of right radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.131C	Displaced fracture of neck of right radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.132A	Displaced fracture of neck of left radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.132B	Displaced fracture of neck of left radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.132C	Displaced fracture of neck of left radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.133A	Displaced fracture of neck of unspecified radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.133B	Displaced fracture of neck of unspecified radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.133C	Displaced fracture of neck of unspecified radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.134A	Nondisplaced fracture of neck of right radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.134B	Nondisplaced fracture of neck of right radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.134C	Nondisplaced fracture of neck of right radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.135A	Nondisplaced fracture of neck of left radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.135B	Nondisplaced fracture of neck of left radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.135C	Nondisplaced fracture of neck of left radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.136A	Nondisplaced fracture of neck of unspecified radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.136B	Nondisplaced fracture of neck of unspecified radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.136C	Nondisplaced fracture of neck of unspecified radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.181A	Other fracture of upper end of right radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.181B	Other fracture of upper end of right radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.181C	Other fracture of upper end of right radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.182A	Other fracture of upper end of left radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.182B	Other fracture of upper end of left radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S52.182C	Other fracture of upper end of left radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.189A	Other fracture of upper end of unspecified radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.189B	Other fracture of upper end of unspecified radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.189C	Other fracture of upper end of unspecified radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.201A	Unspecified fracture of shaft of right ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.201B	Unspecified fracture of shaft of right ulna, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.201C	Unspecified fracture of shaft of right ulna, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.202A	Unspecified fracture of shaft of left ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.202B	Unspecified fracture of shaft of left ulna, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.202C	Unspecified fracture of shaft of left ulna, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.209A	Unspecified fracture of shaft of unspecified ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.209B	Unspecified fracture of shaft of unspecified ulna, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.209C	Unspecified fracture of shaft of unspecified ulna, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.211A	Greenstick fracture of shaft of right ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.212A	Greenstick fracture of shaft of left ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.219A	Greenstick fracture of shaft of unspecified ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.221A	Displaced transverse fracture of shaft of right ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.221B	Displaced transverse fracture of shaft of right ulna, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.221C	Displaced transverse fracture of shaft of right ulna, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.222A	Displaced transverse fracture of shaft of left ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.222B	Displaced transverse fracture of shaft of left ulna, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.222C	Displaced transverse fracture of shaft of left ulna, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.223A	Displaced transverse fracture of shaft of unspecified ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.223B	Displaced transverse fracture of shaft of unspecified ulna, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.223C	Displaced transverse fracture of shaft of unspecified ulna, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.224A	Nondisplaced transverse fracture of shaft of right ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.224B	Nondisplaced transverse fracture of shaft of right ulna, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.224C	Nondisplaced transverse fracture of shaft of right ulna, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.225A	Nondisplaced transverse fracture of shaft of left ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.225B	Nondisplaced transverse fracture of shaft of left ulna, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S52.225C	Nondisplaced transverse fracture of shaft of left ulna, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.226A	Nondisplaced transverse fracture of shaft of unspecified ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.226B	Nondisplaced transverse fracture of shaft of unspecified ulna, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.226C	Nondisplaced transverse fracture of shaft of unspecified ulna, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.231A	Displaced oblique fracture of shaft of right ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.231B	Displaced oblique fracture of shaft of right ulna, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.231C	Displaced oblique fracture of shaft of right ulna, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.232A	Displaced oblique fracture of shaft of left ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.232B	Displaced oblique fracture of shaft of left ulna, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.232C	Displaced oblique fracture of shaft of left ulna, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.233A	Displaced oblique fracture of shaft of unspecified ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.233B	Displaced oblique fracture of shaft of unspecified ulna, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.233C	Displaced oblique fracture of shaft of unspecified ulna, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.234A	Nondisplaced oblique fracture of shaft of right ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.234B	Nondisplaced oblique fracture of shaft of right ulna, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.234C	Nondisplaced oblique fracture of shaft of right ulna, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.235A	Nondisplaced oblique fracture of shaft of left ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.235B	Nondisplaced oblique fracture of shaft of left ulna, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.235C	Nondisplaced oblique fracture of shaft of left ulna, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.236A	Nondisplaced oblique fracture of shaft of unspecified ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.236B	Nondisplaced oblique fracture of shaft of unspecified ulna, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.236C	Nondisplaced oblique fracture of shaft of unspecified ulna, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.241A	Displaced spiral fracture of shaft of ulna, right arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.241B	Displaced spiral fracture of shaft of ulna, right arm, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.241C	Displaced spiral fracture of shaft of ulna, right arm, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.242A	Displaced spiral fracture of shaft of ulna, left arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.242B	Displaced spiral fracture of shaft of ulna, left arm, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.242C	Displaced spiral fracture of shaft of ulna, left arm, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.243A	Displaced spiral fracture of shaft of ulna, unspecified arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.243B	Displaced spiral fracture of shaft of ulna, unspecified arm, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S52.243C	Displaced spiral fracture of shaft of ulna, unspecified arm, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.244A	Nondisplaced spiral fracture of shaft of ulna, right arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.244B	Nondisplaced spiral fracture of shaft of ulna, right arm, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.244C	Nondisplaced spiral fracture of shaft of ulna, right arm, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.245A	Nondisplaced spiral fracture of shaft of ulna, left arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.245B	Nondisplaced spiral fracture of shaft of ulna, left arm, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.245C	Nondisplaced spiral fracture of shaft of ulna, left arm, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.246A	Nondisplaced spiral fracture of shaft of ulna, unspecified arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.246B	Nondisplaced spiral fracture of shaft of ulna, unspecified arm, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.246C	Nondisplaced spiral fracture of shaft of ulna, unspecified arm, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.251A	Displaced comminuted fracture of shaft of ulna, right arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.251B	Displaced comminuted fracture of shaft of ulna, right arm, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.251C	Displaced comminuted fracture of shaft of ulna, right arm, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.252A	Displaced comminuted fracture of shaft of ulna, left arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.252B	Displaced comminuted fracture of shaft of ulna, left arm, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.252C	Displaced comminuted fracture of shaft of ulna, left arm, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.253A	Displaced comminuted fracture of shaft of ulna, unspecified arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.253B	Displaced comminuted fracture of shaft of ulna, unspecified arm, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.253C	Displaced comminuted fracture of shaft of ulna, unspecified arm, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.254A	Nondisplaced comminuted fracture of shaft of ulna, right arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.254B	Nondisplaced comminuted fracture of shaft of ulna, right arm, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.254C	Nondisplaced comminuted fracture of shaft of ulna, right arm, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.255A	Nondisplaced comminuted fracture of shaft of ulna, left arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.255B	Nondisplaced comminuted fracture of shaft of ulna, left arm, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.255C	Nondisplaced comminuted fracture of shaft of ulna, left arm, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.256A	Nondisplaced comminuted fracture of shaft of ulna, unspecified arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.256B	Nondisplaced comminuted fracture of shaft of ulna, unspecified arm, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.256C	Nondisplaced comminuted fracture of shaft of ulna, unspecified arm, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.261A	Displaced segmental fracture of shaft of ulna, right arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.261B	Displaced segmental fracture of shaft of ulna, right arm, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S52.261C	Displaced segmental fracture of shaft of ulna, right arm, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.262A	Displaced segmental fracture of shaft of ulna, left arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.262B	Displaced segmental fracture of shaft of ulna, left arm, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.262C	Displaced segmental fracture of shaft of ulna, left arm, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.263A	Displaced segmental fracture of shaft of ulna, unspecified arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.263B	Displaced segmental fracture of shaft of ulna, unspecified arm, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.263C	Displaced segmental fracture of shaft of ulna, unspecified arm, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.264A	Nondisplaced segmental fracture of shaft of ulna, right arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.264B	Nondisplaced segmental fracture of shaft of ulna, right arm, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.264C	Nondisplaced segmental fracture of shaft of ulna, right arm, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.265A	Nondisplaced segmental fracture of shaft of ulna, left arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.265B	Nondisplaced segmental fracture of shaft of ulna, left arm, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.265C	Nondisplaced segmental fracture of shaft of ulna, left arm, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.266A	Nondisplaced segmental fracture of shaft of ulna, unspecified arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.266B	Nondisplaced segmental fracture of shaft of ulna, unspecified arm, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.266C	Nondisplaced segmental fracture of shaft of ulna, unspecified arm, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.271A	Monteggia's fracture of right ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.271B	Monteggia's fracture of right ulna, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.271C	Monteggia's fracture of right ulna, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.272A	Monteggia's fracture of left ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.272B	Monteggia's fracture of left ulna, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.272C	Monteggia's fracture of left ulna, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.279A	Monteggia's fracture of unspecified ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.279B	Monteggia's fracture of unspecified ulna, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.279C	Monteggia's fracture of unspecified ulna, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.281A	Bent bone of right ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.281B	Bent bone of right ulna, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.281C	Bent bone of right ulna, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.282A	Bent bone of left ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.282B	Bent bone of left ulna, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S52.282C	Bent bone of left ulna, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.283A	Bent bone of unspecified ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.283B	Bent bone of unspecified ulna, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.283C	Bent bone of unspecified ulna, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.291A	Other fracture of shaft of right ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.291B	Other fracture of shaft of right ulna, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.291C	Other fracture of shaft of right ulna, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.292A	Other fracture of shaft of left ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.292B	Other fracture of shaft of left ulna, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.292C	Other fracture of shaft of left ulna, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.299A	Other fracture of shaft of unspecified ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.299B	Other fracture of shaft of unspecified ulna, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.299C	Other fracture of shaft of unspecified ulna, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.301A	Unspecified fracture of shaft of right radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.301B	Unspecified fracture of shaft of right radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.301C	Unspecified fracture of shaft of right radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.302A	Unspecified fracture of shaft of left radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.302B	Unspecified fracture of shaft of left radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.302C	Unspecified fracture of shaft of left radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.309A	Unspecified fracture of shaft of unspecified radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.309B	Unspecified fracture of shaft of unspecified radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.309C	Unspecified fracture of shaft of unspecified radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.311A	Greenstick fracture of shaft of radius, right arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.312A	Greenstick fracture of shaft of radius, left arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.319A	Greenstick fracture of shaft of radius, unspecified arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.321A	Displaced transverse fracture of shaft of right radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.321B	Displaced transverse fracture of shaft of right radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.321C	Displaced transverse fracture of shaft of right radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.322A	Displaced transverse fracture of shaft of left radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.322B	Displaced transverse fracture of shaft of left radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S52.322C	Displaced transverse fracture of shaft of left radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.323A	Displaced transverse fracture of shaft of unspecified radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.323B	Displaced transverse fracture of shaft of unspecified radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.323C	Displaced transverse fracture of shaft of unspecified radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.324A	Nondisplaced transverse fracture of shaft of right radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.324B	Nondisplaced transverse fracture of shaft of right radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.324C	Nondisplaced transverse fracture of shaft of right radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.325A	Nondisplaced transverse fracture of shaft of left radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.325B	Nondisplaced transverse fracture of shaft of left radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.325C	Nondisplaced transverse fracture of shaft of left radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.326A	Nondisplaced transverse fracture of shaft of unspecified radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.326B	Nondisplaced transverse fracture of shaft of unspecified radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.326C	Nondisplaced transverse fracture of shaft of unspecified radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.331A	Displaced oblique fracture of shaft of right radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.331B	Displaced oblique fracture of shaft of right radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.331C	Displaced oblique fracture of shaft of right radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.332A	Displaced oblique fracture of shaft of left radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.332B	Displaced oblique fracture of shaft of left radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.332C	Displaced oblique fracture of shaft of left radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.333A	Displaced oblique fracture of shaft of unspecified radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.333B	Displaced oblique fracture of shaft of unspecified radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.333C	Displaced oblique fracture of shaft of unspecified radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.334A	Nondisplaced oblique fracture of shaft of right radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.334B	Nondisplaced oblique fracture of shaft of right radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.334C	Nondisplaced oblique fracture of shaft of right radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.335A	Nondisplaced oblique fracture of shaft of left radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.335B	Nondisplaced oblique fracture of shaft of left radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.335C	Nondisplaced oblique fracture of shaft of left radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.336A	Nondisplaced oblique fracture of shaft of unspecified radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.336B	Nondisplaced oblique fracture of shaft of unspecified radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S52.336C	Nondisplaced oblique fracture of shaft of unspecified radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.341A	Displaced spiral fracture of shaft of radius, right arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.341B	Displaced spiral fracture of shaft of radius, right arm, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.341C	Displaced spiral fracture of shaft of radius, right arm, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.342A	Displaced spiral fracture of shaft of radius, left arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.342B	Displaced spiral fracture of shaft of radius, left arm, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.342C	Displaced spiral fracture of shaft of radius, left arm, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.343A	Displaced spiral fracture of shaft of radius, unspecified arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.343B	Displaced spiral fracture of shaft of radius, unspecified arm, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.343C	Displaced spiral fracture of shaft of radius, unspecified arm, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.344A	Nondisplaced spiral fracture of shaft of radius, right arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.344B	Nondisplaced spiral fracture of shaft of radius, right arm, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.344C	Nondisplaced spiral fracture of shaft of radius, right arm, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.345A	Nondisplaced spiral fracture of shaft of radius, left arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.345B	Nondisplaced spiral fracture of shaft of radius, left arm, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.345C	Nondisplaced spiral fracture of shaft of radius, left arm, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.346A	Nondisplaced spiral fracture of shaft of radius, unspecified arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.346B	Nondisplaced spiral fracture of shaft of radius, unspecified arm, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.346C	Nondisplaced spiral fracture of shaft of radius, unspecified arm, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.351A	Displaced comminuted fracture of shaft of radius, right arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.351B	Displaced comminuted fracture of shaft of radius, right arm, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.351C	Displaced comminuted fracture of shaft of radius, right arm, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.352A	Displaced comminuted fracture of shaft of radius, left arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.352B	Displaced comminuted fracture of shaft of radius, left arm, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.352C	Displaced comminuted fracture of shaft of radius, left arm, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.353A	Displaced comminuted fracture of shaft of radius, unspecified arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.353B	Displaced comminuted fracture of shaft of radius, unspecified arm, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.353C	Displaced comminuted fracture of shaft of radius, unspecified arm, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.354A	Nondisplaced comminuted fracture of shaft of radius, right arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.354B	Nondisplaced comminuted fracture of shaft of radius, right arm, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S52.354C	Nondisplaced comminuted fracture of shaft of radius, right arm, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.355A	Nondisplaced comminuted fracture of shaft of radius, left arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.355B	Nondisplaced comminuted fracture of shaft of radius, left arm, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.355C	Nondisplaced comminuted fracture of shaft of radius, left arm, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.356A	Nondisplaced comminuted fracture of shaft of radius, unspecified arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.356B	Nondisplaced comminuted fracture of shaft of radius, unspecified arm, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.356C	Nondisplaced comminuted fracture of shaft of radius, unspecified arm, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.361A	Displaced segmental fracture of shaft of radius, right arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.361B	Displaced segmental fracture of shaft of radius, right arm, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.361C	Displaced segmental fracture of shaft of radius, right arm, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.362A	Displaced segmental fracture of shaft of radius, left arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.362B	Displaced segmental fracture of shaft of radius, left arm, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.362C	Displaced segmental fracture of shaft of radius, left arm, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.363A	Displaced segmental fracture of shaft of radius, unspecified arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.363B	Displaced segmental fracture of shaft of radius, unspecified arm, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.363C	Displaced segmental fracture of shaft of radius, unspecified arm, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.364A	Nondisplaced segmental fracture of shaft of radius, right arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.364B	Nondisplaced segmental fracture of shaft of radius, right arm, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.364C	Nondisplaced segmental fracture of shaft of radius, right arm, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.365A	Nondisplaced segmental fracture of shaft of radius, left arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.365B	Nondisplaced segmental fracture of shaft of radius, left arm, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.365C	Nondisplaced segmental fracture of shaft of radius, left arm, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.366A	Nondisplaced segmental fracture of shaft of radius, unspecified arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.366B	Nondisplaced segmental fracture of shaft of radius, unspecified arm, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.366C	Nondisplaced segmental fracture of shaft of radius, unspecified arm, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.371A	Galeazzi's fracture of right radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.371B	Galeazzi's fracture of right radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.371C	Galeazzi's fracture of right radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.372A	Galeazzi's fracture of left radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.372B	Galeazzi's fracture of left radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S52.372C	Galeazzi's fracture of left radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.379A	Galeazzi's fracture of unspecified radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.379B	Galeazzi's fracture of unspecified radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.379C	Galeazzi's fracture of unspecified radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.381A	Bent bone of right radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.381B	Bent bone of right radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.381C	Bent bone of right radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.382A	Bent bone of left radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.382B	Bent bone of left radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.382C	Bent bone of left radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.389A	Bent bone of unspecified radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.389B	Bent bone of unspecified radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.389C	Bent bone of unspecified radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.391A	Other fracture of shaft of radius, right arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.391B	Other fracture of shaft of radius, right arm, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.391C	Other fracture of shaft of radius, right arm, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.392A	Other fracture of shaft of radius, left arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.392B	Other fracture of shaft of radius, left arm, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.392C	Other fracture of shaft of radius, left arm, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.399A	Other fracture of shaft of radius, unspecified arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.399B	Other fracture of shaft of radius, unspecified arm, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.399C	Other fracture of shaft of radius, unspecified arm, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.501A	Unspecified fracture of the lower end of right radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.501B	Unspecified fracture of the lower end of right radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.501C	Unspecified fracture of the lower end of right radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.502A	Unspecified fracture of the lower end of left radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.502B	Unspecified fracture of the lower end of left radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.502C	Unspecified fracture of the lower end of left radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.509A	Unspecified fracture of the lower end of unspecified radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.509B	Unspecified fracture of the lower end of unspecified radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S52.509C	Unspecified fracture of the lower end of unspecified radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.511A	Displaced fracture of right radial styloid process, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.511B	Displaced fracture of right radial styloid process, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.511C	Displaced fracture of right radial styloid process, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.512A	Displaced fracture of left radial styloid process, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.512B	Displaced fracture of left radial styloid process, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.512C	Displaced fracture of left radial styloid process, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.513A	Displaced fracture of unspecified radial styloid process, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.513B	Displaced fracture of unspecified radial styloid process, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.513C	Displaced fracture of unspecified radial styloid process, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.514A	Nondisplaced fracture of right radial styloid process, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.514B	Nondisplaced fracture of right radial styloid process, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.514C	Nondisplaced fracture of right radial styloid process, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.515A	Nondisplaced fracture of left radial styloid process, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.515B	Nondisplaced fracture of left radial styloid process, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.515C	Nondisplaced fracture of left radial styloid process, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.516A	Nondisplaced fracture of unspecified radial styloid process, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.516B	Nondisplaced fracture of unspecified radial styloid process, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.516C	Nondisplaced fracture of unspecified radial styloid process, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.521A	Torus fracture of lower end of right radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.522A	Torus fracture of lower end of left radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.529A	Torus fracture of lower end of unspecified radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.531A	Colles' fracture of right radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.531B	Colles' fracture of right radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.531C	Colles' fracture of right radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.532A	Colles' fracture of left radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.532B	Colles' fracture of left radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.532C	Colles' fracture of left radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.539A	Colles' fracture of unspecified radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.539B	Colles' fracture of unspecified radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S52.539C	Colles' fracture of unspecified radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.541A	Smith's fracture of right radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.541B	Smith's fracture of right radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.541C	Smith's fracture of right radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.542A	Smith's fracture of left radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.542B	Smith's fracture of left radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.542C	Smith's fracture of left radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.549A	Smith's fracture of unspecified radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.549B	Smith's fracture of unspecified radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.549C	Smith's fracture of unspecified radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.551A	Other extraarticular fracture of lower end of right radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.551B	Other extraarticular fracture of lower end of right radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.551C	Other extraarticular fracture of lower end of right radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.552A	Other extraarticular fracture of lower end of left radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.552B	Other extraarticular fracture of lower end of left radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.552C	Other extraarticular fracture of lower end of left radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.559A	Other extraarticular fracture of lower end of unspecified radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.559B	Other extraarticular fracture of lower end of unspecified radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.559C	Other extraarticular fracture of lower end of unspecified radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.561A	Barton's fracture of right radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.561B	Barton's fracture of right radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.561C	Barton's fracture of right radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.562A	Barton's fracture of left radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.562B	Barton's fracture of left radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.562C	Barton's fracture of left radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.569A	Barton's fracture of unspecified radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.569B	Barton's fracture of unspecified radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.569C	Barton's fracture of unspecified radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.571A	Other intraarticular fracture of lower end of right radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.571B	Other intraarticular fracture of lower end of right radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S52.571C	Other intraarticular fracture of lower end of right radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.572A	Other intraarticular fracture of lower end of left radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.572B	Other intraarticular fracture of lower end of left radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.572C	Other intraarticular fracture of lower end of left radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.579A	Other intraarticular fracture of lower end of unspecified radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.579B	Other intraarticular fracture of lower end of unspecified radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.579C	Other intraarticular fracture of lower end of unspecified radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.591A	Other fractures of lower end of right radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.591B	Other fractures of lower end of right radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.591C	Other fractures of lower end of right radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.592A	Other fractures of lower end of left radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.592B	Other fractures of lower end of left radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.592C	Other fractures of lower end of left radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.599A	Other fractures of lower end of unspecified radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.599B	Other fractures of lower end of unspecified radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.599C	Other fractures of lower end of unspecified radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.601A	Unspecified fracture of lower end of right ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.601B	Unspecified fracture of lower end of right ulna, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.601C	Unspecified fracture of lower end of right ulna, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.602A	Unspecified fracture of lower end of left ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.602B	Unspecified fracture of lower end of left ulna, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.602C	Unspecified fracture of lower end of left ulna, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.609A	Unspecified fracture of lower end of unspecified ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.609B	Unspecified fracture of lower end of unspecified ulna, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.609C	Unspecified fracture of lower end of unspecified ulna, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.611A	Displaced fracture of right ulna styloid process, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.611B	Displaced fracture of right ulna styloid process, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.611C	Displaced fracture of right ulna styloid process, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.612A	Displaced fracture of left ulna styloid process, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.612B	Displaced fracture of left ulna styloid process, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S52.612C	Displaced fracture of left ulna styloid process, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.613A	Displaced fracture of unspecified ulna styloid process, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.613B	Displaced fracture of unspecified ulna styloid process, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.613C	Displaced fracture of unspecified ulna styloid process, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.614A	Nondisplaced fracture of right ulna styloid process, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.614B	Nondisplaced fracture of right ulna styloid process, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.614C	Nondisplaced fracture of right ulna styloid process, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.615A	Nondisplaced fracture of left ulna styloid process, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.615B	Nondisplaced fracture of left ulna styloid process, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.615C	Nondisplaced fracture of left ulna styloid process, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.616A	Nondisplaced fracture of unspecified ulna styloid process, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.616B	Nondisplaced fracture of unspecified ulna styloid process, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.616C	Nondisplaced fracture of unspecified ulna styloid process, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.621A	Torus fracture of lower end of right ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.622A	Torus fracture of lower end of left ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.629A	Torus fracture of lower end of unspecified ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.691A	Other fracture of lower end of right ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.691B	Other fracture of lower end of right ulna, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.691C	Other fracture of lower end of right ulna, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.692A	Other fracture of lower end of left ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.692B	Other fracture of lower end of left ulna, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.692C	Other fracture of lower end of left ulna, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.699A	Other fracture of lower end of unspecified ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.699B	Other fracture of lower end of unspecified ulna, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.699C	Other fracture of lower end of unspecified ulna, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.90XA	Unspecified fracture of unspecified forearm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.90XB	Unspecified fracture of unspecified forearm, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.90XC	Unspecified fracture of unspecified forearm, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.91XA	Unspecified fracture of right forearm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.91XB	Unspecified fracture of right forearm, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S52.91XC	Unspecified fracture of right forearm, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.92XA	Unspecified fracture of left forearm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.92XB	Unspecified fracture of left forearm, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.92XC	Unspecified fracture of left forearm, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S57.00XA	Crushing injury of unspecified elbow, initial encounter	Diagnosis	ICD-10-CM
S57.01XA	Crushing injury of right elbow, initial encounter	Diagnosis	ICD-10-CM
S57.02XA	Crushing injury of left elbow, initial encounter	Diagnosis	ICD-10-CM
S57.80XA	Crushing injury of unspecified forearm, initial encounter	Diagnosis	ICD-10-CM
S57.81XA	Crushing injury of right forearm, initial encounter	Diagnosis	ICD-10-CM
S57.82XA	Crushing injury of left forearm, initial encounter	Diagnosis	ICD-10-CM
S59.001A	Unspecified physeal fracture of lower end of ulna, right arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S59.002A	Unspecified physeal fracture of lower end of ulna, left arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S59.009A	Unspecified physeal fracture of lower end of ulna, unspecified arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S59.011A	Salter-Harris Type I physeal fracture of lower end of ulna, right arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S59.012A	Salter-Harris Type I physeal fracture of lower end of ulna, left arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S59.019A	Salter-Harris Type I physeal fracture of lower end of ulna, unspecified arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S59.021A	Salter-Harris Type II physeal fracture of lower end of ulna, right arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S59.022A	Salter-Harris Type II physeal fracture of lower end of ulna, left arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S59.029A	Salter-Harris Type II physeal fracture of lower end of ulna, unspecified arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S59.031A	Salter-Harris Type III physeal fracture of lower end of ulna, right arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S59.032A	Salter-Harris Type III physeal fracture of lower end of ulna, left arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S59.039A	Salter-Harris Type III physeal fracture of lower end of ulna, unspecified arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S59.041A	Salter-Harris Type IV physeal fracture of lower end of ulna, right arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S59.042A	Salter-Harris Type IV physeal fracture of lower end of ulna, left arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S59.049A	Salter-Harris Type IV physeal fracture of lower end of ulna, unspecified arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S59.091A	Other physeal fracture of lower end of ulna, right arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S59.092A	Other physeal fracture of lower end of ulna, left arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S59.099A	Other physeal fracture of lower end of ulna, unspecified arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S59.101A	Unspecified physeal fracture of upper end of radius, right arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S59.102A	Unspecified physeal fracture of upper end of radius, left arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S59.109A	Unspecified physeal fracture of upper end of radius, unspecified arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S59.111A	Salter-Harris Type I physeal fracture of upper end of radius, right arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S59.112A	Salter-Harris Type I physeal fracture of upper end of radius, left arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S59.119A	Salter-Harris Type I physeal fracture of upper end of radius, unspecified arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S59.121A	Salter-Harris Type II physeal fracture of upper end of radius, right arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S59.122A	Salter-Harris Type II physeal fracture of upper end of radius, left arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S59.129A	Salter-Harris Type II physeal fracture of upper end of radius, unspecified arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S59.131A	Salter-Harris Type III physeal fracture of upper end of radius, right arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S59.132A	Salter-Harris Type III physeal fracture of upper end of radius, left arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S59.139A	Salter-Harris Type III physeal fracture of upper end of radius, unspecified arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S59.141A	Salter-Harris Type IV physeal fracture of upper end of radius, right arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S59.142A	Salter-Harris Type IV physeal fracture of upper end of radius, left arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S59.149A	Salter-Harris Type IV physeal fracture of upper end of radius, unspecified arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S59.191A	Other physeal fracture of upper end of radius, right arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S59.192A	Other physeal fracture of upper end of radius, left arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S59.199A	Other physeal fracture of upper end of radius, unspecified arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S59.201A	Unspecified physeal fracture of lower end of radius, right arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S59.202A	Unspecified physeal fracture of lower end of radius, left arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S59.209A	Unspecified physeal fracture of lower end of radius, unspecified arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S59.211A	Salter-Harris Type I physeal fracture of lower end of radius, right arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S59.212A	Salter-Harris Type I physeal fracture of lower end of radius, left arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S59.219A	Salter-Harris Type I physeal fracture of lower end of radius, unspecified arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S59.221A	Salter-Harris Type II physeal fracture of lower end of radius, right arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S59.222A	Salter-Harris Type II physeal fracture of lower end of radius, left arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S59.229A	Salter-Harris Type II physeal fracture of lower end of radius, unspecified arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S59.231A	Salter-Harris Type III physeal fracture of lower end of radius, right arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S59.232A	Salter-Harris Type III physeal fracture of lower end of radius, left arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S59.239A	Salter-Harris Type III physeal fracture of lower end of radius, unspecified arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S59.241A	Salter-Harris Type IV physeal fracture of lower end of radius, right arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S59.242A	Salter-Harris Type IV physeal fracture of lower end of radius, left arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S59.249A	Salter-Harris Type IV physeal fracture of lower end of radius, unspecified arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S59.291A	Other physeal fracture of lower end of radius, right arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S59.292A	Other physeal fracture of lower end of radius, left arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S59.299A	Other physeal fracture of lower end of radius, unspecified arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S62.90XA	Unspecified fracture of unspecified wrist and hand, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S62.90XB	Unspecified fracture of unspecified wrist and hand, initial encounter for open fracture	Diagnosis	ICD-10-CM
S67.00XA	Crushing injury of unspecified thumb, initial encounter	Diagnosis	ICD-10-CM
S67.01XA	Crushing injury of right thumb, initial encounter	Diagnosis	ICD-10-CM
S67.02XA	Crushing injury of left thumb, initial encounter	Diagnosis	ICD-10-CM
S67.10XA	Crushing injury of unspecified finger(s), initial encounter	Diagnosis	ICD-10-CM
S67.190A	Crushing injury of right index finger, initial encounter	Diagnosis	ICD-10-CM
S67.191A	Crushing injury of left index finger, initial encounter	Diagnosis	ICD-10-CM
S67.192A	Crushing injury of right middle finger, initial encounter	Diagnosis	ICD-10-CM
S67.193A	Crushing injury of left middle finger, initial encounter	Diagnosis	ICD-10-CM
S67.194A	Crushing injury of right ring finger, initial encounter	Diagnosis	ICD-10-CM
S67.195A	Crushing injury of left ring finger, initial encounter	Diagnosis	ICD-10-CM
S67.196A	Crushing injury of right little finger, initial encounter	Diagnosis	ICD-10-CM
S67.197A	Crushing injury of left little finger, initial encounter	Diagnosis	ICD-10-CM
S67.198A	Crushing injury of other finger, initial encounter	Diagnosis	ICD-10-CM
S67.20XA	Crushing injury of unspecified hand, initial encounter	Diagnosis	ICD-10-CM
S67.21XA	Crushing injury of right hand, initial encounter	Diagnosis	ICD-10-CM
S67.22XA	Crushing injury of left hand, initial encounter	Diagnosis	ICD-10-CM
S67.30XA	Crushing injury of unspecified wrist, initial encounter	Diagnosis	ICD-10-CM
S67.31XA	Crushing injury of right wrist, initial encounter	Diagnosis	ICD-10-CM
S67.32XA	Crushing injury of left wrist, initial encounter	Diagnosis	ICD-10-CM
S67.40XA	Crushing injury of unspecified wrist and hand, initial encounter	Diagnosis	ICD-10-CM
S67.41XA	Crushing injury of right wrist and hand, initial encounter	Diagnosis	ICD-10-CM
S67.42XA	Crushing injury of left wrist and hand, initial encounter	Diagnosis	ICD-10-CM
S67.90XA	Crushing injury of unspecified part(s) of unspecified wrist, hand and fingers, initial encounter	Diagnosis	ICD-10-CM
S67.91XA	Crushing injury of unspecified part(s) of right wrist, hand and fingers, initial encounter	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S67.92XA	Crushing injury of unspecified part(s) of left wrist, hand and fingers, initial encounter	Diagnosis	ICD-10-CM
S72.001A	Fracture of unspecified part of neck of right femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.001B	Fracture of unspecified part of neck of right femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.001C	Fracture of unspecified part of neck of right femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.002A	Fracture of unspecified part of neck of left femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.002B	Fracture of unspecified part of neck of left femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.002C	Fracture of unspecified part of neck of left femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.009A	Fracture of unspecified part of neck of unspecified femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.009B	Fracture of unspecified part of neck of unspecified femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.009C	Fracture of unspecified part of neck of unspecified femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.011A	Unspecified intracapsular fracture of right femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.011B	Unspecified intracapsular fracture of right femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.011C	Unspecified intracapsular fracture of right femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.012A	Unspecified intracapsular fracture of left femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.012B	Unspecified intracapsular fracture of left femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.012C	Unspecified intracapsular fracture of left femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.019A	Unspecified intracapsular fracture of unspecified femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.019B	Unspecified intracapsular fracture of unspecified femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.019C	Unspecified intracapsular fracture of unspecified femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.021A	Displaced fracture of epiphysis (separation) (upper) of right femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.021B	Displaced fracture of epiphysis (separation) (upper) of right femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.021C	Displaced fracture of epiphysis (separation) (upper) of right femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.022A	Displaced fracture of epiphysis (separation) (upper) of left femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.022B	Displaced fracture of epiphysis (separation) (upper) of left femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.022C	Displaced fracture of epiphysis (separation) (upper) of left femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.023A	Displaced fracture of epiphysis (separation) (upper) of unspecified femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.023B	Displaced fracture of epiphysis (separation) (upper) of unspecified femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.023C	Displaced fracture of epiphysis (separation) (upper) of unspecified femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.024A	Nondisplaced fracture of epiphysis (separation) (upper) of right femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.024B	Nondisplaced fracture of epiphysis (separation) (upper) of right femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S72.024C	Nondisplaced fracture of epiphysis (separation) (upper) of right femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.025A	Nondisplaced fracture of epiphysis (separation) (upper) of left femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.025B	Nondisplaced fracture of epiphysis (separation) (upper) of left femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.025C	Nondisplaced fracture of epiphysis (separation) (upper) of left femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.026A	Nondisplaced fracture of epiphysis (separation) (upper) of unspecified femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.026B	Nondisplaced fracture of epiphysis (separation) (upper) of unspecified femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.026C	Nondisplaced fracture of epiphysis (separation) (upper) of unspecified femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.031A	Displaced midcervical fracture of right femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.031B	Displaced midcervical fracture of right femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.031C	Displaced midcervical fracture of right femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.032A	Displaced midcervical fracture of left femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.032B	Displaced midcervical fracture of left femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.032C	Displaced midcervical fracture of left femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.033A	Displaced midcervical fracture of unspecified femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.033B	Displaced midcervical fracture of unspecified femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.033C	Displaced midcervical fracture of unspecified femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.034A	Nondisplaced midcervical fracture of right femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.034B	Nondisplaced midcervical fracture of right femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.034C	Nondisplaced midcervical fracture of right femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.035A	Nondisplaced midcervical fracture of left femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.035B	Nondisplaced midcervical fracture of left femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.035C	Nondisplaced midcervical fracture of left femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.036A	Nondisplaced midcervical fracture of unspecified femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.036B	Nondisplaced midcervical fracture of unspecified femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.036C	Nondisplaced midcervical fracture of unspecified femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.041A	Displaced fracture of base of neck of right femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S72.041B	Displaced fracture of base of neck of right femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.041C	Displaced fracture of base of neck of right femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.042A	Displaced fracture of base of neck of left femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.042B	Displaced fracture of base of neck of left femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.042C	Displaced fracture of base of neck of left femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.043A	Displaced fracture of base of neck of unspecified femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.043B	Displaced fracture of base of neck of unspecified femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.043C	Displaced fracture of base of neck of unspecified femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.044A	Nondisplaced fracture of base of neck of right femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.044B	Nondisplaced fracture of base of neck of right femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.044C	Nondisplaced fracture of base of neck of right femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.045A	Nondisplaced fracture of base of neck of left femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.045B	Nondisplaced fracture of base of neck of left femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.045C	Nondisplaced fracture of base of neck of left femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.046A	Nondisplaced fracture of base of neck of unspecified femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.046B	Nondisplaced fracture of base of neck of unspecified femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.046C	Nondisplaced fracture of base of neck of unspecified femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.051A	Unspecified fracture of head of right femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.051B	Unspecified fracture of head of right femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.051C	Unspecified fracture of head of right femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.052A	Unspecified fracture of head of left femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.052B	Unspecified fracture of head of left femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.052C	Unspecified fracture of head of left femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.059A	Unspecified fracture of head of unspecified femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.059B	Unspecified fracture of head of unspecified femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.059C	Unspecified fracture of head of unspecified femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.061A	Displaced articular fracture of head of right femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S72.061B	Displaced articular fracture of head of right femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.061C	Displaced articular fracture of head of right femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.062A	Displaced articular fracture of head of left femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.062B	Displaced articular fracture of head of left femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.062C	Displaced articular fracture of head of left femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.063A	Displaced articular fracture of head of unspecified femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.063B	Displaced articular fracture of head of unspecified femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.063C	Displaced articular fracture of head of unspecified femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.064A	Nondisplaced articular fracture of head of right femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.064B	Nondisplaced articular fracture of head of right femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.064C	Nondisplaced articular fracture of head of right femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.065A	Nondisplaced articular fracture of head of left femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.065B	Nondisplaced articular fracture of head of left femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.065C	Nondisplaced articular fracture of head of left femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.066A	Nondisplaced articular fracture of head of unspecified femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.066B	Nondisplaced articular fracture of head of unspecified femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.066C	Nondisplaced articular fracture of head of unspecified femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.091A	Other fracture of head and neck of right femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.091B	Other fracture of head and neck of right femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.091C	Other fracture of head and neck of right femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.092A	Other fracture of head and neck of left femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.092B	Other fracture of head and neck of left femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.092C	Other fracture of head and neck of left femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.099A	Other fracture of head and neck of unspecified femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.099B	Other fracture of head and neck of unspecified femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.099C	Other fracture of head and neck of unspecified femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.101A	Unspecified trochanteric fracture of right femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S72.101B	Unspecified trochanteric fracture of right femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.101C	Unspecified trochanteric fracture of right femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.102A	Unspecified trochanteric fracture of left femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.102B	Unspecified trochanteric fracture of left femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.102C	Unspecified trochanteric fracture of left femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.109A	Unspecified trochanteric fracture of unspecified femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.109B	Unspecified trochanteric fracture of unspecified femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.109C	Unspecified trochanteric fracture of unspecified femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.111A	Displaced fracture of greater trochanter of right femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.111B	Displaced fracture of greater trochanter of right femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.111C	Displaced fracture of greater trochanter of right femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.112A	Displaced fracture of greater trochanter of left femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.112B	Displaced fracture of greater trochanter of left femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.112C	Displaced fracture of greater trochanter of left femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.113A	Displaced fracture of greater trochanter of unspecified femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.113B	Displaced fracture of greater trochanter of unspecified femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.113C	Displaced fracture of greater trochanter of unspecified femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.114A	Nondisplaced fracture of greater trochanter of right femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.114B	Nondisplaced fracture of greater trochanter of right femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.114C	Nondisplaced fracture of greater trochanter of right femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.115A	Nondisplaced fracture of greater trochanter of left femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.115B	Nondisplaced fracture of greater trochanter of left femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.115C	Nondisplaced fracture of greater trochanter of left femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.116A	Nondisplaced fracture of greater trochanter of unspecified femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.116B	Nondisplaced fracture of greater trochanter of unspecified femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.116C	Nondisplaced fracture of greater trochanter of unspecified femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.121A	Displaced fracture of lesser trochanter of right femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S72.121B	Displaced fracture of lesser trochanter of right femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.121C	Displaced fracture of lesser trochanter of right femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.122A	Displaced fracture of lesser trochanter of left femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.122B	Displaced fracture of lesser trochanter of left femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.122C	Displaced fracture of lesser trochanter of left femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.123A	Displaced fracture of lesser trochanter of unspecified femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.123B	Displaced fracture of lesser trochanter of unspecified femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.123C	Displaced fracture of lesser trochanter of unspecified femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.124A	Nondisplaced fracture of lesser trochanter of right femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.124B	Nondisplaced fracture of lesser trochanter of right femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.124C	Nondisplaced fracture of lesser trochanter of right femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.125A	Nondisplaced fracture of lesser trochanter of left femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.125B	Nondisplaced fracture of lesser trochanter of left femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.125C	Nondisplaced fracture of lesser trochanter of left femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.126A	Nondisplaced fracture of lesser trochanter of unspecified femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.126B	Nondisplaced fracture of lesser trochanter of unspecified femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.126C	Nondisplaced fracture of lesser trochanter of unspecified femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.131A	Displaced apophyseal fracture of right femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.131B	Displaced apophyseal fracture of right femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.131C	Displaced apophyseal fracture of right femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.132A	Displaced apophyseal fracture of left femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.132B	Displaced apophyseal fracture of left femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.132C	Displaced apophyseal fracture of left femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.133A	Displaced apophyseal fracture of unspecified femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.133B	Displaced apophyseal fracture of unspecified femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.133C	Displaced apophyseal fracture of unspecified femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.134A	Nondisplaced apophyseal fracture of right femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S72.134B	Nondisplaced apophyseal fracture of right femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.134C	Nondisplaced apophyseal fracture of right femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.135A	Nondisplaced apophyseal fracture of left femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.135B	Nondisplaced apophyseal fracture of left femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.135C	Nondisplaced apophyseal fracture of left femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.136A	Nondisplaced apophyseal fracture of unspecified femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.136B	Nondisplaced apophyseal fracture of unspecified femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.136C	Nondisplaced apophyseal fracture of unspecified femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.141A	Displaced intertrochanteric fracture of right femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.141B	Displaced intertrochanteric fracture of right femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.141C	Displaced intertrochanteric fracture of right femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.142A	Displaced intertrochanteric fracture of left femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.142B	Displaced intertrochanteric fracture of left femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.142C	Displaced intertrochanteric fracture of left femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.143A	Displaced intertrochanteric fracture of unspecified femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.143B	Displaced intertrochanteric fracture of unspecified femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.143C	Displaced intertrochanteric fracture of unspecified femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.144A	Nondisplaced intertrochanteric fracture of right femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.144B	Nondisplaced intertrochanteric fracture of right femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.144C	Nondisplaced intertrochanteric fracture of right femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.145A	Nondisplaced intertrochanteric fracture of left femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.145B	Nondisplaced intertrochanteric fracture of left femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.145C	Nondisplaced intertrochanteric fracture of left femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.146A	Nondisplaced intertrochanteric fracture of unspecified femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.146B	Nondisplaced intertrochanteric fracture of unspecified femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.146C	Nondisplaced intertrochanteric fracture of unspecified femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.21XA	Displaced subtrochanteric fracture of right femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S72.21XB	Displaced subtrochanteric fracture of right femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.21XC	Displaced subtrochanteric fracture of right femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.22XA	Displaced subtrochanteric fracture of left femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.22XB	Displaced subtrochanteric fracture of left femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.22XC	Displaced subtrochanteric fracture of left femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.23XA	Displaced subtrochanteric fracture of unspecified femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.23XB	Displaced subtrochanteric fracture of unspecified femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.23XC	Displaced subtrochanteric fracture of unspecified femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.24XA	Nondisplaced subtrochanteric fracture of right femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.24XB	Nondisplaced subtrochanteric fracture of right femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.24XC	Nondisplaced subtrochanteric fracture of right femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.25XA	Nondisplaced subtrochanteric fracture of left femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.25XB	Nondisplaced subtrochanteric fracture of left femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.25XC	Nondisplaced subtrochanteric fracture of left femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.26XA	Nondisplaced subtrochanteric fracture of unspecified femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.26XB	Nondisplaced subtrochanteric fracture of unspecified femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.26XC	Nondisplaced subtrochanteric fracture of unspecified femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.301A	Unspecified fracture of shaft of right femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.301B	Unspecified fracture of shaft of right femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.301C	Unspecified fracture of shaft of right femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.302A	Unspecified fracture of shaft of left femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.302B	Unspecified fracture of shaft of left femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.302C	Unspecified fracture of shaft of left femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.309A	Unspecified fracture of shaft of unspecified femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.309B	Unspecified fracture of shaft of unspecified femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.309C	Unspecified fracture of shaft of unspecified femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.321A	Displaced transverse fracture of shaft of right femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S72.321B	Displaced transverse fracture of shaft of right femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.321C	Displaced transverse fracture of shaft of right femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.322A	Displaced transverse fracture of shaft of left femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.322B	Displaced transverse fracture of shaft of left femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.322C	Displaced transverse fracture of shaft of left femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.323A	Displaced transverse fracture of shaft of unspecified femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.323B	Displaced transverse fracture of shaft of unspecified femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.323C	Displaced transverse fracture of shaft of unspecified femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.324A	Nondisplaced transverse fracture of shaft of right femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.324B	Nondisplaced transverse fracture of shaft of right femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.324C	Nondisplaced transverse fracture of shaft of right femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.325A	Nondisplaced transverse fracture of shaft of left femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.325B	Nondisplaced transverse fracture of shaft of left femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.325C	Nondisplaced transverse fracture of shaft of left femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.326A	Nondisplaced transverse fracture of shaft of unspecified femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.326B	Nondisplaced transverse fracture of shaft of unspecified femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.326C	Nondisplaced transverse fracture of shaft of unspecified femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.331A	Displaced oblique fracture of shaft of right femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.331B	Displaced oblique fracture of shaft of right femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.331C	Displaced oblique fracture of shaft of right femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.332A	Displaced oblique fracture of shaft of left femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.332B	Displaced oblique fracture of shaft of left femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.332C	Displaced oblique fracture of shaft of left femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.333A	Displaced oblique fracture of shaft of unspecified femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.333B	Displaced oblique fracture of shaft of unspecified femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.333C	Displaced oblique fracture of shaft of unspecified femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.334A	Nondisplaced oblique fracture of shaft of right femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S72.334B	Nondisplaced oblique fracture of shaft of right femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.334C	Nondisplaced oblique fracture of shaft of right femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.335A	Nondisplaced oblique fracture of shaft of left femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.335B	Nondisplaced oblique fracture of shaft of left femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.335C	Nondisplaced oblique fracture of shaft of left femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.336A	Nondisplaced oblique fracture of shaft of unspecified femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.336B	Nondisplaced oblique fracture of shaft of unspecified femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.336C	Nondisplaced oblique fracture of shaft of unspecified femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.341A	Displaced spiral fracture of shaft of right femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.341B	Displaced spiral fracture of shaft of right femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.341C	Displaced spiral fracture of shaft of right femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.342A	Displaced spiral fracture of shaft of left femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.342B	Displaced spiral fracture of shaft of left femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.342C	Displaced spiral fracture of shaft of left femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.343A	Displaced spiral fracture of shaft of unspecified femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.343B	Displaced spiral fracture of shaft of unspecified femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.343C	Displaced spiral fracture of shaft of unspecified femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.344A	Nondisplaced spiral fracture of shaft of right femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.344B	Nondisplaced spiral fracture of shaft of right femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.344C	Nondisplaced spiral fracture of shaft of right femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.345A	Nondisplaced spiral fracture of shaft of left femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.345B	Nondisplaced spiral fracture of shaft of left femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.345C	Nondisplaced spiral fracture of shaft of left femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.346A	Nondisplaced spiral fracture of shaft of unspecified femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.346B	Nondisplaced spiral fracture of shaft of unspecified femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.346C	Nondisplaced spiral fracture of shaft of unspecified femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.351A	Displaced comminuted fracture of shaft of right femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S72.351B	Displaced comminuted fracture of shaft of right femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.351C	Displaced comminuted fracture of shaft of right femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.352A	Displaced comminuted fracture of shaft of left femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.352B	Displaced comminuted fracture of shaft of left femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.352C	Displaced comminuted fracture of shaft of left femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.353A	Displaced comminuted fracture of shaft of unspecified femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.353B	Displaced comminuted fracture of shaft of unspecified femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.353C	Displaced comminuted fracture of shaft of unspecified femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.354A	Nondisplaced comminuted fracture of shaft of right femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.354B	Nondisplaced comminuted fracture of shaft of right femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.354C	Nondisplaced comminuted fracture of shaft of right femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.355A	Nondisplaced comminuted fracture of shaft of left femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.355B	Nondisplaced comminuted fracture of shaft of left femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.355C	Nondisplaced comminuted fracture of shaft of left femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.356A	Nondisplaced comminuted fracture of shaft of unspecified femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.356B	Nondisplaced comminuted fracture of shaft of unspecified femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.356C	Nondisplaced comminuted fracture of shaft of unspecified femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.361A	Displaced segmental fracture of shaft of right femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.361B	Displaced segmental fracture of shaft of right femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.361C	Displaced segmental fracture of shaft of right femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.362A	Displaced segmental fracture of shaft of left femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.362B	Displaced segmental fracture of shaft of left femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.362C	Displaced segmental fracture of shaft of left femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.363A	Displaced segmental fracture of shaft of unspecified femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.363B	Displaced segmental fracture of shaft of unspecified femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.363C	Displaced segmental fracture of shaft of unspecified femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.364A	Nondisplaced segmental fracture of shaft of right femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S72.364B	Nondisplaced segmental fracture of shaft of right femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.364C	Nondisplaced segmental fracture of shaft of right femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.365A	Nondisplaced segmental fracture of shaft of left femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.365B	Nondisplaced segmental fracture of shaft of left femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.365C	Nondisplaced segmental fracture of shaft of left femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.366A	Nondisplaced segmental fracture of shaft of unspecified femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.366B	Nondisplaced segmental fracture of shaft of unspecified femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.366C	Nondisplaced segmental fracture of shaft of unspecified femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.391A	Other fracture of shaft of right femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.391B	Other fracture of shaft of right femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.391C	Other fracture of shaft of right femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.392A	Other fracture of shaft of left femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.392B	Other fracture of shaft of left femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.392C	Other fracture of shaft of left femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.399A	Other fracture of shaft of unspecified femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.399B	Other fracture of shaft of unspecified femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.399C	Other fracture of shaft of unspecified femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.401A	Unspecified fracture of lower end of right femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.401B	Unspecified fracture of lower end of right femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.401C	Unspecified fracture of lower end of right femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.402A	Unspecified fracture of lower end of left femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.402B	Unspecified fracture of lower end of left femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.402C	Unspecified fracture of lower end of left femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.409A	Unspecified fracture of lower end of unspecified femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.409B	Unspecified fracture of lower end of unspecified femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.409C	Unspecified fracture of lower end of unspecified femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.411A	Displaced unspecified condyle fracture of lower end of right femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S72.411B	Displaced unspecified condyle fracture of lower end of right femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.411C	Displaced unspecified condyle fracture of lower end of right femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.412A	Displaced unspecified condyle fracture of lower end of left femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.412B	Displaced unspecified condyle fracture of lower end of left femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.412C	Displaced unspecified condyle fracture of lower end of left femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.413A	Displaced unspecified condyle fracture of lower end of unspecified femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.413B	Displaced unspecified condyle fracture of lower end of unspecified femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.413C	Displaced unspecified condyle fracture of lower end of unspecified femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.414A	Nondisplaced unspecified condyle fracture of lower end of right femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.414B	Nondisplaced unspecified condyle fracture of lower end of right femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.414C	Nondisplaced unspecified condyle fracture of lower end of right femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.415A	Nondisplaced unspecified condyle fracture of lower end of left femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.415B	Nondisplaced unspecified condyle fracture of lower end of left femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.415C	Nondisplaced unspecified condyle fracture of lower end of left femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.416A	Nondisplaced unspecified condyle fracture of lower end of unspecified femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.416B	Nondisplaced unspecified condyle fracture of lower end of unspecified femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.416C	Nondisplaced unspecified condyle fracture of lower end of unspecified femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.421A	Displaced fracture of lateral condyle of right femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.421B	Displaced fracture of lateral condyle of right femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.421C	Displaced fracture of lateral condyle of right femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.422A	Displaced fracture of lateral condyle of left femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.422B	Displaced fracture of lateral condyle of left femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.422C	Displaced fracture of lateral condyle of left femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.423A	Displaced fracture of lateral condyle of unspecified femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.423B	Displaced fracture of lateral condyle of unspecified femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.423C	Displaced fracture of lateral condyle of unspecified femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S72.424A	Nondisplaced fracture of lateral condyle of right femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.424B	Nondisplaced fracture of lateral condyle of right femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.424C	Nondisplaced fracture of lateral condyle of right femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.425A	Nondisplaced fracture of lateral condyle of left femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.425B	Nondisplaced fracture of lateral condyle of left femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.425C	Nondisplaced fracture of lateral condyle of left femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.426A	Nondisplaced fracture of lateral condyle of unspecified femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.426B	Nondisplaced fracture of lateral condyle of unspecified femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.426C	Nondisplaced fracture of lateral condyle of unspecified femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.431A	Displaced fracture of medial condyle of right femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.431B	Displaced fracture of medial condyle of right femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.431C	Displaced fracture of medial condyle of right femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.432A	Displaced fracture of medial condyle of left femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.432B	Displaced fracture of medial condyle of left femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.432C	Displaced fracture of medial condyle of left femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.433A	Displaced fracture of medial condyle of unspecified femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.433B	Displaced fracture of medial condyle of unspecified femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.433C	Displaced fracture of medial condyle of unspecified femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.434A	Nondisplaced fracture of medial condyle of right femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.434B	Nondisplaced fracture of medial condyle of right femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.434C	Nondisplaced fracture of medial condyle of right femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.435A	Nondisplaced fracture of medial condyle of left femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.435B	Nondisplaced fracture of medial condyle of left femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.435C	Nondisplaced fracture of medial condyle of left femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.436A	Nondisplaced fracture of medial condyle of unspecified femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.436B	Nondisplaced fracture of medial condyle of unspecified femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.436C	Nondisplaced fracture of medial condyle of unspecified femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S72.441A	Displaced fracture of lower epiphysis (separation) of right femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.441B	Displaced fracture of lower epiphysis (separation) of right femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.441C	Displaced fracture of lower epiphysis (separation) of right femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.442A	Displaced fracture of lower epiphysis (separation) of left femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.442B	Displaced fracture of lower epiphysis (separation) of left femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.442C	Displaced fracture of lower epiphysis (separation) of left femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.443A	Displaced fracture of lower epiphysis (separation) of unspecified femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.443B	Displaced fracture of lower epiphysis (separation) of unspecified femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.443C	Displaced fracture of lower epiphysis (separation) of unspecified femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.444A	Nondisplaced fracture of lower epiphysis (separation) of right femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.444B	Nondisplaced fracture of lower epiphysis (separation) of right femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.444C	Nondisplaced fracture of lower epiphysis (separation) of right femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.445A	Nondisplaced fracture of lower epiphysis (separation) of left femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.445B	Nondisplaced fracture of lower epiphysis (separation) of left femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.445C	Nondisplaced fracture of lower epiphysis (separation) of left femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.446A	Nondisplaced fracture of lower epiphysis (separation) of unspecified femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.446B	Nondisplaced fracture of lower epiphysis (separation) of unspecified femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.446C	Nondisplaced fracture of lower epiphysis (separation) of unspecified femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.451A	Displaced supracondylar fracture without intracondylar extension of lower end of right femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.451B	Displaced supracondylar fracture without intracondylar extension of lower end of right femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.451C	Displaced supracondylar fracture without intracondylar extension of lower end of right femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.452A	Displaced supracondylar fracture without intracondylar extension of lower end of left femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.452B	Displaced supracondylar fracture without intracondylar extension of lower end of left femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.452C	Displaced supracondylar fracture without intracondylar extension of lower end of left femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S72.453A	Displaced supracondylar fracture without intracondylar extension of lower end of unspecified femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.453B	Displaced supracondylar fracture without intracondylar extension of lower end of unspecified femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.453C	Displaced supracondylar fracture without intracondylar extension of lower end of unspecified femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.454A	Nondisplaced supracondylar fracture without intracondylar extension of lower end of right femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.454B	Nondisplaced supracondylar fracture without intracondylar extension of lower end of right femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.454C	Nondisplaced supracondylar fracture without intracondylar extension of lower end of right femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.455A	Nondisplaced supracondylar fracture without intracondylar extension of lower end of left femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.455B	Nondisplaced supracondylar fracture without intracondylar extension of lower end of left femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.455C	Nondisplaced supracondylar fracture without intracondylar extension of lower end of left femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.456A	Nondisplaced supracondylar fracture without intracondylar extension of lower end of unspecified femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.456B	Nondisplaced supracondylar fracture without intracondylar extension of lower end of unspecified femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.456C	Nondisplaced supracondylar fracture without intracondylar extension of lower end of unspecified femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.461A	Displaced supracondylar fracture with intracondylar extension of lower end of right femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.461B	Displaced supracondylar fracture with intracondylar extension of lower end of right femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.461C	Displaced supracondylar fracture with intracondylar extension of lower end of right femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S72.462A	Displaced supracondylar fracture with intracondylar extension of lower end of left femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.462B	Displaced supracondylar fracture with intracondylar extension of lower end of left femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.462C	Displaced supracondylar fracture with intracondylar extension of lower end of left femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.463A	Displaced supracondylar fracture with intracondylar extension of lower end of unspecified femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.463B	Displaced supracondylar fracture with intracondylar extension of lower end of unspecified femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.463C	Displaced supracondylar fracture with intracondylar extension of lower end of unspecified femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.464A	Nondisplaced supracondylar fracture with intracondylar extension of lower end of right femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.464B	Nondisplaced supracondylar fracture with intracondylar extension of lower end of right femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.464C	Nondisplaced supracondylar fracture with intracondylar extension of lower end of right femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.465A	Nondisplaced supracondylar fracture with intracondylar extension of lower end of left femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.465B	Nondisplaced supracondylar fracture with intracondylar extension of lower end of left femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.465C	Nondisplaced supracondylar fracture with intracondylar extension of lower end of left femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.466A	Nondisplaced supracondylar fracture with intracondylar extension of lower end of unspecified femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.466B	Nondisplaced supracondylar fracture with intracondylar extension of lower end of unspecified femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.466C	Nondisplaced supracondylar fracture with intracondylar extension of lower end of unspecified femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S72.471A	Torus fracture of lower end of right femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.472A	Torus fracture of lower end of left femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.479A	Torus fracture of lower end of unspecified femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.491A	Other fracture of lower end of right femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.491B	Other fracture of lower end of right femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.491C	Other fracture of lower end of right femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.492A	Other fracture of lower end of left femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.492B	Other fracture of lower end of left femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.492C	Other fracture of lower end of left femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.499A	Other fracture of lower end of unspecified femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.499B	Other fracture of lower end of unspecified femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.499C	Other fracture of lower end of unspecified femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.8X1A	Other fracture of right femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.8X1B	Other fracture of right femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.8X1C	Other fracture of right femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.8X2A	Other fracture of left femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.8X2B	Other fracture of left femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.8X2C	Other fracture of left femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.8X9A	Other fracture of unspecified femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.8X9B	Other fracture of unspecified femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.8X9C	Other fracture of unspecified femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.90XA	Unspecified fracture of unspecified femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.90XB	Unspecified fracture of unspecified femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.90XC	Unspecified fracture of unspecified femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.90XE	Unspecified fracture of unspecified femur, subsequent encounter for open fracture type I or II with routine healing	Diagnosis	ICD-10-CM
S72.91XA	Unspecified fracture of right femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S72.91XB	Unspecified fracture of right femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.91XC	Unspecified fracture of right femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.91XE	Unspecified fracture of right femur, subsequent encounter for open fracture type I or II with routine healing	Diagnosis	ICD-10-CM
S72.92XA	Unspecified fracture of left femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.92XB	Unspecified fracture of left femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.92XC	Unspecified fracture of left femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.92XE	Unspecified fracture of left femur, subsequent encounter for open fracture type I or II with routine healing	Diagnosis	ICD-10-CM
S77.00XA	Crushing injury of unspecified hip, initial encounter	Diagnosis	ICD-10-CM
S77.01XA	Crushing injury of right hip, initial encounter	Diagnosis	ICD-10-CM
S77.02XA	Crushing injury of left hip, initial encounter	Diagnosis	ICD-10-CM
S77.10XA	Crushing injury of unspecified thigh, initial encounter	Diagnosis	ICD-10-CM
S77.11XA	Crushing injury of right thigh, initial encounter	Diagnosis	ICD-10-CM
S77.12XA	Crushing injury of left thigh, initial encounter	Diagnosis	ICD-10-CM
S77.20XA	Crushing injury of unspecified hip with thigh, initial encounter	Diagnosis	ICD-10-CM
S77.21XA	Crushing injury of right hip with thigh, initial encounter	Diagnosis	ICD-10-CM
S77.22XA	Crushing injury of left hip with thigh, initial encounter	Diagnosis	ICD-10-CM
S79.001A	Unspecified physeal fracture of upper end of right femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S79.002A	Unspecified physeal fracture of upper end of left femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S79.009A	Unspecified physeal fracture of upper end of unspecified femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S79.011A	Salter-Harris Type I physeal fracture of upper end of right femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S79.012A	Salter-Harris Type I physeal fracture of upper end of left femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S79.019A	Salter-Harris Type I physeal fracture of upper end of unspecified femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S79.091A	Other physeal fracture of upper end of right femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S79.092A	Other physeal fracture of upper end of left femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S79.099A	Other physeal fracture of upper end of unspecified femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S79.101A	Unspecified physeal fracture of lower end of right femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S79.102A	Unspecified physeal fracture of lower end of left femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S79.109A	Unspecified physeal fracture of lower end of unspecified femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S79.111A	Salter-Harris Type I physeal fracture of lower end of right femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S79.112A	Salter-Harris Type I physeal fracture of lower end of left femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S79.119A	Salter-Harris Type I physeal fracture of lower end of unspecified femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S79.121A	Salter-Harris Type II physeal fracture of lower end of right femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S79.122A	Salter-Harris Type II physeal fracture of lower end of left femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S79.129A	Salter-Harris Type II physeal fracture of lower end of unspecified femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S79.131A	Salter-Harris Type III physeal fracture of lower end of right femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S79.132A	Salter-Harris Type III physeal fracture of lower end of left femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S79.139A	Salter-Harris Type III physeal fracture of lower end of unspecified femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S79.141A	Salter-Harris Type IV physeal fracture of lower end of right femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S79.142A	Salter-Harris Type IV physeal fracture of lower end of left femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S79.149A	Salter-Harris Type IV physeal fracture of lower end of unspecified femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S79.191A	Other physeal fracture of lower end of right femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S79.192A	Other physeal fracture of lower end of left femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S79.199A	Other physeal fracture of lower end of unspecified femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.001A	Unspecified fracture of right patella, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.001B	Unspecified fracture of right patella, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.001C	Unspecified fracture of right patella, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.002A	Unspecified fracture of left patella, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.002B	Unspecified fracture of left patella, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.002C	Unspecified fracture of left patella, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.009A	Unspecified fracture of unspecified patella, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.009B	Unspecified fracture of unspecified patella, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.009C	Unspecified fracture of unspecified patella, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S82.011A	Displaced osteochondral fracture of right patella, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.011B	Displaced osteochondral fracture of right patella, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.011C	Displaced osteochondral fracture of right patella, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.012A	Displaced osteochondral fracture of left patella, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.012B	Displaced osteochondral fracture of left patella, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.012C	Displaced osteochondral fracture of left patella, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.013A	Displaced osteochondral fracture of unspecified patella, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.013B	Displaced osteochondral fracture of unspecified patella, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.013C	Displaced osteochondral fracture of unspecified patella, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.014A	Nondisplaced osteochondral fracture of right patella, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.014B	Nondisplaced osteochondral fracture of right patella, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.014C	Nondisplaced osteochondral fracture of right patella, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.015A	Nondisplaced osteochondral fracture of left patella, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.015B	Nondisplaced osteochondral fracture of left patella, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.015C	Nondisplaced osteochondral fracture of left patella, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.016A	Nondisplaced osteochondral fracture of unspecified patella, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.016B	Nondisplaced osteochondral fracture of unspecified patella, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.016C	Nondisplaced osteochondral fracture of unspecified patella, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.021A	Displaced longitudinal fracture of right patella, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.021B	Displaced longitudinal fracture of right patella, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.021C	Displaced longitudinal fracture of right patella, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.022A	Displaced longitudinal fracture of left patella, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.022B	Displaced longitudinal fracture of left patella, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.022C	Displaced longitudinal fracture of left patella, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.023A	Displaced longitudinal fracture of unspecified patella, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.023B	Displaced longitudinal fracture of unspecified patella, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S82.023C	Displaced longitudinal fracture of unspecified patella, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.024A	Nondisplaced longitudinal fracture of right patella, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.024B	Nondisplaced longitudinal fracture of right patella, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.024C	Nondisplaced longitudinal fracture of right patella, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.025A	Nondisplaced longitudinal fracture of left patella, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.025B	Nondisplaced longitudinal fracture of left patella, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.025C	Nondisplaced longitudinal fracture of left patella, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.026A	Nondisplaced longitudinal fracture of unspecified patella, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.026B	Nondisplaced longitudinal fracture of unspecified patella, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.026C	Nondisplaced longitudinal fracture of unspecified patella, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.031A	Displaced transverse fracture of right patella, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.031B	Displaced transverse fracture of right patella, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.031C	Displaced transverse fracture of right patella, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.032A	Displaced transverse fracture of left patella, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.032B	Displaced transverse fracture of left patella, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.032C	Displaced transverse fracture of left patella, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.033A	Displaced transverse fracture of unspecified patella, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.033B	Displaced transverse fracture of unspecified patella, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.033C	Displaced transverse fracture of unspecified patella, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.034A	Nondisplaced transverse fracture of right patella, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.034B	Nondisplaced transverse fracture of right patella, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.034C	Nondisplaced transverse fracture of right patella, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.035A	Nondisplaced transverse fracture of left patella, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.035B	Nondisplaced transverse fracture of left patella, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.035C	Nondisplaced transverse fracture of left patella, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.036A	Nondisplaced transverse fracture of unspecified patella, initial encounter for closed fracture	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S82.036B	Nondisplaced transverse fracture of unspecified patella, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.036C	Nondisplaced transverse fracture of unspecified patella, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.041A	Displaced comminuted fracture of right patella, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.041B	Displaced comminuted fracture of right patella, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.041C	Displaced comminuted fracture of right patella, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.042A	Displaced comminuted fracture of left patella, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.042B	Displaced comminuted fracture of left patella, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.042C	Displaced comminuted fracture of left patella, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.043A	Displaced comminuted fracture of unspecified patella, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.043B	Displaced comminuted fracture of unspecified patella, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.043C	Displaced comminuted fracture of unspecified patella, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.044A	Nondisplaced comminuted fracture of right patella, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.044B	Nondisplaced comminuted fracture of right patella, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.044C	Nondisplaced comminuted fracture of right patella, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.045A	Nondisplaced comminuted fracture of left patella, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.045B	Nondisplaced comminuted fracture of left patella, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.045C	Nondisplaced comminuted fracture of left patella, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.046A	Nondisplaced comminuted fracture of unspecified patella, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.046B	Nondisplaced comminuted fracture of unspecified patella, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.046C	Nondisplaced comminuted fracture of unspecified patella, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.091A	Other fracture of right patella, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.091B	Other fracture of right patella, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.091C	Other fracture of right patella, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.092A	Other fracture of left patella, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.092B	Other fracture of left patella, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.092C	Other fracture of left patella, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S82.099A	Other fracture of unspecified patella, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.099B	Other fracture of unspecified patella, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.099C	Other fracture of unspecified patella, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.101A	Unspecified fracture of upper end of right tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.101B	Unspecified fracture of upper end of right tibia, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.101C	Unspecified fracture of upper end of right tibia, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.102A	Unspecified fracture of upper end of left tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.102B	Unspecified fracture of upper end of left tibia, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.102C	Unspecified fracture of upper end of left tibia, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.109A	Unspecified fracture of upper end of unspecified tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.109B	Unspecified fracture of upper end of unspecified tibia, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.109C	Unspecified fracture of upper end of unspecified tibia, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.111A	Displaced fracture of right tibial spine, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.111B	Displaced fracture of right tibial spine, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.111C	Displaced fracture of right tibial spine, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.112A	Displaced fracture of left tibial spine, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.112B	Displaced fracture of left tibial spine, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.112C	Displaced fracture of left tibial spine, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.113A	Displaced fracture of unspecified tibial spine, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.113B	Displaced fracture of unspecified tibial spine, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.113C	Displaced fracture of unspecified tibial spine, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.114A	Nondisplaced fracture of right tibial spine, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.114B	Nondisplaced fracture of right tibial spine, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.114C	Nondisplaced fracture of right tibial spine, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.115A	Nondisplaced fracture of left tibial spine, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.115B	Nondisplaced fracture of left tibial spine, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S82.115C	Nondisplaced fracture of left tibial spine, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.116A	Nondisplaced fracture of unspecified tibial spine, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.116B	Nondisplaced fracture of unspecified tibial spine, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.116C	Nondisplaced fracture of unspecified tibial spine, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.121A	Displaced fracture of lateral condyle of right tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.121B	Displaced fracture of lateral condyle of right tibia, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.121C	Displaced fracture of lateral condyle of right tibia, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.122A	Displaced fracture of lateral condyle of left tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.122B	Displaced fracture of lateral condyle of left tibia, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.122C	Displaced fracture of lateral condyle of left tibia, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.123A	Displaced fracture of lateral condyle of unspecified tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.123B	Displaced fracture of lateral condyle of unspecified tibia, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.123C	Displaced fracture of lateral condyle of unspecified tibia, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.124A	Nondisplaced fracture of lateral condyle of right tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.124B	Nondisplaced fracture of lateral condyle of right tibia, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.124C	Nondisplaced fracture of lateral condyle of right tibia, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.125A	Nondisplaced fracture of lateral condyle of left tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.125B	Nondisplaced fracture of lateral condyle of left tibia, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.125C	Nondisplaced fracture of lateral condyle of left tibia, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.126A	Nondisplaced fracture of lateral condyle of unspecified tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.126B	Nondisplaced fracture of lateral condyle of unspecified tibia, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.126C	Nondisplaced fracture of lateral condyle of unspecified tibia, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.131A	Displaced fracture of medial condyle of right tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.131B	Displaced fracture of medial condyle of right tibia, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.131C	Displaced fracture of medial condyle of right tibia, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.132A	Displaced fracture of medial condyle of left tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S82.132B	Displaced fracture of medial condyle of left tibia, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.132C	Displaced fracture of medial condyle of left tibia, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.133A	Displaced fracture of medial condyle of unspecified tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.133B	Displaced fracture of medial condyle of unspecified tibia, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.133C	Displaced fracture of medial condyle of unspecified tibia, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.134A	Nondisplaced fracture of medial condyle of right tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.134B	Nondisplaced fracture of medial condyle of right tibia, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.134C	Nondisplaced fracture of medial condyle of right tibia, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.135A	Nondisplaced fracture of medial condyle of left tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.135B	Nondisplaced fracture of medial condyle of left tibia, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.135C	Nondisplaced fracture of medial condyle of left tibia, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.136A	Nondisplaced fracture of medial condyle of unspecified tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.136B	Nondisplaced fracture of medial condyle of unspecified tibia, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.136C	Nondisplaced fracture of medial condyle of unspecified tibia, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.141A	Displaced bicondylar fracture of right tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.141B	Displaced bicondylar fracture of right tibia, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.141C	Displaced bicondylar fracture of right tibia, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.142A	Displaced bicondylar fracture of left tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.142B	Displaced bicondylar fracture of left tibia, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.142C	Displaced bicondylar fracture of left tibia, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.143A	Displaced bicondylar fracture of unspecified tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.143B	Displaced bicondylar fracture of unspecified tibia, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.143C	Displaced bicondylar fracture of unspecified tibia, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.144A	Nondisplaced bicondylar fracture of right tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.144B	Nondisplaced bicondylar fracture of right tibia, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.144C	Nondisplaced bicondylar fracture of right tibia, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S82.145A	Nondisplaced bicondylar fracture of left tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.145B	Nondisplaced bicondylar fracture of left tibia, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.145C	Nondisplaced bicondylar fracture of left tibia, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.146A	Nondisplaced bicondylar fracture of unspecified tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.146B	Nondisplaced bicondylar fracture of unspecified tibia, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.146C	Nondisplaced bicondylar fracture of unspecified tibia, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.151A	Displaced fracture of right tibial tuberosity, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.151B	Displaced fracture of right tibial tuberosity, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.151C	Displaced fracture of right tibial tuberosity, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.152A	Displaced fracture of left tibial tuberosity, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.152B	Displaced fracture of left tibial tuberosity, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.152C	Displaced fracture of left tibial tuberosity, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.153A	Displaced fracture of unspecified tibial tuberosity, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.153B	Displaced fracture of unspecified tibial tuberosity, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.153C	Displaced fracture of unspecified tibial tuberosity, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.154A	Nondisplaced fracture of right tibial tuberosity, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.154B	Nondisplaced fracture of right tibial tuberosity, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.154C	Nondisplaced fracture of right tibial tuberosity, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.155A	Nondisplaced fracture of left tibial tuberosity, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.155B	Nondisplaced fracture of left tibial tuberosity, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.155C	Nondisplaced fracture of left tibial tuberosity, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.156A	Nondisplaced fracture of unspecified tibial tuberosity, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.156B	Nondisplaced fracture of unspecified tibial tuberosity, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.156C	Nondisplaced fracture of unspecified tibial tuberosity, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.161A	Torus fracture of upper end of right tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.162A	Torus fracture of upper end of left tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S82.169A	Torus fracture of upper end of unspecified tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.191A	Other fracture of upper end of right tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.191B	Other fracture of upper end of right tibia, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.191C	Other fracture of upper end of right tibia, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.192A	Other fracture of upper end of left tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.192B	Other fracture of upper end of left tibia, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.192C	Other fracture of upper end of left tibia, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.199A	Other fracture of upper end of unspecified tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.199B	Other fracture of upper end of unspecified tibia, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.199C	Other fracture of upper end of unspecified tibia, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.201A	Unspecified fracture of shaft of right tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.201B	Unspecified fracture of shaft of right tibia, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.201C	Unspecified fracture of shaft of right tibia, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.202A	Unspecified fracture of shaft of left tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.202B	Unspecified fracture of shaft of left tibia, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.202C	Unspecified fracture of shaft of left tibia, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.209A	Unspecified fracture of shaft of unspecified tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.209B	Unspecified fracture of shaft of unspecified tibia, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.209C	Unspecified fracture of shaft of unspecified tibia, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.221A	Displaced transverse fracture of shaft of right tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.221B	Displaced transverse fracture of shaft of right tibia, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.221C	Displaced transverse fracture of shaft of right tibia, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.222A	Displaced transverse fracture of shaft of left tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.222B	Displaced transverse fracture of shaft of left tibia, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.222C	Displaced transverse fracture of shaft of left tibia, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.223A	Displaced transverse fracture of shaft of unspecified tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S82.223B	Displaced transverse fracture of shaft of unspecified tibia, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.223C	Displaced transverse fracture of shaft of unspecified tibia, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.224A	Nondisplaced transverse fracture of shaft of right tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.224B	Nondisplaced transverse fracture of shaft of right tibia, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.224C	Nondisplaced transverse fracture of shaft of right tibia, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.225A	Nondisplaced transverse fracture of shaft of left tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.225B	Nondisplaced transverse fracture of shaft of left tibia, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.225C	Nondisplaced transverse fracture of shaft of left tibia, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.226A	Nondisplaced transverse fracture of shaft of unspecified tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.226B	Nondisplaced transverse fracture of shaft of unspecified tibia, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.226C	Nondisplaced transverse fracture of shaft of unspecified tibia, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.231A	Displaced oblique fracture of shaft of right tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.231B	Displaced oblique fracture of shaft of right tibia, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.231C	Displaced oblique fracture of shaft of right tibia, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.232A	Displaced oblique fracture of shaft of left tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.232B	Displaced oblique fracture of shaft of left tibia, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.232C	Displaced oblique fracture of shaft of left tibia, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.233A	Displaced oblique fracture of shaft of unspecified tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.233B	Displaced oblique fracture of shaft of unspecified tibia, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.233C	Displaced oblique fracture of shaft of unspecified tibia, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.234A	Nondisplaced oblique fracture of shaft of right tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.234B	Nondisplaced oblique fracture of shaft of right tibia, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.234C	Nondisplaced oblique fracture of shaft of right tibia, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.235A	Nondisplaced oblique fracture of shaft of left tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.235B	Nondisplaced oblique fracture of shaft of left tibia, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.235C	Nondisplaced oblique fracture of shaft of left tibia, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S82.236A	Nondisplaced oblique fracture of shaft of unspecified tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.236B	Nondisplaced oblique fracture of shaft of unspecified tibia, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.236C	Nondisplaced oblique fracture of shaft of unspecified tibia, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.241A	Displaced spiral fracture of shaft of right tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.241B	Displaced spiral fracture of shaft of right tibia, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.241C	Displaced spiral fracture of shaft of right tibia, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.242A	Displaced spiral fracture of shaft of left tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.242B	Displaced spiral fracture of shaft of left tibia, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.242C	Displaced spiral fracture of shaft of left tibia, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.243A	Displaced spiral fracture of shaft of unspecified tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.243B	Displaced spiral fracture of shaft of unspecified tibia, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.243C	Displaced spiral fracture of shaft of unspecified tibia, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.244A	Nondisplaced spiral fracture of shaft of right tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.244B	Nondisplaced spiral fracture of shaft of right tibia, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.244C	Nondisplaced spiral fracture of shaft of right tibia, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.245A	Nondisplaced spiral fracture of shaft of left tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.245B	Nondisplaced spiral fracture of shaft of left tibia, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.245C	Nondisplaced spiral fracture of shaft of left tibia, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.246A	Nondisplaced spiral fracture of shaft of unspecified tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.246B	Nondisplaced spiral fracture of shaft of unspecified tibia, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.246C	Nondisplaced spiral fracture of shaft of unspecified tibia, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.251A	Displaced comminuted fracture of shaft of right tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.251B	Displaced comminuted fracture of shaft of right tibia, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.251C	Displaced comminuted fracture of shaft of right tibia, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.252A	Displaced comminuted fracture of shaft of left tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.252B	Displaced comminuted fracture of shaft of left tibia, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S82.252C	Displaced comminuted fracture of shaft of left tibia, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.253A	Displaced comminuted fracture of shaft of unspecified tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.253B	Displaced comminuted fracture of shaft of unspecified tibia, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.253C	Displaced comminuted fracture of shaft of unspecified tibia, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.254A	Nondisplaced comminuted fracture of shaft of right tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.254B	Nondisplaced comminuted fracture of shaft of right tibia, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.254C	Nondisplaced comminuted fracture of shaft of right tibia, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.255A	Nondisplaced comminuted fracture of shaft of left tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.255B	Nondisplaced comminuted fracture of shaft of left tibia, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.255C	Nondisplaced comminuted fracture of shaft of left tibia, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.256A	Nondisplaced comminuted fracture of shaft of unspecified tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.256B	Nondisplaced comminuted fracture of shaft of unspecified tibia, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.256C	Nondisplaced comminuted fracture of shaft of unspecified tibia, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.261A	Displaced segmental fracture of shaft of right tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.261B	Displaced segmental fracture of shaft of right tibia, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.261C	Displaced segmental fracture of shaft of right tibia, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.262A	Displaced segmental fracture of shaft of left tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.262B	Displaced segmental fracture of shaft of left tibia, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.262C	Displaced segmental fracture of shaft of left tibia, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.263A	Displaced segmental fracture of shaft of unspecified tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.263B	Displaced segmental fracture of shaft of unspecified tibia, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.263C	Displaced segmental fracture of shaft of unspecified tibia, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.264A	Nondisplaced segmental fracture of shaft of right tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.264B	Nondisplaced segmental fracture of shaft of right tibia, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.264C	Nondisplaced segmental fracture of shaft of right tibia, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.265A	Nondisplaced segmental fracture of shaft of left tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S82.265B	Nondisplaced segmental fracture of shaft of left tibia, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.265C	Nondisplaced segmental fracture of shaft of left tibia, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.266A	Nondisplaced segmental fracture of shaft of unspecified tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.266B	Nondisplaced segmental fracture of shaft of unspecified tibia, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.266C	Nondisplaced segmental fracture of shaft of unspecified tibia, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.291A	Other fracture of shaft of right tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.291B	Other fracture of shaft of right tibia, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.291C	Other fracture of shaft of right tibia, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.292A	Other fracture of shaft of left tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.292B	Other fracture of shaft of left tibia, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.292C	Other fracture of shaft of left tibia, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.299A	Other fracture of shaft of unspecified tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.299B	Other fracture of shaft of unspecified tibia, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.299C	Other fracture of shaft of unspecified tibia, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.301A	Unspecified fracture of lower end of right tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.301B	Unspecified fracture of lower end of right tibia, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.301C	Unspecified fracture of lower end of right tibia, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.302A	Unspecified fracture of lower end of left tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.302B	Unspecified fracture of lower end of left tibia, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.302C	Unspecified fracture of lower end of left tibia, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.309A	Unspecified fracture of lower end of unspecified tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.309B	Unspecified fracture of lower end of unspecified tibia, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.309C	Unspecified fracture of lower end of unspecified tibia, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.311A	Torus fracture of lower end of right tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.312A	Torus fracture of lower end of left tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.319A	Torus fracture of lower end of unspecified tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S82.391A	Other fracture of lower end of right tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.391B	Other fracture of lower end of right tibia, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.391C	Other fracture of lower end of right tibia, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.392A	Other fracture of lower end of left tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.392B	Other fracture of lower end of left tibia, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.392C	Other fracture of lower end of left tibia, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.399A	Other fracture of lower end of unspecified tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.399B	Other fracture of lower end of unspecified tibia, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.399C	Other fracture of lower end of unspecified tibia, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.401A	Unspecified fracture of shaft of right fibula, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.401B	Unspecified fracture of shaft of right fibula, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.401C	Unspecified fracture of shaft of right fibula, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.402A	Unspecified fracture of shaft of left fibula, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.402B	Unspecified fracture of shaft of left fibula, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.402C	Unspecified fracture of shaft of left fibula, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.409A	Unspecified fracture of shaft of unspecified fibula, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.409B	Unspecified fracture of shaft of unspecified fibula, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.409C	Unspecified fracture of shaft of unspecified fibula, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.421A	Displaced transverse fracture of shaft of right fibula, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.421B	Displaced transverse fracture of shaft of right fibula, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.421C	Displaced transverse fracture of shaft of right fibula, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.422A	Displaced transverse fracture of shaft of left fibula, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.422B	Displaced transverse fracture of shaft of left fibula, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.422C	Displaced transverse fracture of shaft of left fibula, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.423A	Displaced transverse fracture of shaft of unspecified fibula, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.423B	Displaced transverse fracture of shaft of unspecified fibula, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S82.423C	Displaced transverse fracture of shaft of unspecified fibula, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.424A	Nondisplaced transverse fracture of shaft of right fibula, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.424B	Nondisplaced transverse fracture of shaft of right fibula, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.424C	Nondisplaced transverse fracture of shaft of right fibula, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.425A	Nondisplaced transverse fracture of shaft of left fibula, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.425B	Nondisplaced transverse fracture of shaft of left fibula, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.425C	Nondisplaced transverse fracture of shaft of left fibula, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.426A	Nondisplaced transverse fracture of shaft of unspecified fibula, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.426B	Nondisplaced transverse fracture of shaft of unspecified fibula, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.426C	Nondisplaced transverse fracture of shaft of unspecified fibula, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.431A	Displaced oblique fracture of shaft of right fibula, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.431B	Displaced oblique fracture of shaft of right fibula, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.431C	Displaced oblique fracture of shaft of right fibula, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.432A	Displaced oblique fracture of shaft of left fibula, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.432B	Displaced oblique fracture of shaft of left fibula, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.432C	Displaced oblique fracture of shaft of left fibula, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.433A	Displaced oblique fracture of shaft of unspecified fibula, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.433B	Displaced oblique fracture of shaft of unspecified fibula, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.433C	Displaced oblique fracture of shaft of unspecified fibula, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.434A	Nondisplaced oblique fracture of shaft of right fibula, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.434B	Nondisplaced oblique fracture of shaft of right fibula, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.434C	Nondisplaced oblique fracture of shaft of right fibula, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.435A	Nondisplaced oblique fracture of shaft of left fibula, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.435B	Nondisplaced oblique fracture of shaft of left fibula, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.435C	Nondisplaced oblique fracture of shaft of left fibula, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.436A	Nondisplaced oblique fracture of shaft of unspecified fibula, initial encounter for closed fracture	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S82.436B	Nondisplaced oblique fracture of shaft of unspecified fibula, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.436C	Nondisplaced oblique fracture of shaft of unspecified fibula, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.441A	Displaced spiral fracture of shaft of right fibula, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.441B	Displaced spiral fracture of shaft of right fibula, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.441C	Displaced spiral fracture of shaft of right fibula, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.442A	Displaced spiral fracture of shaft of left fibula, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.442B	Displaced spiral fracture of shaft of left fibula, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.442C	Displaced spiral fracture of shaft of left fibula, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.443A	Displaced spiral fracture of shaft of unspecified fibula, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.443B	Displaced spiral fracture of shaft of unspecified fibula, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.443C	Displaced spiral fracture of shaft of unspecified fibula, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.444A	Nondisplaced spiral fracture of shaft of right fibula, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.444B	Nondisplaced spiral fracture of shaft of right fibula, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.444C	Nondisplaced spiral fracture of shaft of right fibula, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.445A	Nondisplaced spiral fracture of shaft of left fibula, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.445B	Nondisplaced spiral fracture of shaft of left fibula, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.445C	Nondisplaced spiral fracture of shaft of left fibula, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.446A	Nondisplaced spiral fracture of shaft of unspecified fibula, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.446B	Nondisplaced spiral fracture of shaft of unspecified fibula, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.446C	Nondisplaced spiral fracture of shaft of unspecified fibula, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.451A	Displaced comminuted fracture of shaft of right fibula, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.451B	Displaced comminuted fracture of shaft of right fibula, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.451C	Displaced comminuted fracture of shaft of right fibula, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.452A	Displaced comminuted fracture of shaft of left fibula, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.452B	Displaced comminuted fracture of shaft of left fibula, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.452C	Displaced comminuted fracture of shaft of left fibula, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S82.453A	Displaced comminuted fracture of shaft of unspecified fibula, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.453B	Displaced comminuted fracture of shaft of unspecified fibula, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.453C	Displaced comminuted fracture of shaft of unspecified fibula, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.454A	Nondisplaced comminuted fracture of shaft of right fibula, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.454B	Nondisplaced comminuted fracture of shaft of right fibula, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.454C	Nondisplaced comminuted fracture of shaft of right fibula, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.455A	Nondisplaced comminuted fracture of shaft of left fibula, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.455B	Nondisplaced comminuted fracture of shaft of left fibula, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.455C	Nondisplaced comminuted fracture of shaft of left fibula, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.456A	Nondisplaced comminuted fracture of shaft of unspecified fibula, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.456B	Nondisplaced comminuted fracture of shaft of unspecified fibula, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.456C	Nondisplaced comminuted fracture of shaft of unspecified fibula, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.461A	Displaced segmental fracture of shaft of right fibula, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.461B	Displaced segmental fracture of shaft of right fibula, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.461C	Displaced segmental fracture of shaft of right fibula, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.462A	Displaced segmental fracture of shaft of left fibula, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.462B	Displaced segmental fracture of shaft of left fibula, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.462C	Displaced segmental fracture of shaft of left fibula, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.463A	Displaced segmental fracture of shaft of unspecified fibula, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.463B	Displaced segmental fracture of shaft of unspecified fibula, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.463C	Displaced segmental fracture of shaft of unspecified fibula, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.464A	Nondisplaced segmental fracture of shaft of right fibula, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.464B	Nondisplaced segmental fracture of shaft of right fibula, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.464C	Nondisplaced segmental fracture of shaft of right fibula, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.465A	Nondisplaced segmental fracture of shaft of left fibula, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.465B	Nondisplaced segmental fracture of shaft of left fibula, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S82.465C	Nondisplaced segmental fracture of shaft of left fibula, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.466A	Nondisplaced segmental fracture of shaft of unspecified fibula, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.466B	Nondisplaced segmental fracture of shaft of unspecified fibula, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.466C	Nondisplaced segmental fracture of shaft of unspecified fibula, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.491A	Other fracture of shaft of right fibula, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.491B	Other fracture of shaft of right fibula, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.491C	Other fracture of shaft of right fibula, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.492A	Other fracture of shaft of left fibula, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.492B	Other fracture of shaft of left fibula, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.492C	Other fracture of shaft of left fibula, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.499A	Other fracture of shaft of unspecified fibula, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.499B	Other fracture of shaft of unspecified fibula, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.499C	Other fracture of shaft of unspecified fibula, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.51XA	Displaced fracture of medial malleolus of right tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.51XB	Displaced fracture of medial malleolus of right tibia, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.51XC	Displaced fracture of medial malleolus of right tibia, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.52XA	Displaced fracture of medial malleolus of left tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.52XB	Displaced fracture of medial malleolus of left tibia, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.52XC	Displaced fracture of medial malleolus of left tibia, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.53XA	Displaced fracture of medial malleolus of unspecified tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.53XB	Displaced fracture of medial malleolus of unspecified tibia, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.53XC	Displaced fracture of medial malleolus of unspecified tibia, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.54XA	Nondisplaced fracture of medial malleolus of right tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.54XB	Nondisplaced fracture of medial malleolus of right tibia, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.54XC	Nondisplaced fracture of medial malleolus of right tibia, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.55XA	Nondisplaced fracture of medial malleolus of left tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S82.55XB	Nondisplaced fracture of medial malleolus of left tibia, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.55XC	Nondisplaced fracture of medial malleolus of left tibia, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.56XA	Nondisplaced fracture of medial malleolus of unspecified tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.56XB	Nondisplaced fracture of medial malleolus of unspecified tibia, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.56XC	Nondisplaced fracture of medial malleolus of unspecified tibia, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.61XA	Displaced fracture of lateral malleolus of right fibula, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.61XB	Displaced fracture of lateral malleolus of right fibula, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.61XC	Displaced fracture of lateral malleolus of right fibula, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.62XA	Displaced fracture of lateral malleolus of left fibula, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.62XB	Displaced fracture of lateral malleolus of left fibula, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.62XC	Displaced fracture of lateral malleolus of left fibula, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.63XA	Displaced fracture of lateral malleolus of unspecified fibula, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.63XB	Displaced fracture of lateral malleolus of unspecified fibula, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.63XC	Displaced fracture of lateral malleolus of unspecified fibula, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.64XA	Nondisplaced fracture of lateral malleolus of right fibula, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.64XB	Nondisplaced fracture of lateral malleolus of right fibula, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.64XC	Nondisplaced fracture of lateral malleolus of right fibula, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.65XA	Nondisplaced fracture of lateral malleolus of left fibula, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.65XB	Nondisplaced fracture of lateral malleolus of left fibula, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.65XC	Nondisplaced fracture of lateral malleolus of left fibula, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.66XA	Nondisplaced fracture of lateral malleolus of unspecified fibula, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.66XB	Nondisplaced fracture of lateral malleolus of unspecified fibula, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.66XC	Nondisplaced fracture of lateral malleolus of unspecified fibula, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.811A	Torus fracture of upper end of right fibula, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.812A	Torus fracture of upper end of left fibula, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.819A	Torus fracture of upper end of unspecified fibula, initial encounter for closed fracture	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S82.821A	Torus fracture of lower end of right fibula, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.822A	Torus fracture of lower end of left fibula, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.829A	Torus fracture of lower end of unspecified fibula, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.831A	Other fracture of upper and lower end of right fibula, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.831B	Other fracture of upper and lower end of right fibula, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.831C	Other fracture of upper and lower end of right fibula, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.832A	Other fracture of upper and lower end of left fibula, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.832B	Other fracture of upper and lower end of left fibula, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.832C	Other fracture of upper and lower end of left fibula, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.839A	Other fracture of upper and lower end of unspecified fibula, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.839B	Other fracture of upper and lower end of unspecified fibula, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.839C	Other fracture of upper and lower end of unspecified fibula, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.841A	Displaced bimalleolar fracture of right lower leg, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.841B	Displaced bimalleolar fracture of right lower leg, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.841C	Displaced bimalleolar fracture of right lower leg, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.842A	Displaced bimalleolar fracture of left lower leg, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.842B	Displaced bimalleolar fracture of left lower leg, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.842C	Displaced bimalleolar fracture of left lower leg, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.843A	Displaced bimalleolar fracture of unspecified lower leg, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.843B	Displaced bimalleolar fracture of unspecified lower leg, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.843C	Displaced bimalleolar fracture of unspecified lower leg, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.844A	Nondisplaced bimalleolar fracture of right lower leg, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.844B	Nondisplaced bimalleolar fracture of right lower leg, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.844C	Nondisplaced bimalleolar fracture of right lower leg, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.845A	Nondisplaced bimalleolar fracture of left lower leg, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.845B	Nondisplaced bimalleolar fracture of left lower leg, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S82.845C	Nondisplaced bimalleolar fracture of left lower leg, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.846A	Nondisplaced bimalleolar fracture of unspecified lower leg, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.846B	Nondisplaced bimalleolar fracture of unspecified lower leg, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.846C	Nondisplaced bimalleolar fracture of unspecified lower leg, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.851A	Displaced trimalleolar fracture of right lower leg, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.851B	Displaced trimalleolar fracture of right lower leg, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.851C	Displaced trimalleolar fracture of right lower leg, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.852A	Displaced trimalleolar fracture of left lower leg, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.852B	Displaced trimalleolar fracture of left lower leg, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.852C	Displaced trimalleolar fracture of left lower leg, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.853A	Displaced trimalleolar fracture of unspecified lower leg, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.853B	Displaced trimalleolar fracture of unspecified lower leg, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.853C	Displaced trimalleolar fracture of unspecified lower leg, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.854A	Nondisplaced trimalleolar fracture of right lower leg, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.854B	Nondisplaced trimalleolar fracture of right lower leg, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.854C	Nondisplaced trimalleolar fracture of right lower leg, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.855A	Nondisplaced trimalleolar fracture of left lower leg, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.855B	Nondisplaced trimalleolar fracture of left lower leg, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.855C	Nondisplaced trimalleolar fracture of left lower leg, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.856A	Nondisplaced trimalleolar fracture of unspecified lower leg, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.856B	Nondisplaced trimalleolar fracture of unspecified lower leg, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.856C	Nondisplaced trimalleolar fracture of unspecified lower leg, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.861A	Displaced Maisonneuve's fracture of right leg, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.861B	Displaced Maisonneuve's fracture of right leg, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.861C	Displaced Maisonneuve's fracture of right leg, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.862A	Displaced Maisonneuve's fracture of left leg, initial encounter for closed fracture	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S82.862B	Displaced Maisonneuve's fracture of left leg, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.862C	Displaced Maisonneuve's fracture of left leg, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.863A	Displaced Maisonneuve's fracture of unspecified leg, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.863B	Displaced Maisonneuve's fracture of unspecified leg, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.863C	Displaced Maisonneuve's fracture of unspecified leg, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.864A	Nondisplaced Maisonneuve's fracture of right leg, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.864B	Nondisplaced Maisonneuve's fracture of right leg, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.864C	Nondisplaced Maisonneuve's fracture of right leg, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.865A	Nondisplaced Maisonneuve's fracture of left leg, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.865B	Nondisplaced Maisonneuve's fracture of left leg, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.865C	Nondisplaced Maisonneuve's fracture of left leg, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.866A	Nondisplaced Maisonneuve's fracture of unspecified leg, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.866B	Nondisplaced Maisonneuve's fracture of unspecified leg, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.866C	Nondisplaced Maisonneuve's fracture of unspecified leg, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.871A	Displaced pilon fracture of right tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.871B	Displaced pilon fracture of right tibia, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.871C	Displaced pilon fracture of right tibia, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.872A	Displaced pilon fracture of left tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.872B	Displaced pilon fracture of left tibia, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.872C	Displaced pilon fracture of left tibia, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.873A	Displaced pilon fracture of unspecified tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.873B	Displaced pilon fracture of unspecified tibia, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.873C	Displaced pilon fracture of unspecified tibia, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.874A	Nondisplaced pilon fracture of right tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.874B	Nondisplaced pilon fracture of right tibia, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.874C	Nondisplaced pilon fracture of right tibia, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S82.875A	Nondisplaced pilon fracture of left tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.875B	Nondisplaced pilon fracture of left tibia, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.875C	Nondisplaced pilon fracture of left tibia, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.876A	Nondisplaced pilon fracture of unspecified tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.876B	Nondisplaced pilon fracture of unspecified tibia, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.876C	Nondisplaced pilon fracture of unspecified tibia, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.891A	Other fracture of right lower leg, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.891B	Other fracture of right lower leg, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.891C	Other fracture of right lower leg, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.892A	Other fracture of left lower leg, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.892B	Other fracture of left lower leg, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.892C	Other fracture of left lower leg, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.899A	Other fracture of unspecified lower leg, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.899B	Other fracture of unspecified lower leg, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.899C	Other fracture of unspecified lower leg, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.90XA	Unspecified fracture of unspecified lower leg, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.90XB	Unspecified fracture of unspecified lower leg, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.90XC	Unspecified fracture of unspecified lower leg, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.91XA	Unspecified fracture of right lower leg, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.91XB	Unspecified fracture of right lower leg, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.91XC	Unspecified fracture of right lower leg, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S82.92XA	Unspecified fracture of left lower leg, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S82.92XB	Unspecified fracture of left lower leg, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S82.92XC	Unspecified fracture of left lower leg, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S87.00XA	Crushing injury of unspecified knee, initial encounter	Diagnosis	ICD-10-CM
S87.01XA	Crushing injury of right knee, initial encounter	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S87.02XA	Crushing injury of left knee, initial encounter	Diagnosis	ICD-10-CM
S87.80XA	Crushing injury of unspecified lower leg, initial encounter	Diagnosis	ICD-10-CM
S87.81XA	Crushing injury of right lower leg, initial encounter	Diagnosis	ICD-10-CM
S87.82XA	Crushing injury of left lower leg, initial encounter	Diagnosis	ICD-10-CM
S89.001A	Unspecified physeal fracture of upper end of right tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S89.002A	Unspecified physeal fracture of upper end of left tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S89.009A	Unspecified physeal fracture of upper end of unspecified tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S89.011A	Salter-Harris Type I physeal fracture of upper end of right tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S89.012A	Salter-Harris Type I physeal fracture of upper end of left tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S89.019A	Salter-Harris Type I physeal fracture of upper end of unspecified tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S89.021A	Salter-Harris Type II physeal fracture of upper end of right tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S89.022A	Salter-Harris Type II physeal fracture of upper end of left tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S89.029A	Salter-Harris Type II physeal fracture of upper end of unspecified tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S89.031A	Salter-Harris Type III physeal fracture of upper end of right tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S89.032A	Salter-Harris Type III physeal fracture of upper end of left tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S89.039A	Salter-Harris Type III physeal fracture of upper end of unspecified tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S89.041A	Salter-Harris Type IV physeal fracture of upper end of right tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S89.042A	Salter-Harris Type IV physeal fracture of upper end of left tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S89.049A	Salter-Harris Type IV physeal fracture of upper end of unspecified tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S89.091A	Other physeal fracture of upper end of right tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S89.092A	Other physeal fracture of upper end of left tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S89.099A	Other physeal fracture of upper end of unspecified tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S89.101A	Unspecified physeal fracture of lower end of right tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S89.102A	Unspecified physeal fracture of lower end of left tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S89.109A	Unspecified physeal fracture of lower end of unspecified tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S89.111A	Salter-Harris Type I physeal fracture of lower end of right tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S89.112A	Salter-Harris Type I physeal fracture of lower end of left tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S89.119A	Salter-Harris Type I physeal fracture of lower end of unspecified tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S89.121A	Salter-Harris Type II physeal fracture of lower end of right tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S89.122A	Salter-Harris Type II physeal fracture of lower end of left tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S89.129A	Salter-Harris Type II physeal fracture of lower end of unspecified tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S89.131A	Salter-Harris Type III physeal fracture of lower end of right tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S89.132A	Salter-Harris Type III physeal fracture of lower end of left tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S89.139A	Salter-Harris Type III physeal fracture of lower end of unspecified tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S89.141A	Salter-Harris Type IV physeal fracture of lower end of right tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S89.142A	Salter-Harris Type IV physeal fracture of lower end of left tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S89.149A	Salter-Harris Type IV physeal fracture of lower end of unspecified tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S89.191A	Other physeal fracture of lower end of right tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S89.192A	Other physeal fracture of lower end of left tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S89.199A	Other physeal fracture of lower end of unspecified tibia, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S89.201A	Unspecified physeal fracture of upper end of right fibula, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S89.202A	Unspecified physeal fracture of upper end of left fibula, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S89.209A	Unspecified physeal fracture of upper end of unspecified fibula, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S89.211A	Salter-Harris Type I physeal fracture of upper end of right fibula, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S89.212A	Salter-Harris Type I physeal fracture of upper end of left fibula, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S89.219A	Salter-Harris Type I physeal fracture of upper end of unspecified fibula, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S89.221A	Salter-Harris Type II physeal fracture of upper end of right fibula, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S89.222A	Salter-Harris Type II physeal fracture of upper end of left fibula, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S89.229A	Salter-Harris Type II physeal fracture of upper end of unspecified fibula, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S89.291A	Other physeal fracture of upper end of right fibula, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S89.292A	Other physeal fracture of upper end of left fibula, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S89.299A	Other physeal fracture of upper end of unspecified fibula, initial encounter for closed fracture	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S89.301A	Unspecified physeal fracture of lower end of right fibula, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S89.302A	Unspecified physeal fracture of lower end of left fibula, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S89.309A	Unspecified physeal fracture of lower end of unspecified fibula, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S89.311A	Salter-Harris Type I physeal fracture of lower end of right fibula, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S89.312A	Salter-Harris Type I physeal fracture of lower end of left fibula, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S89.319A	Salter-Harris Type I physeal fracture of lower end of unspecified fibula, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S89.321A	Salter-Harris Type II physeal fracture of lower end of right fibula, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S89.322A	Salter-Harris Type II physeal fracture of lower end of left fibula, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S89.329A	Salter-Harris Type II physeal fracture of lower end of unspecified fibula, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S89.391A	Other physeal fracture of lower end of right fibula, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S89.392A	Other physeal fracture of lower end of left fibula, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S89.399A	Other physeal fracture of lower end of unspecified fibula, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S97.00XA	Crushing injury of unspecified ankle, initial encounter	Diagnosis	ICD-10-CM
S97.01XA	Crushing injury of right ankle, initial encounter	Diagnosis	ICD-10-CM
S97.02XA	Crushing injury of left ankle, initial encounter	Diagnosis	ICD-10-CM
S97.101A	Crushing injury of unspecified right toe(s), initial encounter	Diagnosis	ICD-10-CM
S97.102A	Crushing injury of unspecified left toe(s), initial encounter	Diagnosis	ICD-10-CM
S97.109A	Crushing injury of unspecified toe(s), initial encounter	Diagnosis	ICD-10-CM
S97.111A	Crushing injury of right great toe, initial encounter	Diagnosis	ICD-10-CM
S97.112A	Crushing injury of left great toe, initial encounter	Diagnosis	ICD-10-CM
S97.119A	Crushing injury of unspecified great toe, initial encounter	Diagnosis	ICD-10-CM
S97.121A	Crushing injury of right lesser toe(s), initial encounter	Diagnosis	ICD-10-CM
S97.122A	Crushing injury of left lesser toe(s), initial encounter	Diagnosis	ICD-10-CM
S97.129A	Crushing injury of unspecified lesser toe(s), initial encounter	Diagnosis	ICD-10-CM
S97.80XA	Crushing injury of unspecified foot, initial encounter	Diagnosis	ICD-10-CM
S97.81XA	Crushing injury of right foot, initial encounter	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
S97.82XA	Crushing injury of left foot, initial encounter	Diagnosis	ICD-10-CM
T14.8XXA	Other injury of unspecified body region, initial encounter	Diagnosis	ICD-10-CM
T79.4XXA	Traumatic shock, initial encounter	Diagnosis	ICD-10-CM
T79.5XXA	Traumatic anuria, initial encounter	Diagnosis	ICD-10-CM
T79.7XXA	Traumatic subcutaneous emphysema, initial encounter	Diagnosis	ICD-10-CM
T82.817A	Embolism due to cardiac prosthetic devices, implants and grafts, initial encounter	Diagnosis	ICD-10-CM
T82.818A	Embolism due to vascular prosthetic devices, implants and grafts, initial encounter	Diagnosis	ICD-10-CM
T82.827A	Fibrosis due to cardiac prosthetic devices, implants and grafts, initial encounter	Diagnosis	ICD-10-CM
T82.828A	Fibrosis due to vascular prosthetic devices, implants and grafts, initial encounter	Diagnosis	ICD-10-CM
T82.837A	Hemorrhage due to cardiac prosthetic devices, implants and grafts, initial encounter	Diagnosis	ICD-10-CM
T82.838A	Hemorrhage due to vascular prosthetic devices, implants and grafts, initial encounter	Diagnosis	ICD-10-CM
T82.847A	Pain due to cardiac prosthetic devices, implants and grafts, initial encounter	Diagnosis	ICD-10-CM
T82.848A	Pain due to vascular prosthetic devices, implants and grafts, initial encounter	Diagnosis	ICD-10-CM
T82.855A	Stenosis of coronary artery stent, initial encounter	Diagnosis	ICD-10-CM
T82.856A	Stenosis of peripheral vascular stent, initial encounter	Diagnosis	ICD-10-CM
T82.857A	Stenosis of other cardiac prosthetic devices, implants and grafts, initial encounter	Diagnosis	ICD-10-CM
T82.858A	Stenosis of other vascular prosthetic devices, implants and grafts, initial encounter	Diagnosis	ICD-10-CM
T82.867A	Thrombosis due to cardiac prosthetic devices, implants and grafts, initial encounter	Diagnosis	ICD-10-CM
T82.868A	Thrombosis due to vascular prosthetic devices, implants and grafts, initial encounter	Diagnosis	ICD-10-CM
T82.897A	Other specified complication of cardiac prosthetic devices, implants and grafts, initial encounter	Diagnosis	ICD-10-CM
T82.898A	Other specified complication of vascular prosthetic devices, implants and grafts, initial encounter	Diagnosis	ICD-10-CM
T82.9XXA	Unspecified complication of cardiac and vascular prosthetic device, implant and graft, initial encounter	Diagnosis	ICD-10-CM
T83.81XA	Embolism due to genitourinary prosthetic devices, implants and grafts, initial encounter	Diagnosis	ICD-10-CM
T83.82XA	Fibrosis due to genitourinary prosthetic devices, implants and grafts, initial encounter	Diagnosis	ICD-10-CM
T83.83XA	Hemorrhage due to genitourinary prosthetic devices, implants and grafts, initial encounter	Diagnosis	ICD-10-CM
T83.84XA	Pain due to genitourinary prosthetic devices, implants and grafts, initial encounter	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
T83.85XA	Stenosis due to genitourinary prosthetic devices, implants and grafts, initial encounter	Diagnosis	ICD-10-CM
T83.86XA	Thrombosis due to genitourinary prosthetic devices, implants and grafts, initial encounter	Diagnosis	ICD-10-CM
T83.89XA	Other specified complication of genitourinary prosthetic devices, implants and grafts, initial encounter	Diagnosis	ICD-10-CM
T83.9XXA	Unspecified complication of genitourinary prosthetic device, implant and graft, initial encounter	Diagnosis	ICD-10-CM
T84.81XA	Embolism due to internal orthopedic prosthetic devices, implants and grafts, initial encounter	Diagnosis	ICD-10-CM
T84.82XA	Fibrosis due to internal orthopedic prosthetic devices, implants and grafts, initial encounter	Diagnosis	ICD-10-CM
T84.83XA	Hemorrhage due to internal orthopedic prosthetic devices, implants and grafts, initial encounter	Diagnosis	ICD-10-CM
T84.84XA	Pain due to internal orthopedic prosthetic devices, implants and grafts, initial encounter	Diagnosis	ICD-10-CM
T84.85XA	Stenosis due to internal orthopedic prosthetic devices, implants and grafts, initial encounter	Diagnosis	ICD-10-CM
T84.86XA	Thrombosis due to internal orthopedic prosthetic devices, implants and grafts, initial encounter	Diagnosis	ICD-10-CM
T84.89XA	Other specified complication of internal orthopedic prosthetic devices, implants and grafts, initial encounter	Diagnosis	ICD-10-CM
T84.9XXA	Unspecified complication of internal orthopedic prosthetic device, implant and graft, initial encounter	Diagnosis	ICD-10-CM
T85.810A	Embolism due to nervous system prosthetic devices, implants and grafts, initial encounter	Diagnosis	ICD-10-CM
T85.818A	Embolism due to other internal prosthetic devices, implants and grafts, initial encounter	Diagnosis	ICD-10-CM
T85.820A	Fibrosis due to nervous system prosthetic devices, implants and grafts, initial encounter	Diagnosis	ICD-10-CM
T85.828A	Fibrosis due to other internal prosthetic devices, implants and grafts, initial encounter	Diagnosis	ICD-10-CM
T85.830A	Hemorrhage due to nervous system prosthetic devices, implants and grafts, initial encounter	Diagnosis	ICD-10-CM
T85.838A	Hemorrhage due to other internal prosthetic devices, implants and grafts, initial encounter	Diagnosis	ICD-10-CM
T85.840A	Pain due to nervous system prosthetic devices, implants and grafts, initial encounter	Diagnosis	ICD-10-CM
T85.848A	Pain due to other internal prosthetic devices, implants and grafts, initial encounter	Diagnosis	ICD-10-CM
T85.850A	Stenosis due to nervous system prosthetic devices, implants and grafts, initial encounter	Diagnosis	ICD-10-CM
T85.858A	Stenosis due to other internal prosthetic devices, implants and grafts, initial encounter	Diagnosis	ICD-10-CM
T85.860A	Thrombosis due to nervous system prosthetic devices, implants and grafts, initial encounter	Diagnosis	ICD-10-CM
T85.868A	Thrombosis due to other internal prosthetic devices, implants and grafts, initial encounter	Diagnosis	ICD-10-CM
T85.890A	Other specified complication of nervous system prosthetic devices, implants and grafts, initial encounter	Diagnosis	ICD-10-CM
T85.898A	Other specified complication of other internal prosthetic devices, implants and grafts, initial encounter	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
T85.9XXA	Unspecified complication of internal prosthetic device, implant and graft, initial encounter	Diagnosis	ICD-10-CM
T86.848	Other complications of corneal transplant	Diagnosis	ICD-10-CM
T86.849	Unspecified complication of corneal transplant	Diagnosis	ICD-10-CM
T88.8XXA	Other specified complications of surgical and medical care, not elsewhere classified, initial encounter	Diagnosis	ICD-10-CM
V05.00XA	Pedestrian on foot injured in collision with railway train or railway vehicle in nontraffic accident, initial encounter	Diagnosis	ICD-10-CM
V05.00XD	Pedestrian on foot injured in collision with railway train or railway vehicle in nontraffic accident, subsequent encounter	Diagnosis	ICD-10-CM
V05.01XA	Pedestrian on roller-skates injured in collision with railway train or railway vehicle in nontraffic accident, initial encounter	Diagnosis	ICD-10-CM
V05.01XD	Pedestrian on roller-skates injured in collision with railway train or railway vehicle in nontraffic accident, subsequent encounter	Diagnosis	ICD-10-CM
V05.02XA	Pedestrian on skateboard injured in collision with railway train or railway vehicle in nontraffic accident, initial encounter	Diagnosis	ICD-10-CM
V05.02XD	Pedestrian on skateboard injured in collision with railway train or railway vehicle in nontraffic accident, subsequent encounter	Diagnosis	ICD-10-CM
V05.09XA	Pedestrian with other conveyance injured in collision with railway train or railway vehicle in nontraffic accident, initial encounter	Diagnosis	ICD-10-CM
V05.09XD	Pedestrian with other conveyance injured in collision with railway train or railway vehicle in nontraffic accident, subsequent	Diagnosis	ICD-10-CM
V15.2XXA	Unspecified pedal cyclist injured in collision with railway train or railway vehicle in nontraffic accident, initial encounter	Diagnosis	ICD-10-CM
V81.2XXA	Occupant of railway train or railway vehicle injured in collision with or hit by rolling stock, initial encounter	Diagnosis	ICD-10-CM
W11.XXXA	Fall on and from ladder, initial encounter	Diagnosis	ICD-10-CM
W11.XXXD	Fall on and from ladder, subsequent encounter	Diagnosis	ICD-10-CM
W12.XXXA	Fall on and from scaffolding, initial encounter	Diagnosis	ICD-10-CM
W12.XXXD	Fall on and from scaffolding, subsequent encounter	Diagnosis	ICD-10-CM
W13.0XXA	Fall from, out of or through balcony, initial encounter	Diagnosis	ICD-10-CM
W13.0XXD	Fall from, out of or through balcony, subsequent encounter	Diagnosis	ICD-10-CM
W13.1XXA	Fall from, out of or through bridge, initial encounter	Diagnosis	ICD-10-CM
W13.1XXD	Fall from, out of or through bridge, subsequent encounter	Diagnosis	ICD-10-CM
W13.2XXA	Fall from, out of or through roof, initial encounter	Diagnosis	ICD-10-CM
W13.2XXD	Fall from, out of or through roof, subsequent encounter	Diagnosis	ICD-10-CM
W13.3XXA	Fall through floor, initial encounter	Diagnosis	ICD-10-CM
W13.3XXD	Fall through floor, subsequent encounter	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
W13.4XXA	Fall from, out of or through window, initial encounter	Diagnosis	ICD-10-CM
W13.4XXD	Fall from, out of or through window, subsequent encounter	Diagnosis	ICD-10-CM
W13.8XXA	Fall from, out of or through other building or structure, initial encounter	Diagnosis	ICD-10-CM
W13.8XXD	Fall from, out of or through other building or structure, subsequent encounter	Diagnosis	ICD-10-CM
W13.9XXA	Fall from, out of or through building, not otherwise specified, initial encounter	Diagnosis	ICD-10-CM
W13.9XXD	Fall from, out of or through building, not otherwise specified, subsequent encounter	Diagnosis	ICD-10-CM
W16.011A	Fall into swimming pool striking water surface causing drowning and submersion, initial encounter	Diagnosis	ICD-10-CM
W16.011D	Fall into swimming pool striking water surface causing drowning and submersion, subsequent encounter	Diagnosis	ICD-10-CM
W16.012A	Fall into swimming pool striking water surface causing other injury, initial encounter	Diagnosis	ICD-10-CM
W16.012D	Fall into swimming pool striking water surface causing other injury, subsequent encounter	Diagnosis	ICD-10-CM
W16.021A	Fall into swimming pool striking bottom causing drowning and submersion, initial encounter	Diagnosis	ICD-10-CM
W16.021D	Fall into swimming pool striking bottom causing drowning and submersion, subsequent encounter	Diagnosis	ICD-10-CM
W16.022A	Fall into swimming pool striking bottom causing other injury, initial encounter	Diagnosis	ICD-10-CM
W16.022D	Fall into swimming pool striking bottom causing other injury, subsequent encounter	Diagnosis	ICD-10-CM
W16.031A	Fall into swimming pool striking wall causing drowning and submersion, initial encounter	Diagnosis	ICD-10-CM
W16.031D	Fall into swimming pool striking wall causing drowning and submersion, subsequent encounter	Diagnosis	ICD-10-CM
W16.032A	Fall into swimming pool striking wall causing other injury, initial encounter	Diagnosis	ICD-10-CM
W16.032D	Fall into swimming pool striking wall causing other injury, subsequent encounter	Diagnosis	ICD-10-CM
W16.111A	Fall into natural body of water striking water surface causing drowning and submersion, initial encounter	Diagnosis	ICD-10-CM
W16.111D	Fall into natural body of water striking water surface causing drowning and submersion, subsequent encounter	Diagnosis	ICD-10-CM
W16.112A	Fall into natural body of water striking water surface causing other injury, initial encounter	Diagnosis	ICD-10-CM
W16.112D	Fall into natural body of water striking water surface causing other injury, subsequent encounter	Diagnosis	ICD-10-CM
W16.121A	Fall into natural body of water striking bottom causing drowning and submersion, initial encounter	Diagnosis	ICD-10-CM
W16.121D	Fall into natural body of water striking bottom causing drowning and submersion, subsequent encounter	Diagnosis	ICD-10-CM
W16.122A	Fall into natural body of water striking bottom causing other injury, initial encounter	Diagnosis	ICD-10-CM
W16.122D	Fall into natural body of water striking bottom causing other injury, subsequent encounter	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
W16.131A	Fall into natural body of water striking side causing drowning and submersion, initial encounter	Diagnosis	ICD-10-CM
W16.131D	Fall into natural body of water striking side causing drowning and submersion, subsequent encounter	Diagnosis	ICD-10-CM
W16.132A	Fall into natural body of water striking side causing other injury, initial encounter	Diagnosis	ICD-10-CM
W16.132D	Fall into natural body of water striking side causing other injury, subsequent encounter	Diagnosis	ICD-10-CM
W16.211A	Fall in (into) filled bathtub causing drowning and submersion, initial encounter	Diagnosis	ICD-10-CM
W16.211D	Fall in (into) filled bathtub causing drowning and submersion, subsequent encounter	Diagnosis	ICD-10-CM
W16.212A	Fall in (into) filled bathtub causing other injury, initial encounter	Diagnosis	ICD-10-CM
W16.212D	Fall in (into) filled bathtub causing other injury, subsequent encounter	Diagnosis	ICD-10-CM
W16.221A	Fall in (into) bucket of water causing drowning and submersion, initial encounter	Diagnosis	ICD-10-CM
W16.221D	Fall in (into) bucket of water causing drowning and submersion, subsequent encounter	Diagnosis	ICD-10-CM
W16.222A	Fall in (into) bucket of water causing other injury, initial encounter	Diagnosis	ICD-10-CM
W16.222D	Fall in (into) bucket of water causing other injury, subsequent encounter	Diagnosis	ICD-10-CM
W16.311A	Fall into other water striking water surface causing drowning and submersion, initial encounter	Diagnosis	ICD-10-CM
W16.311D	Fall into other water striking water surface causing drowning and submersion, subsequent encounter	Diagnosis	ICD-10-CM
W16.312A	Fall into other water striking water surface causing other injury, initial encounter	Diagnosis	ICD-10-CM
W16.312D	Fall into other water striking water surface causing other injury, subsequent encounter	Diagnosis	ICD-10-CM
W16.321A	Fall into other water striking bottom causing drowning and submersion, initial encounter	Diagnosis	ICD-10-CM
W16.321D	Fall into other water striking bottom causing drowning and submersion, subsequent encounter	Diagnosis	ICD-10-CM
W16.322A	Fall into other water striking bottom causing other injury, initial encounter	Diagnosis	ICD-10-CM
W16.322D	Fall into other water striking bottom causing other injury, subsequent encounter	Diagnosis	ICD-10-CM
W16.331A	Fall into other water striking wall causing drowning and submersion, initial encounter	Diagnosis	ICD-10-CM
W16.331D	Fall into other water striking wall causing drowning and submersion, subsequent encounter	Diagnosis	ICD-10-CM
W16.332A	Fall into other water striking wall causing other injury, initial encounter	Diagnosis	ICD-10-CM
W16.332D	Fall into other water striking wall causing other injury, subsequent encounter	Diagnosis	ICD-10-CM
W16.41XA	Fall into unspecified water causing drowning and submersion, initial encounter	Diagnosis	ICD-10-CM
W16.41XD	Fall into unspecified water causing drowning and submersion, subsequent encounter	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
W16.42XA	Fall into unspecified water causing other injury, initial encounter	Diagnosis	ICD-10-CM
W16.42XD	Fall into unspecified water causing other injury, subsequent encounter	Diagnosis	ICD-10-CM
W16.511A	Jumping or diving into swimming pool striking water surface causing drowning and submersion, initial encounter	Diagnosis	ICD-10-CM
W16.511D	Jumping or diving into swimming pool striking water surface causing drowning and submersion, subsequent encounter	Diagnosis	ICD-10-CM
W16.512A	Jumping or diving into swimming pool striking water surface causing other injury, initial encounter	Diagnosis	ICD-10-CM
W16.512D	Jumping or diving into swimming pool striking water surface causing other injury, subsequent encounter	Diagnosis	ICD-10-CM
W16.521A	Jumping or diving into swimming pool striking bottom causing drowning and submersion, initial encounter	Diagnosis	ICD-10-CM
W16.521D	Jumping or diving into swimming pool striking bottom causing drowning and submersion, subsequent encounter	Diagnosis	ICD-10-CM
W16.522A	Jumping or diving into swimming pool striking bottom causing other injury, initial encounter	Diagnosis	ICD-10-CM
W16.522D	Jumping or diving into swimming pool striking bottom causing other injury, subsequent encounter	Diagnosis	ICD-10-CM
W16.531A	Jumping or diving into swimming pool striking wall causing drowning and submersion, initial encounter	Diagnosis	ICD-10-CM
W16.531D	Jumping or diving into swimming pool striking wall causing drowning and submersion, subsequent encounter	Diagnosis	ICD-10-CM
W16.532A	Jumping or diving into swimming pool striking wall causing other injury, initial encounter	Diagnosis	ICD-10-CM
W16.532D	Jumping or diving into swimming pool striking wall causing other injury, subsequent encounter	Diagnosis	ICD-10-CM
W16.611A	Jumping or diving into natural body of water striking water surface causing drowning and submersion, initial encounter	Diagnosis	ICD-10-CM
W16.611D	Jumping or diving into natural body of water striking water surface causing drowning and submersion, subsequent encounter	Diagnosis	ICD-10-CM
W16.612A	Jumping or diving into natural body of water striking water surface causing other injury, initial encounter	Diagnosis	ICD-10-CM
W16.612D	Jumping or diving into natural body of water striking water surface causing other injury, subsequent encounter	Diagnosis	ICD-10-CM
W16.621A	Jumping or diving into natural body of water striking bottom causing drowning and submersion, initial encounter	Diagnosis	ICD-10-CM
W16.621D	Jumping or diving into natural body of water striking bottom causing drowning and submersion, subsequent encounter	Diagnosis	ICD-10-CM
W16.622A	Jumping or diving into natural body of water striking bottom causing other injury, initial encounter	Diagnosis	ICD-10-CM
W16.622D	Jumping or diving into natural body of water striking bottom causing other injury, subsequent encounter	Diagnosis	ICD-10-CM
W16.711A	Jumping or diving from boat striking water surface causing drowning and submersion, initial encounter	Diagnosis	ICD-10-CM
W16.711D	Jumping or diving from boat striking water surface causing drowning and submersion, subsequent encounter	Diagnosis	ICD-10-CM
W16.712A	Jumping or diving from boat striking water surface causing other injury, initial encounter	Diagnosis	ICD-10-CM
W16.712D	Jumping or diving from boat striking water surface causing other injury, subsequent encounter	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
W16.721A	Jumping or diving from boat striking bottom causing drowning and submersion, initial encounter	Diagnosis	ICD-10-CM
W16.721D	Jumping or diving from boat striking bottom causing drowning and submersion, subsequent encounter	Diagnosis	ICD-10-CM
W16.722A	Jumping or diving from boat striking bottom causing other injury, initial encounter	Diagnosis	ICD-10-CM
W16.722D	Jumping or diving from boat striking bottom causing other injury, subsequent encounter	Diagnosis	ICD-10-CM
W16.811A	Jumping or diving into other water striking water surface causing drowning and submersion, initial encounter	Diagnosis	ICD-10-CM
W16.811D	Jumping or diving into other water striking water surface causing drowning and submersion, subsequent encounter	Diagnosis	ICD-10-CM
W16.812A	Jumping or diving into other water striking water surface causing other injury, initial encounter	Diagnosis	ICD-10-CM
W16.812D	Jumping or diving into other water striking water surface causing other injury, subsequent encounter	Diagnosis	ICD-10-CM
W16.821A	Jumping or diving into other water striking bottom causing drowning and submersion, initial encounter	Diagnosis	ICD-10-CM
W16.821D	Jumping or diving into other water striking bottom causing drowning and submersion, subsequent encounter	Diagnosis	ICD-10-CM
W16.822A	Jumping or diving into other water striking bottom causing other injury, initial encounter	Diagnosis	ICD-10-CM
W16.822D	Jumping or diving into other water striking bottom causing other injury, subsequent encounter	Diagnosis	ICD-10-CM
W16.831A	Jumping or diving into other water striking wall causing drowning and submersion, initial encounter	Diagnosis	ICD-10-CM
W16.831D	Jumping or diving into other water striking wall causing drowning and submersion, subsequent encounter	Diagnosis	ICD-10-CM
W16.832A	Jumping or diving into other water striking wall causing other injury, initial encounter	Diagnosis	ICD-10-CM
W16.832D	Jumping or diving into other water striking wall causing other injury, subsequent encounter	Diagnosis	ICD-10-CM
W16.91XA	Jumping or diving into unspecified water causing drowning and submersion, initial encounter	Diagnosis	ICD-10-CM
W16.91XD	Jumping or diving into unspecified water causing drowning and submersion, subsequent encounter	Diagnosis	ICD-10-CM
W16.92XA	Jumping or diving into unspecified water causing other injury, initial encounter	Diagnosis	ICD-10-CM
W16.92XD	Jumping or diving into unspecified water causing other injury, subsequent encounter	Diagnosis	ICD-10-CM
W17.0XXA	Fall into well, initial encounter	Diagnosis	ICD-10-CM
W17.0XXD	Fall into well, subsequent encounter	Diagnosis	ICD-10-CM
W17.1XXA	Fall into storm drain or manhole, initial encounter	Diagnosis	ICD-10-CM
W17.1XXD	Fall into storm drain or manhole, subsequent encounter	Diagnosis	ICD-10-CM
W17.2XXA	Fall into hole, initial encounter	Diagnosis	ICD-10-CM
W17.2XXD	Fall into hole, subsequent encounter	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
W17.3XXA	Fall into empty swimming pool, initial encounter	Diagnosis	ICD-10-CM
W17.3XXD	Fall into empty swimming pool, subsequent encounter	Diagnosis	ICD-10-CM
W17.4XXA	Fall from dock, initial encounter	Diagnosis	ICD-10-CM
W17.4XXD	Fall from dock, subsequent encounter	Diagnosis	ICD-10-CM
W32.0XXA	Accidental handgun discharge, initial encounter	Diagnosis	ICD-10-CM
W32.0XXD	Accidental handgun discharge, subsequent encounter	Diagnosis	ICD-10-CM
W32.1XXA	Accidental handgun malfunction, initial encounter	Diagnosis	ICD-10-CM
W32.1XXD	Accidental handgun malfunction, subsequent encounter	Diagnosis	ICD-10-CM
W33.00XA	Accidental discharge of unspecified larger firearm, initial encounter	Diagnosis	ICD-10-CM
W33.00XD	Accidental discharge of unspecified larger firearm, subsequent encounter	Diagnosis	ICD-10-CM
W33.01XA	Accidental discharge of shotgun, initial encounter	Diagnosis	ICD-10-CM
W33.01XD	Accidental discharge of shotgun, subsequent encounter	Diagnosis	ICD-10-CM
W33.02XA	Accidental discharge of hunting rifle, initial encounter	Diagnosis	ICD-10-CM
W33.02XD	Accidental discharge of hunting rifle, subsequent encounter	Diagnosis	ICD-10-CM
W33.03XA	Accidental discharge of machine gun, initial encounter	Diagnosis	ICD-10-CM
W33.03XD	Accidental discharge of machine gun, subsequent encounter	Diagnosis	ICD-10-CM
W33.09XA	Accidental discharge of other larger firearm, initial encounter	Diagnosis	ICD-10-CM
W33.09XD	Accidental discharge of other larger firearm, subsequent encounter	Diagnosis	ICD-10-CM
W33.10XA	Accidental malfunction of unspecified larger firearm, initial encounter	Diagnosis	ICD-10-CM
W33.10XD	Accidental malfunction of unspecified larger firearm, subsequent encounter	Diagnosis	ICD-10-CM
W33.11XA	Accidental malfunction of shotgun, initial encounter	Diagnosis	ICD-10-CM
W33.11XD	Accidental malfunction of shotgun, subsequent encounter	Diagnosis	ICD-10-CM
W33.12XA	Accidental malfunction of hunting rifle, initial encounter	Diagnosis	ICD-10-CM
W33.12XD	Accidental malfunction of hunting rifle, subsequent encounter	Diagnosis	ICD-10-CM
W33.13XA	Accidental malfunction of machine gun, initial encounter	Diagnosis	ICD-10-CM
W33.13XD	Accidental malfunction of machine gun, subsequent encounter	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
W33.19XA	Accidental malfunction of other larger firearm, initial encounter	Diagnosis	ICD-10-CM
W33.19XD	Accidental malfunction of other larger firearm, subsequent encounter	Diagnosis	ICD-10-CM
W34.00XA	Accidental discharge from unspecified firearms or gun, initial encounter	Diagnosis	ICD-10-CM
W34.00XD	Accidental discharge from unspecified firearms or gun, subsequent encounter	Diagnosis	ICD-10-CM
W34.010A	Accidental discharge of airgun, initial encounter	Diagnosis	ICD-10-CM
W34.010D	Accidental discharge of airgun, subsequent encounter	Diagnosis	ICD-10-CM
W34.011A	Accidental discharge of paintball gun, initial encounter	Diagnosis	ICD-10-CM
W34.011D	Accidental discharge of paintball gun, subsequent encounter	Diagnosis	ICD-10-CM
W34.018A	Accidental discharge of other gas, air or spring-operated gun, initial encounter	Diagnosis	ICD-10-CM
W34.018D	Accidental discharge of other gas, air or spring-operated gun, subsequent encounter	Diagnosis	ICD-10-CM
W34.09XA	Accidental discharge from other specified firearms, initial encounter	Diagnosis	ICD-10-CM
W34.09XD	Accidental discharge from other specified firearms, subsequent encounter	Diagnosis	ICD-10-CM
W34.10XA	Accidental malfunction from unspecified firearms or gun, initial encounter	Diagnosis	ICD-10-CM
W34.10XD	Accidental malfunction from unspecified firearms or gun, subsequent encounter	Diagnosis	ICD-10-CM
W34.110A	Accidental malfunction of airgun, initial encounter	Diagnosis	ICD-10-CM
W34.110D	Accidental malfunction of airgun, subsequent encounter	Diagnosis	ICD-10-CM
W34.111A	Accidental malfunction of paintball gun, initial encounter	Diagnosis	ICD-10-CM
W34.111D	Accidental malfunction of paintball gun, subsequent encounter	Diagnosis	ICD-10-CM
W34.118A	Accidental malfunction of other gas, air or spring-operated gun, initial encounter	Diagnosis	ICD-10-CM
W34.118D	Accidental malfunction of other gas, air or spring-operated gun, subsequent encounter	Diagnosis	ICD-10-CM
W34.19XA	Accidental malfunction from other specified firearms, initial encounter	Diagnosis	ICD-10-CM
W34.19XD	Accidental malfunction from other specified firearms, subsequent encounter	Diagnosis	ICD-10-CM
W39.XXXA	Discharge of firework, initial encounter	Diagnosis	ICD-10-CM
W39.XXXD	Discharge of firework, subsequent encounter	Diagnosis	ICD-10-CM
W40.0XXA	Explosion of blasting material, initial encounter	Diagnosis	ICD-10-CM
W40.0XXD	Explosion of blasting material, subsequent encounter	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
W40.1XXA	Explosion of explosive gases, initial encounter	Diagnosis	ICD-10-CM
W40.1XXD	Explosion of explosive gases, subsequent encounter	Diagnosis	ICD-10-CM
W40.8XXA	Explosion of other specified explosive materials, initial encounter	Diagnosis	ICD-10-CM
W40.8XXD	Explosion of other specified explosive materials, subsequent encounter	Diagnosis	ICD-10-CM
W40.9XXA	Explosion of unspecified explosive materials, initial encounter	Diagnosis	ICD-10-CM
W40.9XXD	Explosion of unspecified explosive materials, subsequent encounter	Diagnosis	ICD-10-CM
X72.XXXA	Intentional self-harm by handgun discharge, initial encounter	Diagnosis	ICD-10-CM
X72.XXXD	Intentional self-harm by handgun discharge, subsequent encounter	Diagnosis	ICD-10-CM
X73.0XXA	Intentional self-harm by shotgun discharge, initial encounter	Diagnosis	ICD-10-CM
X73.0XXD	Intentional self-harm by shotgun discharge, subsequent encounter	Diagnosis	ICD-10-CM
X73.1XXA	Intentional self-harm by hunting rifle discharge, initial encounter	Diagnosis	ICD-10-CM
X73.1XXD	Intentional self-harm by hunting rifle discharge, subsequent encounter	Diagnosis	ICD-10-CM
X73.2XXA	Intentional self-harm by machine gun discharge, initial encounter	Diagnosis	ICD-10-CM
X73.2XXD	Intentional self-harm by machine gun discharge, subsequent encounter	Diagnosis	ICD-10-CM
X73.8XXA	Intentional self-harm by other larger firearm discharge, initial encounter	Diagnosis	ICD-10-CM
X73.8XXD	Intentional self-harm by other larger firearm discharge, subsequent encounter	Diagnosis	ICD-10-CM
X73.9XXA	Intentional self-harm by unspecified larger firearm discharge, initial encounter	Diagnosis	ICD-10-CM
X73.9XXD	Intentional self-harm by unspecified larger firearm discharge, subsequent encounter	Diagnosis	ICD-10-CM
X74.01XA	Intentional self-harm by airgun, initial encounter	Diagnosis	ICD-10-CM
X74.01XD	Intentional self-harm by airgun, subsequent encounter	Diagnosis	ICD-10-CM
X74.02XA	Intentional self-harm by paintball gun, initial encounter	Diagnosis	ICD-10-CM
X74.02XD	Intentional self-harm by paintball gun, subsequent encounter	Diagnosis	ICD-10-CM
X74.09XA	Intentional self-harm by other gas, air or spring-operated gun, initial encounter	Diagnosis	ICD-10-CM
X74.09XD	Intentional self-harm by other gas, air or spring-operated gun, subsequent encounter	Diagnosis	ICD-10-CM
X74.8XXA	Intentional self-harm by other firearm discharge, initial encounter	Diagnosis	ICD-10-CM
X74.8XXD	Intentional self-harm by other firearm discharge, subsequent encounter	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
X74.9XXA	Intentional self-harm by unspecified firearm discharge, initial encounter	Diagnosis	ICD-10-CM
X74.9XXD	Intentional self-harm by unspecified firearm discharge, subsequent encounter	Diagnosis	ICD-10-CM
X75.XXXA	Intentional self-harm by explosive material, initial encounter	Diagnosis	ICD-10-CM
X75.XXXD	Intentional self-harm by explosive material, subsequent encounter	Diagnosis	ICD-10-CM
X93.XXXA	Assault by handgun discharge, initial encounter	Diagnosis	ICD-10-CM
X93.XXXD	Assault by handgun discharge, subsequent encounter	Diagnosis	ICD-10-CM
X94.0XXA	Assault by shotgun, initial encounter	Diagnosis	ICD-10-CM
X94.0XXD	Assault by shotgun, subsequent encounter	Diagnosis	ICD-10-CM
X94.1XXA	Assault by hunting rifle, initial encounter	Diagnosis	ICD-10-CM
X94.1XXD	Assault by hunting rifle, subsequent encounter	Diagnosis	ICD-10-CM
X94.2XXA	Assault by machine gun, initial encounter	Diagnosis	ICD-10-CM
X94.2XXD	Assault by machine gun, subsequent encounter	Diagnosis	ICD-10-CM
X94.8XXA	Assault by other larger firearm discharge, initial encounter	Diagnosis	ICD-10-CM
X94.8XXD	Assault by other larger firearm discharge, subsequent encounter	Diagnosis	ICD-10-CM
X94.9XXA	Assault by unspecified larger firearm discharge, initial encounter	Diagnosis	ICD-10-CM
X94.9XXD	Assault by unspecified larger firearm discharge, subsequent encounter	Diagnosis	ICD-10-CM
X95.02XA	Assault by paintball gun discharge, initial encounter	Diagnosis	ICD-10-CM
X95.02XD	Assault by paintball gun discharge, subsequent encounter	Diagnosis	ICD-10-CM
X95.09XA	Assault by other gas, air or spring-operated gun, initial encounter	Diagnosis	ICD-10-CM
X95.09XD	Assault by other gas, air or spring-operated gun, subsequent encounter	Diagnosis	ICD-10-CM
X95.8XXA	Assault by other firearm discharge, initial encounter	Diagnosis	ICD-10-CM
X95.8XXD	Assault by other firearm discharge, subsequent encounter	Diagnosis	ICD-10-CM
X95.9XXA	Assault by unspecified firearm discharge, initial encounter	Diagnosis	ICD-10-CM
X95.9XXD	Assault by unspecified firearm discharge, subsequent encounter	Diagnosis	ICD-10-CM
X96.0XXA	Assault by antipersonnel bomb, initial encounter	Diagnosis	ICD-10-CM
X96.0XXD	Assault by antipersonnel bomb, subsequent encounter	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
X96.1XXA	Assault by gasoline bomb, initial encounter	Diagnosis	ICD-10-CM
X96.1XXD	Assault by gasoline bomb, subsequent encounter	Diagnosis	ICD-10-CM
X96.2XXA	Assault by letter bomb, initial encounter	Diagnosis	ICD-10-CM
X96.2XXD	Assault by letter bomb, subsequent encounter	Diagnosis	ICD-10-CM
X96.3XXA	Assault by fertilizer bomb, initial encounter	Diagnosis	ICD-10-CM
X96.3XXD	Assault by fertilizer bomb, subsequent encounter	Diagnosis	ICD-10-CM
X96.4XXA	Assault by pipe bomb, initial encounter	Diagnosis	ICD-10-CM
X96.4XXD	Assault by pipe bomb, subsequent encounter	Diagnosis	ICD-10-CM
X96.8XXA	Assault by other specified explosive, initial encounter	Diagnosis	ICD-10-CM
X96.8XXD	Assault by other specified explosive, subsequent encounter	Diagnosis	ICD-10-CM
X96.9XXA	Assault by unspecified explosive, initial encounter	Diagnosis	ICD-10-CM
X96.9XXD	Assault by unspecified explosive, subsequent encounter	Diagnosis	ICD-10-CM
Y04.0XXA	Assault by unarmed brawl or fight, initial encounter	Diagnosis	ICD-10-CM
Y04.0XXD	Assault by unarmed brawl or fight, subsequent encounter	Diagnosis	ICD-10-CM
Y04.2XXA	Assault by strike against or bumped into by another person, initial encounter	Diagnosis	ICD-10-CM
Y04.2XXD	Assault by strike against or bumped into by another person, subsequent encounter	Diagnosis	ICD-10-CM
Y04.8XXA	Assault by other bodily force, initial encounter	Diagnosis	ICD-10-CM
Y04.8XXD	Assault by other bodily force, subsequent encounter	Diagnosis	ICD-10-CM
Y22.XXXA	Handgun discharge, undetermined intent, initial encounter	Diagnosis	ICD-10-CM
Y22.XXXD	Handgun discharge, undetermined intent, subsequent encounter	Diagnosis	ICD-10-CM
Y23.0XXA	Shotgun discharge, undetermined intent, initial encounter	Diagnosis	ICD-10-CM
Y23.0XXD	Shotgun discharge, undetermined intent, subsequent encounter	Diagnosis	ICD-10-CM
Y23.1XXA	Hunting rifle discharge, undetermined intent, initial encounter	Diagnosis	ICD-10-CM
Y23.1XXD	Hunting rifle discharge, undetermined intent, subsequent encounter	Diagnosis	ICD-10-CM
Y23.2XXA	Military firearm discharge, undetermined intent, initial encounter	Diagnosis	ICD-10-CM
Y23.2XXD	Military firearm discharge, undetermined intent, subsequent encounter	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
Y23.3XXA	Machine gun discharge, undetermined intent, initial encounter	Diagnosis	ICD-10-CM
Y23.3XXD	Machine gun discharge, undetermined intent, subsequent encounter	Diagnosis	ICD-10-CM
Y23.8XXA	Other larger firearm discharge, undetermined intent, initial encounter	Diagnosis	ICD-10-CM
Y23.8XXD	Other larger firearm discharge, undetermined intent, subsequent encounter	Diagnosis	ICD-10-CM
Y23.9XXA	Unspecified larger firearm discharge, undetermined intent, initial encounter	Diagnosis	ICD-10-CM
Y23.9XXD	Unspecified larger firearm discharge, undetermined intent, subsequent encounter	Diagnosis	ICD-10-CM
Y24.0XXA	Airgun discharge, undetermined intent, initial encounter	Diagnosis	ICD-10-CM
Y24.0XXD	Airgun discharge, undetermined intent, subsequent encounter	Diagnosis	ICD-10-CM
Y24.8XXA	Other firearm discharge, undetermined intent, initial encounter	Diagnosis	ICD-10-CM
Y24.8XXD	Other firearm discharge, undetermined intent, subsequent encounter	Diagnosis	ICD-10-CM
Y24.9XXA	Unspecified firearm discharge, undetermined intent, initial encounter	Diagnosis	ICD-10-CM
Y24.9XXD	Unspecified firearm discharge, undetermined intent, subsequent encounter	Diagnosis	ICD-10-CM
Y25.XXXA	Contact with explosive material, undetermined intent, initial encounter	Diagnosis	ICD-10-CM
Y25.XXXD	Contact with explosive material, undetermined intent, subsequent encounter	Diagnosis	ICD-10-CM
Y35.001A	Legal intervention involving unspecified firearm discharge, law enforcement official injured, initial encounter	Diagnosis	ICD-10-CM
Y35.001D	Legal intervention involving unspecified firearm discharge, law enforcement official injured, subsequent encounter	Diagnosis	ICD-10-CM
Y35.002A	Legal intervention involving unspecified firearm discharge, bystander injured, initial encounter	Diagnosis	ICD-10-CM
Y35.002D	Legal intervention involving unspecified firearm discharge, bystander injured, subsequent encounter	Diagnosis	ICD-10-CM
Y35.003A	Legal intervention involving unspecified firearm discharge, suspect injured, initial encounter	Diagnosis	ICD-10-CM
Y35.003D	Legal intervention involving unspecified firearm discharge, suspect injured, subsequent encounter	Diagnosis	ICD-10-CM
Y35.011A	Legal intervention involving injury by machine gun, law enforcement official injured, initial encounter	Diagnosis	ICD-10-CM
Y35.011D	Legal intervention involving injury by machine gun, law enforcement official injured, subsequent encounter	Diagnosis	ICD-10-CM
Y35.012A	Legal intervention involving injury by machine gun, bystander injured, initial encounter	Diagnosis	ICD-10-CM
Y35.012D	Legal intervention involving injury by machine gun, bystander injured, subsequent encounter	Diagnosis	ICD-10-CM
Y35.013A	Legal intervention involving injury by machine gun, suspect injured, initial encounter	Diagnosis	ICD-10-CM
Y35.013D	Legal intervention involving injury by machine gun, suspect injured, subsequent encounter	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
Y35.021A	Legal intervention involving injury by handgun, law enforcement official injured, initial encounter	Diagnosis	ICD-10-CM
Y35.021D	Legal intervention involving injury by handgun, law enforcement official injured, subsequent encounter	Diagnosis	ICD-10-CM
Y35.022A	Legal intervention involving injury by handgun, bystander injured, initial encounter	Diagnosis	ICD-10-CM
Y35.022D	Legal intervention involving injury by handgun, bystander injured, subsequent encounter	Diagnosis	ICD-10-CM
Y35.023A	Legal intervention involving injury by handgun, suspect injured, initial encounter	Diagnosis	ICD-10-CM
Y35.023D	Legal intervention involving injury by handgun, suspect injured, subsequent encounter	Diagnosis	ICD-10-CM
Y35.031A	Legal intervention involving injury by rifle pellet, law enforcement official injured, initial encounter	Diagnosis	ICD-10-CM
Y35.031D	Legal intervention involving injury by rifle pellet, law enforcement official injured, subsequent encounter	Diagnosis	ICD-10-CM
Y35.032A	Legal intervention involving injury by rifle pellet, bystander injured, initial encounter	Diagnosis	ICD-10-CM
Y35.032D	Legal intervention involving injury by rifle pellet, bystander injured, subsequent encounter	Diagnosis	ICD-10-CM
Y35.033A	Legal intervention involving injury by rifle pellet, suspect injured, initial encounter	Diagnosis	ICD-10-CM
Y35.033D	Legal intervention involving injury by rifle pellet, suspect injured, subsequent encounter	Diagnosis	ICD-10-CM
Y35.041A	Legal intervention involving injury by rubber bullet, law enforcement official injured, initial encounter	Diagnosis	ICD-10-CM
Y35.041D	Legal intervention involving injury by rubber bullet, law enforcement official injured, subsequent encounter	Diagnosis	ICD-10-CM
Y35.042A	Legal intervention involving injury by rubber bullet, bystander injured, initial encounter	Diagnosis	ICD-10-CM
Y35.042D	Legal intervention involving injury by rubber bullet, bystander injured, subsequent encounter	Diagnosis	ICD-10-CM
Y35.043A	Legal intervention involving injury by rubber bullet, suspect injured, initial encounter	Diagnosis	ICD-10-CM
Y35.043D	Legal intervention involving injury by rubber bullet, suspect injured, subsequent encounter	Diagnosis	ICD-10-CM
Y35.091A	Legal intervention involving other firearm discharge, law enforcement official injured, initial encounter	Diagnosis	ICD-10-CM
Y35.091D	Legal intervention involving other firearm discharge, law enforcement official injured, subsequent encounter	Diagnosis	ICD-10-CM
Y35.092A	Legal intervention involving other firearm discharge, bystander injured, initial encounter	Diagnosis	ICD-10-CM
Y35.092D	Legal intervention involving other firearm discharge, bystander injured, subsequent encounter	Diagnosis	ICD-10-CM
Y35.093A	Legal intervention involving other firearm discharge, suspect injured, initial encounter	Diagnosis	ICD-10-CM
Y35.093D	Legal intervention involving other firearm discharge, suspect injured, subsequent encounter	Diagnosis	ICD-10-CM
W17.4XXA	Fall from dock, initial encounter	Diagnosis	ICD-10-CM
W17.4XXD	Fall from dock, subsequent encounter	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
W32.0XXA	Accidental handgun discharge, initial encounter	Diagnosis	ICD-10-CM
W32.0XXD	Accidental handgun discharge, subsequent encounter	Diagnosis	ICD-10-CM
W32.1XXA	Accidental handgun malfunction, initial encounter	Diagnosis	ICD-10-CM
W32.1XXD	Accidental handgun malfunction, subsequent encounter	Diagnosis	ICD-10-CM
W33.00XA	Accidental discharge of unspecified larger firearm, initial encounter	Diagnosis	ICD-10-CM
W33.00XD	Accidental discharge of unspecified larger firearm, subsequent encounter	Diagnosis	ICD-10-CM
W33.01XA	Accidental discharge of shotgun, initial encounter	Diagnosis	ICD-10-CM
W33.01XD	Accidental discharge of shotgun, subsequent encounter	Diagnosis	ICD-10-CM
W33.02XA	Accidental discharge of hunting rifle, initial encounter	Diagnosis	ICD-10-CM
W33.02XD	Accidental discharge of hunting rifle, subsequent encounter	Diagnosis	ICD-10-CM
W33.03XA	Accidental discharge of machine gun, initial encounter	Diagnosis	ICD-10-CM
W33.03XD	Accidental discharge of machine gun, subsequent encounter	Diagnosis	ICD-10-CM
W33.09XA	Accidental discharge of other larger firearm, initial encounter	Diagnosis	ICD-10-CM
W33.09XD	Accidental discharge of other larger firearm, subsequent encounter	Diagnosis	ICD-10-CM
W33.10XA	Accidental malfunction of unspecified larger firearm, initial encounter	Diagnosis	ICD-10-CM
W33.10XD	Accidental malfunction of unspecified larger firearm, subsequent encounter	Diagnosis	ICD-10-CM
W33.11XA	Accidental malfunction of shotgun, initial encounter	Diagnosis	ICD-10-CM
W33.11XD	Accidental malfunction of shotgun, subsequent encounter	Diagnosis	ICD-10-CM
W33.12XA	Accidental malfunction of hunting rifle, initial encounter	Diagnosis	ICD-10-CM
W33.12XD	Accidental malfunction of hunting rifle, subsequent encounter	Diagnosis	ICD-10-CM
W33.13XA	Accidental malfunction of machine gun, initial encounter	Diagnosis	ICD-10-CM
W33.13XD	Accidental malfunction of machine gun, subsequent encounter	Diagnosis	ICD-10-CM
W33.19XA	Accidental malfunction of other larger firearm, initial encounter	Diagnosis	ICD-10-CM
W33.19XD	Accidental malfunction of other larger firearm, subsequent encounter	Diagnosis	ICD-10-CM
W34.00XA	Accidental discharge from unspecified firearms or gun, initial encounter	Diagnosis	ICD-10-CM
W34.00XD	Accidental discharge from unspecified firearms or gun, subsequent encounter	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
W34.010A	Accidental discharge of airgun, initial encounter	Diagnosis	ICD-10-CM
W34.010D	Accidental discharge of airgun, subsequent encounter	Diagnosis	ICD-10-CM
W34.011A	Accidental discharge of paintball gun, initial encounter	Diagnosis	ICD-10-CM
W34.011D	Accidental discharge of paintball gun, subsequent encounter	Diagnosis	ICD-10-CM
W34.018A	Accidental discharge of other gas, air or spring-operated gun, initial encounter	Diagnosis	ICD-10-CM
W34.018D	Accidental discharge of other gas, air or spring-operated gun, subsequent encounter	Diagnosis	ICD-10-CM
W34.09XA	Accidental discharge from other specified firearms, initial encounter	Diagnosis	ICD-10-CM
W34.09XD	Accidental discharge from other specified firearms, subsequent encounter	Diagnosis	ICD-10-CM
W34.10XA	Accidental malfunction from unspecified firearms or gun, initial encounter	Diagnosis	ICD-10-CM
W34.10XD	Accidental malfunction from unspecified firearms or gun, subsequent encounter	Diagnosis	ICD-10-CM
W34.110A	Accidental malfunction of airgun, initial encounter	Diagnosis	ICD-10-CM
W34.110D	Accidental malfunction of airgun, subsequent encounter	Diagnosis	ICD-10-CM
W34.111A	Accidental malfunction of paintball gun, initial encounter	Diagnosis	ICD-10-CM
W34.111D	Accidental malfunction of paintball gun, subsequent encounter	Diagnosis	ICD-10-CM
W34.118A	Accidental malfunction of other gas, air or spring-operated gun, initial encounter	Diagnosis	ICD-10-CM
W34.118D	Accidental malfunction of other gas, air or spring-operated gun, subsequent encounter	Diagnosis	ICD-10-CM
W34.19XA	Accidental malfunction from other specified firearms, initial encounter	Diagnosis	ICD-10-CM
W34.19XD	Accidental malfunction from other specified firearms, subsequent encounter	Diagnosis	ICD-10-CM
W39.XXXA	Discharge of firework, initial encounter	Diagnosis	ICD-10-CM
W39.XXXD	Discharge of firework, subsequent encounter	Diagnosis	ICD-10-CM
W40.0XXA	Explosion of blasting material, initial encounter	Diagnosis	ICD-10-CM
W40.0XXD	Explosion of blasting material, subsequent encounter	Diagnosis	ICD-10-CM
W40.1XXA	Explosion of explosive gases, initial encounter	Diagnosis	ICD-10-CM
W40.1XXD	Explosion of explosive gases, subsequent encounter	Diagnosis	ICD-10-CM
W40.8XXA	Explosion of other specified explosive materials, initial encounter	Diagnosis	ICD-10-CM
W40.8XXD	Explosion of other specified explosive materials, subsequent encounter	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
W40.9XXA	Explosion of unspecified explosive materials, initial encounter	Diagnosis	ICD-10-CM
W40.9XXD	Explosion of unspecified explosive materials, subsequent encounter	Diagnosis	ICD-10-CM
X72.XXXA	Intentional self-harm by handgun discharge, initial encounter	Diagnosis	ICD-10-CM
X72.XXXD	Intentional self-harm by handgun discharge, subsequent encounter	Diagnosis	ICD-10-CM
X73.0XXA	Intentional self-harm by shotgun discharge, initial encounter	Diagnosis	ICD-10-CM
X73.0XXD	Intentional self-harm by shotgun discharge, subsequent encounter	Diagnosis	ICD-10-CM
X73.1XXA	Intentional self-harm by hunting rifle discharge, initial encounter	Diagnosis	ICD-10-CM
X73.1XXD	Intentional self-harm by hunting rifle discharge, subsequent encounter	Diagnosis	ICD-10-CM
X73.2XXA	Intentional self-harm by machine gun discharge, initial encounter	Diagnosis	ICD-10-CM
X73.2XXD	Intentional self-harm by machine gun discharge, subsequent encounter	Diagnosis	ICD-10-CM
X73.8XXA	Intentional self-harm by other larger firearm discharge, initial encounter	Diagnosis	ICD-10-CM
X73.8XXD	Intentional self-harm by other larger firearm discharge, subsequent encounter	Diagnosis	ICD-10-CM
X73.9XXA	Intentional self-harm by unspecified larger firearm discharge, initial encounter	Diagnosis	ICD-10-CM
X73.9XXD	Intentional self-harm by unspecified larger firearm discharge, subsequent encounter	Diagnosis	ICD-10-CM
X74.01XA	Intentional self-harm by airgun, initial encounter	Diagnosis	ICD-10-CM
X74.01XD	Intentional self-harm by airgun, subsequent encounter	Diagnosis	ICD-10-CM
X74.02XA	Intentional self-harm by paintball gun, initial encounter	Diagnosis	ICD-10-CM
X74.02XD	Intentional self-harm by paintball gun, subsequent encounter	Diagnosis	ICD-10-CM
X74.09XA	Intentional self-harm by other gas, air or spring-operated gun, initial encounter	Diagnosis	ICD-10-CM
X74.09XD	Intentional self-harm by other gas, air or spring-operated gun, subsequent encounter	Diagnosis	ICD-10-CM
X74.8XXA	Intentional self-harm by other firearm discharge, initial encounter	Diagnosis	ICD-10-CM
X74.8XXD	Intentional self-harm by other firearm discharge, subsequent encounter	Diagnosis	ICD-10-CM
X74.9XXA	Intentional self-harm by unspecified firearm discharge, initial encounter	Diagnosis	ICD-10-CM
X74.9XXD	Intentional self-harm by unspecified firearm discharge, subsequent encounter	Diagnosis	ICD-10-CM
X75.XXXA	Intentional self-harm by explosive material, initial encounter	Diagnosis	ICD-10-CM
X75.XXXD	Intentional self-harm by explosive material, subsequent encounter	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
X93.XXXA	Assault by handgun discharge, initial encounter	Diagnosis	ICD-10-CM
X93.XXXD	Assault by handgun discharge, subsequent encounter	Diagnosis	ICD-10-CM
X94.0XXA	Assault by shotgun, initial encounter	Diagnosis	ICD-10-CM
X94.0XXD	Assault by shotgun, subsequent encounter	Diagnosis	ICD-10-CM
X94.1XXA	Assault by hunting rifle, initial encounter	Diagnosis	ICD-10-CM
X94.1XXD	Assault by hunting rifle, subsequent encounter	Diagnosis	ICD-10-CM
X94.2XXA	Assault by machine gun, initial encounter	Diagnosis	ICD-10-CM
X94.2XXD	Assault by machine gun, subsequent encounter	Diagnosis	ICD-10-CM
X94.8XXA	Assault by other larger firearm discharge, initial encounter	Diagnosis	ICD-10-CM
X94.8XXD	Assault by other larger firearm discharge, subsequent encounter	Diagnosis	ICD-10-CM
X94.9XXA	Assault by unspecified larger firearm discharge, initial encounter	Diagnosis	ICD-10-CM
X94.9XXD	Assault by unspecified larger firearm discharge, subsequent encounter	Diagnosis	ICD-10-CM
X95.02XA	Assault by paintball gun discharge, initial encounter	Diagnosis	ICD-10-CM
X95.02XD	Assault by paintball gun discharge, subsequent encounter	Diagnosis	ICD-10-CM
X95.09XA	Assault by other gas, air or spring-operated gun, initial encounter	Diagnosis	ICD-10-CM
X95.09XD	Assault by other gas, air or spring-operated gun, subsequent encounter	Diagnosis	ICD-10-CM
X95.8XXA	Assault by other firearm discharge, initial encounter	Diagnosis	ICD-10-CM
X95.8XXD	Assault by other firearm discharge, subsequent encounter	Diagnosis	ICD-10-CM
X95.9XXA	Assault by unspecified firearm discharge, initial encounter	Diagnosis	ICD-10-CM
X95.9XXD	Assault by unspecified firearm discharge, subsequent encounter	Diagnosis	ICD-10-CM
X96.0XXA	Assault by antipersonnel bomb, initial encounter	Diagnosis	ICD-10-CM
X96.0XXD	Assault by antipersonnel bomb, subsequent encounter	Diagnosis	ICD-10-CM
X96.1XXA	Assault by gasoline bomb, initial encounter	Diagnosis	ICD-10-CM
X96.1XXD	Assault by gasoline bomb, subsequent encounter	Diagnosis	ICD-10-CM
X96.2XXA	Assault by letter bomb, initial encounter	Diagnosis	ICD-10-CM
X96.2XXD	Assault by letter bomb, subsequent encounter	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
X96.3XXA	Assault by fertilizer bomb, initial encounter	Diagnosis	ICD-10-CM
X96.3XXD	Assault by fertilizer bomb, subsequent encounter	Diagnosis	ICD-10-CM
X96.4XXA	Assault by pipe bomb, initial encounter	Diagnosis	ICD-10-CM
X96.4XXD	Assault by pipe bomb, subsequent encounter	Diagnosis	ICD-10-CM
X96.8XXA	Assault by other specified explosive, initial encounter	Diagnosis	ICD-10-CM
X96.8XXD	Assault by other specified explosive, subsequent encounter	Diagnosis	ICD-10-CM
X96.9XXA	Assault by unspecified explosive, initial encounter	Diagnosis	ICD-10-CM
X96.9XXD	Assault by unspecified explosive, subsequent encounter	Diagnosis	ICD-10-CM
Y04.0XXA	Assault by unarmed brawl or fight, initial encounter	Diagnosis	ICD-10-CM
Y04.0XXD	Assault by unarmed brawl or fight, subsequent encounter	Diagnosis	ICD-10-CM
Y04.2XXA	Assault by strike against or bumped into by another person, initial encounter	Diagnosis	ICD-10-CM
Y04.2XXD	Assault by strike against or bumped into by another person, subsequent encounter	Diagnosis	ICD-10-CM
Y04.8XXA	Assault by other bodily force, initial encounter	Diagnosis	ICD-10-CM
Y04.8XXD	Assault by other bodily force, subsequent encounter	Diagnosis	ICD-10-CM
Y22.XXXA	Handgun discharge, undetermined intent, initial encounter	Diagnosis	ICD-10-CM
Y22.XXXD	Handgun discharge, undetermined intent, subsequent encounter	Diagnosis	ICD-10-CM
Y23.0XXA	Shotgun discharge, undetermined intent, initial encounter	Diagnosis	ICD-10-CM
Y23.0XXD	Shotgun discharge, undetermined intent, subsequent encounter	Diagnosis	ICD-10-CM
Y23.1XXA	Hunting rifle discharge, undetermined intent, initial encounter	Diagnosis	ICD-10-CM
Y23.1XXD	Hunting rifle discharge, undetermined intent, subsequent encounter	Diagnosis	ICD-10-CM
Y23.2XXA	Military firearm discharge, undetermined intent, initial encounter	Diagnosis	ICD-10-CM
Y23.2XXD	Military firearm discharge, undetermined intent, subsequent encounter	Diagnosis	ICD-10-CM
Y23.3XXA	Machine gun discharge, undetermined intent, initial encounter	Diagnosis	ICD-10-CM
Y23.3XXD	Machine gun discharge, undetermined intent, subsequent encounter	Diagnosis	ICD-10-CM
Y23.8XXA	Other larger firearm discharge, undetermined intent, initial encounter	Diagnosis	ICD-10-CM
Y23.8XXD	Other larger firearm discharge, undetermined intent, subsequent encounter	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
Y23.9XXA	Unspecified larger firearm discharge, undetermined intent, initial encounter	Diagnosis	ICD-10-CM
Y23.9XXD	Unspecified larger firearm discharge, undetermined intent, subsequent encounter	Diagnosis	ICD-10-CM
Y24.0XXA	Airgun discharge, undetermined intent, initial encounter	Diagnosis	ICD-10-CM
Y24.0XXD	Airgun discharge, undetermined intent, subsequent encounter	Diagnosis	ICD-10-CM
Y24.8XXA	Other firearm discharge, undetermined intent, initial encounter	Diagnosis	ICD-10-CM
Y24.8XXD	Other firearm discharge, undetermined intent, subsequent encounter	Diagnosis	ICD-10-CM
Y24.9XXA	Unspecified firearm discharge, undetermined intent, initial encounter	Diagnosis	ICD-10-CM
Y24.9XXD	Unspecified firearm discharge, undetermined intent, subsequent encounter	Diagnosis	ICD-10-CM
Y25.XXXA	Contact with explosive material, undetermined intent, initial encounter	Diagnosis	ICD-10-CM
Y25.XXXD	Contact with explosive material, undetermined intent, subsequent encounter	Diagnosis	ICD-10-CM
Y35.001A	Legal intervention involving unspecified firearm discharge, law enforcement official injured, initial encounter	Diagnosis	ICD-10-CM
Y35.001D	Legal intervention involving unspecified firearm discharge, law enforcement official injured, subsequent encounter	Diagnosis	ICD-10-CM
Y35.002A	Legal intervention involving unspecified firearm discharge, bystander injured, initial encounter	Diagnosis	ICD-10-CM
Y35.002D	Legal intervention involving unspecified firearm discharge, bystander injured, subsequent encounter	Diagnosis	ICD-10-CM
Y35.003A	Legal intervention involving unspecified firearm discharge, suspect injured, initial encounter	Diagnosis	ICD-10-CM
Y35.003D	Legal intervention involving unspecified firearm discharge, suspect injured, subsequent encounter	Diagnosis	ICD-10-CM
Y35.011A	Legal intervention involving injury by machine gun, law enforcement official injured, initial encounter	Diagnosis	ICD-10-CM
Y35.011D	Legal intervention involving injury by machine gun, law enforcement official injured, subsequent encounter	Diagnosis	ICD-10-CM
Y35.012A	Legal intervention involving injury by machine gun, bystander injured, initial encounter	Diagnosis	ICD-10-CM
Y35.012D	Legal intervention involving injury by machine gun, bystander injured, subsequent encounter	Diagnosis	ICD-10-CM
Y35.013A	Legal intervention involving injury by machine gun, suspect injured, initial encounter	Diagnosis	ICD-10-CM
Y35.013D	Legal intervention involving injury by machine gun, suspect injured, subsequent encounter	Diagnosis	ICD-10-CM
Y35.021A	Legal intervention involving injury by handgun, law enforcement official injured, initial encounter	Diagnosis	ICD-10-CM
Y35.021D	Legal intervention involving injury by handgun, law enforcement official injured, subsequent encounter	Diagnosis	ICD-10-CM
Y35.022A	Legal intervention involving injury by handgun, bystander injured, initial encounter	Diagnosis	ICD-10-CM
Y35.022D	Legal intervention involving injury by handgun, bystander injured, subsequent encounter	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Censoring Criteria and Outcomes in this Request

Code	Description	Code Category	Code Type
Y35.023A	Legal intervention involving injury by handgun, suspect injured, initial encounter	Diagnosis	ICD-10-CM
Y35.023D	Legal intervention involving injury by handgun, suspect injured, subsequent encounter	Diagnosis	ICD-10-CM
Y35.031A	Legal intervention involving injury by rifle pellet, law enforcement official injured, initial encounter	Diagnosis	ICD-10-CM
Y35.031D	Legal intervention involving injury by rifle pellet, law enforcement official injured, subsequent encounter	Diagnosis	ICD-10-CM
Y35.032A	Legal intervention involving injury by rifle pellet, bystander injured, initial encounter	Diagnosis	ICD-10-CM
Y35.032D	Legal intervention involving injury by rifle pellet, bystander injured, subsequent encounter	Diagnosis	ICD-10-CM
Y35.033A	Legal intervention involving injury by rifle pellet, suspect injured, initial encounter	Diagnosis	ICD-10-CM
Y35.033D	Legal intervention involving injury by rifle pellet, suspect injured, subsequent encounter	Diagnosis	ICD-10-CM
Y35.041A	Legal intervention involving injury by rubber bullet, law enforcement official injured, initial encounter	Diagnosis	ICD-10-CM
Y35.041D	Legal intervention involving injury by rubber bullet, law enforcement official injured, subsequent encounter	Diagnosis	ICD-10-CM
Y35.042A	Legal intervention involving injury by rubber bullet, bystander injured, initial encounter	Diagnosis	ICD-10-CM
Y35.042D	Legal intervention involving injury by rubber bullet, bystander injured, subsequent encounter	Diagnosis	ICD-10-CM
Y35.043A	Legal intervention involving injury by rubber bullet, suspect injured, initial encounter	Diagnosis	ICD-10-CM
Y35.043D	Legal intervention involving injury by rubber bullet, suspect injured, subsequent encounter	Diagnosis	ICD-10-CM
Y35.091A	Legal intervention involving other firearm discharge, law enforcement official injured, initial encounter	Diagnosis	ICD-10-CM
Y35.091D	Legal intervention involving other firearm discharge, law enforcement official injured, subsequent encounter	Diagnosis	ICD-10-CM
Y35.092A	Legal intervention involving other firearm discharge, bystander injured, initial encounter	Diagnosis	ICD-10-CM
Y35.092D	Legal intervention involving other firearm discharge, bystander injured, subsequent encounter	Diagnosis	ICD-10-CM
Y35.093A	Legal intervention involving other firearm discharge, suspect injured, initial encounter	Diagnosis	ICD-10-CM
Y35.093D	Legal intervention involving other firearm discharge, suspect injured, subsequent encounter	Diagnosis	ICD-10-CM

Appendix D. List of Generic and Brand Names of Drugs Used to Define Inclusion and Exclusion Criteria in this Request

Generic Name	Brand Name
Anti-coagulants	
apixaban	Eliquis DVT-PE Treat 30D Start
apixaban	Eliquis
dabigatran etexilate mesylate	Pradaxa
rivaroxaban	Xarelto DVT-PE Treat 30d Start
rivaroxaban	Xarelto
edoxaban tosylate	Savaysa
warfarin sodium	Coumadin
warfarin sodium	warfarin
warfarin sodium	Jantoven

Sentinel

Appendix E. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Inclusion and Exclusion Criteria in this Request

Code	Description	Code Category	Code Type
Dialysis			
792.5	Cloudy (hemodialysis) (peritoneal) dialysis affluent	ICD-9-CM	Diagnosis
V45.1	Renal dialysis status	ICD-9-CM	Diagnosis
V45.11	Renal dialysis status	ICD-9-CM	Diagnosis
V45.12	Noncompliance with renal dialysis	ICD-9-CM	Diagnosis
V56.0	Encounter for extracorporeal dialysis	ICD-9-CM	Diagnosis
V56.1	Fitting and adjustment of extracorporeal dialysis catheter	ICD-9-CM	Diagnosis
V56.2	Fitting and adjustment of peritoneal dialysis catheter	ICD-9-CM	Diagnosis
V56.3	Encounter for adequacy testing for dialysis	ICD-9-CM	Diagnosis
V56.31	Encounter for adequacy testing for hemodialysis	ICD-9-CM	Diagnosis
V56.32	Encounter for adequacy testing for peritoneal dialysis	ICD-9-CM	Diagnosis
V56.8	Encounter other dialysis	ICD-9-CM	Diagnosis
R88.0	Cloudy (hemodialysis) (peritoneal) dialysis effluent	ICD-10-CM	Diagnosis
Z49.01	Encounter for fitting and adjustment of extracorporeal dialysis catheter	ICD-10-CM	Diagnosis
Z49.02	Encounter for fitting and adjustment of peritoneal dialysis catheter	ICD-10-CM	Diagnosis
Z49.31	Encounter for adequacy testing for hemodialysis	ICD-10-CM	Diagnosis
Z49.32	Encounter for adequacy testing for peritoneal dialysis	ICD-10-CM	Diagnosis
Z91.15	Patient's noncompliance with renal dialysis	ICD-10-CM	Diagnosis
Z99.2	Dependence on renal dialysis	ICD-10-CM	Diagnosis
90935	Hemodialysis procedure with single evaluation by a physician or other qualified health care professional	CPT-4	Procedure
90937	Hemodialysis procedure requiring repeated evaluation(s) with or without substantial revision of dialysis prescription	CPT-4	Procedure
90939	Hemodialysis access flow study to determine blood flow in grafts and arteriovenous fistulae by an indicator dilution method, hook-up; transcutaneous measurement and disconnection	CPT-4	Procedure
90940	Hemodialysis access flow study to determine blood flow in grafts and arteriovenous fistulae by an indicator method	CPT-4	Procedure
90941	Hemodialysis, For Acute Renal Failure And Or Intoxication,	CPT-4	Procedure
90942	Hemodialysis, For Acute Renal Failure And Or Intoxication,	CPT-4	Procedure
90943	Hemodialysis, For Acute Renal Failure And Or Intoxication,	CPT-4	Procedure
90944	Hemodialysis, For Acute Renal Failure And Or Intoxication,	CPT-4	Procedure
90945	Dialysis procedure other than hemodialysis (eg, peritoneal dialysis, hemofiltration, or other continuous renal replacement therapies), with single evaluation by a physician or other qualified health care professional	CPT-4	Procedure

Appendix E. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Inclusion and Exclusion Criteria in this Request

Code	Description	Code Category	Code Type
90947	Dialysis procedure other than hemodialysis (eg, peritoneal dialysis, hemofiltration, or other continuous renal replacement therapies) requiring repeated evaluations by a physician or other qualified health care professional, with or without substantial revision of dialysis prescription	CPT-4	Procedure
90951	End-stage renal disease (ESRD) related services monthly, for patients younger than 2 years of age to include monitoring for the adequacy of nutrition, assessment of growth and development, and counseling of parents; with 4 or more face-to-face visits by a physician or other qualified health care professional per month	CPT-4	Procedure
90952	End-stage renal disease (ESRD) related services monthly, for patients younger than 2 years of age to include monitoring for the adequacy of nutrition, assessment of growth and development, and counseling of parents; with 2-3 face-to-face visits by a physician or other qualified health care professional per month	CPT-4	
90953	End-stage renal disease (ESRD) related services monthly, for patients younger than 2 years of age to include monitoring for the adequacy of nutrition, assessment of growth and development, and counseling of parents; with 1 face-to-face visit by a physician or other qualified health care professional per month	CPT-4	Procedure
90954	End-stage renal disease (ESRD) related services monthly, for patients 2-11 years of age to include monitoring for the adequacy of nutrition, assessment of growth and development, and counseling of parents; with 4 or more face-to-face visits by a physician or other qualified health care professional per month	CPT-4	Procedure
90955	End-stage renal disease (ESRD) related services monthly, for patients 2-11 years of age to include monitoring for the adequacy of nutrition, assessment of growth and development, and counseling of parents; with 2-3 face-to-face visits by a physician or other qualified health care professional per month	CPT-4	Procedure
90956	End-stage renal disease (ESRD) related services monthly, for patients 2-11 years of age to include monitoring for the adequacy of nutrition, assessment of growth and development, and counseling of parents; with 1 face-to-face visit by a physician or other qualified health care professional per month	CPT-4	Procedure
90957	End-stage renal disease (ESRD) related services monthly, for patients 12-19 years of age to include monitoring for the adequacy of nutrition, assessment of growth and development, and counseling of parents; with 4 or more face-to-face visits by a physician or other qualified health care professional per month	CPT-4	Procedure

Appendix E. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Inclusion and Exclusion Criteria in this Request

Code	Description	Code Category	Code Type
90958	End-stage renal disease (ESRD) related services monthly, for patients 12-19 years of age to include monitoring for the adequacy of nutrition, assessment of growth and development, and counseling of parents; with 2-3 face-to-face visits by a physician or other qualified health care professional per month	CPT-4	Procedure
90959	End-stage renal disease (ESRD) related services monthly, for patients 12-19 years of age to include monitoring for the adequacy of nutrition, assessment of growth and development, and counseling of parents; with 1 face-to-face visit by a physician or other qualified health care professional per month	CPT-4	Procedure
90960	End-stage renal disease (ESRD) related services monthly, for patients 20 years of age and older; with 4 or more face-to-face visits by a physician or other qualified health care professional per month	CPT-4	Procedure
90961	End-stage renal disease (ESRD) related services monthly, for patients 20 years of age and older; with 2-3 face-to-face visits by a physician or other qualified health care professional per month	CPT-4	Procedure
90962	End-stage renal disease (ESRD) related services monthly, for patients 20 years of age and older; with 1 face-to-face visit by a physician or other qualified health care professional per month	CPT-4	Procedure
90963	End-stage renal disease (ESRD) related services for home dialysis per full month, for patients younger than 2 years of age to include monitoring for the adequacy of nutrition, assessment of growth and development, and counseling of parents	CPT-4	Procedure
90964	End-stage renal disease (ESRD) related services for home dialysis per full month, for patients 2-11 years of age to include monitoring for the adequacy of nutrition, assessment of growth and development, and counseling of parents	CPT-4	Procedure
90965	End-stage renal disease (ESRD) related services for home dialysis per full month, for patients 12-19 years of age to include monitoring for the adequacy of nutrition, assessment of growth and development, and counseling of parents	CPT-4	Procedure
90966	End-stage renal disease (ESRD) related services for home dialysis per full month, for patients 20 years of age and older	CPT-4	Procedure
90967	End-stage renal disease (ESRD) related services for dialysis less than a full month of service, per day; for patients younger than 2 years of age	CPT-4	Procedure
90968	End-stage renal disease (ESRD) related services for dialysis less than a full month of service, per day; for patients 2-11 years of age	CPT-4	Procedure
90969	End-stage renal disease (ESRD) related services for dialysis less than a full month of service, per day; for patients 12-19 years of age	CPT-4	Procedure
90970	End-stage renal disease (ESRD) related services for dialysis less than a full month of service, per day; for patients 20 years of age and older	CPT-4	Procedure

Appendix E. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Inclusion and Exclusion Criteria in this Request

Code	Description	Code Category	Code Type
90976	Peritoneal Dialysis For End-stage Renal Disease (esrd),	CPT-4	Procedure
90977	Peritoneal Dialysis For End-stage Renal Disease (esrd),	CPT-4	Procedure
90978	Peritoneal Dialysis For End-stage Renal Disease (esrd),	CPT-4	Procedure
90979	Peritoneal Dialysis For End-stage Renal Disease (esrd),	CPT-4	Procedure
90982	Peritoneal Dialysis For End-stage Renal Disease (esrd),	CPT-4	Procedure
90983	Peritoneal Dialysis For End-stage Renal Disease (esrd),	CPT-4	Procedure
90984	Peritoneal Dialysis For End-stage Renal Disease (esrd),	CPT-4	Procedure
90985	Peritoneal Dialysis For End-stage Renal Disease (esrd),	CPT-4	Procedure
90988	Supervision Of Hemodialysis In Hospital Or Other Facility (excluding Home Dialysis), On Monthly Basis	CPT-4	Procedure
90989	Dialysis training, patient, including helper where applicable, any mode, completed course	CPT-4	Procedure
90990	Hemodialysis Training And/or Counseling	CPT-4	Procedure
90991	Home Hemodialysis Care, Outpatient, For Those Services Either Provided By The Physician Primarily Responsible	CPT-4	Procedure
90992	Peritoneal Dialysis Training And/or Counseling	CPT-4	Procedure
90993	Dialysis training, patient, including helper where applicable, any mode, course not completed, per training session	CPT-4	Procedure
90994	Supervision Of Chronic Ambulatory Peritoneal Dialysis (capd), Home Or Out-patient (monthly)	CPT-4	Procedure
90995	End Stage Renal Disease (esrd) Related Services, Per Full Month	CPT-4	Procedure
90996	Continuous Arteriovenous Hemofiltration (cavh) (per Day)	CPT-4	Procedure
90997	Hemoperfusion (eg, with activated charcoal or resin)	CPT-4	Procedure
90998	End Stage Renal Disease (esrd) Related Services (less Than Full Month), Per Day	CPT-4	Procedure
90999	Unlisted dialysis procedure, inpatient or outpatient	CPT-4	Procedure
Kidney replacement			
556	Transplant of kidney	ICD-9-CM	PX
5561	Renal autotransplantation	ICD-9-CM	PX
5569	Other kidney transplantation	ICD-9-CM	PX
99681	Complications of transplanted kidney	ICD-9-CM	DX
V420	Kidney replaced by transplant	ICD-9-CM	DX
T86.10	Unspecified complication of kidney transplant	ICD-10-CM	DX
T86.11	Kidney transplant rejection	ICD-10-CM	DX
T86.12	Kidney transplant failure	ICD-10-CM	DX
T86.13	Kidney transplant infection	ICD-10-CM	DX
T86.19	Other complication of kidney transplant	ICD-10-CM	DX
Z48.22	Encounter for aftercare following kidney transplant	ICD-10-CM	DX
Z94.0	Kidney transplant status	ICD-10-CM	DX

Appendix E. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Inclusion and Exclusion Criteria in this Request

Code	Description	Code Category	Code Type
0TS00ZZ	Reposition Right Kidney, Open Approach	ICD-10-PCS	PX
0TS10ZZ	Reposition Left Kidney, Open Approach	ICD-10-PCS	PX
0TY00Z0	Transplantation of Right Kidney, Allogeneic, Open Approach	ICD-10-PCS	PX
0TY00Z1	Transplantation of Right Kidney, Syngeneic, Open Approach	ICD-10-PCS	PX
0TY00Z2	Transplantation of Right Kidney, Zooplastic, Open Approach	ICD-10-PCS	PX
0TY10Z0	Transplantation of Left Kidney, Allogeneic, Open Approach	ICD-10-PCS	PX
0TY10Z1	Transplantation of Left Kidney, Syngeneic, Open Approach	ICD-10-PCS	PX
0TY10Z2	Transplantation of Left Kidney, Zooplastic, Open Approach	ICD-10-PCS	PX
Deep vein thrombosis			
4534	Acute venous embolism and thrombosis of deep vessels of lower extremity	ICD-9-CM	DX
45340	Acute venous embolism and thrombosis of unspecified deep vessels of lower extremity	ICD-9-CM	DX
45341	Acute venous embolism and thrombosis of deep vessels of proximal lower extremity	ICD-9-CM	DX
45342	Acute venous embolism and thrombosis of deep vessels of distal lower extremity	ICD-9-CM	DX
4511	Phlebitis and thrombophlebitis of deep veins of lower extremities	ICD-9-CM	DX
45111	Phlebitis and thrombophlebitis of femoral vein (deep) (superficial)	ICD-9-CM	DX
45119	Phlebitis and thrombophlebitis of deep veins of lower extremities, other	ICD-9-CM	DX
4512	Phlebitis and thrombophlebitis of lower extremities, unspecified	ICD-9-CM	DX
45181	Phlebitis and thrombophlebitis of iliac vein	ICD-9-CM	DX
45183	Phlebitis and thrombophlebitis of deep veins of upper extremities	ICD-9-CM	DX
45384	Phlebitis and thrombophlebitis of upper extremities, unspecified	ICD-9-CM	DX
I80.10	Phlebitis and thrombophlebitis of unspecified femoral vein	ICD-10-CM	DX
I80.11	Phlebitis and thrombophlebitis of right femoral vein	ICD-10-CM	DX
I80.12	Phlebitis and thrombophlebitis of left femoral vein	ICD-10-CM	DX
I80.13	Phlebitis and thrombophlebitis of femoral vein, bilateral	ICD-10-CM	DX
I80.201	Phlebitis and thrombophlebitis of unspecified deep vessels of right lower extremity	ICD-10-CM	DX
I80.202	Phlebitis and thrombophlebitis of unspecified deep vessels of left lower extremity	ICD-10-CM	DX
I80.203	Phlebitis and thrombophlebitis of unspecified deep vessels of lower extremities, bilateral	ICD-10-CM	DX
I80.209	Phlebitis and thrombophlebitis of unspecified deep vessels of unspecified lower extremity	ICD-10-CM	DX
I80.211	Phlebitis and thrombophlebitis of right iliac vein	ICD-10-CM	DX
I80.212	Phlebitis and thrombophlebitis of left iliac vein	ICD-10-CM	DX
I80.213	Phlebitis and thrombophlebitis of iliac vein, bilateral	ICD-10-CM	DX
I80.219	Phlebitis and thrombophlebitis of unspecified iliac vein	ICD-10-CM	DX
I80.221	Phlebitis and thrombophlebitis of right popliteal vein	ICD-10-CM	DX

Appendix E. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Inclusion and Exclusion Criteria in this Request

Code	Description	Code Category	Code Type
I80.222	Phlebitis and thrombophlebitis of left popliteal vein	ICD-10-CM	DX
I80.223	Phlebitis and thrombophlebitis of popliteal vein, bilateral	ICD-10-CM	DX
I80.229	Phlebitis and thrombophlebitis of unspecified popliteal vein	ICD-10-CM	DX
I80.231	Phlebitis and thrombophlebitis of right tibial vein	ICD-10-CM	DX
I80.232	Phlebitis and thrombophlebitis of left tibial vein	ICD-10-CM	DX
I80.233	Phlebitis and thrombophlebitis of tibial vein, bilateral	ICD-10-CM	DX
I80.239	Phlebitis and thrombophlebitis of unspecified tibial vein	ICD-10-CM	DX
I80.291	Phlebitis and thrombophlebitis of other deep vessels of right lower extremity	ICD-10-CM	DX
I80.292	Phlebitis and thrombophlebitis of other deep vessels of left lower extremity	ICD-10-CM	DX
I80.293	Phlebitis and thrombophlebitis of other deep vessels of lower extremity, bilateral	ICD-10-CM	DX
I80.299	Phlebitis and thrombophlebitis of other deep vessels of unspecified lower extremity	ICD-10-CM	DX
I80.3	Phlebitis and thrombophlebitis of lower extremities, unspecified	ICD-10-CM	DX
I80.8	Phlebitis and thrombophlebitis of other sites	ICD-10-CM	DX
I82.401	Acute embolism and thrombosis of unspecified deep veins of right lower extremity	ICD-10-CM	DX
I82.402	Acute embolism and thrombosis of unspecified deep veins of left lower extremity	ICD-10-CM	DX
I82.403	Acute embolism and thrombosis of unspecified deep veins of lower extremity, bilateral	ICD-10-CM	DX
I82.409	Acute embolism and thrombosis of unspecified deep veins of unspecified lower extremity	ICD-10-CM	DX
I82.411	Acute embolism and thrombosis of right femoral vein	ICD-10-CM	DX
I82.412	Acute embolism and thrombosis of left femoral vein	ICD-10-CM	DX
I82.413	Acute embolism and thrombosis of femoral vein, bilateral	ICD-10-CM	DX
I82.419	Acute embolism and thrombosis of unspecified femoral vein	ICD-10-CM	DX
I82.421	Acute embolism and thrombosis of right iliac vein	ICD-10-CM	DX
I82.422	Acute embolism and thrombosis of left iliac vein	ICD-10-CM	DX
I82.423	Acute embolism and thrombosis of iliac vein, bilateral	ICD-10-CM	DX
I82.429	Acute embolism and thrombosis of unspecified iliac vein	ICD-10-CM	DX
I82.431	Acute embolism and thrombosis of right popliteal vein	ICD-10-CM	DX
I82.432	Acute embolism and thrombosis of left popliteal vein	ICD-10-CM	DX
I82.433	Acute embolism and thrombosis of popliteal vein, bilateral	ICD-10-CM	DX
I82.439	Acute embolism and thrombosis of unspecified popliteal vein	ICD-10-CM	DX
I82.441	Acute embolism and thrombosis of right tibial vein	ICD-10-CM	DX
I82.442	Acute embolism and thrombosis of left tibial vein	ICD-10-CM	DX
I82.443	Acute embolism and thrombosis of tibial vein, bilateral	ICD-10-CM	DX
I82.449	Acute embolism and thrombosis of unspecified tibial vein	ICD-10-CM	DX

Appendix E. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Inclusion and Exclusion Criteria in this Request

Code	Description	Code Category	Code Type
I82.491	Acute embolism and thrombosis of other specified deep vein of right lower extremity	ICD-10-CM	DX
I82.492	Acute embolism and thrombosis of other specified deep vein of left lower extremity	ICD-10-CM	DX
I82.493	Acute embolism and thrombosis of other specified deep vein of lower extremity, bilateral	ICD-10-CM	DX
I82.499	Acute embolism and thrombosis of other specified deep vein of unspecified lower extremity	ICD-10-CM	DX
I82.4Y1	Acute embolism and thrombosis of unspecified deep veins of right proximal lower extremity	ICD-10-CM	DX
I82.4Y2	Acute embolism and thrombosis of unspecified deep veins of left proximal lower extremity	ICD-10-CM	DX
I82.4Y3	Acute embolism and thrombosis of unspecified deep veins of proximal lower extremity, bilateral	ICD-10-CM	DX
I82.4Y9	Acute embolism and thrombosis of unspecified deep veins of unspecified proximal lower extremity	ICD-10-CM	DX
I82.4Z1	Acute embolism and thrombosis of unspecified deep veins of right distal lower extremity	ICD-10-CM	DX
I82.4Z2	Acute embolism and thrombosis of unspecified deep veins of left distal lower extremity	ICD-10-CM	DX
I82.4Z3	Acute embolism and thrombosis of unspecified deep veins of distal lower extremity, bilateral	ICD-10-CM	DX
I82.4Z9	Acute embolism and thrombosis of unspecified deep veins of unspecified distal lower extremity	ICD-10-CM	DX
I82.A11	Acute embolism and thrombosis of right axillary vein	ICD-10-CM	DX
I82.A12	Acute embolism and thrombosis of left axillary vein	ICD-10-CM	DX
I82.A13	Acute embolism and thrombosis of axillary vein, bilateral	ICD-10-CM	DX
I82.A19	Acute embolism and thrombosis of unspecified axillary vein	ICD-10-CM	DX
4534	Acute venous embolism and thrombosis of deep vessels of lower extremity	ICD-9-CM	DX
45340	Acute venous embolism and thrombosis of unspecified deep vessels of lower extremity	ICD-9-CM	DX
45341	Acute venous embolism and thrombosis of deep vessels of proximal lower extremity	ICD-9-CM	DX
45342	Acute venous embolism and thrombosis of deep vessels of distal lower extremity	ICD-9-CM	DX
4511	Phlebitis and thrombophlebitis of deep veins of lower extremities	ICD-9-CM	DX
45111	Phlebitis and thrombophlebitis of femoral vein (deep) (superficial)	ICD-9-CM	DX
45119	Phlebitis and thrombophlebitis of deep veins of lower extremities, other	ICD-9-CM	DX
4512	Phlebitis and thrombophlebitis of lower extremities, unspecified	ICD-9-CM	DX
45181	Phlebitis and thrombophlebitis of iliac vein	ICD-9-CM	DX
45183	Phlebitis and thrombophlebitis of deep veins of upper extremities	ICD-9-CM	DX
45384	Phlebitis and thrombophlebitis of upper extremities, unspecified	ICD-9-CM	DX
I80.10	Phlebitis and thrombophlebitis of unspecified femoral vein	ICD-10-CM	DX
I80.11	Phlebitis and thrombophlebitis of right femoral vein	ICD-10-CM	DX
I80.12	Phlebitis and thrombophlebitis of left femoral vein	ICD-10-CM	DX
I80.13	Phlebitis and thrombophlebitis of femoral vein, bilateral	ICD-10-CM	DX
I80.201	Phlebitis and thrombophlebitis of unspecified deep vessels of right lower extremity	ICD-10-CM	DX
I80.202	Phlebitis and thrombophlebitis of unspecified deep vessels of left lower extremity	ICD-10-CM	DX

Appendix E. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Inclusion and Exclusion Criteria in this Request

Code	Description	Code Category	Code Type
I80.203	Phlebitis and thrombophlebitis of unspecified deep vessels of lower extremities, bilateral	ICD-10-CM	DX
I80.209	Phlebitis and thrombophlebitis of unspecified deep vessels of unspecified lower extremity	ICD-10-CM	DX
I80.211	Phlebitis and thrombophlebitis of right iliac vein	ICD-10-CM	DX
I80.212	Phlebitis and thrombophlebitis of left iliac vein	ICD-10-CM	DX
I80.213	Phlebitis and thrombophlebitis of iliac vein, bilateral	ICD-10-CM	DX
I80.219	Phlebitis and thrombophlebitis of unspecified iliac vein	ICD-10-CM	DX
I80.221	Phlebitis and thrombophlebitis of right popliteal vein	ICD-10-CM	DX
I80.222	Phlebitis and thrombophlebitis of left popliteal vein	ICD-10-CM	DX
I80.223	Phlebitis and thrombophlebitis of popliteal vein, bilateral	ICD-10-CM	DX
I80.229	Phlebitis and thrombophlebitis of unspecified popliteal vein	ICD-10-CM	DX
I80.231	Phlebitis and thrombophlebitis of right tibial vein	ICD-10-CM	DX
I80.232	Phlebitis and thrombophlebitis of left tibial vein	ICD-10-CM	DX
I80.233	Phlebitis and thrombophlebitis of tibial vein, bilateral	ICD-10-CM	DX
I80.239	Phlebitis and thrombophlebitis of unspecified tibial vein	ICD-10-CM	DX
I80.291	Phlebitis and thrombophlebitis of other deep vessels of right lower extremity	ICD-10-CM	DX
I80.292	Phlebitis and thrombophlebitis of other deep vessels of left lower extremity	ICD-10-CM	DX
I80.293	Phlebitis and thrombophlebitis of other deep vessels of lower extremity, bilateral	ICD-10-CM	DX
I80.299	Phlebitis and thrombophlebitis of other deep vessels of unspecified lower extremity	ICD-10-CM	DX
I80.3	Phlebitis and thrombophlebitis of lower extremities, unspecified	ICD-10-CM	DX
I80.8	Phlebitis and thrombophlebitis of other sites	ICD-10-CM	DX
I82.401	Acute embolism and thrombosis of unspecified deep veins of right lower extremity	ICD-10-CM	DX
I82.402	Acute embolism and thrombosis of unspecified deep veins of left lower extremity	ICD-10-CM	DX
I82.403	Acute embolism and thrombosis of unspecified deep veins of lower extremity, bilateral	ICD-10-CM	DX
I82.409	Acute embolism and thrombosis of unspecified deep veins of unspecified lower extremity	ICD-10-CM	DX
I82.411	Acute embolism and thrombosis of right femoral vein	ICD-10-CM	DX
I82.412	Acute embolism and thrombosis of left femoral vein	ICD-10-CM	DX
I82.413	Acute embolism and thrombosis of femoral vein, bilateral	ICD-10-CM	DX
I82.419	Acute embolism and thrombosis of unspecified femoral vein	ICD-10-CM	DX
I82.421	Acute embolism and thrombosis of right iliac vein	ICD-10-CM	DX
I82.422	Acute embolism and thrombosis of left iliac vein	ICD-10-CM	DX
I82.423	Acute embolism and thrombosis of iliac vein, bilateral	ICD-10-CM	DX
I82.429	Acute embolism and thrombosis of unspecified iliac vein	ICD-10-CM	DX
I82.431	Acute embolism and thrombosis of right popliteal vein	ICD-10-CM	DX

Appendix E. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Inclusion and Exclusion Criteria in this Request

Code	Description	Code Category	Code Type
I82.432	Acute embolism and thrombosis of left popliteal vein	ICD-10-CM	DX
I82.433	Acute embolism and thrombosis of popliteal vein, bilateral	ICD-10-CM	DX
I82.439	Acute embolism and thrombosis of unspecified popliteal vein	ICD-10-CM	DX
I82.441	Acute embolism and thrombosis of right tibial vein	ICD-10-CM	DX
I82.442	Acute embolism and thrombosis of left tibial vein	ICD-10-CM	DX
I82.443	Acute embolism and thrombosis of tibial vein, bilateral	ICD-10-CM	DX
I82.449	Acute embolism and thrombosis of unspecified tibial vein	ICD-10-CM	DX
I82.491	Acute embolism and thrombosis of other specified deep vein of right lower extremity	ICD-10-CM	DX
I82.492	Acute embolism and thrombosis of other specified deep vein of left lower extremity	ICD-10-CM	DX
I82.493	Acute embolism and thrombosis of other specified deep vein of lower extremity, bilateral	ICD-10-CM	DX
I82.499	Acute embolism and thrombosis of other specified deep vein of unspecified lower extremity	ICD-10-CM	DX
I82.4Y1	Acute embolism and thrombosis of unspecified deep veins of right proximal lower extremity	ICD-10-CM	DX
I82.4Y2	Acute embolism and thrombosis of unspecified deep veins of left proximal lower extremity	ICD-10-CM	DX
I82.4Y3	Acute embolism and thrombosis of unspecified deep veins of proximal lower extremity, bilateral	ICD-10-CM	DX
I82.4Y9	Acute embolism and thrombosis of unspecified deep veins of unspecified proximal lower extremity	ICD-10-CM	DX
I82.4Z1	Acute embolism and thrombosis of unspecified deep veins of right distal lower extremity	ICD-10-CM	DX
I82.4Z2	Acute embolism and thrombosis of unspecified deep veins of left distal lower extremity	ICD-10-CM	DX
I82.4Z3	Acute embolism and thrombosis of unspecified deep veins of distal lower extremity, bilateral	ICD-10-CM	DX
I82.4Z9	Acute embolism and thrombosis of unspecified deep veins of unspecified distal lower extremity	ICD-10-CM	DX
I82.A11	Acute embolism and thrombosis of right axillary vein	ICD-10-CM	DX
I82.A12	Acute embolism and thrombosis of left axillary vein	ICD-10-CM	DX
I82.A13	Acute embolism and thrombosis of axillary vein, bilateral	ICD-10-CM	DX
I82.A19	Acute embolism and thrombosis of unspecified axillary vein	ICD-10-CM	DX
Pulmonary embolism			
4151	Pulmonary embolism and infarction	ICD-9-CM	DX
41511	Iatrogenic pulmonary embolism and infarction	ICD-9-CM	DX
41512	Septic pulmonary embolism	ICD-9-CM	DX
41519	Other pulmonary embolism and infarction	ICD-9-CM	DX
I26.01	Septic pulmonary embolism with acute cor pulmonale	ICD-10-CM	DX
I26.09	Other pulmonary embolism with acute cor pulmonale	ICD-10-CM	DX
I26.90	Septic pulmonary embolism without acute cor pulmonale	ICD-10-CM	DX
I26.99	Other pulmonary embolism without acute cor pulmonale	ICD-10-CM	DX

Appendix E. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Inclusion and Exclusion Criteria in this Request

Code	Description	Code Category	Code Type
T80.0XXA	Air embolism following infusion, transfusion and therapeutic injection, initial encounter	ICD-10-CM	DX
T81.718A	Complication of other artery following a procedure, not elsewhere classified, initial encounter	ICD-10-CM	DX
T81.72XA	Complication of vein following a procedure, not elsewhere classified, initial encounter	ICD-10-CM	DX
T82.817A	Embolism due to cardiac prosthetic devices, implants and grafts, initial encounter	ICD-10-CM	DX
T82.818A	Embolism due to vascular prosthetic devices, implants and grafts, initial encounter	ICD-10-CM	DX
Joint replacement			
V436	Joint replaced by other means	ICD-9-CM	DX
V4360	Unspecified joint replacement	ICD-9-CM	DX
V4361	Shoulder joint replacement	ICD-9-CM	DX
V4362	Elbow joint replacement	ICD-9-CM	DX
V4363	Wrist joint replacement	ICD-9-CM	DX
V4364	Hip joint replacement	ICD-9-CM	DX
V4365	Knee joint replacement	ICD-9-CM	DX
V4366	Ankle joint replacement	ICD-9-CM	DX
V4369	Other joint replacement	ICD-9-CM	DX
815	JOINT REPLACEMENT LOWER EXTREMITY	ICD-9-CM	PX
8151	TOTAL HIP REPLACEMENT	ICD-9-CM	PX
8152	PARTIAL HIP REPLACEMENT	ICD-9-CM	PX
8153	REVISION OF HIP REPLACEMENT NOS	ICD-9-CM	PX
8154	TOTAL KNEE REPLACEMENT	ICD-9-CM	PX
8155	REVISION OF KNEE REPLACEMENT NOS	ICD-9-CM	PX
8156	TOTAL ANKLE REPLACEMENT	ICD-9-CM	PX
8157	REPLACEMENT OF JOINT OF FOOT&TOE	ICD-9-CM	PX
8159	REV JOINT REPLCMT LOWER EXTREM NEC	ICD-9-CM	PX
818	ARTHROPLASTY&REPAIR SHOULDER&ELBOW	ICD-9-CM	PX
8180	OTHER TOTAL SHOULDER REPLACEMENT	ICD-9-CM	PX
8181	PARTIAL SHOULDER REPLACEMENT	ICD-9-CM	PX
8182	REPAIR RECURRENT DISLOC SHOULDER	ICD-9-CM	PX
8183	OTHER REPAIR OF SHOULDER	ICD-9-CM	PX
8184	TOTAL ELBOW REPLACEMENT	ICD-9-CM	PX
8185	OTHER REPAIR OF ELBOW	ICD-9-CM	PX
24363	REPLACE ELBOW JOINT	CPT-4	PX
27130	TOTAL HIP ARTHROPLASTY	CPT-4	PX

Appendix E. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Inclusion and Exclusion Criteria in this Request

Code	Description	Code Category	Code Type
27132	TOTAL HIP ARTHROPLASTY	CPT-4	PX
27134	REVISE HIP JOINT REPLACEMENT	CPT-4	PX
27137	REVISE HIP JOINT REPLACEMENT	CPT-4	PX
27138	REVISE HIP JOINT REPLACEMENT	CPT-4	PX
27447	TOTAL KNEE ARTHROPLASTY	CPT-4	PX
Z96.60	Presence of unspecified orthopedic joint implant	ICD-10-CM	DX
Z96.611	Presence of right artificial shoulder joint	ICD-10-CM	DX
Z96.612	Presence of left artificial shoulder joint	ICD-10-CM	DX
Z96.619	Presence of unspecified artificial shoulder joint	ICD-10-CM	DX
Z96.621	Presence of right artificial elbow joint	ICD-10-CM	DX
Z96.622	Presence of left artificial elbow joint	ICD-10-CM	DX
Z96.629	Presence of unspecified artificial elbow joint	ICD-10-CM	DX
Z96.631	Presence of right artificial wrist joint	ICD-10-CM	DX
Z96.632	Presence of left artificial wrist joint	ICD-10-CM	DX
Z96.639	Presence of unspecified artificial wrist joint	ICD-10-CM	DX
Z96.641	Presence of right artificial hip joint	ICD-10-CM	DX
Z96.642	Presence of left artificial hip joint	ICD-10-CM	DX
Z96.643	Presence of artificial hip joint, bilateral	ICD-10-CM	DX
Z96.649	Presence of unspecified artificial hip joint	ICD-10-CM	DX
Z96.651	Presence of right artificial knee joint	ICD-10-CM	DX
Z96.652	Presence of left artificial knee joint	ICD-10-CM	DX
Z96.653	Presence of artificial knee joint, bilateral	ICD-10-CM	DX
Z96.659	Presence of unspecified artificial knee joint	ICD-10-CM	DX
Z96.661	Presence of right artificial ankle joint	ICD-10-CM	DX
Z96.662	Presence of left artificial ankle joint	ICD-10-CM	DX
Z96.669	Presence of unspecified artificial ankle joint	ICD-10-CM	DX
Z96.691	Finger-joint replacement of right hand	ICD-10-CM	DX
Z96.692	Finger-joint replacement of left hand	ICD-10-CM	DX
Z96.693	Finger-joint replacement, bilateral	ICD-10-CM	DX
Z96.698	Presence of other orthopedic joint implants	ICD-10-CM	DX
Z96.7	Presence of other bone and tendon implants	ICD-10-CM	DX
0RQE0ZZ	Repair Right Sternoclavicular Joint, Open Approach	ICD-10-PCS	PX
0RQE3ZZ	Repair Right Sternoclavicular Joint, Percutaneous Approach	ICD-10-PCS	PX

Appendix E. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Inclusion and Exclusion Criteria in this Request

Code	Description	Code Category	Code Type
0RQE4ZZ	Repair Right Sternoclavicular Joint, Percutaneous Endoscopic Approach	ICD-10-PCS	PX
0RQEXZZ	Repair Right Sternoclavicular Joint, External Approach	ICD-10-PCS	PX
0RQF0ZZ	Repair Left Sternoclavicular Joint, Open Approach	ICD-10-PCS	PX
0RQF3ZZ	Repair Left Sternoclavicular Joint, Percutaneous Approach	ICD-10-PCS	PX
0RQF4ZZ	Repair Left Sternoclavicular Joint, Percutaneous Endoscopic Approach	ICD-10-PCS	PX
0RQFXZZ	Repair Left Sternoclavicular Joint, External Approach	ICD-10-PCS	PX
0RQG0ZZ	Repair Right Acromioclavicular Joint, Open Approach	ICD-10-PCS	PX
0RQG3ZZ	Repair Right Acromioclavicular Joint, Percutaneous Approach	ICD-10-PCS	PX
0RQG4ZZ	Repair Right Acromioclavicular Joint, Percutaneous Endoscopic Approach	ICD-10-PCS	PX
0RQGXZZ	Repair Right Acromioclavicular Joint, External Approach	ICD-10-PCS	PX
0RQH0ZZ	Repair Left Acromioclavicular Joint, Open Approach	ICD-10-PCS	PX
0RQH3ZZ	Repair Left Acromioclavicular Joint, Percutaneous Approach	ICD-10-PCS	PX
0RQH4ZZ	Repair Left Acromioclavicular Joint, Percutaneous Endoscopic Approach	ICD-10-PCS	PX
0RQHXZZ	Repair Left Acromioclavicular Joint, External Approach	ICD-10-PCS	PX
0RQJ0ZZ	Repair Right Shoulder Joint, Open Approach	ICD-10-PCS	PX
0RQJ3ZZ	Repair Right Shoulder Joint, Percutaneous Approach	ICD-10-PCS	PX
0RQJ4ZZ	Repair Right Shoulder Joint, Percutaneous Endoscopic Approach	ICD-10-PCS	PX
0RQJXZZ	Repair Right Shoulder Joint, External Approach	ICD-10-PCS	PX
0RQK0ZZ	Repair Left Shoulder Joint, Open Approach	ICD-10-PCS	PX
0RQK3ZZ	Repair Left Shoulder Joint, Percutaneous Approach	ICD-10-PCS	PX
0RQK4ZZ	Repair Left Shoulder Joint, Percutaneous Endoscopic Approach	ICD-10-PCS	PX
0RQKXZZ	Repair Left Shoulder Joint, External Approach	ICD-10-PCS	PX
0RQL0ZZ	Repair Right Elbow Joint, Open Approach	ICD-10-PCS	PX
0RQL3ZZ	Repair Right Elbow Joint, Percutaneous Approach	ICD-10-PCS	PX
0RQL4ZZ	Repair Right Elbow Joint, Percutaneous Endoscopic Approach	ICD-10-PCS	PX
0RQLXZZ	Repair Right Elbow Joint, External Approach	ICD-10-PCS	PX
0RQM0ZZ	Repair Left Elbow Joint, Open Approach	ICD-10-PCS	PX
0RQM3ZZ	Repair Left Elbow Joint, Percutaneous Approach	ICD-10-PCS	PX
0RQM4ZZ	Repair Left Elbow Joint, Percutaneous Endoscopic Approach	ICD-10-PCS	PX
0RQMXZZ	Repair Left Elbow Joint, External Approach	ICD-10-PCS	PX
0RRE07Z	Replacement of Right Sternoclavicular Joint with Autologous Tissue Substitute, Open Approach	ICD-10-PCS	PX
0RRE0JZ	Replacement of Right Sternoclavicular Joint with Synthetic Substitute, Open Approach	ICD-10-PCS	PX
0RRE0KZ	Replacement of Right Sternoclavicular Joint with Nonautologous Tissue Substitute, Open Approach	ICD-10-PCS	PX

Appendix E. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Inclusion and Exclusion Criteria in this Request

Code	Description	Code Category	Code Type
0RRF07Z	Replacement of Left Sternoclavicular Joint with Autologous Tissue Substitute, Open Approach	ICD-10-PCS	PX
0RRF0JZ	Replacement of Left Sternoclavicular Joint with Synthetic Substitute, Open Approach	ICD-10-PCS	PX
0RRF0KZ	Replacement of Left Sternoclavicular Joint with Nonautologous Tissue Substitute, Open Approach	ICD-10-PCS	PX
0RRG07Z	Replacement of Right Acromioclavicular Joint with Autologous Tissue Substitute, Open Approach	ICD-10-PCS	PX
0RRG0JZ	Replacement of Right Acromioclavicular Joint with Synthetic Substitute, Open Approach	ICD-10-PCS	PX
0RRG0KZ	Replacement of Right Acromioclavicular Joint with Nonautologous Tissue Substitute, Open Approach	ICD-10-PCS	PX
0RRH07Z	Replacement of Left Acromioclavicular Joint with Autologous Tissue Substitute, Open Approach	ICD-10-PCS	PX
0RRH0JZ	Replacement of Left Acromioclavicular Joint with Synthetic Substitute, Open Approach	ICD-10-PCS	PX
0RRH0KZ	Replacement of Left Acromioclavicular Joint with Nonautologous Tissue Substitute, Open Approach	ICD-10-PCS	PX
0RRJ07Z	Replacement of Right Shoulder Joint with Autologous Tissue Substitute, Open Approach	ICD-10-PCS	PX
0RRJ0J6	Replacement of Right Shoulder Joint with Synthetic Substitute, Humeral Surface, Open Approach	ICD-10-PCS	PX
0RRJ0J7	Replacement of Right Shoulder Joint with Synthetic Substitute, Glenoid Surface, Open Approach	ICD-10-PCS	PX
0RRJ0JZ	Replacement of Right Shoulder Joint with Synthetic Substitute, Open Approach	ICD-10-PCS	PX
0RRJ0KZ	Replacement of Right Shoulder Joint with Nonautologous Tissue Substitute, Open Approach	ICD-10-PCS	PX
0RRK07Z	Replacement of Left Shoulder Joint with Autologous Tissue Substitute, Open Approach	ICD-10-PCS	PX
0RRK0J6	Replacement of Left Shoulder Joint with Synthetic Substitute, Humeral Surface, Open Approach	ICD-10-PCS	PX
0RRK0J7	Replacement of Left Shoulder Joint with Synthetic Substitute, Glenoid Surface, Open Approach	ICD-10-PCS	PX
0RRK0JZ	Replacement of Left Shoulder Joint with Synthetic Substitute, Open Approach	ICD-10-PCS	PX
0RRK0KZ	Replacement of Left Shoulder Joint with Nonautologous Tissue Substitute, Open Approach	ICD-10-PCS	PX
0RRL07Z	Replacement of Right Elbow Joint with Autologous Tissue Substitute, Open Approach	ICD-10-PCS	PX
0RRL0JZ	Replacement of Right Elbow Joint with Synthetic Substitute, Open Approach	ICD-10-PCS	PX
0RRL0KZ	Replacement of Right Elbow Joint with Nonautologous Tissue Substitute, Open Approach	ICD-10-PCS	PX
0RRM07Z	Replacement of Left Elbow Joint with Autologous Tissue Substitute, Open Approach	ICD-10-PCS	PX
0RRM0JZ	Replacement of Left Elbow Joint with Synthetic Substitute, Open Approach	ICD-10-PCS	PX
0RRM0KZ	Replacement of Left Elbow Joint with Nonautologous Tissue Substitute, Open Approach	ICD-10-PCS	PX
0RSE04Z	Reposition Right Sternoclavicular Joint with Internal Fixation Device, Open Approach	ICD-10-PCS	PX
0RSE0ZZ	Reposition Right Sternoclavicular Joint, Open Approach	ICD-10-PCS	PX
0RSF04Z	Reposition Left Sternoclavicular Joint with Internal Fixation Device, Open Approach	ICD-10-PCS	PX
0RSF0ZZ	Reposition Left Sternoclavicular Joint, Open Approach	ICD-10-PCS	PX
0RSG04Z	Reposition Right Acromioclavicular Joint with Internal Fixation Device, Open Approach	ICD-10-PCS	PX
0RSG0ZZ	Reposition Right Acromioclavicular Joint, Open Approach	ICD-10-PCS	PX
0RSH04Z	Reposition Left Acromioclavicular Joint with Internal Fixation Device, Open Approach	ICD-10-PCS	PX
0RSH0ZZ	Reposition Left Acromioclavicular Joint, Open Approach	ICD-10-PCS	PX

Appendix E. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Inclusion and Exclusion Criteria in this Request

Code	Description	Code Category	Code Type
0RSJ04Z	Reposition Right Shoulder Joint with Internal Fixation Device, Open Approach	ICD-10-PCS	PX
0RSJ0ZZ	Reposition Right Shoulder Joint, Open Approach	ICD-10-PCS	PX
0RSK04Z	Reposition Left Shoulder Joint with Internal Fixation Device, Open Approach	ICD-10-PCS	PX
0RSK0ZZ	Reposition Left Shoulder Joint, Open Approach	ICD-10-PCS	PX
0RUE07Z	Supplement Right Sternoclavicular Joint with Autologous Tissue Substitute, Open Approach	ICD-10-PCS	PX
0RUE0JZ	Supplement Right Sternoclavicular Joint with Synthetic Substitute, Open Approach	ICD-10-PCS	PX
0RUE0KZ	Supplement Right Sternoclavicular Joint with Nonautologous Tissue Substitute, Open Approach	ICD-10-PCS	PX
0RUE37Z	Supplement Right Sternoclavicular Joint with Autologous Tissue Substitute, Percutaneous Approach	ICD-10-PCS	PX
0RUE3JZ	Supplement Right Sternoclavicular Joint with Synthetic Substitute, Percutaneous Approach	ICD-10-PCS	PX
0RUE3KZ	Supplement Right Sternoclavicular Joint with Nonautologous Tissue Substitute, Percutaneous Approach	ICD-10-PCS	PX
0RUE47Z	Supplement Right Sternoclavicular Joint with Autologous Tissue Substitute, Percutaneous Endoscopic Approach	ICD-10-PCS	PX
0RUE4JZ	Supplement Right Sternoclavicular Joint with Synthetic Substitute, Percutaneous Endoscopic Approach	ICD-10-PCS	PX
0RUE4KZ	Supplement Right Sternoclavicular Joint with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach	ICD-10-PCS	PX
0RUF07Z	Supplement Left Sternoclavicular Joint with Autologous Tissue Substitute, Open Approach	ICD-10-PCS	PX
0RUF0JZ	Supplement Left Sternoclavicular Joint with Synthetic Substitute, Open Approach	ICD-10-PCS	PX
0RUF0KZ	Supplement Left Sternoclavicular Joint with Nonautologous Tissue Substitute, Open Approach	ICD-10-PCS	PX
0RUF37Z	Supplement Left Sternoclavicular Joint with Autologous Tissue Substitute, Percutaneous Approach	ICD-10-PCS	PX
0RUF3JZ	Supplement Left Sternoclavicular Joint with Synthetic Substitute, Percutaneous Approach	ICD-10-PCS	PX
0RUF3KZ	Supplement Left Sternoclavicular Joint with Nonautologous Tissue Substitute, Percutaneous Approach	ICD-10-PCS	PX
0RUF47Z	Supplement Left Sternoclavicular Joint with Autologous Tissue Substitute, Percutaneous Endoscopic Approach	ICD-10-PCS	PX
0RUF4JZ	Supplement Left Sternoclavicular Joint with Synthetic Substitute, Percutaneous Endoscopic Approach	ICD-10-PCS	PX
0RUF4KZ	Supplement Left Sternoclavicular Joint with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach	ICD-10-PCS	PX
0RUG07Z	Supplement Right Acromioclavicular Joint with Autologous Tissue Substitute, Open Approach	ICD-10-PCS	PX
0RUG0JZ	Supplement Right Acromioclavicular Joint with Synthetic Substitute, Open Approach	ICD-10-PCS	PX
0RUG0KZ	Supplement Right Acromioclavicular Joint with Nonautologous Tissue Substitute, Open Approach	ICD-10-PCS	PX
0RUG37Z	Supplement Right Acromioclavicular Joint with Autologous Tissue Substitute, Percutaneous Approach	ICD-10-PCS	PX
0RUG3JZ	Supplement Right Acromioclavicular Joint with Synthetic Substitute, Percutaneous Approach	ICD-10-PCS	PX
0RUG3KZ	Supplement Right Acromioclavicular Joint with Nonautologous Tissue Substitute, Percutaneous Approach	ICD-10-PCS	PX
0RUG47Z	Supplement Right Acromioclavicular Joint with Autologous Tissue Substitute, Percutaneous Endoscopic Approach	ICD-10-PCS	PX
0RUG4JZ	Supplement Right Acromioclavicular Joint with Synthetic Substitute, Percutaneous Endoscopic Approach	ICD-10-PCS	PX
0RUG4KZ	Supplement Right Acromioclavicular Joint with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach	ICD-10-PCS	PX
0RUH07Z	Supplement Left Acromioclavicular Joint with Autologous Tissue Substitute, Open Approach	ICD-10-PCS	PX
0RUH0JZ	Supplement Left Acromioclavicular Joint with Synthetic Substitute, Open Approach	ICD-10-PCS	PX

Appendix E. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Inclusion and Exclusion Criteria in this Request

Code	Description	Code Category	Code Type
0RUH0KZ	Supplement Left Acromioclavicular Joint with Nonautologous Tissue Substitute, Open Approach	ICD-10-PCS	PX
0RUH37Z	Supplement Left Acromioclavicular Joint with Autologous Tissue Substitute, Percutaneous Approach	ICD-10-PCS	PX
0RUH3JZ	Supplement Left Acromioclavicular Joint with Synthetic Substitute, Percutaneous Approach	ICD-10-PCS	PX
0RUH3KZ	Supplement Left Acromioclavicular Joint with Nonautologous Tissue Substitute, Percutaneous Approach	ICD-10-PCS	PX
0RUH47Z	Supplement Left Acromioclavicular Joint with Autologous Tissue Substitute, Percutaneous Endoscopic Approach	ICD-10-PCS	PX
0RUH4JZ	Supplement Left Acromioclavicular Joint with Synthetic Substitute, Percutaneous Endoscopic Approach	ICD-10-PCS	PX
0RUH4KZ	Supplement Left Acromioclavicular Joint with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach	ICD-10-PCS	PX
0RUJ07Z	Supplement Right Shoulder Joint with Autologous Tissue Substitute, Open Approach	ICD-10-PCS	PX
0RUJ0JZ	Supplement Right Shoulder Joint with Synthetic Substitute, Open Approach	ICD-10-PCS	PX
0RUJ0KZ	Supplement Right Shoulder Joint with Nonautologous Tissue Substitute, Open Approach	ICD-10-PCS	PX
0RUJ37Z	Supplement Right Shoulder Joint with Autologous Tissue Substitute, Percutaneous Approach	ICD-10-PCS	PX
0RUJ3JZ	Supplement Right Shoulder Joint with Synthetic Substitute, Percutaneous Approach	ICD-10-PCS	PX
0RUJ3KZ	Supplement Right Shoulder Joint with Nonautologous Tissue Substitute, Percutaneous Approach	ICD-10-PCS	PX
0RUJ47Z	Supplement Right Shoulder Joint with Autologous Tissue Substitute, Percutaneous Endoscopic Approach	ICD-10-PCS	PX
0RUJ4JZ	Supplement Right Shoulder Joint with Synthetic Substitute, Percutaneous Endoscopic Approach	ICD-10-PCS	PX
0RUJ4KZ	Supplement Right Shoulder Joint with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach	ICD-10-PCS	PX
0RUK07Z	Supplement Left Shoulder Joint with Autologous Tissue Substitute, Open Approach	ICD-10-PCS	PX
0RUK0JZ	Supplement Left Shoulder Joint with Synthetic Substitute, Open Approach	ICD-10-PCS	PX
0RUK0KZ	Supplement Left Shoulder Joint with Nonautologous Tissue Substitute, Open Approach	ICD-10-PCS	PX
0RUK37Z	Supplement Left Shoulder Joint with Autologous Tissue Substitute, Percutaneous Approach	ICD-10-PCS	PX
0RUK3JZ	Supplement Left Shoulder Joint with Synthetic Substitute, Percutaneous Approach	ICD-10-PCS	PX
0RUK3KZ	Supplement Left Shoulder Joint with Nonautologous Tissue Substitute, Percutaneous Approach	ICD-10-PCS	PX
0RUK47Z	Supplement Left Shoulder Joint with Autologous Tissue Substitute, Percutaneous Endoscopic Approach	ICD-10-PCS	PX
0RUK4JZ	Supplement Left Shoulder Joint with Synthetic Substitute, Percutaneous Endoscopic Approach	ICD-10-PCS	PX
0RUK4KZ	Supplement Left Shoulder Joint with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach	ICD-10-PCS	PX
0RUL07Z	Supplement Right Elbow Joint with Autologous Tissue Substitute, Open Approach	ICD-10-PCS	PX
0RUL0JZ	Supplement Right Elbow Joint with Synthetic Substitute, Open Approach	ICD-10-PCS	PX
0RUL0KZ	Supplement Right Elbow Joint with Nonautologous Tissue Substitute, Open Approach	ICD-10-PCS	PX
0RUL37Z	Supplement Right Elbow Joint with Autologous Tissue Substitute, Percutaneous Approach	ICD-10-PCS	PX
0RUL3JZ	Supplement Right Elbow Joint with Synthetic Substitute, Percutaneous Approach	ICD-10-PCS	PX
0RUL3KZ	Supplement Right Elbow Joint with Nonautologous Tissue Substitute, Percutaneous Approach	ICD-10-PCS	PX
0RUL47Z	Supplement Right Elbow Joint with Autologous Tissue Substitute, Percutaneous Endoscopic Approach	ICD-10-PCS	PX
0RUL4JZ	Supplement Right Elbow Joint with Synthetic Substitute, Percutaneous Endoscopic Approach	ICD-10-PCS	PX

Appendix E. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Inclusion and Exclusion Criteria in this Request

Code	Description	Code Category	Code Type
0RUL4KZ	Supplement Right Elbow Joint with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach	ICD-10-PCS	PX
0RUM07Z	Supplement Left Elbow Joint with Autologous Tissue Substitute, Open Approach	ICD-10-PCS	PX
0RUM0JZ	Supplement Left Elbow Joint with Synthetic Substitute, Open Approach	ICD-10-PCS	PX
0RUM0KZ	Supplement Left Elbow Joint with Nonautologous Tissue Substitute, Open Approach	ICD-10-PCS	PX
0RUM37Z	Supplement Left Elbow Joint with Autologous Tissue Substitute, Percutaneous Approach	ICD-10-PCS	PX
0RUM3JZ	Supplement Left Elbow Joint with Synthetic Substitute, Percutaneous Approach	ICD-10-PCS	PX
0RUM3KZ	Supplement Left Elbow Joint with Nonautologous Tissue Substitute, Percutaneous Approach	ICD-10-PCS	PX
0RUM47Z	Supplement Left Elbow Joint with Autologous Tissue Substitute, Percutaneous Endoscopic Approach	ICD-10-PCS	PX
0RUM4JZ	Supplement Left Elbow Joint with Synthetic Substitute, Percutaneous Endoscopic Approach	ICD-10-PCS	PX
0RUM4KZ	Supplement Left Elbow Joint with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach	ICD-10-PCS	PX
0SR9019	Replacement of Right Hip Joint with Metal Synthetic Substitute, Cemented, Open Approach	ICD-10-PCS	PX
0SR901A	Replacement of Right Hip Joint with Metal Synthetic Substitute, Uncemented, Open Approach	ICD-10-PCS	PX
0SR901Z	Replacement of Right Hip Joint with Metal Synthetic Substitute, Open Approach	ICD-10-PCS	PX
0SR9029	Replacement of Right Hip Joint with Metal on Polyethylene Synthetic Substitute, Cemented, Open Approach	ICD-10-PCS	PX
0SR902A	Replacement of Right Hip Joint with Metal on Polyethylene Synthetic Substitute, Uncemented, Open Approach	ICD-10-PCS	PX
0SR902Z	Replacement of Right Hip Joint with Metal on Polyethylene Synthetic Substitute, Open Approach	ICD-10-PCS	PX
0SR9039	Replacement of Right Hip Joint with Ceramic Synthetic Substitute, Cemented, Open Approach	ICD-10-PCS	PX
0SR903A	Replacement of Right Hip Joint with Ceramic Synthetic Substitute, Uncemented, Open Approach	ICD-10-PCS	PX
0SR903Z	Replacement of Right Hip Joint with Ceramic Synthetic Substitute, Open Approach	ICD-10-PCS	PX
0SR9049	Replacement of Right Hip Joint with Ceramic on Polyethylene Synthetic Substitute, Cemented, Open Approach	ICD-10-PCS	PX
0SR904A	Replacement of Right Hip Joint with Ceramic on Polyethylene Synthetic Substitute, Uncemented, Open Approach	ICD-10-PCS	PX
0SR904Z	Replacement of Right Hip Joint with Ceramic on Polyethylene Synthetic Substitute, Open Approach	ICD-10-PCS	PX
0SR907Z	Replacement of Right Hip Joint with Autologous Tissue Substitute, Open Approach	ICD-10-PCS	PX
0SR90J9	Replacement of Right Hip Joint with Synthetic Substitute, Cemented, Open Approach	ICD-10-PCS	PX
0SR90JA	Replacement of Right Hip Joint with Synthetic Substitute, Uncemented, Open Approach	ICD-10-PCS	PX
0SR90JZ	Replacement of Right Hip Joint with Synthetic Substitute, Open Approach	ICD-10-PCS	PX
0SR90KZ	Replacement of Right Hip Joint with Nonautologous Tissue Substitute, Open Approach	ICD-10-PCS	PX
0SRA009	Replacement of Right Hip Joint, Acetabular Surface with Polyethylene Synthetic Substitute, Cemented, Open Approach	ICD-10-PCS	PX
0SRA00A	Replacement of Right Hip Joint, Acetabular Surface with Polyethylene Synthetic Substitute, Uncemented, Open Approach	ICD-10-PCS	PX
0SRA00Z	Replacement of Right Hip Joint, Acetabular Surface with Polyethylene Synthetic Substitute, Open Approach	ICD-10-PCS	PX
0SRA019	Replacement of Right Hip Joint, Acetabular Surface with Metal Synthetic Substitute, Cemented, Open Approach	ICD-10-PCS	PX
0SRA01A	Replacement of Right Hip Joint, Acetabular Surface with Metal Synthetic Substitute, Uncemented, Open Approach	ICD-10-PCS	PX
0SRA01Z	Replacement of Right Hip Joint, Acetabular Surface with Metal Synthetic Substitute, Open Approach	ICD-10-PCS	PX

Appendix E. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Inclusion and Exclusion Criteria in this Request

Code	Description	Code Category	Code Type
0SRA039	Replacement of Right Hip Joint, Acetabular Surface with Ceramic Synthetic Substitute, Cemented, Open Approach	ICD-10-PCS	PX
0SRA03A	Replacement of Right Hip Joint, Acetabular Surface with Ceramic Synthetic Substitute, Uncemented, Open Approach	ICD-10-PCS	PX
0SRA03Z	Replacement of Right Hip Joint, Acetabular Surface with Ceramic Synthetic Substitute, Open Approach	ICD-10-PCS	PX
0SRA07Z	Replacement of Right Hip Joint, Acetabular Surface with Autologous Tissue Substitute, Open Approach	ICD-10-PCS	PX
0SRA0J9	Replacement of Right Hip Joint, Acetabular Surface with Synthetic Substitute, Cemented, Open Approach	ICD-10-PCS	PX
0SRA0JA	Replacement of Right Hip Joint, Acetabular Surface with Synthetic Substitute, Uncemented, Open Approach	ICD-10-PCS	PX
0SRA0JZ	Replacement of Right Hip Joint, Acetabular Surface with Synthetic Substitute, Open Approach	ICD-10-PCS	PX
0SRA0KZ	Replacement of Right Hip Joint, Acetabular Surface with Nonautologous Tissue Substitute, Open Approach	ICD-10-PCS	PX
0SRB019	Replacement of Left Hip Joint with Metal Synthetic Substitute, Cemented, Open Approach	ICD-10-PCS	PX
0SRB01A	Replacement of Left Hip Joint with Metal Synthetic Substitute, Uncemented, Open Approach	ICD-10-PCS	PX
0SRB01Z	Replacement of Left Hip Joint with Metal Synthetic Substitute, Open Approach	ICD-10-PCS	PX
0SRB029	Replacement of Left Hip Joint with Metal on Polyethylene Synthetic Substitute, Cemented, Open Approach	ICD-10-PCS	PX
0SRB02A	Replacement of Left Hip Joint with Metal on Polyethylene Synthetic Substitute, Uncemented, Open Approach	ICD-10-PCS	PX
0SRB02Z	Replacement of Left Hip Joint with Metal on Polyethylene Synthetic Substitute, Open Approach	ICD-10-PCS	PX
0SRB039	Replacement of Left Hip Joint with Ceramic Synthetic Substitute, Cemented, Open Approach	ICD-10-PCS	PX
0SRB03A	Replacement of Left Hip Joint with Ceramic Synthetic Substitute, Uncemented, Open Approach	ICD-10-PCS	PX
0SRB03Z	Replacement of Left Hip Joint with Ceramic Synthetic Substitute, Open Approach	ICD-10-PCS	PX
0SRB049	Replacement of Left Hip Joint with Ceramic on Polyethylene Synthetic Substitute, Cemented, Open Approach	ICD-10-PCS	PX
0SRB04A	Replacement of Left Hip Joint with Ceramic on Polyethylene Synthetic Substitute, Uncemented, Open Approach	ICD-10-PCS	PX
0SRB04Z	Replacement of Left Hip Joint with Ceramic on Polyethylene Synthetic Substitute, Open Approach	ICD-10-PCS	PX
0SRB07Z	Replacement of Left Hip Joint with Autologous Tissue Substitute, Open Approach	ICD-10-PCS	PX
0SRB0J9	Replacement of Left Hip Joint with Synthetic Substitute, Cemented, Open Approach	ICD-10-PCS	PX
0SRB0JA	Replacement of Left Hip Joint with Synthetic Substitute, Uncemented, Open Approach	ICD-10-PCS	PX
0SRB0JZ	Replacement of Left Hip Joint with Synthetic Substitute, Open Approach	ICD-10-PCS	PX
0SRB0KZ	Replacement of Left Hip Joint with Nonautologous Tissue Substitute, Open Approach	ICD-10-PCS	PX
0SRC07Z	Replacement of Right Knee Joint with Autologous Tissue Substitute, Open Approach	ICD-10-PCS	PX
0SRC0J9	Replacement of Right Knee Joint with Synthetic Substitute, Cemented, Open Approach	ICD-10-PCS	PX
0SRC0JA	Replacement of Right Knee Joint with Synthetic Substitute, Uncemented, Open Approach	ICD-10-PCS	PX
0SRC0JZ	Replacement of Right Knee Joint with Synthetic Substitute, Open Approach	ICD-10-PCS	PX
0SRC0KZ	Replacement of Right Knee Joint with Nonautologous Tissue Substitute, Open Approach	ICD-10-PCS	PX
0SRC0L9	Replacement of Right Knee Joint with Unicondylar Synthetic Substitute, Cemented, Open Approach	ICD-10-PCS	PX
0SRC0LA	Replacement of Right Knee Joint with Unicondylar Synthetic Substitute, Uncemented, Open Approach	ICD-10-PCS	PX
0SRC0LZ	Replacement of Right Knee Joint with Unicondylar Synthetic Substitute, Open Approach	ICD-10-PCS	PX

Appendix E. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Inclusion and Exclusion Criteria in this Request

Code	Description	Code Category	Code Type
0SRD07Z	Replacement of Left Knee Joint with Autologous Tissue Substitute, Open Approach	ICD-10-PCS	PX
0SRD0J9	Replacement of Left Knee Joint with Synthetic Substitute, Cemented, Open Approach	ICD-10-PCS	PX
0SRD0JA	Replacement of Left Knee Joint with Synthetic Substitute, Uncemented, Open Approach	ICD-10-PCS	PX
0SRD0JZ	Replacement of Left Knee Joint with Synthetic Substitute, Open Approach	ICD-10-PCS	PX
0SRD0KZ	Replacement of Left Knee Joint with Nonautologous Tissue Substitute, Open Approach	ICD-10-PCS	PX
0SRD0L9	Replacement of Left Knee Joint with Unicondylar Synthetic Substitute, Cemented, Open Approach	ICD-10-PCS	PX
0SRD0LA	Replacement of Left Knee Joint with Unicondylar Synthetic Substitute, Uncemented, Open Approach	ICD-10-PCS	PX
0SRD0LZ	Replacement of Left Knee Joint with Unicondylar Synthetic Substitute, Open Approach	ICD-10-PCS	PX
0SRE009	Replacement of Left Hip Joint, Acetabular Surface with Polyethylene Synthetic Substitute, Cemented, Open Approach	ICD-10-PCS	PX
0SRE00A	Replacement of Left Hip Joint, Acetabular Surface with Polyethylene Synthetic Substitute, Uncemented, Open Approach	ICD-10-PCS	PX
0SRE00Z	Replacement of Left Hip Joint, Acetabular Surface with Polyethylene Synthetic Substitute, Open Approach	ICD-10-PCS	PX
0SRE019	Replacement of Left Hip Joint, Acetabular Surface with Metal Synthetic Substitute, Cemented, Open Approach	ICD-10-PCS	PX
0SRE01A	Replacement of Left Hip Joint, Acetabular Surface with Metal Synthetic Substitute, Uncemented, Open Approach	ICD-10-PCS	PX
0SRE01Z	Replacement of Left Hip Joint, Acetabular Surface with Metal Synthetic Substitute, Open Approach	ICD-10-PCS	PX
0SRE039	Replacement of Left Hip Joint, Acetabular Surface with Ceramic Synthetic Substitute, Cemented, Open Approach	ICD-10-PCS	PX
0SRE03A	Replacement of Left Hip Joint, Acetabular Surface with Ceramic Synthetic Substitute, Uncemented, Open Approach	ICD-10-PCS	PX
0SRE03Z	Replacement of Left Hip Joint, Acetabular Surface with Ceramic Synthetic Substitute, Open Approach	ICD-10-PCS	PX
0SRE07Z	Replacement of Left Hip Joint, Acetabular Surface with Autologous Tissue Substitute, Open Approach	ICD-10-PCS	PX
0SRE0J9	Replacement of Left Hip Joint, Acetabular Surface with Synthetic Substitute, Cemented, Open Approach	ICD-10-PCS	PX
0SRE0JA	Replacement of Left Hip Joint, Acetabular Surface with Synthetic Substitute, Uncemented, Open Approach	ICD-10-PCS	PX
0SRE0JZ	Replacement of Left Hip Joint, Acetabular Surface with Synthetic Substitute, Open Approach	ICD-10-PCS	PX
0SRE0KZ	Replacement of Left Hip Joint, Acetabular Surface with Nonautologous Tissue Substitute, Open Approach	ICD-10-PCS	PX
0SRF07Z	Replacement of Right Ankle Joint with Autologous Tissue Substitute, Open Approach	ICD-10-PCS	PX
0SRF0J9	Replacement of Right Ankle Joint with Synthetic Substitute, Cemented, Open Approach	ICD-10-PCS	PX
0SRF0JA	Replacement of Right Ankle Joint with Synthetic Substitute, Uncemented, Open Approach	ICD-10-PCS	PX
0SRF0JZ	Replacement of Right Ankle Joint with Synthetic Substitute, Open Approach	ICD-10-PCS	PX
0SRF0KZ	Replacement of Right Ankle Joint with Nonautologous Tissue Substitute, Open Approach	ICD-10-PCS	PX
0SRG07Z	Replacement of Left Ankle Joint with Autologous Tissue Substitute, Open Approach	ICD-10-PCS	PX
0SRG0J9	Replacement of Left Ankle Joint with Synthetic Substitute, Cemented, Open Approach	ICD-10-PCS	PX
0SRG0JA	Replacement of Left Ankle Joint with Synthetic Substitute, Uncemented, Open Approach	ICD-10-PCS	PX
0SRG0JZ	Replacement of Left Ankle Joint with Synthetic Substitute, Open Approach	ICD-10-PCS	PX
0SRG0KZ	Replacement of Left Ankle Joint with Nonautologous Tissue Substitute, Open Approach	ICD-10-PCS	PX
0SRH07Z	Replacement of Right Tarsal Joint with Autologous Tissue Substitute, Open Approach	ICD-10-PCS	PX

Appendix E. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Inclusion and Exclusion Criteria in this Request

Code	Description	Code Category	Code Type
0SRH0JZ	Replacement of Right Tarsal Joint with Synthetic Substitute, Open Approach	ICD-10-PCS	PX
0SRH0KZ	Replacement of Right Tarsal Joint with Nonautologous Tissue Substitute, Open Approach	ICD-10-PCS	PX
0SRJ07Z	Replacement of Left Tarsal Joint with Autologous Tissue Substitute, Open Approach	ICD-10-PCS	PX
0SRJ0JZ	Replacement of Left Tarsal Joint with Synthetic Substitute, Open Approach	ICD-10-PCS	PX
0SRJ0KZ	Replacement of Left Tarsal Joint with Nonautologous Tissue Substitute, Open Approach	ICD-10-PCS	PX
0SRK07Z	Replacement of Right Metatarsal-Tarsal Joint with Autologous Tissue Substitute, Open Approach	ICD-10-PCS	PX
0SRK0JZ	Replacement of Right Metatarsal-Tarsal Joint with Synthetic Substitute, Open Approach	ICD-10-PCS	PX
0SRK0KZ	Replacement of Right Metatarsal-Tarsal Joint with Nonautologous Tissue Substitute, Open Approach	ICD-10-PCS	PX
0SRL07Z	Replacement of Left Metatarsal-Tarsal Joint with Autologous Tissue Substitute, Open Approach	ICD-10-PCS	PX
0SRL0JZ	Replacement of Left Metatarsal-Tarsal Joint with Synthetic Substitute, Open Approach	ICD-10-PCS	PX
0SRL0KZ	Replacement of Left Metatarsal-Tarsal Joint with Nonautologous Tissue Substitute, Open Approach	ICD-10-PCS	PX
0SRM07Z	Replacement of Right Metatarsal-Phalangeal Joint with Autologous Tissue Substitute, Open Approach	ICD-10-PCS	PX
0SRM0JZ	Replacement of Right Metatarsal-Phalangeal Joint with Synthetic Substitute, Open Approach	ICD-10-PCS	PX
0SRM0KZ	Replacement of Right Metatarsal-Phalangeal Joint with Nonautologous Tissue Substitute, Open Approach	ICD-10-PCS	PX
0SRN07Z	Replacement of Left Metatarsal-Phalangeal Joint with Autologous Tissue Substitute, Open Approach	ICD-10-PCS	PX
0SRN0JZ	Replacement of Left Metatarsal-Phalangeal Joint with Synthetic Substitute, Open Approach	ICD-10-PCS	PX
0SRN0KZ	Replacement of Left Metatarsal-Phalangeal Joint with Nonautologous Tissue Substitute, Open Approach	ICD-10-PCS	PX
0SRP07Z	Replacement of Right Toe Phalangeal Joint with Autologous Tissue Substitute, Open Approach	ICD-10-PCS	PX
0SRP0JZ	Replacement of Right Toe Phalangeal Joint with Synthetic Substitute, Open Approach	ICD-10-PCS	PX
0SRP0KZ	Replacement of Right Toe Phalangeal Joint with Nonautologous Tissue Substitute, Open Approach	ICD-10-PCS	PX
0SRQ07Z	Replacement of Left Toe Phalangeal Joint with Autologous Tissue Substitute, Open Approach	ICD-10-PCS	PX
0SRQ0JZ	Replacement of Left Toe Phalangeal Joint with Synthetic Substitute, Open Approach	ICD-10-PCS	PX
0SRQ0KZ	Replacement of Left Toe Phalangeal Joint with Nonautologous Tissue Substitute, Open Approach	ICD-10-PCS	PX
0SRR019	Replacement of Right Hip Joint, Femoral Surface with Metal Synthetic Substitute, Cemented, Open Approach	ICD-10-PCS	PX
0SRR01A	Replacement of Right Hip Joint, Femoral Surface with Metal Synthetic Substitute, Uncemented, Open Approach	ICD-10-PCS	PX
0SRR01Z	Replacement of Right Hip Joint, Femoral Surface with Metal Synthetic Substitute, Open Approach	ICD-10-PCS	PX
0SRR039	Replacement of Right Hip Joint, Femoral Surface with Ceramic Synthetic Substitute, Cemented, Open Approach	ICD-10-PCS	PX
0SRR03A	Replacement of Right Hip Joint, Femoral Surface with Ceramic Synthetic Substitute, Uncemented, Open Approach	ICD-10-PCS	PX
0SRR03Z	Replacement of Right Hip Joint, Femoral Surface with Ceramic Synthetic Substitute, Open Approach	ICD-10-PCS	PX
0SRR07Z	Replacement of Right Hip Joint, Femoral Surface with Autologous Tissue Substitute, Open Approach	ICD-10-PCS	PX
0SRR0J9	Replacement of Right Hip Joint, Femoral Surface with Synthetic Substitute, Cemented, Open Approach	ICD-10-PCS	PX
0SRR0JA	Replacement of Right Hip Joint, Femoral Surface with Synthetic Substitute, Uncemented, Open Approach	ICD-10-PCS	PX
0SRR0JZ	Replacement of Right Hip Joint, Femoral Surface with Synthetic Substitute, Open Approach	ICD-10-PCS	PX

Appendix E. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Inclusion and Exclusion Criteria in this Request

Code	Description	Code Category	Code Type
0SRR0KZ	Replacement of Right Hip Joint, Femoral Surface with Nonautologous Tissue Substitute, Open Approach	ICD-10-PCS	PX
0SRS019	Replacement of Left Hip Joint, Femoral Surface with Metal Synthetic Substitute, Cemented, Open Approach	ICD-10-PCS	PX
0SRS01A	Replacement of Left Hip Joint, Femoral Surface with Metal Synthetic Substitute, Uncemented, Open Approach	ICD-10-PCS	PX
0SRS01Z	Replacement of Left Hip Joint, Femoral Surface with Metal Synthetic Substitute, Open Approach	ICD-10-PCS	PX
0SRS039	Replacement of Left Hip Joint, Femoral Surface with Ceramic Synthetic Substitute, Cemented, Open Approach	ICD-10-PCS	PX
0SRS03A	Replacement of Left Hip Joint, Femoral Surface with Ceramic Synthetic Substitute, Uncemented, Open Approach	ICD-10-PCS	PX
0SRS03Z	Replacement of Left Hip Joint, Femoral Surface with Ceramic Synthetic Substitute, Open Approach	ICD-10-PCS	PX
0SRS07Z	Replacement of Left Hip Joint, Femoral Surface with Autologous Tissue Substitute, Open Approach	ICD-10-PCS	PX
0SRS0J9	Replacement of Left Hip Joint, Femoral Surface with Synthetic Substitute, Cemented, Open Approach	ICD-10-PCS	PX
0SRS0JA	Replacement of Left Hip Joint, Femoral Surface with Synthetic Substitute, Uncemented, Open Approach	ICD-10-PCS	PX
0SRS0JZ	Replacement of Left Hip Joint, Femoral Surface with Synthetic Substitute, Open Approach	ICD-10-PCS	PX
0SRS0KZ	Replacement of Left Hip Joint, Femoral Surface with Nonautologous Tissue Substitute, Open Approach	ICD-10-PCS	PX
0SRT07Z	Replacement of Right Knee Joint, Femoral Surface with Autologous Tissue Substitute, Open Approach	ICD-10-PCS	PX
0SRT0J9	Replacement of Right Knee Joint, Femoral Surface with Synthetic Substitute, Cemented, Open Approach	ICD-10-PCS	PX
0SRT0JA	Replacement of Right Knee Joint, Femoral Surface with Synthetic Substitute, Uncemented, Open Approach	ICD-10-PCS	PX
0SRT0JZ	Replacement of Right Knee Joint, Femoral Surface with Synthetic Substitute, Open Approach	ICD-10-PCS	PX
0SRT0KZ	Replacement of Right Knee Joint, Femoral Surface with Nonautologous Tissue Substitute, Open Approach	ICD-10-PCS	PX
0SRU07Z	Replacement of Left Knee Joint, Femoral Surface with Autologous Tissue Substitute, Open Approach	ICD-10-PCS	PX
0SRU0J9	Replacement of Left Knee Joint, Femoral Surface with Synthetic Substitute, Cemented, Open Approach	ICD-10-PCS	PX
0SRU0JA	Replacement of Left Knee Joint, Femoral Surface with Synthetic Substitute, Uncemented, Open Approach	ICD-10-PCS	PX
0SRU0JZ	Replacement of Left Knee Joint, Femoral Surface with Synthetic Substitute, Open Approach	ICD-10-PCS	PX
0SRU0KZ	Replacement of Left Knee Joint, Femoral Surface with Nonautologous Tissue Substitute, Open Approach	ICD-10-PCS	PX
0SRV07Z	Replacement of Right Knee Joint, Tibial Surface with Autologous Tissue Substitute, Open Approach	ICD-10-PCS	PX
0SRV0J9	Replacement of Right Knee Joint, Tibial Surface with Synthetic Substitute, Cemented, Open Approach	ICD-10-PCS	PX
0SRV0JA	Replacement of Right Knee Joint, Tibial Surface with Synthetic Substitute, Uncemented, Open Approach	ICD-10-PCS	PX
0SRV0JZ	Replacement of Right Knee Joint, Tibial Surface with Synthetic Substitute, Open Approach	ICD-10-PCS	PX
0SRV0KZ	Replacement of Right Knee Joint, Tibial Surface with Nonautologous Tissue Substitute, Open Approach	ICD-10-PCS	PX
0SRW07Z	Replacement of Left Knee Joint, Tibial Surface with Autologous Tissue Substitute, Open Approach	ICD-10-PCS	PX
0SRW0J9	Replacement of Left Knee Joint, Tibial Surface with Synthetic Substitute, Cemented, Open Approach	ICD-10-PCS	PX
0SRW0JA	Replacement of Left Knee Joint, Tibial Surface with Synthetic Substitute, Uncemented, Open Approach	ICD-10-PCS	PX
0SRW0JZ	Replacement of Left Knee Joint, Tibial Surface with Synthetic Substitute, Open Approach	ICD-10-PCS	PX
0SRW0KZ	Replacement of Left Knee Joint, Tibial Surface with Nonautologous Tissue Substitute, Open Approach	ICD-10-PCS	PX
0SW90JZ	Revision of Synthetic Substitute in Right Hip Joint, Open Approach	ICD-10-PCS	PX

Appendix E. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Inclusion and Exclusion Criteria in this Request

Code	Description	Code Category	Code Type
0SW93JZ	Revision of Synthetic Substitute in Right Hip Joint, Percutaneous Approach	ICD-10-PCS	PX
0SW94JZ	Revision of Synthetic Substitute in Right Hip Joint, Percutaneous Endoscopic Approach	ICD-10-PCS	PX
0SWA0JZ	Revision of Synthetic Substitute in Right Hip Joint, Acetabular Surface, Open Approach	ICD-10-PCS	PX
0SWA3JZ	Revision of Synthetic Substitute in Right Hip Joint, Acetabular Surface, Percutaneous Approach	ICD-10-PCS	PX
0SWA4JZ	Revision of Synthetic Substitute in Right Hip Joint, Acetabular Surface, Percutaneous Endoscopic Approach	ICD-10-PCS	PX
0SWB0JZ	Revision of Synthetic Substitute in Left Hip Joint, Open Approach	ICD-10-PCS	PX
0SWB3JZ	Revision of Synthetic Substitute in Left Hip Joint, Percutaneous Approach	ICD-10-PCS	PX
0SWB4JZ	Revision of Synthetic Substitute in Left Hip Joint, Percutaneous Endoscopic Approach	ICD-10-PCS	PX
0SWC0JC	Revision of Synthetic Substitute in Right Knee Joint, Patellar Surface, Open Approach	ICD-10-PCS	PX
0SWC0JZ	Revision of Synthetic Substitute in Right Knee Joint, Open Approach	ICD-10-PCS	PX
0SWC3JC	Revision of Synthetic Substitute in Right Knee Joint, Patellar Surface, Percutaneous Approach	ICD-10-PCS	PX
0SWC3JZ	Revision of Synthetic Substitute in Right Knee Joint, Percutaneous Approach	ICD-10-PCS	PX
0SWC4JC	Revision of Synthetic Substitute in Right Knee Joint, Patellar Surface, Percutaneous Endoscopic Approach	ICD-10-PCS	PX
0SWC4JZ	Revision of Synthetic Substitute in Right Knee Joint, Percutaneous Endoscopic Approach	ICD-10-PCS	PX
0SWD0JC	Revision of Synthetic Substitute in Left Knee Joint, Patellar Surface, Open Approach	ICD-10-PCS	PX
0SWD0JZ	Revision of Synthetic Substitute in Left Knee Joint, Open Approach	ICD-10-PCS	PX
0SWD3JC	Revision of Synthetic Substitute in Left Knee Joint, Patellar Surface, Percutaneous Approach	ICD-10-PCS	PX
0SWD3JZ	Revision of Synthetic Substitute in Left Knee Joint, Percutaneous Approach	ICD-10-PCS	PX
0SWD4JC	Revision of Synthetic Substitute in Left Knee Joint, Patellar Surface, Percutaneous Endoscopic Approach	ICD-10-PCS	PX
0SWD4JZ	Revision of Synthetic Substitute in Left Knee Joint, Percutaneous Endoscopic Approach	ICD-10-PCS	PX
0SWE0JZ	Revision of Synthetic Substitute in Left Hip Joint, Acetabular Surface, Open Approach	ICD-10-PCS	PX
0SWE3JZ	Revision of Synthetic Substitute in Left Hip Joint, Acetabular Surface, Percutaneous Approach	ICD-10-PCS	PX
0SWE4JZ	Revision of Synthetic Substitute in Left Hip Joint, Acetabular Surface, Percutaneous Endoscopic Approach	ICD-10-PCS	PX
0SWF0JZ	Revision of Synthetic Substitute in Right Ankle Joint, Open Approach	ICD-10-PCS	PX
0SWF3JZ	Revision of Synthetic Substitute in Right Ankle Joint, Percutaneous Approach	ICD-10-PCS	PX
0SWF4JZ	Revision of Synthetic Substitute in Right Ankle Joint, Percutaneous Endoscopic Approach	ICD-10-PCS	PX
0SWG0JZ	Revision of Synthetic Substitute in Left Ankle Joint, Open Approach	ICD-10-PCS	PX
0SWG3JZ	Revision of Synthetic Substitute in Left Ankle Joint, Percutaneous Approach	ICD-10-PCS	PX
0SWG4JZ	Revision of Synthetic Substitute in Left Ankle Joint, Percutaneous Endoscopic Approach	ICD-10-PCS	PX
0SWH0JZ	Revision of Synthetic Substitute in Right Tarsal Joint, Open Approach	ICD-10-PCS	PX
0SWH3JZ	Revision of Synthetic Substitute in Right Tarsal Joint, Percutaneous Approach	ICD-10-PCS	PX
0SWH4JZ	Revision of Synthetic Substitute in Right Tarsal Joint, Percutaneous Endoscopic Approach	ICD-10-PCS	PX
0SWJ0JZ	Revision of Synthetic Substitute in Left Tarsal Joint, Open Approach	ICD-10-PCS	PX

Appendix E. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Inclusion and Exclusion Criteria in this Request

Code	Description	Code Category	Code Type
0SWJ3JZ	Revision of Synthetic Substitute in Left Tarsal Joint, Percutaneous Approach	ICD-10-PCS	PX
0SWJ4JZ	Revision of Synthetic Substitute in Left Tarsal Joint, Percutaneous Endoscopic Approach	ICD-10-PCS	PX
0SWK0JZ	Revision of Synthetic Substitute in Right Metatarsal-Tarsal Joint, Open Approach	ICD-10-PCS	PX
0SWK3JZ	Revision of Synthetic Substitute in Right Metatarsal-Tarsal Joint, Percutaneous Approach	ICD-10-PCS	PX
0SWK4JZ	Revision of Synthetic Substitute in Right Metatarsal-Tarsal Joint, Percutaneous Endoscopic Approach	ICD-10-PCS	PX
0SWL0JZ	Revision of Synthetic Substitute in Left Metatarsal-Tarsal Joint, Open Approach	ICD-10-PCS	PX
0SWL3JZ	Revision of Synthetic Substitute in Left Metatarsal-Tarsal Joint, Percutaneous Approach	ICD-10-PCS	PX
0SWL4JZ	Revision of Synthetic Substitute in Left Metatarsal-Tarsal Joint, Percutaneous Endoscopic Approach	ICD-10-PCS	PX
0SWM0JZ	Revision of Synthetic Substitute in Right Metatarsal-Phalangeal Joint, Open Approach	ICD-10-PCS	PX
0SWM3JZ	Revision of Synthetic Substitute in Right Metatarsal-Phalangeal Joint, Percutaneous Approach	ICD-10-PCS	PX
0SWM4JZ	Revision of Synthetic Substitute in Right Metatarsal-Phalangeal Joint, Percutaneous Endoscopic Approach	ICD-10-PCS	PX
0SWN0JZ	Revision of Synthetic Substitute in Left Metatarsal-Phalangeal Joint, Open Approach	ICD-10-PCS	PX
0SWN3JZ	Revision of Synthetic Substitute in Left Metatarsal-Phalangeal Joint, Percutaneous Approach	ICD-10-PCS	PX
0SWN4JZ	Revision of Synthetic Substitute in Left Metatarsal-Phalangeal Joint, Percutaneous Endoscopic Approach	ICD-10-PCS	PX
0SWP0JZ	Revision of Synthetic Substitute in Right Toe Phalangeal Joint, Open Approach	ICD-10-PCS	PX
0SWP3JZ	Revision of Synthetic Substitute in Right Toe Phalangeal Joint, Percutaneous Approach	ICD-10-PCS	PX
0SWP4JZ	Revision of Synthetic Substitute in Right Toe Phalangeal Joint, Percutaneous Endoscopic Approach	ICD-10-PCS	PX
0SWQ0JZ	Revision of Synthetic Substitute in Left Toe Phalangeal Joint, Open Approach	ICD-10-PCS	PX
0SWQ3JZ	Revision of Synthetic Substitute in Left Toe Phalangeal Joint, Percutaneous Approach	ICD-10-PCS	PX
0SWQ4JZ	Revision of Synthetic Substitute in Left Toe Phalangeal Joint, Percutaneous Endoscopic Approach	ICD-10-PCS	PX
0SWR0JZ	Revision of Synthetic Substitute in Right Hip Joint, Femoral Surface, Open Approach	ICD-10-PCS	PX
0SWR3JZ	Revision of Synthetic Substitute in Right Hip Joint, Femoral Surface, Percutaneous Approach	ICD-10-PCS	PX
0SWR4JZ	Revision of Synthetic Substitute in Right Hip Joint, Femoral Surface, Percutaneous Endoscopic Approach	ICD-10-PCS	PX
0SWS0JZ	Revision of Synthetic Substitute in Left Hip Joint, Femoral Surface, Open Approach	ICD-10-PCS	PX
0SWS3JZ	Revision of Synthetic Substitute in Left Hip Joint, Femoral Surface, Percutaneous Approach	ICD-10-PCS	PX
0SWS4JZ	Revision of Synthetic Substitute in Left Hip Joint, Femoral Surface, Percutaneous Endoscopic Approach	ICD-10-PCS	PX
0SWT0JZ	Revision of Synthetic Substitute in Right Knee Joint, Femoral Surface, Open Approach	ICD-10-PCS	PX
0SWT3JZ	Revision of Synthetic Substitute in Right Knee Joint, Femoral Surface, Percutaneous Approach	ICD-10-PCS	PX
0SWT4JZ	Revision of Synthetic Substitute in Right Knee Joint, Femoral Surface, Percutaneous Endoscopic Approach	ICD-10-PCS	PX
0SWU0JZ	Revision of Synthetic Substitute in Left Knee Joint, Femoral Surface, Open Approach	ICD-10-PCS	PX
0SWU3JZ	Revision of Synthetic Substitute in Left Knee Joint, Femoral Surface, Percutaneous Approach	ICD-10-PCS	PX
0SWU4JZ	Revision of Synthetic Substitute in Left Knee Joint, Femoral Surface, Percutaneous Endoscopic Approach	ICD-10-PCS	PX
0SWV0JZ	Revision of Synthetic Substitute in Right Knee Joint, Tibial Surface, Open Approach	ICD-10-PCS	PX

Appendix E. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Inclusion and Exclusion Criteria in this Request

Code	Description	Code Category	Code Type
0SWV3JZ	Revision of Synthetic Substitute in Right Knee Joint, Tibial Surface, Percutaneous Approach	ICD-10-PCS	PX
0SWV4JZ	Revision of Synthetic Substitute in Right Knee Joint, Tibial Surface, Percutaneous Endoscopic Approach	ICD-10-PCS	PX
0SWW0JZ	Revision of Synthetic Substitute in Left Knee Joint, Tibial Surface, Open Approach	ICD-10-PCS	PX
0SWW3JZ	Revision of Synthetic Substitute in Left Knee Joint, Tibial Surface, Percutaneous Approach	ICD-10-PCS	PX
0SWW4JZ	Revision of Synthetic Substitute in Left Knee Joint, Tibial Surface, Percutaneous Endoscopic Approach	ICD-10-PCS	PX
Mitral valve disease			
394.0	Mitral stenosis	ICD-9-CM	DX
394.1	Rheumatic mitral insufficiency	ICD-9-CM	DX
394.2	Mitral stenosis with insufficiency	ICD-9-CM	DX
396.0	Mitral valve stenosis and aortic valve stenosis	ICD-9-CM	DX
396.1	Mitral valve stenosis and aortic valve insufficiency	ICD-9-CM	DX
396.2	Mitral valve insufficiency and aortic valve stenosis	ICD-9-CM	DX
396.3	Mitral valve insufficiency and aortic valve insufficiency	ICD-9-CM	DX
746.5	Congenital mitral stenosis	ICD-9-CM	DX
746.6	Congenital mitral insufficiency	ICD-9-CM	DX
I05.0	Rheumatic mitral stenosis	ICD-10-CM	DX
I05.1	Rheumatic mitral insufficiency	ICD-10-CM	DX
I05.2	Rheumatic mitral stenosis with insufficiency	ICD-10-CM	DX
I08.0	Rheumatic disorders of both mitral and aortic valves	ICD-10-CM	DX
I08.3	Combined rheumatic disorders of mitral, aortic and tricuspid valves	ICD-10-CM	DX
I34.2	Nonrheumatic mitral stenosis	ICD-10-CM	DX
Q23.2	Congenital mitral stenosis	ICD-10-CM	DX
Q23.3	Congenital mitral insufficiency	ICD-10-CM	DX
027G04Z	Dilation of Mitral Valve with Drug-eluting Intraluminal Device, Open Approach	ICD-10-PCS	PX
027G0DZ	Dilation of Mitral Valve with Intraluminal Device, Open Approach	ICD-10-PCS	PX
027G0ZZ	Dilation of Mitral Valve, Open Approach	ICD-10-PCS	PX
02NG0ZZ	Release Mitral Valve, Open Approach	ICD-10-PCS	PX
02QG0ZZ	Repair Mitral Valve, Open Approach	ICD-10-PCS	PX
02VG0ZZ	Restriction of Mitral Valve, Open Approach	ICD-10-PCS	PX
Valve replacement			
V422	Heart valve replaced by transplant	ICD-9-CM	DX
V433	Heart valve replaced by other means	ICD-9-CM	DX

Appendix E. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Inclusion and Exclusion Criteria in this Request

Code	Description	Code Category	Code Type
352	OPEN & OTHR REPLACEMENT HEART VALVE	ICD-9-CM	PX
3520	OPEN & OTHER REPL UNS HEART VALVE	ICD-9-CM	PX
3521	OPEN OTH REPL AORTIC VALVE TISS GFT	ICD-9-CM	PX
3522	OPEN & OTHR REPLACEMNT AORTIC VALVE	ICD-9-CM	PX
3523	OPN OTH REPL MITRL VALVE TISS GRAFT	ICD-9-CM	PX
3524	OPEN & OTHER REPLCEMNT MITRAL VALVE	ICD-9-CM	PX
3525	OPEN OTH REPL PULM VALVE TISS GRAFT	ICD-9-CM	PX
3526	OPEN & OTHER REPL PULMONARY VALVE	ICD-9-CM	PX
3527	OPEN & OTH REPL TV W/TISSUE GRAFT	ICD-9-CM	PX
3528	OPEN & OTHER REPL TRICUSPD VALVE	ICD-9-CM	PX
33405	REPLACEMENT OF AORTIC VALVE	CPT-4	PX
33406	REPLACEMENT OF AORTIC VALVE	CPT-4	PX
33410	REPLACEMENT OF AORTIC VALVE	CPT-4	PX
33411	REPLACEMENT OF AORTIC VALVE	CPT-4	PX
33412	REPLACEMENT OF AORTIC VALVE	CPT-4	PX
33413	REPLACEMENT OF AORTIC VALVE	CPT-4	PX
33430	REPLACEMENT OF MITRAL VALVE	CPT-4	PX
33465	REPLACE TRICUSPID VALVE	CPT-4	PX
33475	REPLACEMENT PULMONARY VALVE	CPT-4	PX
33496	REPAIR PROSTH VALVE CLOT	CPT-4	PX
Z95.2	Presence of prosthetic heart valve	ICD-10-CM	DX
Z95.3	Presence of xenogenic heart valve	ICD-10-CM	DX
Z95.4	Presence of other heart-valve replacement	ICD-10-CM	DX
02RF07Z	Replacement of Aortic Valve with Autologous Tissue Substitute, Open Approach	ICD-10-PCS	PX
02RF08Z	Replacement of Aortic Valve with Zooplastic Tissue, Open Approach	ICD-10-PCS	PX
02RF0JZ	Replacement of Aortic Valve with Synthetic Substitute, Open Approach	ICD-10-PCS	PX
02RF0KZ	Replacement of Aortic Valve with Nonautologous Tissue Substitute, Open Approach	ICD-10-PCS	PX
02RF47Z	Replacement of Aortic Valve with Autologous Tissue Substitute, Percutaneous Endoscopic Approach	ICD-10-PCS	PX
02RF48Z	Replacement of Aortic Valve with Zooplastic Tissue, Percutaneous Endoscopic Approach	ICD-10-PCS	PX
02RF4JZ	Replacement of Aortic Valve with Synthetic Substitute, Percutaneous Endoscopic Approach	ICD-10-PCS	PX
02RF4KZ	Replacement of Aortic Valve with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach	ICD-10-PCS	PX
02RG07Z	Replacement of Mitral Valve with Autologous Tissue Substitute, Open Approach	ICD-10-PCS	PX
02RG08Z	Replacement of Mitral Valve with Zooplastic Tissue, Open Approach	ICD-10-PCS	PX

Appendix E. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Inclusion and Exclusion Criteria in this Request

Code	Description	Code Category	Code Type
02RG0JZ	Replacement of Mitral Valve with Synthetic Substitute, Open Approach	ICD-10-PCS	PX
02RG0KZ	Replacement of Mitral Valve with Nonautologous Tissue Substitute, Open Approach	ICD-10-PCS	PX
02RG37Z	Replacement of Mitral Valve with Autologous Tissue Substitute, Percutaneous Approach	ICD-10-PCS	PX
02RG38Z	Replacement of Mitral Valve with Zooplastic Tissue, Percutaneous Approach	ICD-10-PCS	PX
02RG3JZ	Replacement of Mitral Valve with Synthetic Substitute, Percutaneous Approach	ICD-10-PCS	PX
02RG3KZ	Replacement of Mitral Valve with Nonautologous Tissue Substitute, Percutaneous Approach	ICD-10-PCS	PX
02RG47Z	Replacement of Mitral Valve with Autologous Tissue Substitute, Percutaneous Endoscopic Approach	ICD-10-PCS	PX
02RG48Z	Replacement of Mitral Valve with Zooplastic Tissue, Percutaneous Endoscopic Approach	ICD-10-PCS	PX
02RG4JZ	Replacement of Mitral Valve with Synthetic Substitute, Percutaneous Endoscopic Approach	ICD-10-PCS	PX
02RG4KZ	Replacement of Mitral Valve with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach	ICD-10-PCS	PX
02RH07Z	Replacement of Pulmonary Valve with Autologous Tissue Substitute, Open Approach	ICD-10-PCS	PX
02RH08Z	Replacement of Pulmonary Valve with Zooplastic Tissue, Open Approach	ICD-10-PCS	PX
02RH0JZ	Replacement of Pulmonary Valve with Synthetic Substitute, Open Approach	ICD-10-PCS	PX
02RH0KZ	Replacement of Pulmonary Valve with Nonautologous Tissue Substitute, Open Approach	ICD-10-PCS	PX
02RH47Z	Replacement of Pulmonary Valve with Autologous Tissue Substitute, Percutaneous Endoscopic Approach	ICD-10-PCS	PX
02RH48Z	Replacement of Pulmonary Valve with Zooplastic Tissue, Percutaneous Endoscopic Approach	ICD-10-PCS	PX
02RH4JZ	Replacement of Pulmonary Valve with Synthetic Substitute, Percutaneous Endoscopic Approach	ICD-10-PCS	PX
02RH4KZ	Replacement of Pulmonary Valve with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach	ICD-10-PCS	PX
02RJ07Z	Replacement of Tricuspid Valve with Autologous Tissue Substitute, Open Approach	ICD-10-PCS	PX
02RJ08Z	Replacement of Tricuspid Valve with Zooplastic Tissue, Open Approach	ICD-10-PCS	PX
02RJ0JZ	Replacement of Tricuspid Valve with Synthetic Substitute, Open Approach	ICD-10-PCS	PX
02RJ0KZ	Replacement of Tricuspid Valve with Nonautologous Tissue Substitute, Open Approach	ICD-10-PCS	PX
02RJ47Z	Replacement of Tricuspid Valve with Autologous Tissue Substitute, Percutaneous Endoscopic Approach	ICD-10-PCS	PX
02RJ48Z	Replacement of Tricuspid Valve with Zooplastic Tissue, Percutaneous Endoscopic Approach	ICD-10-PCS	PX
02RJ4JZ	Replacement of Tricuspid Valve with Synthetic Substitute, Percutaneous Endoscopic Approach	ICD-10-PCS	PX
02RJ4KZ	Replacement of Tricuspid Valve with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach	ICD-10-PCS	PX
X2RF032	Replacement of Aortic Valve using Zooplastic Tissue, Rapid Deployment Technique, Open Approach, New Technology Group 2	ICD-10-PCS	PX
X2RF432	Replacement of Aortic Valve using Zooplastic Tissue, Rapid Deployment Technique, Percutaneous Endoscopic Approach, New Technology Group 2	ICD-10-PCS	PX
Valve repair			
33400	REPAIR OF AORTIC VALVE	CPT-4	PX
33401	VALVULOPLASTY OPEN	CPT-4	PX
33403	VALVULOPLASTY W/CP BYPASS	CPT-4	PX

Appendix E. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, and Current Procedural Terminology, Fourth Edition (CPT-4), Category I Procedure Codes Used to Define Inclusion and Exclusion Criteria in this Request

Code	Description	Code Category	Code Type
33420	REVISION OF MITRAL VALVE	CPT-4	PX
33422	REVISION OF MITRAL VALVE	CPT-4	PX
33425	REPAIR OF MITRAL VALVE	CPT-4	PX
33426	REPAIR OF MITRAL VALVE	CPT-4	PX
33427	REPAIR OF MITRAL VALVE	CPT-4	PX
33463	VALVULOPLASTY TRICUSPID	CPT-4	PX
33464	VALVULOPLASTY TRICUSPID	CPT-4	PX
33465	REPLACE TRICUSPID VALVE	CPT-4	PX
33470	REVISION OF PULMONARY VALVE	CPT-4	PX
33471	VALVOTOMY PULMONARY VALVE	CPT-4	PX
33472	REVISION OF PULMONARY VALVE	CPT-4	PX
33474	REVISION OF PULMONARY VALVE	CPT-4	PX
92986	REVISION OF AORTIC VALVE	CPT-4	PX
92987	REVISION OF MITRAL VALVE	CPT-4	PX
92990	REVISION OF PULMONARY VALVE	CPT-4	PX

Appendix F. List of Generic and Brand Names of Drugs Used to Define Censoring Criteria in this Request

Generic Name	Brand Name
Anti-coagulants	
apixaban	Eliquis DVT-PE Treat 30D Start
apixaban	Eliquis
dabigatran etexilate mesylate	Pradaxa
rivaroxaban	Xarelto DVT-PE Treat 30d Start
rivaroxaban	Xarelto
edoxaban tosylate	Savaysa
warfarin sodium	Coumadin
warfarin sodium	warfarin
warfarin sodium	Jantoven

Appendix G. List of Generic and Brand Names of Drugs Used to Define Baseline CharacteristicS in this Request

Generic Name	Brand Name
Estrogen replacement	
estrogens, conjugated	Premarin
estradiol cypionate	Depo-Estradiol
estradiol valerate	estradiol valerate
estradiol valerate	Delestrogen
estrogens, conjugated/bazedoxifene acetate	Duavee
estropipate	Ogen 1.25
estrogens, conjugated/medroxyprogesterone acetate	Prempro
estrogens, conjugated/medroxyprogesterone acetate	Premphase
norethindrone acetate-ethinyl estradiol	Jinteli
estradiol/norethindrone acetate	Mimvey Lo
estradiol/norethindrone acetate	Mimvey
estradiol/norethindrone acetate	Activella
estradiol	estradiol
estropipate	estropipate
norethindrone acetate-ethinyl estradiol	Femhrt Low Dose
estradiol acetate	Femtrace
norethindrone acetate-ethinyl estradiol	Femhrt 1/5
estradiol	Estrace
estrogens,esterified/methyltestosterone	estrogens-methyltestosterone
estrogens,esterified/methyltestosterone	Covaryx
estrogens,esterified/methyltestosterone	Covaryx H.S.
estrogens,esterified/methyltestosterone	EEMT
estrogens,esterified/methyltestosterone	EEMT HS
drospirenone/estradiol	Angeliq
estradiol/norgestimate	Prefest
estrogens, conjugated, synthetic B	Enjuvia
estrogens, conjugated, synthetic A	Cenestin
estradiol/norethindrone acetate	estradiol-norethindrone acet
norethindrone acetate-ethinyl estradiol	Jevantique Lo
norethindrone acetate-ethinyl estradiol	Jevantique
estropipate	Ogen 0.625
estropipate	Ogen 2.5
estropipate	Ortho-Est 0.625
estropipate	Ortho-Est 1.25
estradiol/norgestimate	Ortho-Prefest
estrogens,esterified	Menest
estrogens,esterified/methyltestosterone	Essian
estrogens,esterified/methyltestosterone	Essian H.S.
norethindrone acetate-ethinyl estradiol	Fyavolv
estradiol/norethindrone acetate	Amabelz
norethindrone acetate-ethinyl estradiol	norethindrone ac-eth estradiol
estradiol/norethindrone acetate	Lopreeza
estradiol	Elestrin
estradiol	Vivelle-Dot
estradiol/norethindrone acetate	CombiPatch
estradiol	Estraderm
estradiol	Divigel
estradiol	Evamist
estradiol	Estrasorb
estradiol	EstroGel
estradiol	Climara
estradiol	Menostar

Appendix G. List of Generic and Brand Names of Drugs Used to Define Baseline CharacteristicS in this Request

Generic Name	Brand Name
estradiol/levonorgestrel	Climara Pro
estradiol	Alora
estradiol	Vivelle
estradiol	Estradiol Transdermal Patch
estradiol	Minivelle
estradiol	Estring
estradiol acetate	Femring
estradiol	Vagifem
estradiol	Yuvafem
estradiol	Dotti
estradiol	Lyllana
estradiol/progesterone	Bijuva

H2-antagonist	
ranitidine HCl	Zantac
cimetidine HCl	cimetidine HCl
ranitidine HCl	ranitidine HCl
famotidine/PF	famotidine (PF)
famotidine	famotidine
ranitidine HCl in 0.45 % sodium chloride	Zantac in 0.45 % sod. chloride
famotidine in sodium chloride, iso-osmotic/PF	famotidine (PF)-NaCl (iso-os)
famotidine in 0.9 % sodium chloride	famotidine in 0.9 % NaCl
famotidine	Pepcid
nizatidine	nizatidine
cimetidine	cimetidine
cimetidine	Heartburn Relief (cimetidine)
ranitidine HCl	Acid Reducer (ranitidine)
famotidine	Acid Reducer (famotidine)
famotidine/calcium carbonate/magnesium hydroxide	Complete
cimetidine	Tagamet HB
famotidine/calcium carbonate/magnesium hydroxide	Tums Dual Action (famotidine)
ranitidine HCl	Zantac 25 EFFERdose
ranitidine HCl	Wal-Zan 150
famotidine	Acid Controller
ranitidine HCl	Wal-Zan 75
famotidine/calcium carbonate/magnesium hydroxide	Acid Controller Complete
nizatidine	Axid AR
ranitidine HCl	Zantac Maximum Strength
ranitidine HCl	Zantac 75
famotidine	Heartburn Relief (famotidine)
famotidine/calcium carbonate/magnesium hydroxide	Dual Action Complete
cimetidine	Acid Reducer (cimetidine)
famotidine/calcium carbonate/magnesium hydroxide	Acid Reducer Complete (famot)
famotidine/calcium carbonate/magnesium hydroxide	Pepcid Complete
famotidine	Pepcid AC
ranitidine HCl	Acid Control (ranitidine)
famotidine	Heartburn Prevention
ranitidine HCl	Heartburn Relief (ranitidine)
cimetidine	Heartburn 200
cimetidine	Acid Relief (cimetidine)
RANITIDINE HCL	Deprizine
nizatidine	Axid
cimetidine	Tagamet

Sentinel

Appendix G. List of Generic and Brand Names of Drugs Used to Define Baseline CharacteristicS in this Request

Generic Name	Brand Name
ranitidine HCl/dietary supplement no.17	Gabitidine
ranitidine HCl/dietary supplement no.8	Sentradine
famotidine/calcium carbonate/magnesium hydroxide	Duo Fusion
ibuprofen/famotidine	Duexis
ibuprofen/famotidine	ibuprofen-famotidine
famotidine	Zantac-360 (famotidine)
famotidine	Acid-Pep
famotidine	Pepcid AC Maximum Strength
Non-steroidal anti-inflammatory drugs (NSAIDs)	
ketorolac tromethamine	ketorolac
ketorolac tromethamine	ReadySharp ketorolac
phenylephrine HCl/ketorolac tromethamine	Omidria
diclofenac sodium	Dyloject
indomethacin sodium	indomethacin sodium
ibuprofen lysine/PF	ibuprofen lysine (PF)
ibuprofen lysine/PF	NeoProfen (ibuprofen lysn)(PF)
ibuprofen	Caldolor
indomethacin sodium	Indocin
ketorolac tromethamine	Sprix
naproxen	Naprosyn
naproxen sodium	Anaprox
naproxen sodium	Anaprox DS
naproxen	EC-Naprosyn
sulindac	Clinoril
oxaprozin	Daypro
diclofenac sodium/misoprostol	Arthrotec 50
diclofenac sodium/misoprostol	Arthrotec 75
celecoxib	Celebrex
diclofenac sodium	Voltaren
ibuprofen	Motrin IB
ibuprofen	Children's Motrin
meloxicam	meloxicam
naproxen	naproxen
piroxicam	Feldene
hydrocodone/ibuprofen	Vicoprofen
diclofenac potassium	Cataflam
diclofenac sodium	Voltaren-XR
naproxen sodium	naproxen sodium
flurbiprofen	flurbiprofen
piroxicam	piroxicam
etodolac	etodolac
oxaprozin	oxaprozin
diclofenac potassium	diclofenac potassium
nabumetone	nabumetone
diclofenac sodium	diclofenac sodium
tolmetin sodium	tolmetin
ketoprofen	ketoprofen
indomethacin	indomethacin
hydrocodone/ibuprofen	hydrocodone-ibuprofen
celecoxib	celecoxib
ibuprofen/diphenhydramine citrate	Ibuprofen PM
ibuprofen	Infant's Ibuprofen

Sentinel

Appendix G. List of Generic and Brand Names of Drugs Used to Define Baseline CharacteristicS in this Request

Generic Name	Brand Name
ibuprofen	ibuprofen
ibuprofen/pseudoephedrine HCl	Ibuprofen Cold-Sinus(with PSE)
ibuprofen	Children's Ibuprofen
naproxen sodium	All Day Pain Relief
ibuprofen	Ibuprofen Jr Strength
sumatriptan succinate/naproxen sodium	Treximet
naproxen/esomeprazole magnesium	Vimovo
ibuprofen/oxycodone HCl	ibuprofen-oxycodone
naproxen sodium/pseudoephedrine HCl	Aleve Cold and Sinus
naproxen sodium/pseudoephedrine HCl	Aleve Sinus and Headache
ibuprofen/pseudoephedrine HCl	Wal-Profen Cold-Sinus
ibuprofen	Wal-Profen
naproxen sodium	Wal-Proxen
naproxen sodium/pseudoephedrine HCl	All Day Pain Relief Sinus,Cold
ibuprofen/pseudoephedrine HCl	Wal-Profen D Cold and Sinus
ibuprofen/diphenhydramine HCl	Ibuprofen PM
sulindac	sulindac
fenoprofen calcium	fenoprofen
meclofenamate sodium	meclofenamate
ibuprofen	Infant's Motrin
naproxen sodium/pseudoephedrine HCl	Sudafed 12 Hr Pressure-Pain
ibuprofen	Children's Motrin Jr Strength
ibuprofen	Motrin
ibuprofen/diphenhydramine citrate	Motrin PM
ibuprofen/pseudoephedrine HCl	Children's Motrin Cold
ibuprofen/oxycodone HCl	Combunox
naproxen sodium	All Day Relief
ibuprofen/phenylephrine HCl	Congestion Relief (ibuprof-PE)
ibuprofen	Advil
ibuprofen/diphenhydramine citrate	Advil PM
ibuprofen/diphenhydramine HCl	Advil PM Liqui-Gels
ibuprofen	Advil Migraine
ibuprofen	Advil Liqui-Gel
ibuprofen	Children's Advil
ibuprofen/pseudoephedrine HCl	Advil Cold and Sinus
chlorpheniramine maleate/pseudoephedrine HCl/ibuprofen	Advil Allergy Sinus
ibuprofen	Infant's Advil
ibuprofen/phenylephrine HCl	Advil Congestion Relief
chlorpheniramine maleate/phenylephrine HCl/ibuprofen	Advil Allergy-Congestion Rlf
mefenamic acid	mefenamic acid
diclofenac sodium/misoprostol	diclofenac-misoprostol
meloxicam	Mobic
fenoprofen calcium	Nalfon
ibuprofen	Ibuprofen IB
naproxen sodium/pseudoephedrine HCl	Sinus and Cold-D
ibuprofen	Children's Ibu-Drops
naproxen sodium	Midol (naproxen)
diclofenac potassium	Zipsor
diclofenac potassium	Cambia
naproxen sodium	Naprelan CR
ibuprofen/pseudoephedrine HCl	Cold and Sinus Pain Relief
hydrocodone/ibuprofen	Reprexain
ibuprofen/pseudoephedrine HCl	Ibuprofen Cold

Sentinel

Appendix G. List of Generic and Brand Names of Drugs Used to Define Baseline CharacteristicS in this Request

Generic Name	Brand Name
naproxen sodium	Aleve
naproxen sodium/pseudoephedrine HCl	Aleve-D Sinus and Headache
naproxen sodium/pseudoephedrine HCl	Aleve-D Sinus and Cold
naproxen sodium/diphenhydramine HCl	Aleve PM
naproxen sodium	Flanax (naproxen)
ibuprofen/diphenhydramine HCl	ibuprofen-diphenhydramine HCl
ibuprofen	Child Ibuprofen
ibuprofen	Infants Ibu-Drops
ibuprofen	Ibu-Drops
ibuprofen	Children's Profen IB
ibuprofen	Infants ProfenIB
indomethacin	Indocin
indomethacin, submicronized	Tivorbex
diclofenac submicronized	Zorvolex
meloxicam, submicronized	Vivlodex
sumatriptan succinate/naproxen sodium	sumatriptan-naproxen
ibuprofen	I-Prin
naproxen sodium	Mediproxen
ibuprofen	Medi-Profen
ibuprofen	Infant's Medi-Profen
ibuprofen	Children's Medi-Profen
etodolac	Lodine
nabumetone	Relafen
ibuprofen	Nuprin
ibuprofen/diphenhydramine citrate	ibuprofen-diphenhydramine cit
ibuprofen/pseudoephedrine HCl	Cold-Sinus Relief
naproxen sodium/pseudoephedrine HCl	Sudafed 12 Hr Sinus-Pain
hydrocodone/ibuprofen	Ibudone
hydrocodone/ibuprofen	Xylon 10
flurbiprofen	Ansaid
ketorolac tromethamine	Toradol
fenoprofen calcium	Fenortho
ibuprofen	IBU
mefenamic acid	Ponstel
Ibuprofen/Caffeine/Vitamins B1, B2, B6, & B12	IC400
Ibuprofen/Caffeine/Vitamins B1, B2, B6, & B12	IC800
ibuprofen	Provil
fenoprofen calcium	ProFeno
naproxen/dietary supplement,misc. cb.11	Theraproxen
naproxen/dietary supplement,misc. cb.11	Theraproxen-90
piroxicam/dietary supplement,misc. cb.11	Therafeldamine
ibuprofen/dietary supplement,misc. cb.11	Theraprofen-60
ibuprofen/dietary supplement,misc. cb.11	Theraprofen-90
naproxen sodium	Naprelan CR Dose Card
ibuprofen/famotidine	Duexis
ropivacaine HCl/epinephrine/clonidine HCl/ketorolac trometh	ropivacaine-epi-clonid-ketorol
diclofenac epolamine	Flector
NAPROXEN	Napro
ketorolac/norflurane and pentafluoropropane (HFC 245fa)	Toronova II SUIK
ketorolac/norflurane and pentafluoropropane (HFC 245fa)	Toronova SUIK
diclofenac sodium/capsicum oleoresin	PrevidolRx Plus Analgesic Pak
diclofenac submicronized	diclofenac submicronized
indomethacin, submicronized	indomethacin submicronized

Appendix G. List of Generic and Brand Names of Drugs Used to Define Baseline CharacteristicS in this Request

Generic Name	Brand Name
diclofenac sodium/menthol/camphor	Inflatherm(diclofenac-menthol)
diclofenac sodium/trolamine salicylate	Inflatherm (diclofenac-trolam)
diclofenac sodium/capsaicin	Inavix
diclofenac sodium/lidocaine	Lidovix
diclofenac epolamine	Licart
meloxicam	Anjeso
dexamethasone sod ph/moxifloxacin HCl/ketorolac/sod chlor/PF	dexamet-moxifl-ketoro-NaCl(PF)
ibuprofen	Advil Junior Strength
meloxicam, submicronized	meloxicam submicronized
etodolac/capsaicin/methyl salicylate/menthol	NuDroxiPAK E-400
diclofenac sodium/capsaicin/methyl salicylate/menthol	NuDroxiPAK DSDR-75
diclofenac sodium/capsaicin/methyl salicylate/menthol	NuDroxiPAK DSDR-50
nabumetone/capsaicin/methyl salicylate/menthol	NuDroxiPAK N-500
ibuprofen/capsaicin/methyl salicylate/menthol	NuDroxiPAK I-800
celecoxib/capsaicin/methyl salicylate/menthol	NuDroxiPAK
diclofenac sodium/capsaicin	NuDiclo TabPAK
ibuprofen/famotidine	ibuprofen-famotidine
naproxen/esomeprazole magnesium	naproxen-esomeprazole
meloxicam	Qmiiz ODT
naproxen sodium/diphenhydramine HCl	Naproxen PM
ibuprofen/pseudoephedrine HCl	Cold-Sinus Relief (ibuprofen)
naproxen	EC-Naproxen
celecoxib/lidocaine/menthol	LidoXib
celecoxib/capsaicin/menthol	CapXib
diclofenac sodium/capsicum oleoresin	Xenaflamm
naproxen/capsaicin/menthol	NaproPax
naproxen/capsaicin/menthol	NaproxenPax
ropivacaine/ketorolac/ketamine	ropivacaine-ketorolac-ketamine
ropivacaine HCl/clonidine HCl/ketorolac tromethamine	ropivacaine-clonidin-ketorolac
bupivacaine/ketorolac/ketamine	bupivacaine-ketorolac-ketamine
diclofenac sodium/capsaicin	Flexipak
diclofenac sodium/capsicum oleoresin	DermaSilkRx DicloPak
amlodipine besylate/celecoxib	Consensi
naproxen/capsaicin/menthol/methyl salicylate	Pain Relief Collection
NAPROXEN	Naproderm
naproxen sodium/menthol	NaproPak Cool
diclofenac epolamine	diclofenac epolamine
ibuprofen/glycerin	Ibupak
diclofenac sodium/capsicum oleoresin	Inflammacin
naproxen/irritant counter-irritant combination no.2	Comfort Pac-Naproxen
ibuprofen/phenylephrine HCl	Sudafed PE Head Congestn-Pain
naproxen sodium/pseudoephedrine HCl	Sudafed Sinus 12Hr Pressr-Pain
ibuprofen	Addaprin
bupivacaine/meloxicam	Zynrelef
meloxicam/irritants counter-irritants combination no.2	Comfort Pac-Meloxicam
ibuprofen/irritants counter-irritants combination no.2	Comfort Pac-Ibuprofen
nabumetone	Relafen DS
ibuprofen	IBU-200
ibuprofen/phenylephrine HCl	Advil Sinus Congestion-Pain
ibuprofen/acetaminophen	Advil Dual Action
Proton pump inhibitors	
pantoprazole sodium	Protonix

Appendix G. List of Generic and Brand Names of Drugs Used to Define Baseline CharacteristicS in this Request

Generic Name	Brand Name
pantoprazole sodium	pantoprazole
esomeprazole sodium	Nexium IV
lansoprazole	Prevacid IV
esomeprazole sodium	esomeprazole sodium
lansoprazole	Prevacid 24Hr
rabeprazole sodium	rabeprazole
lansoprazole	lansoprazole
omeprazole	omeprazole
esomeprazole magnesium	esomeprazole magnesium
lansoprazole/amoxicillin trihydrate/clarithromycin	amoxicil-clarithromy-lansopraz
omeprazole magnesium	omeprazole magnesium
naproxen/esomeprazole magnesium	Vimovo
omeprazole	Prilosec
omeprazole magnesium	Prilosec
esomeprazole magnesium	Nexium Packet
esomeprazole magnesium	Nexium
lansoprazole	Heartburn Treatment 24 Hour
esomeprazole magnesium	Nexium 24HR
lansoprazole	Heartburn Relief 24 Hour
omeprazole/sodium bicarbonate	Zegerid OTC
omeprazole/sodium bicarbonate	omeprazole-sodium bicarbonate
rabeprazole sodium	AcipHex Sprinkle
rabeprazole sodium	Aciphex
lansoprazole	Prevacid
omeprazole magnesium	Prilosec OTC
OMEPRAZOLE	Omeprazole+SyrSpend SF Alka
esomeprazole strontium	esomeprazole strontium
lansoprazole/amoxicillin trihydrate/clarithromycin	Prevpac
lansoprazole	Prevacid SoluTab
omeprazole/sodium bicarbonate	Zegerid
dexlansoprazole	Kapidex
dexlansoprazole	Dexilant
esomeprazole magnesium/glycerin	Esomep-EZS
omeprazole/clarithromycin/amoxicillin trihydrate	Omeclamox-Pak
OMEPRAZOLE	FIRST-Omeprazole
LANSOPRAZOLE	FIRST-Lansoprazole
omeprazole/sodium bicarbonate	OmePPi
omeprazole magnesium	Acid Reducer (omeprazole)
aspirin/omeprazole	Yosprala
esomeprazole magnesium	Heartburn Treatment
Selective serotonin reuptake inhibitor (SSRI) antidepressants	
fluoxetine HCl	Prozac Weekly
paroxetine HCl	Paxil CR
paroxetine HCl	Paxil
sertraline HCl	Zoloft
citalopram hydrobromide	citalopram
fluvoxamine maleate	fluvoxamine
fluoxetine HCl	fluoxetine
escitalopram oxalate	escitalopram oxalate
paroxetine HCl	paroxetine HCl
sertraline HCl	sertraline
fluoxetine HCl	Selfemra

Appendix G. List of Generic and Brand Names of Drugs Used to Define Baseline CharacteristicS in this Request

Generic Name	Brand Name
fluoxetine HCl	Sarafem
escitalopram oxalate	Lexapro
citalopram hydrobromide	Celexa
fluoxetine HCl	Prozac
fluoxetine HCl	Rapiflux
paroxetine mesylate	Pexeva
fluoxetine HCl/dietary supplement no.17	Gaboxetine
fluoxetine HCl/dietary supplement no.8	Sentroxatine
fluvoxamine maleate	Luvox CR
Insulin	
insulin regular, human	Afrezza
insulin regular, human	Humulin R Regular U-100 Insuln
insulin regular, human	Novolin R Regular U-100 Insuln
insulin regular, human	Novolin R PenFill
insulin lispro	Humalog U-100 Insulin
insulin lispro protamine and insulin lispro	Humalog Mix 75-25(U-100)Insuln
insulin lispro protamine and insulin lispro	Humalog Mix 50-50 Insuln U-100
insulin lispro	Humalog KwikPen Insulin
insulin lispro	Humalog Junior KwikPen U-100
insulin glargine,human recombinant analog	Basaglar KwikPen U-100 Insulin
insulin NPH human isophane	Humulin N NPH U-100 Insulin
insulin regular, human	Humulin R U-500 (Conc) Insulin
insulin NPH human isophane/insulin regular, human	Humulin 70/30 U-100 Insulin
insulin lispro	Humalog Pen
insulin NPH human isophane	Humulin N Pen
insulin NPH human isophane/insulin regular, human	Humulin 70/30 Insulin Pen
insulin lispro protamine and insulin lispro	Humalog Mix 75-25 KwikPen
insulin lispro protamine and insulin lispro	Humalog Mix 50-50 KwikPen
insulin NPH human isophane/insulin regular, human	Humulin 70/30 U-100 KwikPen
insulin NPH human isophane	Humulin N NPH Insulin KwikPen
insulin regular, human	Humulin R U-500 (Conc) Kwikpen
insulin NPH human isophane/insulin regular, human	Humulin 50/50
insulin glargine,human recombinant analog	Toujeo SoloStar U-300 Insulin
insulin glargine,human recombinant analog	Toujeo Max U-300 SoloStar
insulin lispro	Admelog U-100 Insulin lispro
insulin lispro	Admelog SoloStar U-100 Insulin
insulin glargine,human recombinant analog	Lantus Solostar U-100 Insulin
insulin glargine,human recombinant analog	Lantus U-100 Insulin
insulin glulisine	Apidra U-100 Insulin
insulin glulisine	Apidra SoloStar U-100 Insulin
insulin NPH human isophane	Novolin N NPH U-100 Insulin
insulin NPH human isophane/insulin regular, human	Novolin 70/30 U-100 Insulin
insulin regular, human	Novolin R InnoLet
insulin NPH human isophane	Novolin N InnoLet
insulin NPH human isophane/insulin regular, human	Novolin 70/30 InnoLet Insulin
insulin degludec	Tresiba FlexTouch U-200
insulin degludec	Tresiba FlexTouch U-100
insulin degludec	Tresiba U-100 Insulin
insulin NPH human isophane/insulin regular, human	Novolin 70-30 FlexPen U-100
insulin aspart (niacinamide)	Fiasp U-100 Insulin
insulin aspart (niacinamide)	Fiasp FlexTouch U-100 Insulin
insulin aspart	Novolog PenFill U-100 Insulin

Sentinel

Appendix G. List of Generic and Brand Names of Drugs Used to Define Baseline CharacteristicS in this Request

Generic Name	Brand Name
insulin NPH human isophane	Novolin N PenFill
insulin NPH human isophane/insulin regular, human	Novolin 70/30 PenFill
insulin aspart protamine human/insulin aspart	Novolog Mix 70-30 U-100 Insuln
insulin detemir	Levemir U-100 Insulin
insulin aspart protamine human/insulin aspart	Novolog Mix 70-30FlexPen U-100
insulin aspart	Novolog Flexpen U-100 Insulin
insulin detemir	Levemir FlexTouch U-100 Insuln
insulin detemir	Levemir Flexpen
insulin aspart	Novolog U-100 Insulin aspart
insulin lispro	insulin lispro
insulin aspart protamine human/insulin aspart	insulin asp prt-insulin aspart
insulin aspart	insulin aspart U-100
insulin glargine-yfgn	insulin glargine-yfgn
insulin glargine-yfgn	Semglee(insulin glarg-yfgn)Pen
insulin glargine-yfgn	Semglee(insulin glargine-yfgn)
insulin glargine,human recombinant analog	Semglee Pen U-100 Insulin
insulin glargine,human recombinant analog	Semglee U-100 Insulin
insulin regular, human in 0.9 % sodium chloride	Myxredlin
insulin aspart (niacinamide)	Fiasp Penfill U-100 Insulin
insulin NPH human isophane	Novolin N Flexpen
insulin regular, human	Novolin R Flexpen
insulin lispro protamine and insulin lispro	insulin lispro protamin-lispro
insulin lispro-aabc	Lyumjev KwikPen U-200 Insulin
insulin lispro-aabc	Lyumjev KwikPen U-100 Insulin
insulin lispro-aabc	Lyumjev U-100 Insulin
insulin degludec/liraglutide	Xultophy 100/3.6
insulin glargine,human recombinant analog/lixisenatide	Soliqua 100/33
Sulfonylureas	
rosiglitazone maleate/glimepiride	Avandaryl
glyburide,micronized	Glynase
glyburide	Diabeta
glimepiride	Amaryl
glipizide	Glucotrol XL
glipizide	Glucotrol
glyburide/metformin HCl	Glucovance
glipizide/metformin HCl	Metaglip
glyburide/metformin HCl	glyburide-metformin
glimepiride	glimepiride
glipizide/metformin HCl	glipizide-metformin
glyburide,micronized	glyburide micronized
glyburide	glyburide
glipizide	glipizide
chlorpropamide	chlorpropamide
tolbutamide	tolbutamide
tolazamide	tolazamide
pioglitazone HCl/glimepiride	pioglitazone-glimepiride
pioglitazone HCl/glimepiride	DUETACT
pioglitazone HCl/metformin HCl	pioglitazone-metformin
rosiglitazone maleate/metformin HCl	Avandamet
pioglitazone HCl/metformin HCl	Actoplus Met XR
pioglitazone HCl/metformin HCl	Actoplus MET

Sentinel

Appendix G. List of Generic and Brand Names of Drugs Used to Define Baseline CharacteristicS in this Request

Generic Name	Brand Name
Other Diabetes Medications	
dulaglutide	Trulicity
dapagliflozin propanediol	Farxiga
saxagliptin HCl	Onglyza
saxagliptin HCl/metformin HCl	Kombiglyze XR
sitagliptin phosphate/metformin HCl	Janumet XR
sitagliptin phosphate	Januvia
sitagliptin phosphate/simvastatin	Juvisync
sitagliptin phosphate/metformin HCl	Janumet
ertugliflozin pidolate	Steglatro
ertugliflozin pidolate/sitagliptin phosphate	Steglujan
ertugliflozin pidolate/metformin HCl	Segluromet
lixisenatide	Adlyxin
insulin glargine,human recombinant analog/lixisenatide	Soliqua 100/33
liraglutide	Saxenda
insulin degludec/liraglutide	Xultophy 100/3.6
liraglutide	Victoza 2-Pak
liraglutide	Victoza 3-Pak
semaglutide	Ozempic
semaglutide	Rybelsus
semaglutide	Wegovy
albiglutide	Tanzeum
dapagliflozin propanediol/metformin HCl	Xigduo XR
exenatide	Byetta
exenatide microspheres	Bydureon
exenatide microspheres	Bydureon BCise
dapagliflozin propanediol/saxagliptin HCl	Qtern
linagliptin	Tradjenta
linagliptin/metformin HCl	Jentadueto
empagliflozin	Jardiance
empagliflozin/metformin HCl	Synjardy
empagliflozin/linagliptin	Glyxambi
linagliptin/metformin HCl	Jentadueto XR
empagliflozin/metformin HCl	Synjardy XR
empagliflozin/linagliptin/metformin HCl	Trijardy XR
alogliptin benzoate	alogliptin
alogliptin benzoate/metformin HCl	alogliptin-metformin
alogliptin benzoate/pioglitazone HCl	alogliptin-pioglitazone
canagliflozin	Invokana
canagliflozin/metformin HCl	Invokamet
canagliflozin/metformin HCl	Invokamet XR
alogliptin benzoate/pioglitazone HCl	Oseni
alogliptin benzoate	Nesina
alogliptin benzoate/metformin HCl	Kazano
rosiglitazone maleate/glimepiride	Avandaryl
rosiglitazone maleate/metformin HCl	Avandamet
rosiglitazone maleate	Avandia
pioglitazone HCl	pioglitazone
pioglitazone HCl/metformin HCl	pioglitazone-metformin
pioglitazone HCl/glimepiride	pioglitazone-glimepiride
pioglitazone HCl	Actos
pioglitazone HCl/metformin HCl	Actoplus MET
pioglitazone HCl/glimepiride	DUETACT

Sentinel

Appendix G. List of Generic and Brand Names of Drugs Used to Define Baseline CharacteristicS in this Request

Generic Name	Brand Name
pioglitazone HCl/metformin HCl	Actoplus Met XR
miglitol	Glyset
acarbose	Precose
acarbose	acarbose
miglitol	miglitol
nateglinide	Starlix
repaglinide	Prandin
repaglinide/metformin HCl	Prandimet
repaglinide	repaglinide
nateglinide	nateglinide
repaglinide/metformin HCl	repaglinide-metformin
pramlintide acetate	Symlin
pramlintide acetate	SymlinPen 120
pramlintide acetate	SymlinPen 60
Angiotensin-converting enzyme inhibitors (ACEI)/Angiotensin receptor blockers (ARBs)	
enalaprilat dihydrate	enalaprilat
lisinopril	Prinivil
lisinopril/hydrochlorothiazide	Prinzide
perindopril erbumine	Aceon
ramipril	ramipril
perindopril erbumine	perindopril erbumine
quinapril HCl/hydrochlorothiazide	Accuretic
quinapril HCl	Accupril
trandolapril	Mavik
trandolapril/verapamil HCl	Tarka
amlodipine besylate/benazepril HCl	Lotrel
benazepril HCl	Lotensin
benazepril HCl/hydrochlorothiazide	Lotensin HCT
fosinopril sodium	Monopril
moexipril HCl	Univasc
moexipril HCl/hydrochlorothiazide	Uniretic
moexipril HCl	moexipril
enalapril maleate	enalapril maleate
captopril/hydrochlorothiazide	captopril-hydrochlorothiazide
enalapril maleate/hydrochlorothiazide	enalapril-hydrochlorothiazide
quinapril HCl	quinapril
benazepril HCl	benazepril
moexipril HCl/hydrochlorothiazide	moexipril-hydrochlorothiazide
fosinopril sodium	fosinopril
trandolapril	trandolapril
amlodipine besylate/benazepril HCl	amlodipine-benazepril
captopril	captopril
lisinopril/hydrochlorothiazide	lisinopril-hydrochlorothiazide
lisinopril	lisinopril
benazepril HCl/hydrochlorothiazide	benazepril-hydrochlorothiazide
fosinopril sodium/hydrochlorothiazide	fosinopril-hydrochlorothiazide
enalapril maleate	Vasotec
enalapril maleate/hydrochlorothiazide	Vaseretic
lisinopril	Zestril
lisinopril/hydrochlorothiazide	Zestoretic
quinapril HCl/hydrochlorothiazide	quinapril-hydrochlorothiazide
ramipril	Altace

Appendix G. List of Generic and Brand Names of Drugs Used to Define Baseline CharacteristicS in this Request

Generic Name	Brand Name
trandolapril/verapamil HCl	trandolapril-verapamil
enalapril maleate	Epaned
lisinopril	Qbrelis
perindopril arginine/amlodipine besylate	Prestalia
lisinopril/dietary supplement,comb.10	Lytensopril
lisinopril/dietary supplement,comb.10	Lytensopril-90
losartan potassium/hydrochlorothiazide	Hyzaar
losartan potassium	Cozaar
nebivolol HCl/valsartan	Byvalson
irbesartan	Avapro
irbesartan/hydrochlorothiazide	Avalide
losartan potassium	losartan
losartan potassium/hydrochlorothiazide	losartan-hydrochlorothiazide
irbesartan	irbesartan
irbesartan/hydrochlorothiazide	irbesartan-hydrochlorothiazide
telmisartan	telmisartan
telmisartan/hydrochlorothiazide	telmisartan-hydrochlorothiazid
eprosartan mesylate/hydrochlorothiazide	Teveten HCT
eprosartan mesylate	Teveten
valsartan/hydrochlorothiazide	Diovan HCT
valsartan	Diovan
amlodipine besylate/valsartan	Exforge
amlodipine besylate/valsartan/hydrochlorothiazide	Exforge HCT
sacubitril/valsartan	Entresto
olmesartan medoxomil/amlodipine besylate/hydrochlorothiazide	olmesartan-amlodipin-hcthiazid
amlodipine besylate/olmesartan medoxomil	amlodipine-olmesartan
amlodipine besylate/valsartan/hydrochlorothiazide	amlodipine-valsartan-hcthiazid
valsartan	valsartan
olmesartan medoxomil	olmesartan
olmesartan medoxomil/hydrochlorothiazide	olmesartan-hydrochlorothiazide
amlodipine besylate/valsartan	amlodipine-valsartan
candesartan cilexetil	Atacand
candesartan cilexetil/hydrochlorothiazide	Atacand HCT
telmisartan/amlodipine besylate	telmisartan-amlodipine
candesartan cilexetil/hydrochlorothiazide	candesartan-hydrochlorothiazid
valsartan/hydrochlorothiazide	valsartan-hydrochlorothiazide
eprosartan mesylate	eprosartan
telmisartan	Micardis
telmisartan/hydrochlorothiazide	Micardis HCT
telmisartan/amlodipine besylate	Twynsta
candesartan cilexetil	candesartan
olmesartan medoxomil	Benicar
olmesartan medoxomil/hydrochlorothiazide	Benicar HCT
amlodipine besylate/olmesartan medoxomil	Azor
azilsartan medoxomil	Edarbi
azilsartan medoxomil/chlorthalidone	Edarbyclor
olmesartan medoxomil/amlodipine besylate/hydrochlorothiazide	Tribenzor
Antiarrhythmics	
quinidine gluconate	quinidine gluconate
procainamide HCl	procainamide
lidocaine HCl/PF	lidocaine (PF)
ibutilide fumarate	Corvert

Sentinel

Appendix G. List of Generic and Brand Names of Drugs Used to Define Baseline CharacteristicS in this Request

Generic Name	Brand Name
verapamil HCl	verapamil
diltiazem HCl	diltiazem HCl
amiodarone HCl	amiodarone
phenytoin sodium	phenytoin sodium
lidocaine HCl/PF	Xylocaine (Cardiac) (PF)
lidocaine HCl in dextrose 5% in water/PF	lidocaine in 5 % dextrose (PF)
adenosine	Adenocard
ibutilide fumarate	ibutilide fumarate
esmolol HCl	esmolol
adenosine	adenosine
esmolol HCl in sodium chloride, iso-osmotic	Brevibloc in NaCl (iso-osm)
esmolol HCl	Brevibloc
amiodarone HCl/dextrose 5 % in water	amiodarone in dextrose 5 %
amiodarone in dextrose, iso-osmotic	Nexterone
esmolol HCl in sterile water	esmolol in sterile water
adenosine in 0.9 % sodium chloride	adenosine in 0.9 % sod chlor
sotalol HCl	sotalol
amiodarone HCl	Cordarone
dronedarone HCl	Multaq
verapamil HCl	Calan
disopyramide phosphate	Norpace CR
disopyramide phosphate	Norpace
flecainide acetate	flecainide
dofetilide	Tikosyn
disopyramide phosphate	disopyramide phosphate
mexiletine HCl	mexiletine
quinidine sulfate	quinidine sulfate
propafenone HCl	Rythmol SR
propafenone HCl	Rythmol
sotalol HCl	Sorine
amiodarone HCl	Pacerone
propafenone HCl	propafenone
sotalol HCl	Sotalol AF
sotalol HCl	Sotylize
flecainide acetate	Tambocor
sotalol HCl	Betapace
sotalol HCl	Betapace AF
dofetilide	dofetilide
quinidine sulfate	Quinidex Extentabs
Anti-coagulant (injectable)	
heparin sodium,porcine/PF	heparin, porcine (PF)
heparin sodium,porcine	heparin (porcine)
argatroban	argatroban
argatroban in 0.9 % sodium chloride	argatroban in 0.9 % sod chlor
heparin sodium,porcine/dextrose 5 % in water	heparin (porcine) in 5 % dex
heparin sodium,porcine IN 0.9 % sodium chloride/PF	heparin (porcine) in NaCl (PF)
bivalirudin in 0.9 % sodium chloride	bivalirudin-0.9 % sodium chlor
heparin sodium,porcine	Heparin Lock
heparin sodium,porcine	heparin lock flush
heparin sodium,porcine	heparin lock flush (porcine)
heparin sodium,porcine in 0.45 % sodium chloride	heparin(porcine) in 0.45% NaCl
bivalirudin	bivalirudin

Sentinel

Appendix G. List of Generic and Brand Names of Drugs Used to Define Baseline CharacteristicS in this Request

Generic Name	Brand Name
warfarin sodium	Coumadin
heparin sodium,porcine/PF	Hep-Lock U/P PF
heparin sodium,porcine	Hep-Lock Flush
argatroban in sodium chloride, iso-osmotic	argatroban in NaCL (iso-os)
heparin sodium,porcine/PF	Heparin LockFlush(Porcine)(PF)
heparin sodium,porcine in 0.9 % sodium chloride	Heparin Flush
heparin sodium,porcine in 0.9 % sodium chloride	heparin flush(porcine)-0.9NaCl
heparin sodium,porcine/PF	Monoject Prefill Advanced (PF)
heparin sodium,porcine/PF	Monoject Prefill (PF)
heparin sodium,porcine/dextrose 5 % in water/PF	heparin (porcine) in D5W (PF)
heparin sodium,porcine in 0.9 % sodium chloride	heparin (porcine) in 0.9% NaCl
heparin sodium,porcine in 0.45 % sodium chloride/PF	heparin (porc)-0.45% NaCl (PF)
lepirudin,recombinant	Refludan
heparin sodium,porcine/PF	Hep Flush-10 (PF)
bivalirudin	Angiomax
fondaparinux sodium	Arixtra
dalteparin sodium,porcine	Fragmin
enoxaparin sodium	Lovenox
desirudin	Iprivask
enoxaparin sodium	enoxaparin
fondaparinux sodium	fondaparinux
tinzaparin sodium,porcine	Innohep
warfarin sodium	warfarin
edoxaban tosylate	Savaysa
warfarin sodium	Jantoven
dabigatran etexilate mesylate	Pradaxa
rivaroxaban	Xarelto DVT-PE Treat 30d Start
rivaroxaban	Xarelto
apixaban	Eliquis
apixaban	Eliquis DVT-PE Treat 30D Start

Anti-platelets	
abciximab	Reopro
eptifibatide	Integrilin
dipyridamole	dipyridamole
eptifibatide	eptifibatide
cangrelor tetrasodium	Kengreal
tirofiban HCl monohydrate	Aggrastat Concentrate
tirofiban HCl monohydrate in 0.9 % sodium chloride	Aggrastat in sodium chloride
prasugrel HCl	Effient
vorapaxar sulfate	Zontivity
cilostazol	cilostazol
aspirin/dipyridamole	aspirin-dipyridamole
ticlopidine HCl	ticlopidine
clopidogrel bisulfate	clopidogrel
aspirin	aspirin
aspirin	Ecotrin
aspirin	Ecotrin Low Strength
anagrelide HCl	anagrelide
aspirin	Genacote
aspirin	Children's Aspirin
ticagrelor	Brilinta
aspirin	Aspirin Low Dose

Sentinel

Appendix G. List of Generic and Brand Names of Drugs Used to Define Baseline CharacteristicS in this Request

Generic Name	Brand Name
aspirin/calcium carbonate	Women's Aspirin with Calcium
prasugrel HCl	prasugrel
aspirin	EC Aspirin
aspirin	St. Joseph Aspirin
aspirin	St. Joseph Low-Dose Aspirin
aspirin/dipyridamole	Aggrenox
dipyridamole	Persantine
aspirin	Aspir-Low
aspirin	Aspirin Childrens
aspirin	Enteric Coated Aspirin
aspirin	Stanback Headache Powder
aspirin	Aspir-Trin
aspirin	Adult Aspirin EC Low Strength
aspirin	Bayer Chewable Aspirin
aspirin	Bayer Aspirin
aspirin	Extra Strength Bayer
aspirin	Bayer Advanced
aspirin	Aspirin Extra Strength
clopidogrel bisulfate	Plavix
aspirin	AsperDrink
aspirin	Lite Coat Aspirin
aspirin	Lo-Dose Aspirin
aspirin	Aspirin Low-Strength
aspirin	Adult Low Dose Aspirin
aspirin	Miniprin
aspirin	Child Aspirin
aspirin	Halfprin
anagrelide HCl	Agrylin
cilostazol	Pletal
aspirin	Baby Aspirin
aspirin	Durlaza
aspirin	Aspir-81
aspirin	E.C. Prin
aspirin	Adult Aspirin Regimen
aspirin/omeprazole	Yosprala
aspirin	St Joseph Aspirin
aspirin/omeprazole	aspirin-omeprazole
aspirin	Vazalore
Beta-blockers	
metoprolol tartrate	Lopressor
labetalol HCl	labetalol
metoprolol tartrate	metoprolol tartrate
propranolol HCl	propranolol
esmolol HCl	esmolol
esmolol HCl in sodium chloride, iso-osmotic	Brevibloc in NaCl (iso-osm)
esmolol HCl	Brevibloc
esmolol HCl in sterile water	esmolol in sterile water
labetalol in dextrose 5 % in water	labetalol in dextrose 5 %
sotalol HCl	sotalol
carvedilol phosphate	Coreg CR
carvedilol	Coreg
betaxolol HCl	Kerlone

Sentinel

Appendix G. List of Generic and Brand Names of Drugs Used to Define Baseline CharacteristicS in this Request

Generic Name	Brand Name
penbutolol sulfate	Levatol
carvedilol	carvedilol
atenolol	atenolol
nadolol	nadolol
bisoprolol fumarate	bisoprolol fumarate
propranolol HCl	InnoPran XL
metoprolol succinate	metoprolol succinate
metoprolol succinate	Toprol XL
sotalol HCl	Sorine
atenolol	Tenormin
pindolol	pindolol
timolol maleate	timolol maleate
acebutolol HCl	acebutolol
sotalol HCl	Sotalol AF
nebivolol HCl	Bystolic
betaxolol HCl	betaxolol
propranolol HCl	Inderal LA
sotalol HCl	Sotylize
nadolol	Corgard
sotalol HCl	Betapace
sotalol HCl	Betapace AF
bisoprolol fumarate	Zebeta
carvedilol phosphate	carvedilol phosphate
propranolol HCl	Inderal XL
propranolol HCl	Hemangeol
labetalol HCl	Trandate
acebutolol HCl	Sectral
metoprolol tartrate/dietary supplement,comb.10	Hypertensolol
metoprolol tartrate/hydrochlorothiazide	Lopressor HCT
nadolol/bendroflumethiazide	nadolol-bendroflumethiazide
bisoprolol fumarate/hydrochlorothiazide	bisoprolol-hydrochlorothiazide
atenolol/chlorthalidone	Tenoretic 50
atenolol/chlorthalidone	Tenoretic 100
metoprolol succinate/hydrochlorothiazide	Dutoprol
propranolol HCl/hydrochlorothiazide	propranolol-hydrochlorothiazid
metoprolol tartrate/hydrochlorothiazide	metoprolol ta-hydrochlorothiaz
atenolol/chlorthalidone	atenolol-chlorthalidone
bisoprolol fumarate/hydrochlorothiazide	Ziac
nadolol/bendroflumethiazide	Corzide
metoprolol succinate/hydrochlorothiazide	metoprolol su-hydrochlorothiaz
Calcium channel blockers	
verapamil HCl	verapamil
diltiazem HCl	diltiazem HCl
nicardipine HCl	nicardipine
nicardipine in sodium chloride, iso-osmotic	Cardene IV in sodium chloride
nicardipine in dextrose, iso-osmotic	Cardene IV in dextrose
clevidipine butyrate	Cleviprex
diltiazem HCl/dextrose 5 % in water	diltiazem in dextrose 5 %
nicardipine HCl	Cardene IV
nicardipine HCl in 0.9 % sodium chloride	nicardipine in 0.9 % NaCl
diltiazem HCl in 0.9 % sodium chloride	diltiazem HCl in 0.9% NaCl
nicardipine in 5 % dextrose in water	nicardipine in 5 % dextrose

Appendix G. List of Generic and Brand Names of Drugs Used to Define Baseline CharacteristicS in this Request

Generic Name	Brand Name
verapamil HCl	Calan
verapamil HCl	Calan SR
verapamil HCl	Covera-HS
amlodipine besylate	amlodipine
amlodipine besylate	Norvasc
nifedipine	Procardia
nifedipine	Procardia XL
diltiazem HCl	Cardizem LA
nifedipine	Adalat CC
verapamil HCl	Verelan
verapamil HCl	Verelan PM
nifedipine	Nifedical XL
nifedipine	Nifediac CC
nifedipine	nifedipine
isradipine	DynaCirc CR
diltiazem HCl	Cardizem
diltiazem HCl	Cardizem CD
diltiazem HCl	Tiazac
nisoldipine	nisoldipine
felodipine	felodipine
diltiazem HCl	Cartia XT
diltiazem HCl	Diltia XT
nimodipine	nimodipine
nifedipine	Afeditab CR
verapamil HCl	Isoptin SR
isradipine	isradipine
nimodipine	Nymalize
nicardipine HCl	Cardene SR
diltiazem HCl	Dilacor XR
diltiazem HCl	Matzim LA
nisoldipine	Sular
diltiazem HCl	DILT-CD
diltiazem HCl	DILT-XR
diltiazem HCl	Diltzac ER
diltiazem HCl	Taztia XT
Digoxin	
digoxin	digoxin
digoxin	Lanoxin
digoxin	Lanoxin Pediatric
digoxin	Digitek
digoxin	Digox
Diuretics - Loop	
bumetanide	bumetanide
furosemide	furosemide
torsemide	torsemide
furosemide in 0.9 % sodium chloride	furosemide in 0.9 % NaCl
ethacrynate sodium	Sodium Edecrin
ethacrynate sodium	ethacrynate sodium
furosemide/dextrose 5 % in water	furosemide in dextrose 5 %
ethacrynic acid	Edecrin
torsemide	Demadex

Sentinel

Appendix G. List of Generic and Brand Names of Drugs Used to Define Baseline CharacteristicS in this Request

Generic Name	Brand Name
furosemide	Lasix
ethacrynic acid	ethacrynic acid
Diuretics - Potassium sparing	
triamterene/hydrochlorothiazide	Dyazide
spironolactone	Aldactone
spironolactone/hydrochlorothiazide	Aldactazide
eplerenone	Inspra
triamterene/hydrochlorothiazide	triamterene-hydrochlorothiazid
eplerenone	eplerenone
spironolactone	spironolactone
spironolactone/hydrochlorothiazide	spironolacton-hydrochlorothiaz
triamterene/hydrochlorothiazide	Maxzide
triamterene/hydrochlorothiazide	Maxzide-25mg
amiloride HCl/hydrochlorothiazide	amiloride-hydrochlorothiazide
amiloride HCl	Midamor
amiloride HCl	amiloride
spironolactone	CaroSpir
triamterene	Dyrenium
triamterene	triamterene
Diuretics - Thiazide	
chlorothiazide sodium	chlorothiazide sodium
chlorothiazide sodium	Diuril IV
hydrochlorothiazide	hydrochlorothiazide
chlorothiazide	chlorothiazide
metolazone	metolazone
indapamide	indapamide
methyclothiazide	methyclothiazide
chlorthalidone	chlorthalidone
hydrochlorothiazide	Microzide
metolazone	Zaroxolyn
methyclothiazide	Enduron
chlorthalidone	Thalitone
chlorothiazide	Diuril
Nitrates	
AMYL NITRITE	amyl nitrite
NITROGLYCERIN IN 5 % DEXTROSE IN WATER	nitroglycerin in 5 % dextrose
NITROGLYCERIN	nitroglycerin
NITROGLYCERIN	Nitronal
ISOSORBIDE MONONITRATE	Imdur
ISOSORBIDE DINITRATE	Dilatrate-SR
ISOSORBIDE MONONITRATE	Monoket
ISOSORBIDE MONONITRATE	isosorbide mononitrate
ISOSORBIDE DINITRATE	isosorbide dinitrate
ISOSORBIDE DINITRATE	Isordil Titradose
ISOSORBIDE DINITRATE	Isordil
ISOSORBIDE DINITRATE	ISOCHRON
NITROGLYCERIN	Nitro-Time
ISOSORBIDE DINITRATE	IsoDitrate
ISOSORBIDE MONONITRATE	Ismo
NITROGLYCERIN	Nitrostat

Sentinel

Appendix G. List of Generic and Brand Names of Drugs Used to Define Baseline CharacteristicS in this Request

Generic Name	Brand Name
NITROGLYCERIN	NitroQuick
NITROGLYCERIN	GoNitro
NITROGLYCERIN	Nitro-Dur
NITROGLYCERIN	Nitro-Bid
NITROGLYCERIN	Minitran
NITROGLYCERIN	Nitrolingual
NITROGLYCERIN	Nitromist
Statins	
pitavastatin calcium	Livalo
pravastatin sodium	Pravachol
simvastatin	Zocor
lovastatin	Mevacor
atorvastatin calcium	Lipitor
fluvastatin sodium	Lescol
fluvastatin sodium	Lescol XL
lovastatin	lovastatin
pravastatin sodium	pravastatin
atorvastatin calcium	atorvastatin
simvastatin	simvastatin
fluvastatin sodium	fluvastatin
rosuvastatin calcium	rosuvastatin
rosuvastatin calcium	Crestor
pitavastatin magnesium	Zypitamag
simvastatin	FloLipid
lovastatin	Altoprev
amlodipine besylate/atorvastatin calcium	Caduet
niacin/lovastatin	Advicor
niacin/simvastatin	Simcor
ezetimibe/simvastatin	ezetimibe-simvastatin
amlodipine besylate/atorvastatin calcium	amlodipine-atorvastatin
ezetimibe/simvastatin	Vytorin 10-20
ezetimibe/simvastatin	Vytorin 10-40
ezetimibe/simvastatin	Vytorin 10-80
ezetimibe/simvastatin	Vytorin 10-10
ezetimibe/atorvastatin calcium	Liptruzet
rosuvastatin calcium	Ezallor Sprinkle
ezetimibe/rosuvastatin calcium	ezetimibe-rosuvastatin
ezetimibe/rosuvastatin calcium	Roszet
Fibrates	
gemfibrozil	Lopid
fenofibric acid (choline)	Trilipix
fenofibrate nanocrystallized	Tricor
gemfibrozil	gemfibrozil
fenofibrate nanocrystallized	fenofibrate nanocrystallized
fenofibrate,micronized	fenofibrate micronized
fenofibric acid (choline)	fenofibric acid (choline)
fenofibrate	fenofibrate
fenofibric acid	Fibricor
fenofibrate,micronized	Antara
fenofibrate	Fenoglide
fenofibric acid	fenofibric acid

Appendix G. List of Generic and Brand Names of Drugs Used to Define Baseline CharacteristicS in this Request

Generic Name	Brand Name
fenofibrate,micronized	Lofibra
fenofibrate nanocrystallized	Triglide
fenofibrate	Lofibra
fenofibrate	Lipofen
Amiodarone	
amiodarone HCl	amiodarone
amiodarone HCl/dextrose 5 % in water	amiodarone in dextrose 5 %
amiodarone in dextrose, iso-osmotic	Nexterone
amiodarone HCl	Cordarone
amiodarone HCl	Pacerone
Dronedarone	
dronedarone HCl	Multaq

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
	Diabetes		
250	Diabetes mellitus	Diagnosis	ICD-9-CM
250.0	Diabetes mellitus without mention of complication	Diagnosis	ICD-9-CM
250.00	Diabetes mellitus without mention of complication, type II or unspecified type, not stated as uncontrolled	Diagnosis	ICD-9-CM
250.01	Diabetes mellitus without mention of complication, type I [juvenile type], not stated as uncontrolled	Diagnosis	ICD-9-CM
250.02	Diabetes mellitus without mention of complication, type II or unspecified type, uncontrolled	Diagnosis	ICD-9-CM
250.03	Diabetes mellitus without mention of complication, type I [juvenile type], uncontrolled	Diagnosis	ICD-9-CM
250.1	Diabetes with ketoacidosis	Diagnosis	ICD-9-CM
250.10	Diabetes with ketoacidosis, type II or unspecified type, not stated as uncontrolled	Diagnosis	ICD-9-CM
250.11	Diabetes with ketoacidosis, type I [juvenile type], not stated as uncontrolled	Diagnosis	ICD-9-CM
250.12	Diabetes with ketoacidosis, type II or unspecified type, uncontrolled	Diagnosis	ICD-9-CM
250.13	Diabetes with ketoacidosis, type I [juvenile type], uncontrolled	Diagnosis	ICD-9-CM
250.2	Diabetes with hyperosmolarity	Diagnosis	ICD-9-CM
250.20	Diabetes with hyperosmolarity, type II or unspecified type, not stated as uncontrolled	Diagnosis	ICD-9-CM
250.21	Diabetes with hyperosmolarity, type I [juvenile type], not stated as uncontrolled	Diagnosis	ICD-9-CM
250.22	Diabetes with hyperosmolarity, type II or unspecified type, uncontrolled	Diagnosis	ICD-9-CM
250.23	Diabetes with hyperosmolarity, type I [juvenile type], uncontrolled	Diagnosis	ICD-9-CM
250.3	Diabetes with other coma	Diagnosis	ICD-9-CM
250.30	Diabetes with other coma, type II or unspecified type, not stated as uncontrolled	Diagnosis	ICD-9-CM
250.31	Diabetes with other coma, type I [juvenile type], not stated as uncontrolled	Diagnosis	ICD-9-CM
250.32	Diabetes with other coma, type II or unspecified type, uncontrolled	Diagnosis	ICD-9-CM
250.33	Diabetes with other coma, type I [juvenile type], uncontrolled	Diagnosis	ICD-9-CM
250.4	Diabetes with renal manifestations	Diagnosis	ICD-9-CM
250.40	Diabetes with renal manifestations, type II or unspecified type, not stated as uncontrolled	Diagnosis	ICD-9-CM
250.41	Diabetes with renal manifestations, type I [juvenile type], not stated as uncontrolled	Diagnosis	ICD-9-CM
250.42	Diabetes with renal manifestations, type II or unspecified type, uncontrolled	Diagnosis	ICD-9-CM
250.43	Diabetes with renal manifestations, type I [juvenile type], uncontrolled	Diagnosis	ICD-9-CM
250.5	Diabetes with ophthalmic manifestations	Diagnosis	ICD-9-CM
250.50	Diabetes with ophthalmic manifestations, type II or unspecified type, not stated as uncontrolled	Diagnosis	ICD-9-CM
250.51	Diabetes with ophthalmic manifestations, type I [juvenile type], not stated as uncontrolled	Diagnosis	ICD-9-CM
250.52	Diabetes with ophthalmic manifestations, type II or unspecified type, uncontrolled	Diagnosis	ICD-9-CM
250.53	Diabetes with ophthalmic manifestations, type I [juvenile type], uncontrolled	Diagnosis	ICD-9-CM
250.6	Diabetes with neurological manifestations	Diagnosis	ICD-9-CM
250.60	Diabetes with neurological manifestations, type II or unspecified type, not stated as uncontrolled	Diagnosis	ICD-9-CM
250.61	Diabetes with neurological manifestations, type I [juvenile type], not stated as uncontrolled	Diagnosis	ICD-9-CM
250.62	Diabetes with neurological manifestations, type II or unspecified type, uncontrolled	Diagnosis	ICD-9-CM
250.63	Diabetes with neurological manifestations, type I [juvenile type], uncontrolled	Diagnosis	ICD-9-CM
250.7	Diabetes with peripheral circulatory disorders	Diagnosis	ICD-9-CM
250.70	Diabetes with peripheral circulatory disorders, type II or unspecified type, not stated as uncontrolled	Diagnosis	ICD-9-CM
250.71	Diabetes with peripheral circulatory disorders, type I [juvenile type], not stated as uncontrolled	Diagnosis	ICD-9-CM
250.72	Diabetes with peripheral circulatory disorders, type II or unspecified type, uncontrolled	Diagnosis	ICD-9-CM
250.73	Diabetes with peripheral circulatory disorders, type I [juvenile type], uncontrolled	Diagnosis	ICD-9-CM

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
250.8	Diabetes with other specified manifestations	Diagnosis	ICD-9-CM
250.80	Diabetes with other specified manifestations, type II or unspecified type, not stated as uncontrolled	Diagnosis	ICD-9-CM
250.81	Diabetes with other specified manifestations, type I [juvenile type], not stated as uncontrolled	Diagnosis	ICD-9-CM
250.82	Diabetes with other specified manifestations, type II or unspecified type, uncontrolled	Diagnosis	ICD-9-CM
250.83	Diabetes with other specified manifestations, type I [juvenile type], uncontrolled	Diagnosis	ICD-9-CM
250.9	Diabetes with unspecified complication	Diagnosis	ICD-9-CM
250.90	Diabetes with unspecified complication, type II or unspecified type, not stated as uncontrolled	Diagnosis	ICD-9-CM
250.91	Diabetes with unspecified complication, type I [juvenile type], not stated as uncontrolled	Diagnosis	ICD-9-CM
250.92	Diabetes with unspecified complication, type II or unspecified type, uncontrolled	Diagnosis	ICD-9-CM
250.93	Diabetes with unspecified complication, type I [juvenile type], uncontrolled	Diagnosis	ICD-9-CM
A5500	For diabetics only, fitting (including follow-up), custom preparation and supply of off-the-shelf depth-inlay shoe manufactured to accommodate multidensity insert(s), per shoe	Procedure	HCPCS
A5501	For diabetics only, fitting (including follow-up), custom preparation and supply of shoe molded from cast(s) of patient's foot (custom molded shoe), per shoe	Procedure	HCPCS
A5503	For diabetics only, modification (including fitting) of off-the-shelf depth-inlay shoe or custom molded shoe with roller or rigid rocker bottom, per shoe	Procedure	HCPCS
A5504	For diabetics only, modification (including fitting) of off-the-shelf depth-inlay shoe or custom molded shoe with wedge(s), per shoe	Procedure	HCPCS
A5505	For diabetics only, modification (including fitting) of off-the-shelf depth-inlay shoe or custom molded shoe with metatarsal bar, per shoe	Procedure	HCPCS
A5506	For diabetics only, modification (including fitting) of off-the-shelf depth-inlay shoe or custom molded shoe with off-set heel(s), per shoe	Procedure	HCPCS
A5507	For diabetics only, not otherwise specified modification (including fitting) of off-the-shelf depth-inlay shoe or custom molded shoe, per shoe	Procedure	HCPCS
A5508	For diabetics only, deluxe feature of off-the-shelf depth-inlay shoe or custom molded shoe, per shoe	Procedure	HCPCS
A5510	For diabetics only, direct formed, compression molded to patient's foot without external heat source, multiple-density insert(s) prefabricated, per shoe	Procedure	HCPCS
A5512	For diabetics only, multiple density insert, direct formed, molded to foot after external heat source of 230 degrees Fahrenheit or higher, total contact with patient's foot, including arch, base layer minimum of 1/4 inch material of Shore A 35 durometer or 3/16 inch material of Shore A 40 durometer (or higher), prefabricated, each	Procedure	HCPCS
A5513	For diabetics only, multiple density insert, custom molded from model of patient's foot, total contact with patient's foot, including arch, base layer minimum of 3/16 inch material of Shore A 35 durometer (or higher), includes arch filler and other shaping material, custom fabricated, each	Procedure	HCPCS
G0108	Diabetes outpatient self-management training services, individual, per 30 minutes	Procedure	HCPCS
G0109	Diabetes outpatient self-management training services, group session (2 or more), per 30 minutes	Procedure	HCPCS

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
G0245	Initial physician evaluation and management of a diabetic patient with diabetic sensory neuropathy resulting in a loss of protective sensation (LOPS) which must include: (1) the diagnosis of LOPS, (2) a patient history, (3) a physical examination that consists of at least the following elements: (a) visual inspection of the forefoot, hindfoot, and toe web spaces, (b) evaluation of a protective sensation, (c) evaluation of foot structure and biomechanics, (d) evaluation of vascular status and skin integrity, and (e) evaluation and recommendation	Procedure	HCPCS
G0246	Follow-up physician evaluation and management of a diabetic patient with diabetic sensory neuropathy resulting in a loss of protective sensation (LOPS) to include at least the following: (1) a patient history, (2) a physical examination that includes: (a) visual inspection of the forefoot, hindfoot, and toe web spaces, (b) evaluation of protective sensation, (c) evaluation of foot structure and biomechanics, (d) evaluation of vascular status and skin integrity, and (e) evaluation and recommendation of footwear, and (3) patient education	Procedure	HCPCS
G0247	Routine foot care by a physician of a diabetic patient with diabetic sensory neuropathy resulting in a loss of protective sensation (LOPS) to include the local care of superficial wounds (i.e., superficial to muscle and fascia) and at least the following, if present: (1) local care of superficial wounds, (2) debridement of corns and calluses, and (3) trimming and debridement of nails	Procedure	HCPCS
G8015	Diabetic patient with most recent hemoglobin A1c level (within the last 6 months) documented as greater than 9%	Procedure	HCPCS
G8016	Diabetic patient with most recent hemoglobin A1c level (within the last 6 months) documented as less than or equal to 9%	Procedure	HCPCS
G8017	Clinician documented that diabetic patient was not eligible candidate for hemoglobin A1c measure	Procedure	HCPCS
G8018	Clinician has not provided care for the diabetic patient for the required time for hemoglobin A1c measure (6 months)	Procedure	HCPCS
G8019	Diabetic patient with most recent low-density lipoprotein (within the last 12 months) documented as greater than or equal to 100 mg/dl	Procedure	HCPCS
G8020	Diabetic patient with most recent low-density lipoprotein (within the last 12 months) documented as less than 100 mg/dl	Procedure	HCPCS
G8021	Clinician documented that diabetic patient was not eligible candidate for low-density lipoprotein measure	Procedure	HCPCS
G8022	Clinician has not provided care for the diabetic patient for the required time for low-density lipoprotein measure (12 months)	Procedure	HCPCS
G8023	Diabetic patient with most recent blood pressure (within the last 6 months) documented as equal to or greater than 140 systolic or equal to or greater than 80 mm Hg diastolic	Procedure	HCPCS
G8024	Diabetic patient with most recent blood pressure (within the last 6 months) documented as less than 140 systolic and less than 80 diastolic	Procedure	HCPCS
G8025	Clinician documented that the diabetic patient was not eligible candidate for blood pressure measure	Procedure	HCPCS
G8026	Clinician has not provided care for the diabetic patient for the required time for blood pressure measure (within the last 6 months)	Procedure	HCPCS
G8332	Clinician has not provided care for the diabetic retinopathy patient for the required time for macular edema and retinopathy measurement	Procedure	HCPCS
G8333	Patient documented to have had findings of macular or fundus exam communicated to the physician managing the diabetes care	Procedure	HCPCS

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
G8334	Documentation of findings of macular or fundus exam not communicated to the physician managing the patient's ongoing diabetes care	Procedure	HCPCS
G8335	Clinician documentation that patient was not an eligible candidate for the findings of their macular or fundus exam being communicated to the physician managing their diabetes care during the reporting year	Procedure	HCPCS
G8336	Clinician has not provided care for the diabetic retinopathy patient for the required time for physician communication measurement	Procedure	HCPCS
G8385	Diabetic patients with no documentation of hemoglobin A1c level (within the last 12 months)	Procedure	HCPCS
G8386	Diabetic patients with no documentation of low-density lipoprotein (within the last 12 months)	Procedure	HCPCS
G8390	Diabetic patients with no documentation of blood pressure measurement (within the last 12 months)	Procedure	HCPCS
E11.9	Type 2 diabetes mellitus without complications	Diagnosis	ICD-10-CM
E10.9	Type 1 diabetes mellitus without complications	Diagnosis	ICD-10-CM
E11.65	Type 2 diabetes mellitus with hyperglycemia	Diagnosis	ICD-10-CM
E10.65	Type 1 diabetes mellitus with hyperglycemia	Diagnosis	ICD-10-CM
E11.69	Type 2 diabetes mellitus with other specified complication	Diagnosis	ICD-10-CM
E13.10	Other specified diabetes mellitus with ketoacidosis without coma	Diagnosis	ICD-10-CM
E10.10	Type 1 diabetes mellitus with ketoacidosis without coma	Diagnosis	ICD-10-CM
E11.00	Type 2 diabetes mellitus with hyperosmolarity without nonketotic hyperglycemic-hyperosmolar coma (NKHHC)	Diagnosis	ICD-10-CM
E11.01	Type 2 diabetes mellitus with hyperosmolarity with coma	Diagnosis	ICD-10-CM
E10.69	Type 1 diabetes mellitus with other specified complication	Diagnosis	ICD-10-CM
E11.641	Type 2 diabetes mellitus with hypoglycemia with coma	Diagnosis	ICD-10-CM
E10.11	Type 1 diabetes mellitus with ketoacidosis with coma	Diagnosis	ICD-10-CM
E10.641	Type 1 diabetes mellitus with hypoglycemia with coma	Diagnosis	ICD-10-CM
E11.29	Type 2 diabetes mellitus with other diabetic kidney complication	Diagnosis	ICD-10-CM
E10.29	Type 1 diabetes mellitus with other diabetic kidney complication	Diagnosis	ICD-10-CM
E11.21	Type 2 diabetes mellitus with diabetic nephropathy	Diagnosis	ICD-10-CM
E10.21	Type 1 diabetes mellitus with diabetic nephropathy	Diagnosis	ICD-10-CM
E11.311	Type 2 diabetes mellitus with unspecified diabetic retinopathy with macular edema	Diagnosis	ICD-10-CM
E11.319	Type 2 diabetes mellitus with unspecified diabetic retinopathy without macular edema	Diagnosis	ICD-10-CM
E11.36	Type 2 diabetes mellitus with diabetic cataract	Diagnosis	ICD-10-CM
E11.39	Type 2 diabetes mellitus with other diabetic ophthalmic complication	Diagnosis	ICD-10-CM
E10.311	Type 1 diabetes mellitus with unspecified diabetic retinopathy with macular edema	Diagnosis	ICD-10-CM
E10.319	Type 1 diabetes mellitus with unspecified diabetic retinopathy without macular edema	Diagnosis	ICD-10-CM
E10.36	Type 1 diabetes mellitus with diabetic cataract	Diagnosis	ICD-10-CM
E10.37X1	Type 1 diabetes mellitus with diabetic macular edema, resolved following treatment, right eye	Diagnosis	ICD-10-CM
E10.37X2	Type 1 diabetes mellitus with diabetic macular edema, resolved following treatment, left eye	Diagnosis	ICD-10-CM
E10.37X3	Type 1 diabetes mellitus with diabetic macular edema, resolved following treatment, bilateral	Diagnosis	ICD-10-CM
E10.37X9	Type 1 diabetes mellitus with diabetic macular edema, resolved following treatment, unspecified eye	Diagnosis	ICD-10-CM
E10.39	Type 1 diabetes mellitus with other diabetic ophthalmic complication	Diagnosis	ICD-10-CM
E11.40	Type 2 diabetes mellitus with diabetic neuropathy, unspecified	Diagnosis	ICD-10-CM

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
E10.40	Type 1 diabetes mellitus with diabetic neuropathy, unspecified	Diagnosis	ICD-10-CM
E11.51	Type 2 diabetes mellitus with diabetic peripheral angiopathy without gangrene	Diagnosis	ICD-10-CM
E10.51	Type 1 diabetes mellitus with diabetic peripheral angiopathy without gangrene	Diagnosis	ICD-10-CM
E11.618	Type 2 diabetes mellitus with other diabetic arthropathy	Diagnosis	ICD-10-CM
E11.620	Type 2 diabetes mellitus with diabetic dermatitis	Diagnosis	ICD-10-CM
E11.621	Type 2 diabetes mellitus with foot ulcer	Diagnosis	ICD-10-CM
E11.622	Type 2 diabetes mellitus with other skin ulcer	Diagnosis	ICD-10-CM
E11.628	Type 2 diabetes mellitus with other skin complications	Diagnosis	ICD-10-CM
E11.630	Type 2 diabetes mellitus with periodontal disease	Diagnosis	ICD-10-CM
E11.638	Type 2 diabetes mellitus with other oral complications	Diagnosis	ICD-10-CM
E11.649	Type 2 diabetes mellitus with hypoglycemia without coma	Diagnosis	ICD-10-CM
E10.618	Type 1 diabetes mellitus with other diabetic arthropathy	Diagnosis	ICD-10-CM
E10.620	Type 1 diabetes mellitus with diabetic dermatitis	Diagnosis	ICD-10-CM
E10.621	Type 1 diabetes mellitus with foot ulcer	Diagnosis	ICD-10-CM
E10.622	Type 1 diabetes mellitus with other skin ulcer	Diagnosis	ICD-10-CM
E10.628	Type 1 diabetes mellitus with other skin complications	Diagnosis	ICD-10-CM
E10.630	Type 1 diabetes mellitus with periodontal disease	Diagnosis	ICD-10-CM
E10.638	Type 1 diabetes mellitus with other oral complications	Diagnosis	ICD-10-CM
E10.649	Type 1 diabetes mellitus with hypoglycemia without coma	Diagnosis	ICD-10-CM
E11.8	Type 2 diabetes mellitus with unspecified complications	Diagnosis	ICD-10-CM
E10.8	Type 1 diabetes mellitus with unspecified complications	Diagnosis	ICD-10-CM
E13.9	Other specified diabetes mellitus without complications	Diagnosis	ICD-10-CM
E13.00	Other specified diabetes mellitus with hyperosmolarity without nonketotic hyperglycemic-hyperosmolar coma (NKHHC)	Diagnosis	ICD-10-CM
E13.01	Other specified diabetes mellitus with hyperosmolarity with coma	Diagnosis	ICD-10-CM
E13.11	Other specified diabetes mellitus with ketoacidosis with coma	Diagnosis	ICD-10-CM
E13.641	Other specified diabetes mellitus with hypoglycemia with coma	Diagnosis	ICD-10-CM
E13.21	Other specified diabetes mellitus with diabetic nephropathy	Diagnosis	ICD-10-CM
E13.22	Other specified diabetes mellitus with diabetic chronic kidney disease	Diagnosis	ICD-10-CM
E13.29	Other specified diabetes mellitus with other diabetic kidney complication	Diagnosis	ICD-10-CM
E11.22	Type 2 diabetes mellitus with diabetic chronic kidney disease	Diagnosis	ICD-10-CM
E10.22	Type 1 diabetes mellitus with diabetic chronic kidney disease	Diagnosis	ICD-10-CM
E11.3211	Type 2 diabetes mellitus with mild nonproliferative diabetic retinopathy with macular edema, right eye	Diagnosis	ICD-10-CM
E11.3212	Type 2 diabetes mellitus with mild nonproliferative diabetic retinopathy with macular edema, left eye	Diagnosis	ICD-10-CM
E11.3213	Type 2 diabetes mellitus with mild nonproliferative diabetic retinopathy with macular edema, bilateral	Diagnosis	ICD-10-CM
E11.3219	Type 2 diabetes mellitus with mild nonproliferative diabetic retinopathy with macular edema, unspecified eye	Diagnosis	ICD-10-CM
E11.3291	Type 2 diabetes mellitus with mild nonproliferative diabetic retinopathy without macular edema, right eye	Diagnosis	ICD-10-CM
E11.3292	Type 2 diabetes mellitus with mild nonproliferative diabetic retinopathy without macular edema, left eye	Diagnosis	ICD-10-CM
E11.3293	Type 2 diabetes mellitus with mild nonproliferative diabetic retinopathy without macular edema, bilateral	Diagnosis	ICD-10-CM
E11.3299	Type 2 diabetes mellitus with mild nonproliferative diabetic retinopathy without macular edema, unspecified eye	Diagnosis	ICD-10-CM

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
E11.3311	Type 2 diabetes mellitus with moderate nonproliferative diabetic retinopathy with macular edema, right eye	Diagnosis	ICD-10-CM
E11.3312	Type 2 diabetes mellitus with moderate nonproliferative diabetic retinopathy with macular edema, left eye	Diagnosis	ICD-10-CM
E11.3313	Type 2 diabetes mellitus with moderate nonproliferative diabetic retinopathy with macular edema, bilateral	Diagnosis	ICD-10-CM
E11.3319	Type 2 diabetes mellitus with moderate nonproliferative diabetic retinopathy with macular edema, unspecified eye	Diagnosis	ICD-10-CM
E11.3391	Type 2 diabetes mellitus with moderate nonproliferative diabetic retinopathy without macular edema, right eye	Diagnosis	ICD-10-CM
E11.3392	Type 2 diabetes mellitus with moderate nonproliferative diabetic retinopathy without macular edema, left eye	Diagnosis	ICD-10-CM
E11.3393	Type 2 diabetes mellitus with moderate nonproliferative diabetic retinopathy without macular edema, bilateral	Diagnosis	ICD-10-CM
E11.3399	Type 2 diabetes mellitus with moderate nonproliferative diabetic retinopathy without macular edema, unspecified eye	Diagnosis	ICD-10-CM
E11.3411	Type 2 diabetes mellitus with severe nonproliferative diabetic retinopathy with macular edema, right eye	Diagnosis	ICD-10-CM
E11.3412	Type 2 diabetes mellitus with severe nonproliferative diabetic retinopathy with macular edema, left eye	Diagnosis	ICD-10-CM
E11.3413	Type 2 diabetes mellitus with severe nonproliferative diabetic retinopathy with macular edema, bilateral	Diagnosis	ICD-10-CM
E11.3419	Type 2 diabetes mellitus with severe nonproliferative diabetic retinopathy with macular edema, unspecified eye	Diagnosis	ICD-10-CM
E11.3491	Type 2 diabetes mellitus with severe nonproliferative diabetic retinopathy without macular edema, right eye	Diagnosis	ICD-10-CM
E11.3492	Type 2 diabetes mellitus with severe nonproliferative diabetic retinopathy without macular edema, left eye	Diagnosis	ICD-10-CM
E11.3493	Type 2 diabetes mellitus with severe nonproliferative diabetic retinopathy without macular edema, bilateral	Diagnosis	ICD-10-CM
E11.3499	Type 2 diabetes mellitus with severe nonproliferative diabetic retinopathy without macular edema, unspecified eye	Diagnosis	ICD-10-CM
E11.3511	Type 2 diabetes mellitus with proliferative diabetic retinopathy with macular edema, right eye	Diagnosis	ICD-10-CM
E11.3512	Type 2 diabetes mellitus with proliferative diabetic retinopathy with macular edema, left eye	Diagnosis	ICD-10-CM
E11.3513	Type 2 diabetes mellitus with proliferative diabetic retinopathy with macular edema, bilateral	Diagnosis	ICD-10-CM
E11.3519	Type 2 diabetes mellitus with proliferative diabetic retinopathy with macular edema, unspecified eye	Diagnosis	ICD-10-CM
E11.3521	Type 2 diabetes mellitus with proliferative diabetic retinopathy with traction retinal detachment involving the macula, right eye	Diagnosis	ICD-10-CM
E11.3522	Type 2 diabetes mellitus with proliferative diabetic retinopathy with traction retinal detachment involving the macula, left eye	Diagnosis	ICD-10-CM
E11.3523	Type 2 diabetes mellitus with proliferative diabetic retinopathy with traction retinal detachment involving the macula, bilateral	Diagnosis	ICD-10-CM
E11.3529	Type 2 diabetes mellitus with proliferative diabetic retinopathy with traction retinal detachment involving the macula, unspecified eye	Diagnosis	ICD-10-CM

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
E11.3531	Type 2 diabetes mellitus with proliferative diabetic retinopathy with traction retinal detachment not involving the macula, right eye	Diagnosis	ICD-10-CM
E11.3532	Type 2 diabetes mellitus with proliferative diabetic retinopathy with traction retinal detachment not involving the macula, left eye	Diagnosis	ICD-10-CM
E11.3533	Type 2 diabetes mellitus with proliferative diabetic retinopathy with traction retinal detachment not involving the macula, bilateral	Diagnosis	ICD-10-CM
E11.3539	Type 2 diabetes mellitus with proliferative diabetic retinopathy with traction retinal detachment not involving the macula, unspecified eye	Diagnosis	ICD-10-CM
E11.3541	Type 2 diabetes mellitus with proliferative diabetic retinopathy with combined traction retinal detachment and rhegmatogenous retinal detachment, right eye	Diagnosis	ICD-10-CM
E11.3542	Type 2 diabetes mellitus with proliferative diabetic retinopathy with combined traction retinal detachment and rhegmatogenous retinal detachment, left eye	Diagnosis	ICD-10-CM
E11.3543	Type 2 diabetes mellitus with proliferative diabetic retinopathy with combined traction retinal detachment and rhegmatogenous retinal detachment, bilateral	Diagnosis	ICD-10-CM
E11.3549	Type 2 diabetes mellitus with proliferative diabetic retinopathy with combined traction retinal detachment and rhegmatogenous retinal detachment, unspecified eye	Diagnosis	ICD-10-CM
E11.3551	Type 2 diabetes mellitus with stable proliferative diabetic retinopathy, right eye	Diagnosis	ICD-10-CM
E11.3552	Type 2 diabetes mellitus with stable proliferative diabetic retinopathy, left eye	Diagnosis	ICD-10-CM
E11.3553	Type 2 diabetes mellitus with stable proliferative diabetic retinopathy, bilateral	Diagnosis	ICD-10-CM
E11.3559	Type 2 diabetes mellitus with stable proliferative diabetic retinopathy, unspecified eye	Diagnosis	ICD-10-CM
E11.3591	Type 2 diabetes mellitus with proliferative diabetic retinopathy without macular edema, right eye	Diagnosis	ICD-10-CM
E11.3592	Type 2 diabetes mellitus with proliferative diabetic retinopathy without macular edema, left eye	Diagnosis	ICD-10-CM
E11.3593	Type 2 diabetes mellitus with proliferative diabetic retinopathy without macular edema, bilateral	Diagnosis	ICD-10-CM
E11.3599	Type 2 diabetes mellitus with proliferative diabetic retinopathy without macular edema, unspecified eye	Diagnosis	ICD-10-CM
E13.3211	Other specified diabetes mellitus with mild nonproliferative diabetic retinopathy with macular edema, right eye	Diagnosis	ICD-10-CM
E13.3212	Other specified diabetes mellitus with mild nonproliferative diabetic retinopathy with macular edema, left eye	Diagnosis	ICD-10-CM
E13.3213	Other specified diabetes mellitus with mild nonproliferative diabetic retinopathy with macular edema, bilateral	Diagnosis	ICD-10-CM
E13.3219	Other specified diabetes mellitus with mild nonproliferative diabetic retinopathy with macular edema, unspecified eye	Diagnosis	ICD-10-CM
E13.3291	Other specified diabetes mellitus with mild nonproliferative diabetic retinopathy without macular edema, right eye	Diagnosis	ICD-10-CM
E13.3292	Other specified diabetes mellitus with mild nonproliferative diabetic retinopathy without macular edema, left eye	Diagnosis	ICD-10-CM
E13.3293	Other specified diabetes mellitus with mild nonproliferative diabetic retinopathy without macular edema, bilateral	Diagnosis	ICD-10-CM
E13.3299	Other specified diabetes mellitus with mild nonproliferative diabetic retinopathy without macular edema, unspecified eye	Diagnosis	ICD-10-CM
E13.3311	Other specified diabetes mellitus with moderate nonproliferative diabetic retinopathy with macular edema, right eye	Diagnosis	ICD-10-CM
E13.3312	Other specified diabetes mellitus with moderate nonproliferative diabetic retinopathy with macular edema, left eye	Diagnosis	ICD-10-CM

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
E13.3313	Other specified diabetes mellitus with moderate nonproliferative diabetic retinopathy with macular edema, bilateral	Diagnosis	ICD-10-CM
E13.3319	Other specified diabetes mellitus with moderate nonproliferative diabetic retinopathy with macular edema, unspecified eye	Diagnosis	ICD-10-CM
E13.3391	Other specified diabetes mellitus with moderate nonproliferative diabetic retinopathy without macular edema, right eye	Diagnosis	ICD-10-CM
E13.3392	Other specified diabetes mellitus with moderate nonproliferative diabetic retinopathy without macular edema, left eye	Diagnosis	ICD-10-CM
E13.3393	Other specified diabetes mellitus with moderate nonproliferative diabetic retinopathy without macular edema, bilateral	Diagnosis	ICD-10-CM
E13.3399	Other specified diabetes mellitus with moderate nonproliferative diabetic retinopathy without macular edema, unspecified eye	Diagnosis	ICD-10-CM
E13.3411	Other specified diabetes mellitus with severe nonproliferative diabetic retinopathy with macular edema, right eye	Diagnosis	ICD-10-CM
E13.3412	Other specified diabetes mellitus with severe nonproliferative diabetic retinopathy with macular edema, left eye	Diagnosis	ICD-10-CM
E13.3413	Other specified diabetes mellitus with severe nonproliferative diabetic retinopathy with macular edema, bilateral	Diagnosis	ICD-10-CM
E13.3419	Other specified diabetes mellitus with severe nonproliferative diabetic retinopathy with macular edema, unspecified eye	Diagnosis	ICD-10-CM
E13.3491	Other specified diabetes mellitus with severe nonproliferative diabetic retinopathy without macular edema, right eye	Diagnosis	ICD-10-CM
E13.3492	Other specified diabetes mellitus with severe nonproliferative diabetic retinopathy without macular edema, left eye	Diagnosis	ICD-10-CM
E13.3493	Other specified diabetes mellitus with severe nonproliferative diabetic retinopathy without macular edema, bilateral	Diagnosis	ICD-10-CM
E13.3499	Other specified diabetes mellitus with severe nonproliferative diabetic retinopathy without macular edema, unspecified eye	Diagnosis	ICD-10-CM
E13.3511	Other specified diabetes mellitus with proliferative diabetic retinopathy with macular edema, right eye	Diagnosis	ICD-10-CM
E13.3512	Other specified diabetes mellitus with proliferative diabetic retinopathy with macular edema, left eye	Diagnosis	ICD-10-CM
E13.3513	Other specified diabetes mellitus with proliferative diabetic retinopathy with macular edema, bilateral	Diagnosis	ICD-10-CM
E13.3519	Other specified diabetes mellitus with proliferative diabetic retinopathy with macular edema, unspecified eye	Diagnosis	ICD-10-CM
E13.3521	Other specified diabetes mellitus with proliferative diabetic retinopathy with traction retinal detachment involving the macula, right eye	Diagnosis	ICD-10-CM
E13.3522	Other specified diabetes mellitus with proliferative diabetic retinopathy with traction retinal detachment involving the macula, left eye	Diagnosis	ICD-10-CM
E13.3523	Other specified diabetes mellitus with proliferative diabetic retinopathy with traction retinal detachment involving the macula, bilateral	Diagnosis	ICD-10-CM
E13.3529	Other specified diabetes mellitus with proliferative diabetic retinopathy with traction retinal detachment involving the macula, unspecified eye	Diagnosis	ICD-10-CM
E13.3531	Other specified diabetes mellitus with proliferative diabetic retinopathy with traction retinal detachment not involving the macula, right eye	Diagnosis	ICD-10-CM
E13.3532	Other specified diabetes mellitus with proliferative diabetic retinopathy with traction retinal detachment not involving the macula, left eye	Diagnosis	ICD-10-CM

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
E13.3533	Other specified diabetes mellitus with proliferative diabetic retinopathy with traction retinal detachment not involving the macula, bilateral	Diagnosis	ICD-10-CM
E13.3539	Other specified diabetes mellitus with proliferative diabetic retinopathy with traction retinal detachment not involving the macula, unspecified eye	Diagnosis	ICD-10-CM
E13.3541	Other specified diabetes mellitus with proliferative diabetic retinopathy with combined traction retinal detachment and rhegmatogenous retinal detachment, right eye	Diagnosis	ICD-10-CM
E13.3542	Other specified diabetes mellitus with proliferative diabetic retinopathy with combined traction retinal detachment and rhegmatogenous retinal detachment, left eye	Diagnosis	ICD-10-CM
E13.3543	Other specified diabetes mellitus with proliferative diabetic retinopathy with combined traction retinal detachment and rhegmatogenous retinal detachment, bilateral	Diagnosis	ICD-10-CM
E13.3549	Other specified diabetes mellitus with proliferative diabetic retinopathy with combined traction retinal detachment and rhegmatogenous retinal detachment, unspecified eye	Diagnosis	ICD-10-CM
E13.3551	Other specified diabetes mellitus with stable proliferative diabetic retinopathy, right eye	Diagnosis	ICD-10-CM
E13.3552	Other specified diabetes mellitus with stable proliferative diabetic retinopathy, left eye	Diagnosis	ICD-10-CM
E13.3553	Other specified diabetes mellitus with stable proliferative diabetic retinopathy, bilateral	Diagnosis	ICD-10-CM
E13.3559	Other specified diabetes mellitus with stable proliferative diabetic retinopathy, unspecified eye	Diagnosis	ICD-10-CM
E13.3591	Other specified diabetes mellitus with proliferative diabetic retinopathy without macular edema, right eye	Diagnosis	ICD-10-CM
E13.3592	Other specified diabetes mellitus with proliferative diabetic retinopathy without macular edema, left eye	Diagnosis	ICD-10-CM
E13.3593	Other specified diabetes mellitus with proliferative diabetic retinopathy without macular edema, bilateral	Diagnosis	ICD-10-CM
E13.3599	Other specified diabetes mellitus with proliferative diabetic retinopathy without macular edema, unspecified eye	Diagnosis	ICD-10-CM
E13.311	Other specified diabetes mellitus with unspecified diabetic retinopathy with macular edema	Diagnosis	ICD-10-CM
E13.319	Other specified diabetes mellitus with unspecified diabetic retinopathy without macular edema	Diagnosis	ICD-10-CM
E13.36	Other specified diabetes mellitus with diabetic cataract	Diagnosis	ICD-10-CM
E13.37X1	Other specified diabetes mellitus with diabetic macular edema, resolved following treatment, right eye	Diagnosis	ICD-10-CM
E13.37X2	Other specified diabetes mellitus with diabetic macular edema, resolved following treatment, left eye	Diagnosis	ICD-10-CM
E13.37X3	Other specified diabetes mellitus with diabetic macular edema, resolved following treatment, bilateral	Diagnosis	ICD-10-CM
E13.37X9	Other specified diabetes mellitus with diabetic macular edema, resolved following treatment, unspecified eye	Diagnosis	ICD-10-CM
E13.39	Other specified diabetes mellitus with other diabetic ophthalmic complication	Diagnosis	ICD-10-CM
E11.37X1	Type 2 diabetes mellitus with diabetic macular edema, resolved following treatment, right eye	Diagnosis	ICD-10-CM
E11.37X2	Type 2 diabetes mellitus with diabetic macular edema, resolved following treatment, left eye	Diagnosis	ICD-10-CM
E11.37X3	Type 2 diabetes mellitus with diabetic macular edema, resolved following treatment, bilateral	Diagnosis	ICD-10-CM
E11.37X9	Type 2 diabetes mellitus with diabetic macular edema, resolved following treatment, unspecified eye	Diagnosis	ICD-10-CM

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
E10.3211	Type 1 diabetes mellitus with mild nonproliferative diabetic retinopathy with macular edema, right eye	Diagnosis	ICD-10-CM
E10.3212	Type 1 diabetes mellitus with mild nonproliferative diabetic retinopathy with macular edema, left eye	Diagnosis	ICD-10-CM
E10.3213	Type 1 diabetes mellitus with mild nonproliferative diabetic retinopathy with macular edema, bilateral	Diagnosis	ICD-10-CM
E10.3219	Type 1 diabetes mellitus with mild nonproliferative diabetic retinopathy with macular edema, unspecified eye	Diagnosis	ICD-10-CM
E10.3291	Type 1 diabetes mellitus with mild nonproliferative diabetic retinopathy without macular edema, right eye	Diagnosis	ICD-10-CM
E10.3292	Type 1 diabetes mellitus with mild nonproliferative diabetic retinopathy without macular edema, left eye	Diagnosis	ICD-10-CM
E10.3293	Type 1 diabetes mellitus with mild nonproliferative diabetic retinopathy without macular edema, bilateral	Diagnosis	ICD-10-CM
E10.3299	Type 1 diabetes mellitus with mild nonproliferative diabetic retinopathy without macular edema, unspecified eye	Diagnosis	ICD-10-CM
E10.3311	Type 1 diabetes mellitus with moderate nonproliferative diabetic retinopathy with macular edema, right eye	Diagnosis	ICD-10-CM
E10.3312	Type 1 diabetes mellitus with moderate nonproliferative diabetic retinopathy with macular edema, left eye	Diagnosis	ICD-10-CM
E10.3313	Type 1 diabetes mellitus with moderate nonproliferative diabetic retinopathy with macular edema, bilateral	Diagnosis	ICD-10-CM
E10.3319	Type 1 diabetes mellitus with moderate nonproliferative diabetic retinopathy with macular edema, unspecified eye	Diagnosis	ICD-10-CM
E10.3391	Type 1 diabetes mellitus with moderate nonproliferative diabetic retinopathy without macular edema, right eye	Diagnosis	ICD-10-CM
E10.3392	Type 1 diabetes mellitus with moderate nonproliferative diabetic retinopathy without macular edema, left eye	Diagnosis	ICD-10-CM
E10.3393	Type 1 diabetes mellitus with moderate nonproliferative diabetic retinopathy without macular edema, bilateral	Diagnosis	ICD-10-CM
E10.3399	Type 1 diabetes mellitus with moderate nonproliferative diabetic retinopathy without macular edema, unspecified eye	Diagnosis	ICD-10-CM
E10.3411	Type 1 diabetes mellitus with severe nonproliferative diabetic retinopathy with macular edema, right eye	Diagnosis	ICD-10-CM
E10.3412	Type 1 diabetes mellitus with severe nonproliferative diabetic retinopathy with macular edema, left eye	Diagnosis	ICD-10-CM
E10.3413	Type 1 diabetes mellitus with severe nonproliferative diabetic retinopathy with macular edema, bilateral	Diagnosis	ICD-10-CM
E10.3419	Type 1 diabetes mellitus with severe nonproliferative diabetic retinopathy with macular edema, unspecified eye	Diagnosis	ICD-10-CM
E10.3491	Type 1 diabetes mellitus with severe nonproliferative diabetic retinopathy without macular edema, right eye	Diagnosis	ICD-10-CM
E10.3492	Type 1 diabetes mellitus with severe nonproliferative diabetic retinopathy without macular edema, left eye	Diagnosis	ICD-10-CM
E10.3493	Type 1 diabetes mellitus with severe nonproliferative diabetic retinopathy without macular edema, bilateral	Diagnosis	ICD-10-CM
E10.3499	Type 1 diabetes mellitus with severe nonproliferative diabetic retinopathy without macular edema, unspecified eye	Diagnosis	ICD-10-CM

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
E10.3511	Type 1 diabetes mellitus with proliferative diabetic retinopathy with macular edema, right eye	Diagnosis	ICD-10-CM
E10.3512	Type 1 diabetes mellitus with proliferative diabetic retinopathy with macular edema, left eye	Diagnosis	ICD-10-CM
E10.3513	Type 1 diabetes mellitus with proliferative diabetic retinopathy with macular edema, bilateral	Diagnosis	ICD-10-CM
E10.3519	Type 1 diabetes mellitus with proliferative diabetic retinopathy with macular edema, unspecified eye	Diagnosis	ICD-10-CM
E10.3521	Type 1 diabetes mellitus with proliferative diabetic retinopathy with traction retinal detachment involving the macula, right eye	Diagnosis	ICD-10-CM
E10.3522	Type 1 diabetes mellitus with proliferative diabetic retinopathy with traction retinal detachment involving the macula, left eye	Diagnosis	ICD-10-CM
E10.3523	Type 1 diabetes mellitus with proliferative diabetic retinopathy with traction retinal detachment involving the macula, bilateral	Diagnosis	ICD-10-CM
E10.3529	Type 1 diabetes mellitus with proliferative diabetic retinopathy with traction retinal detachment involving the macula, unspecified eye	Diagnosis	ICD-10-CM
E10.3531	Type 1 diabetes mellitus with proliferative diabetic retinopathy with traction retinal detachment not involving the macula, right eye	Diagnosis	ICD-10-CM
E10.3532	Type 1 diabetes mellitus with proliferative diabetic retinopathy with traction retinal detachment not involving the macula, left eye	Diagnosis	ICD-10-CM
E10.3533	Type 1 diabetes mellitus with proliferative diabetic retinopathy with traction retinal detachment not involving the macula, bilateral	Diagnosis	ICD-10-CM
E10.3539	Type 1 diabetes mellitus with proliferative diabetic retinopathy with traction retinal detachment not involving the macula, unspecified eye	Diagnosis	ICD-10-CM
E10.3541	Type 1 diabetes mellitus with proliferative diabetic retinopathy with combined traction retinal detachment and rhegmatogenous retinal detachment, right eye	Diagnosis	ICD-10-CM
E10.3542	Type 1 diabetes mellitus with proliferative diabetic retinopathy with combined traction retinal detachment and rhegmatogenous retinal detachment, left eye	Diagnosis	ICD-10-CM
E10.3543	Type 1 diabetes mellitus with proliferative diabetic retinopathy with combined traction retinal detachment and rhegmatogenous retinal detachment, bilateral	Diagnosis	ICD-10-CM
E10.3549	Type 1 diabetes mellitus with proliferative diabetic retinopathy with combined traction retinal detachment and rhegmatogenous retinal detachment, unspecified eye	Diagnosis	ICD-10-CM
E10.3551	Type 1 diabetes mellitus with stable proliferative diabetic retinopathy, right eye	Diagnosis	ICD-10-CM
E10.3552	Type 1 diabetes mellitus with stable proliferative diabetic retinopathy, left eye	Diagnosis	ICD-10-CM
E10.3553	Type 1 diabetes mellitus with stable proliferative diabetic retinopathy, bilateral	Diagnosis	ICD-10-CM
E10.3559	Type 1 diabetes mellitus with stable proliferative diabetic retinopathy, unspecified eye	Diagnosis	ICD-10-CM
E10.3591	Type 1 diabetes mellitus with proliferative diabetic retinopathy without macular edema, right eye	Diagnosis	ICD-10-CM
E10.3592	Type 1 diabetes mellitus with proliferative diabetic retinopathy without macular edema, left eye	Diagnosis	ICD-10-CM
E10.3593	Type 1 diabetes mellitus with proliferative diabetic retinopathy without macular edema, bilateral	Diagnosis	ICD-10-CM
E10.3599	Type 1 diabetes mellitus with proliferative diabetic retinopathy without macular edema, unspecified eye	Diagnosis	ICD-10-CM
E13.40	Other specified diabetes mellitus with diabetic neuropathy, unspecified	Diagnosis	ICD-10-CM
E13.41	Other specified diabetes mellitus with diabetic mononeuropathy	Diagnosis	ICD-10-CM
E13.42	Other specified diabetes mellitus with diabetic polyneuropathy	Diagnosis	ICD-10-CM
E13.43	Other specified diabetes mellitus with diabetic autonomic (poly)neuropathy	Diagnosis	ICD-10-CM

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
E13.44	Other specified diabetes mellitus with diabetic amyotrophy	Diagnosis	ICD-10-CM
E13.49	Other specified diabetes mellitus with other diabetic neurological complication	Diagnosis	ICD-10-CM
E13.610	Other specified diabetes mellitus with diabetic neuropathic arthropathy	Diagnosis	ICD-10-CM
E11.41	Type 2 diabetes mellitus with diabetic mononeuropathy	Diagnosis	ICD-10-CM
E11.42	Type 2 diabetes mellitus with diabetic polyneuropathy	Diagnosis	ICD-10-CM
E11.43	Type 2 diabetes mellitus with diabetic autonomic (poly)neuropathy	Diagnosis	ICD-10-CM
E11.44	Type 2 diabetes mellitus with diabetic amyotrophy	Diagnosis	ICD-10-CM
E11.49	Type 2 diabetes mellitus with other diabetic neurological complication	Diagnosis	ICD-10-CM
E11.610	Type 2 diabetes mellitus with diabetic neuropathic arthropathy	Diagnosis	ICD-10-CM
E10.41	Type 1 diabetes mellitus with diabetic mononeuropathy	Diagnosis	ICD-10-CM
E10.42	Type 1 diabetes mellitus with diabetic polyneuropathy	Diagnosis	ICD-10-CM
E10.43	Type 1 diabetes mellitus with diabetic autonomic (poly)neuropathy	Diagnosis	ICD-10-CM
E10.44	Type 1 diabetes mellitus with diabetic amyotrophy	Diagnosis	ICD-10-CM
E10.49	Type 1 diabetes mellitus with other diabetic neurological complication	Diagnosis	ICD-10-CM
E10.610	Type 1 diabetes mellitus with diabetic neuropathic arthropathy	Diagnosis	ICD-10-CM
E13.51	Other specified diabetes mellitus with diabetic peripheral angiopathy without gangrene	Diagnosis	ICD-10-CM
E13.52	Other specified diabetes mellitus with diabetic peripheral angiopathy with gangrene	Diagnosis	ICD-10-CM
E13.59	Other specified diabetes mellitus with other circulatory complications	Diagnosis	ICD-10-CM
E11.52	Type 2 diabetes mellitus with diabetic peripheral angiopathy with gangrene	Diagnosis	ICD-10-CM
E11.59	Type 2 diabetes mellitus with other circulatory complications	Diagnosis	ICD-10-CM
E10.52	Type 1 diabetes mellitus with diabetic peripheral angiopathy with gangrene	Diagnosis	ICD-10-CM
E10.59	Type 1 diabetes mellitus with other circulatory complications	Diagnosis	ICD-10-CM
E13.618	Other specified diabetes mellitus with other diabetic arthropathy	Diagnosis	ICD-10-CM
E13.620	Other specified diabetes mellitus with diabetic dermatitis	Diagnosis	ICD-10-CM
E13.621	Other specified diabetes mellitus with foot ulcer	Diagnosis	ICD-10-CM
E13.622	Other specified diabetes mellitus with other skin ulcer	Diagnosis	ICD-10-CM
E13.628	Other specified diabetes mellitus with other skin complications	Diagnosis	ICD-10-CM
E13.630	Other specified diabetes mellitus with periodontal disease	Diagnosis	ICD-10-CM
E13.638	Other specified diabetes mellitus with other oral complications	Diagnosis	ICD-10-CM
E13.649	Other specified diabetes mellitus with hypoglycemia without coma	Diagnosis	ICD-10-CM
E13.65	Other specified diabetes mellitus with hyperglycemia	Diagnosis	ICD-10-CM
E13.69	Other specified diabetes mellitus with other specified complication	Diagnosis	ICD-10-CM
E13.8	Other specified diabetes mellitus with unspecified complications	Diagnosis	ICD-10-CM
E11.10	Type 2 diabetes mellitus with ketoacidosis without coma	Diagnosis	ICD-10-CM
E11.11	Type 2 diabetes mellitus with ketoacidosis with coma	Diagnosis	ICD-10-CM
	Hypercholesterolemia		
272.0	Pure hypercholesterolemia	Diagnosis	ICD-9-CM
272.2	Mixed hyperlipidemia	Diagnosis	ICD-9-CM
E78.00	Pure hypercholesterolemia, unspecified	Diagnosis	ICD-10-CM
E78.01	Familial hypercholesterolemia	Diagnosis	ICD-10-CM
E78.2	Mixed hyperlipidemia	Diagnosis	ICD-10-CM
	Hypertension		
401	Essential hypertension	Diagnosis	ICD-9-CM
401.0	Essential hypertension, malignant	Diagnosis	ICD-9-CM
401.1	Essential hypertension, benign	Diagnosis	ICD-9-CM
401.9	Unspecified essential hypertension	Diagnosis	ICD-9-CM
402	Hypertensive heart disease	Diagnosis	ICD-9-CM
402.0	Malignant hypertensive heart disease	Diagnosis	ICD-9-CM

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
402.00	Malignant hypertensive heart disease without heart failure	Diagnosis	ICD-9-CM
402.01	Malignant hypertensive heart disease with heart failure	Diagnosis	ICD-9-CM
402.1	Benign hypertensive heart disease	Diagnosis	ICD-9-CM
402.10	Benign hypertensive heart disease without heart failure	Diagnosis	ICD-9-CM
402.11	Benign hypertensive heart disease with heart failure	Diagnosis	ICD-9-CM
402.9	Unspecified hypertensive heart disease	Diagnosis	ICD-9-CM
402.90	Unspecified hypertensive heart disease without heart failure	Diagnosis	ICD-9-CM
402.91	Hypertensive heart disease, unspecified, with heart failure	Diagnosis	ICD-9-CM
403	Hypertensive chronic kidney disease	Diagnosis	ICD-9-CM
403.0	Hypertensive chronic kidney disease, malignant	Diagnosis	ICD-9-CM
403.00	Hypertensive chronic kidney disease, malignant, with chronic kidney disease stage I through stage IV, or unspecified	Diagnosis	ICD-9-CM
403.01	Hypertensive chronic kidney disease, malignant, with chronic kidney disease stage V or end stage renal disease	Diagnosis	ICD-9-CM
403.1	Hypertensive chronic kidney disease, benign	Diagnosis	ICD-9-CM
403.10	Hypertensive chronic kidney disease, benign, with chronic kidney disease stage I through stage IV, or unspecified	Diagnosis	ICD-9-CM
403.11	Hypertensive chronic kidney disease, benign, with chronic kidney disease stage V or end stage renal disease	Diagnosis	ICD-9-CM
403.9	Hypertensive chronic kidney disease, unspecified	Diagnosis	ICD-9-CM
403.90	Hypertensive chronic kidney disease, unspecified, with chronic kidney disease stage I through stage IV, or unspecified	Diagnosis	ICD-9-CM
403.91	Hypertensive chronic kidney disease, unspecified, with chronic kidney disease stage V or end stage renal disease	Diagnosis	ICD-9-CM
404	Hypertensive heart and chronic kidney disease	Diagnosis	ICD-9-CM
404.0	Hypertensive heart and chronic kidney disease, malignant	Diagnosis	ICD-9-CM
404.00	Hypertensive heart and chronic kidney disease, malignant, without heart failure and with chronic kidney disease stage I through stage IV, or unspecified	Diagnosis	ICD-9-CM
404.01	Hypertensive heart and chronic kidney disease, malignant, with heart failure and with chronic kidney disease stage I through stage IV, or unspecified	Diagnosis	ICD-9-CM
404.02	Hypertensive heart and chronic kidney disease, malignant, without heart failure and with chronic kidney disease stage V or end stage renal disease	Diagnosis	ICD-9-CM
404.03	Hypertensive heart and chronic kidney disease, malignant, with heart failure and with chronic kidney disease stage V or end stage renal disease	Diagnosis	ICD-9-CM
404.1	Hypertensive heart and chronic kidney disease, benign	Diagnosis	ICD-9-CM
404.10	Hypertensive heart and chronic kidney disease, benign, without heart failure and with chronic kidney disease stage I through stage IV, or unspecified	Diagnosis	ICD-9-CM
404.11	Hypertensive heart and chronic kidney disease, benign, with heart failure and with chronic kidney disease stage I through stage IV, or unspecified	Diagnosis	ICD-9-CM
404.12	Hypertensive heart and chronic kidney disease, benign, without heart failure and with chronic kidney disease stage V or end stage renal disease	Diagnosis	ICD-9-CM
404.13	Hypertensive heart and chronic kidney disease, benign, with heart failure and chronic kidney disease stage V or end stage renal disease	Diagnosis	ICD-9-CM
404.9	Hypertensive heart and chronic kidney disease, unspecified	Diagnosis	ICD-9-CM
404.90	Hypertensive heart and chronic kidney disease, unspecified, without heart failure and with chronic kidney disease stage I through stage IV, or unspecified	Diagnosis	ICD-9-CM
404.91	Hypertensive heart and chronic kidney disease, unspecified, with heart failure and with chronic kidney disease stage I through stage IV, or unspecified	Diagnosis	ICD-9-CM

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
404.92	Hypertensive heart and chronic kidney disease, unspecified, without heart failure and with chronic kidney disease stage V or end stage renal disease	Diagnosis	ICD-9-CM
404.93	Hypertensive heart and chronic kidney disease, unspecified, with heart failure and chronic kidney disease stage V or end stage renal disease	Diagnosis	ICD-9-CM
405	Secondary hypertension	Diagnosis	ICD-9-CM
405.0	Secondary hypertension, malignant	Diagnosis	ICD-9-CM
405.01	Secondary renovascular hypertension, malignant	Diagnosis	ICD-9-CM
405.09	Other secondary hypertension, malignant	Diagnosis	ICD-9-CM
405.1	Secondary hypertension, benign	Diagnosis	ICD-9-CM
405.11	Secondary renovascular hypertension, benign	Diagnosis	ICD-9-CM
405.19	Other secondary hypertension, benign	Diagnosis	ICD-9-CM
405.9	Unspecified secondary hypertension, unspecified	Diagnosis	ICD-9-CM
405.91	Secondary renovascular hypertension, unspecified	Diagnosis	ICD-9-CM
405.99	Other secondary hypertension, unspecified	Diagnosis	ICD-9-CM
997.91	Hypertension	Diagnosis	ICD-9-CM
I10	Essential (primary) hypertension	Diagnosis	ICD-10-CM
I11.0	Hypertensive heart disease with heart failure	Diagnosis	ICD-10-CM
I11.9	Hypertensive heart disease without heart failure	Diagnosis	ICD-10-CM
I12.0	Hypertensive chronic kidney disease with stage 5 chronic kidney disease or end stage renal disease	Diagnosis	ICD-10-CM
I12.9	Hypertensive chronic kidney disease with stage 1 through stage 4 chronic kidney disease, or unspecified chronic kidney disease	Diagnosis	ICD-10-CM
I13.0	Hypertensive heart and chronic kidney disease with heart failure and stage 1 through stage 4 chronic kidney disease, or unspecified chronic kidney disease	Diagnosis	ICD-10-CM
I13.10	Hypertensive heart and chronic kidney disease without heart failure, with stage 1 through stage 4 chronic kidney disease, or unspecified chronic kidney disease	Diagnosis	ICD-10-CM
I13.11	Hypertensive heart and chronic kidney disease without heart failure, with stage 5 chronic kidney disease, or end stage renal disease	Diagnosis	ICD-10-CM
I13.2	Hypertensive heart and chronic kidney disease with heart failure and with stage 5 chronic kidney disease, or end stage renal disease	Diagnosis	ICD-10-CM
I15.0	Renovascular hypertension	Diagnosis	ICD-10-CM
I15.1	Hypertension secondary to other renal disorders	Diagnosis	ICD-10-CM
I15.2	Hypertension secondary to endocrine disorders	Diagnosis	ICD-10-CM
I15.8	Other secondary hypertension	Diagnosis	ICD-10-CM
I15.9	Secondary hypertension, unspecified	Diagnosis	ICD-10-CM
I16.0	Hypertensive urgency	Diagnosis	ICD-10-CM
I16.1	Hypertensive emergency	Diagnosis	ICD-10-CM
I16.9	Hypertensive crisis, unspecified	Diagnosis	ICD-10-CM
I97.3	Postprocedural hypertension	Diagnosis	ICD-10-CM
N26.2	Page kidney	Diagnosis	ICD-10-CM
	Kidney failure - Chronic		
585	Chronic kidney disease (CKD)	Diagnosis	ICD-9-CM
585.1	Chronic kidney disease, Stage I	Diagnosis	ICD-9-CM
585.2	Chronic kidney disease, Stage II (mild)	Diagnosis	ICD-9-CM
585.3	Chronic kidney disease, Stage III (moderate)	Diagnosis	ICD-9-CM
585.4	Chronic kidney disease, Stage IV (severe)	Diagnosis	ICD-9-CM
585.5	Chronic kidney disease, Stage V	Diagnosis	ICD-9-CM
585.6	End stage renal disease	Diagnosis	ICD-9-CM

Sentinel

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
585.9	Chronic kidney disease, unspecified	Diagnosis	ICD-9-CM
586	Unspecified renal failure	Diagnosis	ICD-9-CM
587	Unspecified renal sclerosis	Diagnosis	ICD-9-CM
N18.1	Chronic kidney disease, stage 1	Diagnosis	ICD-10-CM
N18.2	Chronic kidney disease, stage 2 (mild)	Diagnosis	ICD-10-CM
N18.3	Chronic kidney disease, stage 3 (moderate)	Diagnosis	ICD-10-CM
N18.4	Chronic kidney disease, stage 4 (severe)	Diagnosis	ICD-10-CM
N18.5	Chronic kidney disease, stage 5	Diagnosis	ICD-10-CM
N18.6	End stage renal disease	Diagnosis	ICD-10-CM
N18.9	Chronic kidney disease, unspecified	Diagnosis	ICD-10-CM
N19	Unspecified kidney failure	Diagnosis	ICD-10-CM
N26.1	Atrophy of kidney (terminal)	Diagnosis	ICD-10-CM
N26.9	Renal sclerosis, unspecified	Diagnosis	ICD-10-CM
	Kidney failure - Acute		
584	Acute kidney failure	Diagnosis	ICD-9-CM
584.5	Acute kidney failure with lesion of tubular necrosis	Diagnosis	ICD-9-CM
584.6	Acute kidney failure with lesion of renal cortical necrosis	Diagnosis	ICD-9-CM
584.7	Acute kidney failure with lesion of medullary [papillary] necrosis	Diagnosis	ICD-9-CM
584.8	Acute kidney failure with other specified pathological lesion in kidney	Diagnosis	ICD-9-CM
584.9	Acute kidney failure, unspecified	Diagnosis	ICD-9-CM
N17.0	Acute kidney failure with tubular necrosis	Diagnosis	ICD-10-CM
N17.1	Acute kidney failure with acute cortical necrosis	Diagnosis	ICD-10-CM
N17.2	Acute kidney failure with medullary necrosis	Diagnosis	ICD-10-CM
N17.8	Other acute kidney failure	Diagnosis	ICD-10-CM
N17.9	Acute kidney failure, unspecified	Diagnosis	ICD-10-CM
	Obesity		
278.0	Overweight and obesity	Diagnosis	ICD-9-CM
278.00	Obesity, unspecified	Diagnosis	ICD-9-CM
278.01	Morbid obesity	Diagnosis	ICD-9-CM
278.02	Overweight	Diagnosis	ICD-9-CM
278.1	Localized adiposity	Diagnosis	ICD-9-CM
V4586	Bariatric surgery status	Diagnosis	ICD-9-CM
V853	Body Mass Index between 30-39, adult	Diagnosis	ICD-9-CM
V8530	Body Mass Index 30.0-30.9, adult	Diagnosis	ICD-9-CM
V8531	Body Mass Index 31.0-31.9, adult	Diagnosis	ICD-9-CM
V8532	Body Mass Index 32.0-32.9, adult	Diagnosis	ICD-9-CM
V8533	Body Mass Index 33.0-33.9, adult	Diagnosis	ICD-9-CM
V8534	Body Mass Index 34.0-34.9, adult	Diagnosis	ICD-9-CM
V8535	Body Mass Index 35.0-35.9, adult	Diagnosis	ICD-9-CM
V8536	Body Mass Index 36.0-36.9, adult	Diagnosis	ICD-9-CM
V8537	Body Mass Index 37.0-37.9, adult	Diagnosis	ICD-9-CM
V8538	Body Mass Index 38.0-38.9, adult	Diagnosis	ICD-9-CM
V8539	Body Mass Index 39.0-39.9, adult	Diagnosis	ICD-9-CM
V854	Body Mass Index 40 and over, adult	Diagnosis	ICD-9-CM
44.31	High gastric bypass	Procedure	ICD-9-CM
44.68	Laparoscopic gastroplasty	Procedure	ICD-9-CM
44.95	Laparoscopic gastric restrictive procedure	Procedure	ICD-10-CM
E65	Localized adiposity	Diagnosis	ICD-10-CM

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
E66.01	Morbid (severe) obesity due to excess calories	Diagnosis	ICD-10-CM
E66.09	Other obesity due to excess calories	Diagnosis	ICD-10-CM
E66.1	Drug-induced obesity	Diagnosis	ICD-10-CM
E66.3	Overweight	Diagnosis	ICD-10-CM
E66.8	Other obesity	Diagnosis	ICD-10-CM
E66.9	Obesity, unspecified	Diagnosis	ICD-10-CM
Z68.30	Body mass index (BMI) 30.0-30.9, adult	Diagnosis	ICD-10-CM
Z68.31	Body mass index (BMI) 31.0-31.9, adult	Diagnosis	ICD-10-CM
Z68.32	Body mass index (BMI) 32.0-32.9, adult	Diagnosis	ICD-10-CM
Z68.33	Body mass index (BMI) 33.0-33.9, adult	Diagnosis	ICD-10-CM
Z68.34	Body mass index (BMI) 34.0-34.9, adult	Diagnosis	ICD-10-CM
Z68.35	Body mass index (BMI) 35.0-35.9, adult	Diagnosis	ICD-10-CM
Z68.36	Body mass index (BMI) 36.0-36.9, adult	Diagnosis	ICD-10-CM
Z68.37	Body mass index (BMI) 37.0-37.9, adult	Diagnosis	ICD-10-CM
Z68.38	Body mass index (BMI) 38.0-38.9, adult	Diagnosis	ICD-10-CM
Z68.39	Body mass index (BMI) 39.0-39.9, adult	Diagnosis	ICD-10-CM
Z98.84	Bariatric surgery status	Diagnosis	ICD-10-CM
0D1607A	Bypass Stomach to Jejunum with Autologous Tissue Substitute, Open Approach	Procedure	ICD-10-PCS
0D160JA	Bypass Stomach to Jejunum with Synthetic Substitute, Open Approach	Procedure	ICD-10-PCS
0D160KA	Bypass Stomach to Jejunum with Nonautologous Tissue Substitute, Open Approach	Procedure	ICD-10-PCS
0D160ZA	Bypass Stomach to Jejunum, Open Approach	Procedure	ICD-10-PCS
0D1687A	Bypass Stomach to Jejunum with Autologous Tissue Substitute, Via Natural or Artificial Opening Endoscopic	Procedure	ICD-10-PCS
0D168JA	Bypass Stomach to Jejunum with Synthetic Substitute, Via Natural or Artificial Opening Endoscopic	Procedure	ICD-10-PCS
0D168KA	Bypass Stomach to Jejunum with Nonautologous Tissue Substitute, Via Natural or Artificial Opening Endoscopic	Procedure	ICD-10-PCS
0D168ZA	Bypass Stomach to Jejunum, Via Natural or Artificial Opening Endoscopic	Procedure	ICD-10-PCS
0DQ64ZZ	Repair Stomach, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0DV64CZ	Restriction of Stomach with Extraluminal Device, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
	Peptic ulcer disease		
531.0	Acute gastric ulcer with hemorrhage	Diagnosis	ICD-9-CM
531.00	Acute gastric ulcer with hemorrhage, without mention of obstruction	Diagnosis	ICD-9-CM
531.01	Acute gastric ulcer with hemorrhage and obstruction	Diagnosis	ICD-9-CM
531.1	Acute gastric ulcer with perforation	Diagnosis	ICD-9-CM
531.10	Acute gastric ulcer with perforation, without mention of obstruction	Diagnosis	ICD-9-CM
531.11	Acute gastric ulcer with perforation and obstruction	Diagnosis	ICD-9-CM
531.2	Acute gastric ulcer with hemorrhage and perforation	Diagnosis	ICD-9-CM
531.20	Acute gastric ulcer with hemorrhage and perforation, without mention of obstruction	Diagnosis	ICD-9-CM
531.21	Acute gastric ulcer with hemorrhage, perforation, and obstruction	Diagnosis	ICD-9-CM
531.3	Acute gastric ulcer without mention of hemorrhage or perforation	Diagnosis	ICD-9-CM
531.30	Acute gastric ulcer without mention of hemorrhage, perforation, or obstruction	Diagnosis	ICD-9-CM
531.31	Acute gastric ulcer without mention of hemorrhage or perforation, with obstruction	Diagnosis	ICD-9-CM
531.4	Chronic or unspecified gastric ulcer with hemorrhage	Diagnosis	ICD-9-CM
531.40	Chronic or unspecified gastric ulcer with hemorrhage, without mention of obstruction	Diagnosis	ICD-9-CM
531.41	Chronic or unspecified gastric ulcer with hemorrhage and obstruction	Diagnosis	ICD-9-CM

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
531.5	Chronic or unspecified gastric ulcer with perforation	Diagnosis	ICD-9-CM
531.50	Chronic or unspecified gastric ulcer with perforation, without mention of obstruction	Diagnosis	ICD-9-CM
531.51	Chronic or unspecified gastric ulcer with perforation and obstruction	Diagnosis	ICD-9-CM
531.6	Chronic or unspecified gastric ulcer with hemorrhage and perforation	Diagnosis	ICD-9-CM
531.60	Chronic or unspecified gastric ulcer with hemorrhage and perforation, without mention of obstruction	Diagnosis	ICD-9-CM
531.61	Chronic or unspecified gastric ulcer with hemorrhage, perforation, and obstruction	Diagnosis	ICD-9-CM
531.7	Chronic gastric ulcer without mention of hemorrhage or perforation	Diagnosis	ICD-9-CM
531.70	Chronic gastric ulcer without mention of hemorrhage, perforation, without mention of obstruction	Diagnosis	ICD-9-CM
531.71	Chronic gastric ulcer without mention of hemorrhage or perforation, with obstruction	Diagnosis	ICD-9-CM
532.0	Acute duodenal ulcer with hemorrhage	Diagnosis	ICD-9-CM
532.00	Acute duodenal ulcer with hemorrhage, without mention of obstruction	Diagnosis	ICD-9-CM
532.01	Acute duodenal ulcer with hemorrhage and obstruction	Diagnosis	ICD-9-CM
532.1	Acute duodenal ulcer with perforation	Diagnosis	ICD-9-CM
532.10	Acute duodenal ulcer with perforation, without mention of obstruction	Diagnosis	ICD-9-CM
532.11	Acute duodenal ulcer with perforation and obstruction	Diagnosis	ICD-9-CM
532.2	Acute duodenal ulcer with hemorrhage and perforation	Diagnosis	ICD-9-CM
532.20	Acute duodenal ulcer with hemorrhage and perforation, without mention of obstruction	Diagnosis	ICD-9-CM
532.21	Acute duodenal ulcer with hemorrhage, perforation, and obstruction	Diagnosis	ICD-9-CM
532.3	Acute duodenal ulcer without mention of hemorrhage or perforation	Diagnosis	ICD-9-CM
532.30	Acute duodenal ulcer without mention of hemorrhage, perforation, or obstruction	Diagnosis	ICD-9-CM
532.31	Acute duodenal ulcer without mention of hemorrhage or perforation, with obstruction	Diagnosis	ICD-9-CM
532.4	Chronic or unspecified duodenal ulcer with hemorrhage	Diagnosis	ICD-9-CM
532.40	Duodenal ulcer, chronic or unspecified, with hemorrhage, without mention of obstruction	Diagnosis	ICD-9-CM
532.41	Chronic or unspecified duodenal ulcer with hemorrhage and obstruction	Diagnosis	ICD-9-CM
532.5	Chronic or unspecified duodenal ulcer with perforation	Diagnosis	ICD-9-CM
532.50	Chronic or unspecified duodenal ulcer with perforation, without mention of obstruction	Diagnosis	ICD-9-CM
532.51	Chronic or unspecified duodenal ulcer with perforation and obstruction	Diagnosis	ICD-9-CM
532.6	Chronic or unspecified duodenal ulcer with hemorrhage and perforation	Diagnosis	ICD-9-CM
532.60	Chronic or unspecified duodenal ulcer with hemorrhage and perforation, without mention of obstruction	Diagnosis	ICD-9-CM
532.61	Chronic or unspecified duodenal ulcer with hemorrhage, perforation, and obstruction	Diagnosis	ICD-9-CM
532.7	Chronic duodenal ulcer without mention of hemorrhage or perforation	Diagnosis	ICD-9-CM
532.70	Chronic duodenal ulcer without mention of hemorrhage, perforation, or obstruction	Diagnosis	ICD-9-CM
532.71	Chronic duodenal ulcer without mention of hemorrhage or perforation, with obstruction	Diagnosis	ICD-9-CM
533.0	Acute peptic ulcer, unspecified site, with hemorrhage	Diagnosis	ICD-9-CM
533.00	Acute peptic ulcer, unspecified site, with hemorrhage, without mention of obstruction	Diagnosis	ICD-9-CM
533.01	Acute peptic ulcer, unspecified site, with hemorrhage and obstruction	Diagnosis	ICD-9-CM
533.1	Acute peptic ulcer, unspecified site, with perforation	Diagnosis	ICD-9-CM
533.10	Acute peptic ulcer, unspecified site, with perforation, without mention of obstruction	Diagnosis	ICD-9-CM
533.11	Acute peptic ulcer, unspecified site, with perforation and obstruction	Diagnosis	ICD-9-CM
533.2	Acute peptic ulcer, unspecified site, with hemorrhage and perforation	Diagnosis	ICD-9-CM
533.20	Acute peptic ulcer, unspecified site, with hemorrhage and perforation, without mention of obstruction	Diagnosis	ICD-9-CM
533.21	Acute peptic ulcer, unspecified site, with hemorrhage, perforation, and obstruction	Diagnosis	ICD-9-CM
533.3	Acute peptic ulcer, unspecified site, without mention of hemorrhage and perforation	Diagnosis	ICD-9-CM

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
533.30	Acute peptic ulcer, unspecified site, without mention of hemorrhage, perforation, or obstruction	Diagnosis	ICD-9-CM
533.31	Acute peptic ulcer, unspecified site, without mention of hemorrhage and perforation, with obstruction	Diagnosis	ICD-9-CM
533.4	Chronic or unspecified peptic ulcer, unspecified site, with hemorrhage	Diagnosis	ICD-9-CM
533.40	Chronic or unspecified peptic ulcer, unspecified site, with hemorrhage, without mention of obstruction	Diagnosis	ICD-9-CM
533.41	Chronic or unspecified peptic ulcer, unspecified site, with hemorrhage and obstruction	Diagnosis	ICD-9-CM
533.5	Chronic or unspecified peptic ulcer, unspecified site, with perforation	Diagnosis	ICD-9-CM
533.50	Chronic or unspecified peptic ulcer, unspecified site, with perforation, without mention of obstruction	Diagnosis	ICD-9-CM
533.51	Chronic or unspecified peptic ulcer, unspecified site, with perforation and obstruction	Diagnosis	ICD-9-CM
533.6	Chronic or unspecified peptic ulcer, unspecified site, with hemorrhage and perforation	Diagnosis	ICD-9-CM
533.60	Chronic or unspecified peptic ulcer, unspecified site, with hemorrhage and perforation, without mention of obstruction	Diagnosis	ICD-9-CM
533.61	Chronic or unspecified peptic ulcer, unspecified site, with hemorrhage, perforation, and obstruction	Diagnosis	ICD-9-CM
533.7	Chronic peptic ulcer, unspecified site, without mention of hemorrhage or perforation	Diagnosis	ICD-9-CM
533.70	Chronic peptic ulcer, unspecified site, without mention of hemorrhage, perforation, or obstruction	Diagnosis	ICD-9-CM
533.71	Chronic peptic ulcer of unspecified site without mention of hemorrhage or perforation, with obstruction	Diagnosis	ICD-9-CM
534.0	Acute gastrojejunal ulcer with hemorrhage	Diagnosis	ICD-9-CM
534.00	Acute gastrojejunal ulcer with hemorrhage, without mention of obstruction	Diagnosis	ICD-9-CM
534.01	Acute gastrojejunal ulcer, with hemorrhage and obstruction	Diagnosis	ICD-9-CM
534.1	Acute gastrojejunal ulcer with perforation	Diagnosis	ICD-9-CM
534.10	Acute gastrojejunal ulcer with perforation, without mention of obstruction	Diagnosis	ICD-9-CM
534.11	Acute gastrojejunal ulcer with perforation and obstruction	Diagnosis	ICD-9-CM
534.2	Acute gastrojejunal ulcer with hemorrhage and perforation	Diagnosis	ICD-9-CM
534.20	Acute gastrojejunal ulcer with hemorrhage and perforation, without mention of obstruction	Diagnosis	ICD-9-CM
534.21	Acute gastrojejunal ulcer with hemorrhage, perforation, and obstruction	Diagnosis	ICD-9-CM
534.3	Acute gastrojejunal ulcer without mention of hemorrhage or perforation	Diagnosis	ICD-9-CM
534.30	Acute gastrojejunal ulcer without mention of hemorrhage, perforation, or obstruction	Diagnosis	ICD-9-CM
534.31	Acute gastrojejunal ulcer without mention of hemorrhage or perforation, with obstruction	Diagnosis	ICD-9-CM
534.4	Chronic or unspecified gastrojejunal ulcer with hemorrhage	Diagnosis	ICD-9-CM
534.40	Chronic or unspecified gastrojejunal ulcer with hemorrhage, without mention of obstruction	Diagnosis	ICD-9-CM
534.41	Chronic or unspecified gastrojejunal ulcer, with hemorrhage and obstruction	Diagnosis	ICD-9-CM
534.5	Chronic or unspecified gastrojejunal ulcer with perforation	Diagnosis	ICD-9-CM
534.50	Chronic or unspecified gastrojejunal ulcer with perforation, without mention of obstruction	Diagnosis	ICD-9-CM
534.51	Chronic or unspecified gastrojejunal ulcer with perforation and obstruction	Diagnosis	ICD-9-CM
534.6	Chronic or unspecified gastrojejunal ulcer with hemorrhage and perforation	Diagnosis	ICD-9-CM
534.60	Chronic or unspecified gastrojejunal ulcer with hemorrhage and perforation, without mention of obstruction	Diagnosis	ICD-9-CM
534.61	Chronic or unspecified gastrojejunal ulcer with hemorrhage, perforation, and obstruction	Diagnosis	ICD-9-CM
534.7	Chronic gastrojejunal ulcer without mention of hemorrhage or perforation	Diagnosis	ICD-9-CM
534.70	Chronic gastrojejunal ulcer without mention of hemorrhage, perforation, or obstruction	Diagnosis	ICD-9-CM

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
534.71	Chronic gastrojejunal ulcer without mention of hemorrhage or perforation, with obstruction	Diagnosis	ICD-9-CM
44.4	Control of hemorrhage and suture of ulcer of stomach or duodenum	Diagnosis	ICD-9-CM
44.40	Suture of peptic ulcer, not otherwise specified	Diagnosis	ICD-9-CM
44.41	Suture of gastric ulcer site	Diagnosis	ICD-9-CM
44.42	Suture of duodenal ulcer site	Diagnosis	ICD-9-CM
K25.0	Acute gastric ulcer with hemorrhage	Diagnosis	ICD-10-CM
K25.1	Acute gastric ulcer with perforation	Diagnosis	ICD-10-CM
K25.2	Acute gastric ulcer with both hemorrhage and perforation	Diagnosis	ICD-10-CM
K25.3	Acute gastric ulcer without hemorrhage or perforation	Diagnosis	ICD-10-CM
K25.4	Chronic or unspecified gastric ulcer with hemorrhage	Diagnosis	ICD-10-CM
K25.5	Chronic or unspecified gastric ulcer with perforation	Diagnosis	ICD-10-CM
K25.6	Chronic or unspecified gastric ulcer with both hemorrhage and perforation	Diagnosis	ICD-10-CM
K25.7	Chronic gastric ulcer without hemorrhage or perforation	Diagnosis	ICD-10-CM
K26.0	Acute duodenal ulcer with hemorrhage	Diagnosis	ICD-10-CM
K26.1	Acute duodenal ulcer with perforation	Diagnosis	ICD-10-CM
K26.2	Acute duodenal ulcer with both hemorrhage and perforation	Diagnosis	ICD-10-CM
K26.3	Acute duodenal ulcer without hemorrhage or perforation	Diagnosis	ICD-10-CM
K26.4	Chronic or unspecified duodenal ulcer with hemorrhage	Diagnosis	ICD-10-CM
K26.5	Chronic or unspecified duodenal ulcer with perforation	Diagnosis	ICD-10-CM
K26.6	Chronic or unspecified duodenal ulcer with both hemorrhage and perforation	Diagnosis	ICD-10-CM
K26.7	Chronic duodenal ulcer without hemorrhage or perforation	Diagnosis	ICD-10-CM
K27.0	Acute peptic ulcer, site unspecified, with hemorrhage	Diagnosis	ICD-10-CM
K27.1	Acute peptic ulcer, site unspecified, with perforation	Diagnosis	ICD-10-CM
K27.2	Acute peptic ulcer, site unspecified, with both hemorrhage and perforation	Diagnosis	ICD-10-CM
K27.3	Acute peptic ulcer, site unspecified, without hemorrhage or perforation	Diagnosis	ICD-10-CM
K27.4	Chronic or unspecified peptic ulcer, site unspecified, with hemorrhage	Diagnosis	ICD-10-CM
K27.5	Chronic or unspecified peptic ulcer, site unspecified, with perforation	Diagnosis	ICD-10-CM
K27.6	Chronic or unspecified peptic ulcer, site unspecified, with both hemorrhage and perforation	Diagnosis	ICD-10-CM
K27.7	Chronic peptic ulcer, site unspecified, without hemorrhage or perforation	Diagnosis	ICD-10-CM
K28.0	Acute gastrojejunal ulcer with hemorrhage	Diagnosis	ICD-10-CM
K28.1	Acute gastrojejunal ulcer with perforation	Diagnosis	ICD-10-CM
K28.2	Acute gastrojejunal ulcer with both hemorrhage and perforation	Diagnosis	ICD-10-CM
K28.3	Acute gastrojejunal ulcer without hemorrhage or perforation	Diagnosis	ICD-10-CM
K28.4	Chronic or unspecified gastrojejunal ulcer with hemorrhage	Diagnosis	ICD-10-CM
K28.5	Chronic or unspecified gastrojejunal ulcer with perforation	Diagnosis	ICD-10-CM
K28.6	Chronic or unspecified gastrojejunal ulcer with both hemorrhage and perforation	Diagnosis	ICD-10-CM
K28.7	Chronic gastrojejunal ulcer without hemorrhage or perforation	Diagnosis	ICD-10-CM
K56.699	Other intestinal obstruction unspecified as to partial versus complete obstruction	Diagnosis	ICD-10-CM
0DQ60ZZ	Repair Stomach, Open Approach	Procedure	ICD-10-PCS
0DQ63ZZ	Repair Stomach, Percutaneous Approach	Procedure	ICD-10-PCS
0DQ64ZZ	Repair Stomach, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0DQ67ZZ	Repair Stomach, Via Natural or Artificial Opening	Procedure	ICD-10-PCS
0DQ68ZZ	Repair Stomach, Via Natural or Artificial Opening Endoscopic	Procedure	ICD-10-PCS
0DQ90ZZ	Repair Duodenum, Open Approach	Procedure	ICD-10-PCS
0DQ93ZZ	Repair Duodenum, Percutaneous Approach	Procedure	ICD-10-PCS

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
0DQ94ZZ	Repair Duodenum, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0DQ97ZZ	Repair Duodenum, Via Natural or Artificial Opening	Procedure	ICD-10-PCS
0DQ98ZZ	Repair Duodenum, Via Natural or Artificial Opening Endoscopic	Procedure	ICD-10-PCS
	Acute myocardial infarction		
I21.01	ST elevation (STEMI) myocardial infarction involving left main coronary artery	Diagnosis	ICD-10-CM
I21.02	ST elevation (STEMI) myocardial infarction involving left anterior descending coronary artery	Diagnosis	ICD-10-CM
I21.09	ST elevation (STEMI) myocardial infarction involving other coronary artery of anterior wall	Diagnosis	ICD-10-CM
I21.11	ST elevation (STEMI) myocardial infarction involving right coronary artery	Diagnosis	ICD-10-CM
I21.19	ST elevation (STEMI) myocardial infarction involving other coronary artery of inferior wall	Diagnosis	ICD-10-CM
I21.21	ST elevation (STEMI) myocardial infarction involving left circumflex coronary artery	Diagnosis	ICD-10-CM
I21.29	ST elevation (STEMI) myocardial infarction involving other sites	Diagnosis	ICD-10-CM
I21.3	ST elevation (STEMI) myocardial infarction of unspecified site	Diagnosis	ICD-10-CM
I21.4	Non-ST elevation (NSTEMI) myocardial infarction	Diagnosis	ICD-10-CM
I21.9	Acute myocardial infarction, unspecified	Diagnosis	ICD-10-CM
I21.A1	Myocardial infarction type 2	Diagnosis	ICD-10-CM
I21.A9	Other myocardial infarction type	Diagnosis	ICD-10-CM
I22.0	Subsequent ST elevation (STEMI) myocardial infarction of anterior wall	Diagnosis	ICD-10-CM
I22.1	Subsequent ST elevation (STEMI) myocardial infarction of inferior wall	Diagnosis	ICD-10-CM
I22.2	Subsequent non-ST elevation (NSTEMI) myocardial infarction	Diagnosis	ICD-10-CM
I22.8	Subsequent ST elevation (STEMI) myocardial infarction of other sites	Diagnosis	ICD-10-CM
I22.9	Subsequent ST elevation (STEMI) myocardial infarction of unspecified site	Diagnosis	ICD-10-CM
410	Acute myocardial infarction	Diagnosis	ICD-9-CM
410.0	Acute myocardial infarction of anterolateral wall	Diagnosis	ICD-9-CM
410.00	Acute myocardial infarction of anterolateral wall, episode of care unspecified	Diagnosis	ICD-9-CM
410.01	Acute myocardial infarction of anterolateral wall, initial episode of care	Diagnosis	ICD-9-CM
410.02	Acute myocardial infarction of anterolateral wall, subsequent episode of care	Diagnosis	ICD-9-CM
410.1	Acute myocardial infarction of other anterior wall	Diagnosis	ICD-9-CM
410.10	Acute myocardial infarction of other anterior wall, episode of care unspecified	Diagnosis	ICD-9-CM
410.11	Acute myocardial infarction of other anterior wall, initial episode of care	Diagnosis	ICD-9-CM
410.12	Acute myocardial infarction of other anterior wall, subsequent episode of care	Diagnosis	ICD-9-CM
410.2	Acute myocardial infarction of inferolateral wall	Diagnosis	ICD-9-CM
410.20	Acute myocardial infarction of inferolateral wall, episode of care unspecified	Diagnosis	ICD-9-CM
410.21	Acute myocardial infarction of inferolateral wall, initial episode of care	Diagnosis	ICD-9-CM
410.22	Acute myocardial infarction of inferolateral wall, subsequent episode of care	Diagnosis	ICD-9-CM
410.3	Acute myocardial infarction of inferoposterior wall	Diagnosis	ICD-9-CM
410.30	Acute myocardial infarction of inferoposterior wall, episode of care unspecified	Diagnosis	ICD-9-CM
410.31	Acute myocardial infarction of inferoposterior wall, initial episode of care	Diagnosis	ICD-9-CM
410.32	Acute myocardial infarction of inferoposterior wall, subsequent episode of care	Diagnosis	ICD-9-CM
410.4	Acute myocardial infarction of other inferior wall	Diagnosis	ICD-9-CM
410.40	Acute myocardial infarction of other inferior wall, episode of care unspecified	Diagnosis	ICD-9-CM
410.41	Acute myocardial infarction of other inferior wall, initial episode of care	Diagnosis	ICD-9-CM
410.42	Acute myocardial infarction of other inferior wall, subsequent episode of care	Diagnosis	ICD-9-CM
410.5	Acute myocardial infarction of other lateral wall	Diagnosis	ICD-9-CM
410.50	Acute myocardial infarction of other lateral wall, episode of care unspecified	Diagnosis	ICD-9-CM
410.51	Acute myocardial infarction of other lateral wall, initial episode of care	Diagnosis	ICD-9-CM
410.52	Acute myocardial infarction of other lateral wall, subsequent episode of care	Diagnosis	ICD-9-CM

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
410.6	Acute myocardial infarction, true posterior wall infarction	Diagnosis	ICD-9-CM
410.60	Acute myocardial infarction, true posterior wall infarction, episode of care unspecified	Diagnosis	ICD-9-CM
410.61	Acute myocardial infarction, true posterior wall infarction, initial episode of care	Diagnosis	ICD-9-CM
410.62	Acute myocardial infarction, true posterior wall infarction, subsequent episode of care	Diagnosis	ICD-9-CM
410.7	Acute myocardial infarction, subendocardial infarction	Diagnosis	ICD-9-CM
410.70	Acute myocardial infarction, subendocardial infarction, episode of care unspecified	Diagnosis	ICD-9-CM
410.71	Acute myocardial infarction, subendocardial infarction, initial episode of care	Diagnosis	ICD-9-CM
410.72	Acute myocardial infarction, subendocardial infarction, subsequent episode of care	Diagnosis	ICD-9-CM
410.8	Acute myocardial infarction of other specified sites	Diagnosis	ICD-9-CM
410.80	Acute myocardial infarction of other specified sites, episode of care unspecified	Diagnosis	ICD-9-CM
410.81	Acute myocardial infarction of other specified sites, initial episode of care	Diagnosis	ICD-9-CM
410.82	Acute myocardial infarction of other specified sites, subsequent episode of care	Diagnosis	ICD-9-CM
410.9	Acute myocardial infarction, unspecified site	Diagnosis	ICD-9-CM
410.90	Acute myocardial infarction, unspecified site, episode of care unspecified	Diagnosis	ICD-9-CM
410.91	Acute myocardial infarction, unspecified site, initial episode of care	Diagnosis	ICD-9-CM
410.92	Acute myocardial infarction, unspecified site, subsequent episode of care	Diagnosis	ICD-9-CM
410	Acute myocardial infarction	Diagnosis	ICD-9-CM
410.0	Acute myocardial infarction of anterolateral wall	Diagnosis	ICD-9-CM
410.00	Acute myocardial infarction of anterolateral wall, episode of care unspecified	Diagnosis	ICD-9-CM
410.01	Acute myocardial infarction of anterolateral wall, initial episode of care	Diagnosis	ICD-9-CM
410.02	Acute myocardial infarction of anterolateral wall, subsequent episode of care	Diagnosis	ICD-9-CM
410.1	Acute myocardial infarction of other anterior wall	Diagnosis	ICD-9-CM
410.10	Acute myocardial infarction of other anterior wall, episode of care unspecified	Diagnosis	ICD-9-CM
410.11	Acute myocardial infarction of other anterior wall, initial episode of care	Diagnosis	ICD-9-CM
410.12	Acute myocardial infarction of other anterior wall, subsequent episode of care	Diagnosis	ICD-9-CM
410.2	Acute myocardial infarction of inferolateral wall	Diagnosis	ICD-9-CM
410.20	Acute myocardial infarction of inferolateral wall, episode of care unspecified	Diagnosis	ICD-9-CM
410.21	Acute myocardial infarction of inferolateral wall, initial episode of care	Diagnosis	ICD-9-CM
410.22	Acute myocardial infarction of inferolateral wall, subsequent episode of care	Diagnosis	ICD-9-CM
410.3	Acute myocardial infarction of inferoposterior wall	Diagnosis	ICD-9-CM
410.30	Acute myocardial infarction of inferoposterior wall, episode of care unspecified	Diagnosis	ICD-9-CM
410.31	Acute myocardial infarction of inferoposterior wall, initial episode of care	Diagnosis	ICD-9-CM
410.32	Acute myocardial infarction of inferoposterior wall, subsequent episode of care	Diagnosis	ICD-9-CM
410.4	Acute myocardial infarction of other inferior wall	Diagnosis	ICD-9-CM
410.40	Acute myocardial infarction of other inferior wall, episode of care unspecified	Diagnosis	ICD-9-CM
410.41	Acute myocardial infarction of other inferior wall, initial episode of care	Diagnosis	ICD-9-CM
410.42	Acute myocardial infarction of other inferior wall, subsequent episode of care	Diagnosis	ICD-9-CM
410.5	Acute myocardial infarction of other lateral wall	Diagnosis	ICD-9-CM
410.50	Acute myocardial infarction of other lateral wall, episode of care unspecified	Diagnosis	ICD-9-CM
410.51	Acute myocardial infarction of other lateral wall, initial episode of care	Diagnosis	ICD-9-CM
410.52	Acute myocardial infarction of other lateral wall, subsequent episode of care	Diagnosis	ICD-9-CM
410.6	Acute myocardial infarction, true posterior wall infarction	Diagnosis	ICD-9-CM
410.60	Acute myocardial infarction, true posterior wall infarction, episode of care unspecified	Diagnosis	ICD-9-CM
410.61	Acute myocardial infarction, true posterior wall infarction, initial episode of care	Diagnosis	ICD-9-CM
410.62	Acute myocardial infarction, true posterior wall infarction, subsequent episode of care	Diagnosis	ICD-9-CM
410.7	Acute myocardial infarction, subendocardial infarction	Diagnosis	ICD-9-CM
410.70	Acute myocardial infarction, subendocardial infarction, episode of care unspecified	Diagnosis	ICD-9-CM
410.71	Acute myocardial infarction, subendocardial infarction, initial episode of care	Diagnosis	ICD-9-CM

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
410.72	Acute myocardial infarction, subendocardial infarction, subsequent episode of care	Diagnosis	ICD-9-CM
410.8	Acute myocardial infarction of other specified sites	Diagnosis	ICD-9-CM
410.80	Acute myocardial infarction of other specified sites, episode of care unspecified	Diagnosis	ICD-9-CM
410.81	Acute myocardial infarction of other specified sites, initial episode of care	Diagnosis	ICD-9-CM
410.82	Acute myocardial infarction of other specified sites, subsequent episode of care	Diagnosis	ICD-9-CM
410.9	Acute myocardial infarction, unspecified site	Diagnosis	ICD-9-CM
410.90	Acute myocardial infarction, unspecified site, episode of care unspecified	Diagnosis	ICD-9-CM
410.91	Acute myocardial infarction, unspecified site, initial episode of care	Diagnosis	ICD-9-CM
410.92	Acute myocardial infarction, unspecified site, subsequent episode of care	Diagnosis	ICD-9-CM
I21.01	ST elevation (STEMI) myocardial infarction involving left main coronary artery	Diagnosis	ICD-10-CM
I21.02	ST elevation (STEMI) myocardial infarction involving left anterior descending coronary artery	Diagnosis	ICD-10-CM
I21.I09	ST elevation (STEMI) myocardial infarction involving other coronary artery of anterior wall	Diagnosis	ICD-10-CM
I21.11	ST elevation (STEMI) myocardial infarction involving right coronary artery	Diagnosis	ICD-10-CM
I21.19	ST elevation (STEMI) myocardial infarction involving other coronary artery of inferior wall	Diagnosis	ICD-10-CM
I21.21	ST elevation (STEMI) myocardial infarction involving left circumflex coronary artery	Diagnosis	ICD-10-CM
I21.29	ST elevation (STEMI) myocardial infarction involving other sites	Diagnosis	ICD-10-CM
I21.3	ST elevation (STEMI) myocardial infarction of unspecified site	Diagnosis	ICD-10-CM
I21.4	Non-ST elevation (NSTEMI) myocardial infarction	Diagnosis	ICD-10-CM
I21.9	Acute myocardial infarction, unspecified	Diagnosis	ICD-10-CM
I21.A1	Myocardial infarction type 2	Diagnosis	ICD-10-CM
I21.A9	Other myocardial infarction type	Diagnosis	ICD-10-CM
I22.0	Subsequent ST elevation (STEMI) myocardial infarction of anterior wall	Diagnosis	ICD-10-CM
I22.1	Subsequent ST elevation (STEMI) myocardial infarction of inferior wall	Diagnosis	ICD-10-CM
I22.2	Subsequent non-ST elevation (NSTEMI) myocardial infarction	Diagnosis	ICD-10-CM
I22.8	Subsequent ST elevation (STEMI) myocardial infarction of other sites	Diagnosis	ICD-10-CM
I22.9	Subsequent ST elevation (STEMI) myocardial infarction of unspecified site	Diagnosis	ICD-10-CM
	Coronary revascularization		
V4581	Postprocedural aortocoronary bypass status	Diagnosis	ICD-9-CM
V4582	Postprocedural percutaneous transluminal coronary angioplasty status	Diagnosis	ICD-9-CM
V4588	Status post administration of tPA (rtPA) in a different facility within the last 24 hours prior to admission to current facility	Diagnosis	ICD-9-CM
00.66	Percutaneous transluminal coronary angioplasty [PTCA] or coronary atherectomy	Procedure	ICD-9-CM
36.0	Removal of coronary artery obstruction and insertion of stent(s)	Procedure	ICD-9-CM
36.03	Open chest coronary artery angioplasty	Procedure	ICD-9-CM
36.04	Intracoronary artery thrombolytic infusion	Procedure	ICD-9-CM
36.06	Insertion of non-drug-eluting coronary artery stent(s)	Procedure	ICD-9-CM
36.07	Insertion of drug-eluting coronary artery stent(s)	Procedure	ICD-9-CM
36.09	Other removal of coronary artery obstruction	Procedure	ICD-9-CM
36.1	Bypass anastomosis for heart revascularization	Procedure	ICD-9-CM
36.10	Aortocoronary bypass for heart revascularization, not otherwise specified	Procedure	ICD-9-CM
36.11	(Aorto)coronary bypass of one coronary artery	Procedure	ICD-9-CM
36.12	(Aorto)coronary bypass of two coronary arteries	Procedure	ICD-9-CM
36.13	(Aorto)coronary bypass of three coronary arteries	Procedure	ICD-9-CM
36.14	(Aorto)coronary bypass of four or more coronary arteries	Procedure	ICD-9-CM
36.15	Single internal mammary-coronary artery bypass	Procedure	ICD-9-CM
36.16	Double internal mammary-coronary artery bypass	Procedure	ICD-9-CM
36.17	Abdominal-coronary artery bypass	Procedure	ICD-9-CM

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
36.19	Other bypass anastomosis for heart revascularization	Procedure	ICD-9-CM
36.2	Heart revascularization by arterial implant	Procedure	ICD-9-CM
36.3	Other heart revascularization	Procedure	ICD-9-CM
36.31	Open chest transmyocardial revascularization	Procedure	ICD-9-CM
36.32	Other transmyocardial revascularization	Procedure	ICD-9-CM
36.33	Endoscopic transmyocardial revascularization	Procedure	ICD-9-CM
36.34	Percutaneous transmyocardial revascularization	Procedure	ICD-9-CM
36.39	Other heart revascularization	Procedure	ICD-9-CM
00566	Anesthesia for direct coronary artery bypass grafting; without pump oxygenator	Procedure	CPT-4
33508	Endoscopy, surgical, including video-assisted harvest of vein(s) for coronary artery bypass procedure (List separately in addition to code for primary procedure)	Procedure	CPT-4
33510	Coronary artery bypass, vein only; single coronary venous graft	Procedure	CPT-4
33511	Coronary artery bypass, vein only; 2 coronary venous grafts	Procedure	CPT-4
33512	Coronary artery bypass, vein only; 3 coronary venous grafts	Procedure	CPT-4
33513	Coronary artery bypass, vein only; 4 coronary venous grafts	Procedure	CPT-4
33514	Coronary artery bypass, vein only; 5 coronary venous grafts	Procedure	CPT-4
33516	Coronary artery bypass, vein only; 6 or more coronary venous grafts	Procedure	CPT-4
33517	Coronary artery bypass, using venous graft(s) and arterial graft(s); single vein graft (List separately in addition to code for primary procedure)	Procedure	CPT-4
33518	Coronary artery bypass, using venous graft(s) and arterial graft(s); 2 venous grafts (List separately in addition to code for primary procedure)	Procedure	CPT-4
33519	Coronary artery bypass, using venous graft(s) and arterial graft(s); 3 venous grafts (List separately in addition to code for primary procedure)	Procedure	CPT-4
33521	Coronary artery bypass, using venous graft(s) and arterial graft(s); 4 venous grafts (List separately in addition to code for primary procedure)	Procedure	CPT-4
33522	Coronary artery bypass, using venous graft(s) and arterial graft(s); 5 venous grafts (List separately in addition to code for primary procedure)	Procedure	CPT-4
33523	Coronary artery bypass, using venous graft(s) and arterial graft(s); 6 or more venous grafts (List separately in addition to code for primary procedure)	Procedure	CPT-4
33530	Reoperation, coronary artery bypass procedure or valve procedure, more than 1 month after original operation (List separately in addition to code for primary procedure)	Procedure	CPT-4
33533	Coronary artery bypass, using arterial graft(s); single arterial graft	Procedure	CPT-4
33534	Coronary artery bypass, using arterial graft(s); 2 coronary arterial grafts	Procedure	CPT-4
33535	Coronary artery bypass, using arterial graft(s); 3 coronary arterial grafts	Procedure	CPT-4
33536	Coronary artery bypass, using arterial graft(s); 4 or more coronary arterial grafts	Procedure	CPT-4
33572	Coronary endarterectomy, open, any method, of left anterior descending, circumflex, or right coronary artery performed in conjunction with coronary artery bypass graft procedure, each vessel (List separately in addition to primary procedure)	Procedure	CPT-4
35500	Harvest of upper extremity vein, 1 segment, for lower extremity or coronary artery bypass procedure (List separately in addition to code for primary procedure)	Procedure	CPT-4
92920	Percutaneous transluminal coronary angioplasty; single major coronary artery or branch	Procedure	CPT-4
92921	Percutaneous transluminal coronary angioplasty; each additional branch of a major coronary artery (List separately in addition to code for primary procedure)	Procedure	CPT-4
92924	Percutaneous transluminal coronary atherectomy, with coronary angioplasty when performed; single major coronary artery or branch	Procedure	CPT-4
92925	Percutaneous transluminal coronary atherectomy, with coronary angioplasty when performed; each additional branch of a major coronary artery (List separately in addition to code for primary procedure)	Procedure	CPT-4

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
92928	Percutaneous transcatheter placement of intracoronary stent(s), with coronary angioplasty when performed; single major coronary artery or branch	Procedure	CPT-4
92929	Percutaneous transcatheter placement of intracoronary stent(s), with coronary angioplasty when performed; each additional branch of a major coronary artery (List separately in addition to code for primary procedure)	Procedure	CPT-4
92933	Percutaneous transluminal coronary atherectomy, with intracoronary stent, with coronary angioplasty when performed; single major coronary artery or branch	Procedure	CPT-4
92934	Percutaneous transluminal coronary atherectomy, with intracoronary stent, with coronary angioplasty when performed; each additional branch of a major coronary artery (List separately in addition to code for primary procedure)	Procedure	CPT-4
92937	Percutaneous transluminal revascularization of or through coronary artery bypass graft (internal mammary, free arterial, venous), any combination of intracoronary stent, atherectomy and angioplasty, including distal protection when performed; single vessel	Procedure	CPT-4
92938	Percutaneous transluminal revascularization of or through coronary artery bypass graft (internal mammary, free arterial, venous), any combination of intracoronary stent, atherectomy and angioplasty, including distal protection when performed; each additional branch subtended by the bypass graft (List separately in addition to code for primary procedure)	Procedure	CPT-4
92941	Percutaneous transluminal revascularization of acute total/subtotal occlusion during acute myocardial infarction, coronary artery or coronary artery bypass graft, any combination of intracoronary stent, atherectomy and angioplasty, including aspiration thrombectomy when performed; single vessel	Procedure	CPT-4
92943	Percutaneous transluminal revascularization of chronic total occlusion, coronary artery, coronary artery branch, or coronary artery bypass graft, any combination of intracoronary stent, atherectomy and angioplasty; single vessel	Procedure	CPT-4
92944	Percutaneous transluminal revascularization of chronic total occlusion, coronary artery, coronary artery branch, or coronary artery bypass graft, any combination of intracoronary stent, atherectomy and angioplasty; each additional coronary artery, coronary artery branch, or bypass graft (List separately in addition to code for primary procedure)	Procedure	CPT-4
92973	Percutaneous transluminal coronary thrombectomy mechanical (List separately in addition to code for primary procedure)	Procedure	CPT-4
92975	Thrombolysis, coronary; by intracoronary infusion, including selective coronary angiography	Procedure	CPT-4
92977	Thrombolysis, coronary; by intravenous infusion	Procedure	CPT-4
92980	Transcatheter placement of an intracoronary stent(s), percutaneous, with or without other therapeutic intervention, any method; single vessel	Procedure	CPT-4
92981	Transcatheter placement of an intracoronary stent(s), percutaneous, with or without other therapeutic intervention, any method; each additional vessel (List separately in addition to code for primary procedure)	Procedure	CPT-4
92982	Percutaneous transluminal coronary balloon angioplasty; single vessel	Procedure	CPT-4
92984	Percutaneous transluminal coronary balloon angioplasty; each additional vessel (List separately in addition to code for primary procedure)	Procedure	CPT-4
92995	Percutaneous transluminal coronary atherectomy, by mechanical or other method, with or without balloon angioplasty; single vessel	Procedure	CPT-4
92996	Percutaneous transluminal coronary atherectomy, by mechanical or other method, with or without balloon angioplasty; each additional vessel (List separately in addition to code for primary procedure)	Procedure	CPT-4

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
93540	Injection procedure during cardiac catheterization; for selective opacification of aortocoronary venous bypass grafts, 1 or more coronary arteries	Procedure	CPT-4
93564	Injection procedure during cardiac catheterization including imaging supervision, interpretation, and report; for selective opacification of aortocoronary venous or arterial bypass graft(s) (eg, aortocoronary saphenous vein, free radial artery, or free mammary artery graft) to one or more coronary arteries and in situ arterial conduits (eg, internal mammary), whether native or used for bypass to one or more coronary arteries during congenital heart catheterization, when performed (List separately in addition to code for	Procedure	CPT-4
C9600	Percutaneous transcatheter placement of drug eluting intracoronary stent(s), with coronary angioplasty when performed; single major coronary artery or branch	Procedure	HCPCS
C9601	Percutaneous transcatheter placement of drug-eluting intracoronary stent(s), with coronary angioplasty when performed; each additional branch of a major coronary artery (list separately in addition to code for primary procedure)	Procedure	HCPCS
C9602	Percutaneous transluminal coronary atherectomy, with drug eluting intracoronary stent, with coronary angioplasty when performed; single major coronary artery or branch	Procedure	HCPCS
C9603	Percutaneous transluminal coronary atherectomy, with drug-eluting intracoronary stent, with coronary angioplasty when performed; each additional branch of a major coronary artery (list separately in addition to code for primary procedure)	Procedure	HCPCS
C9604	Percutaneous transluminal revascularization of or through coronary artery bypass graft (internal mammary, free arterial, venous), any combination of drug-eluting intracoronary stent, atherectomy and angioplasty, including distal protection when performed; single vessel	Procedure	HCPCS
C9605	Percutaneous transluminal revascularization of or through coronary artery bypass graft (internal mammary, free arterial, venous), any combination of drug-eluting intracoronary stent, atherectomy and angioplasty, including distal protection when performed; each additional branch subtended by the bypass graft (list separately in addition to code for primary procedure)	Procedure	HCPCS
C9606	Percutaneous transluminal revascularization of acute total/subtotal occlusion during acute myocardial infarction, coronary artery or coronary artery bypass graft, any combination of drug-eluting intracoronary stent, atherectomy and angioplasty, including aspiration thrombectomy when performed, single vessel	Procedure	HCPCS
C9607	Percutaneous transluminal revascularization of chronic total occlusion, coronary artery, coronary artery branch, or coronary artery bypass graft, any combination of drug-eluting intracoronary stent, atherectomy and angioplasty; single vessel	Procedure	HCPCS
C9608	Percutaneous transluminal revascularization of chronic total occlusion, coronary artery, coronary artery branch, or coronary artery bypass graft, any combination of drug-eluting intracoronary stent, atherectomy and angioplasty; each additional coronary artery, coronary artery branch, or bypass graft (list separately in addition to code for primary procedure)	Procedure	HCPCS
G0290	Transcatheter placement of a drug eluting intracoronary stent(s), percutaneous, with or without other therapeutic intervention, any method; single vessel	Procedure	HCPCS
G0291	Transcatheter placement of a drug eluting intracoronary stent(s), percutaneous, with or without other therapeutic intervention, any method; each additional vessel	Procedure	HCPCS
G8158	Patient documented to have received coronary artery bypass graft with use of internal mammary artery	Procedure	HCPCS
G8159	Patient documented to have received coronary artery bypass graft without use of internal mammary artery	Procedure	HCPCS

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
G8161	Patient with isolated coronary artery bypass graft documented to have received pre-operative beta-blockade	Procedure	HCPCS
G8162	Patient with isolated coronary artery bypass graft not documented to have received preoperative beta-blockade	Procedure	HCPCS
G8163	Clinician documented that patient with isolated coronary artery bypass graft was not an eligible candidate for pre-operative beta-blockade measure	Procedure	HCPCS
G8164	Patient with isolated coronary artery bypass graft documented to have prolonged intubation	Procedure	HCPCS
G8165	Patient with isolated coronary artery bypass graft not documented to have prolonged intubation	Procedure	HCPCS
G8166	Patient with isolated coronary artery bypass graft documented to have required surgical re-exploration	Procedure	HCPCS
G8167	Patient with isolated coronary artery bypass graft did not require surgical re-exploration	Procedure	HCPCS
G8170	Patient with isolated coronary artery bypass graft documented to have been discharged on aspirin or clopidogrel	Procedure	HCPCS
G8171	Patient with isolated coronary artery bypass graft not documented to have been discharged on aspirin or clopidogrel	Procedure	HCPCS
G8172	Clinician documented that patient with isolated coronary artery bypass graft was not an eligible candidate for antiplatelet therapy at discharge measure	Procedure	HCPCS
Z92.82	Status post administration of tPA (rtPA) in a different facility within the last 24 hours prior to admission to current facility	Diagnosis	ICD-10-CM
Z95.1	Presence of aortocoronary bypass graft	Diagnosis	ICD-10-CM
Z95.5	Presence of coronary angioplasty implant and graft	Diagnosis	ICD-10-CM
Z98.61	Coronary angioplasty status	Diagnosis	ICD-10-CM
00.66	Percutaneous transluminal coronary angioplasty [PTCA]	Procedure	ICD-9-CM
0210083	Bypass Coronary Artery, One Artery from Coronary Artery with Zooplastic Tissue, Open Approach	Procedure	ICD-10-PCS
0210088	Bypass Coronary Artery, One Artery from Right Internal Mammary with Zooplastic Tissue, Open Approach	Procedure	ICD-10-PCS
0210089	Bypass Coronary Artery, One Artery from Left Internal Mammary with Zooplastic Tissue, Open Approach	Procedure	ICD-10-PCS
021008C	Bypass Coronary Artery, One Artery from Thoracic Artery with Zooplastic Tissue, Open Approach	Procedure	ICD-10-PCS
021008F	Bypass Coronary Artery, One Artery from Abdominal Artery with Zooplastic Tissue, Open Approach	Procedure	ICD-10-PCS
021008W	Bypass Coronary Artery, One Artery from Aorta with Zooplastic Tissue, Open Approach	Procedure	ICD-10-PCS
210093	Bypass Coronary Artery, One Artery from Coronary Artery with Autologous Venous Tissue, Open Approach	Procedure	ICD-10-PCS
210098	Bypass Coronary Artery, One Artery from Right Internal Mammary with Autologous Venous Tissue, Open Approach	Procedure	ICD-10-PCS
210099	Bypass Coronary Artery, One Artery from Left Internal Mammary with Autologous Venous Tissue, Open Approach	Procedure	ICD-10-PCS
021009C	Bypass Coronary Artery, One Artery from Thoracic Artery with Autologous Venous Tissue, Open Approach	Procedure	ICD-10-PCS
021009F	Bypass Coronary Artery, One Artery from Abdominal Artery with Autologous Venous Tissue, Open Approach	Procedure	ICD-10-PCS
021009W	Bypass Coronary Artery, One Artery from Aorta with Autologous Venous Tissue, Open Approach	Procedure	ICD-10-PCS

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
02100A3	Bypass Coronary Artery, One Artery from Coronary Artery with Autologous Arterial Tissue, Open Approach	Procedure	ICD-10-PCS
02100A8	Bypass Coronary Artery, One Artery from Right Internal Mammary with Autologous Arterial Tissue, Open Approach	Procedure	ICD-10-PCS
02100A9	Bypass Coronary Artery, One Artery from Left Internal Mammary with Autologous Arterial Tissue, Open Approach	Procedure	ICD-10-PCS
02100AC	Bypass Coronary Artery, One Artery from Thoracic Artery with Autologous Arterial Tissue, Open Approach	Procedure	ICD-10-PCS
02100AF	Bypass Coronary Artery, One Artery from Abdominal Artery with Autologous Arterial Tissue, Open Approach	Procedure	ICD-10-PCS
02100AW	Bypass Coronary Artery, One Artery from Aorta with Autologous Arterial Tissue, Open Approach	Procedure	ICD-10-PCS
02100J3	Bypass Coronary Artery, One Artery from Coronary Artery with Synthetic Substitute, Open Approach	Procedure	ICD-10-PCS
02100J8	Bypass Coronary Artery, One Artery from Right Internal Mammary with Synthetic Substitute, Open Approach	Procedure	ICD-10-PCS
02100J9	Bypass Coronary Artery, One Artery from Left Internal Mammary with Synthetic Substitute, Open Approach	Procedure	ICD-10-PCS
02100JC	Bypass Coronary Artery, One Artery from Thoracic Artery with Synthetic Substitute, Open Approach	Procedure	ICD-10-PCS
02100JF	Bypass Coronary Artery, One Artery from Abdominal Artery with Synthetic Substitute, Open Approach	Procedure	ICD-10-PCS
02100JW	Bypass Coronary Artery, One Artery from Aorta with Synthetic Substitute, Open Approach	Procedure	ICD-10-PCS
02100K3	Bypass Coronary Artery, One Artery from Coronary Artery with Nonautologous Tissue Substitute, Open Approach	Procedure	ICD-10-PCS
02100K8	Bypass Coronary Artery, One Artery from Right Internal Mammary with Nonautologous Tissue Substitute, Open Approach	Procedure	ICD-10-PCS
02100K9	Bypass Coronary Artery, One Artery from Left Internal Mammary with Nonautologous Tissue Substitute, Open Approach	Procedure	ICD-10-PCS
02100KC	Bypass Coronary Artery, One Artery from Thoracic Artery with Nonautologous Tissue Substitute, Open Approach	Procedure	ICD-10-PCS
02100KF	Bypass Coronary Artery, One Artery from Abdominal Artery with Nonautologous Tissue Substitute, Open Approach	Procedure	ICD-10-PCS
02100KW	Bypass Coronary Artery, One Artery from Aorta with Nonautologous Tissue Substitute, Open Approach	Procedure	ICD-10-PCS
02100Z3	Bypass Coronary Artery, One Artery from Coronary Artery, Open Approach	Procedure	ICD-10-PCS
02100Z8	Bypass Coronary Artery, One Artery from Right Internal Mammary, Open Approach	Procedure	ICD-10-PCS
02100Z9	Bypass Coronary Artery, One Artery from Left Internal Mammary, Open Approach	Procedure	ICD-10-PCS
02100ZC	Bypass Coronary Artery, One Artery from Thoracic Artery, Open Approach	Procedure	ICD-10-PCS
02100ZF	Bypass Coronary Artery, One Artery from Abdominal Artery, Open Approach	Procedure	ICD-10-PCS
0210344	Bypass Coronary Artery, One Artery from Coronary Vein with Drug-eluting Intraluminal Device, Percutaneous Approach	Procedure	ICD-10-PCS
02103D4	Bypass Coronary Artery, One Artery from Coronary Vein with Intraluminal Device, Percutaneous Approach	Procedure	ICD-10-PCS
0210444	Bypass Coronary Artery, One Artery from Coronary Vein with Drug-eluting Intraluminal Device, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0210483	Bypass Coronary Artery, One Artery from Coronary Artery with Zooplastic Tissue, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
0210488	Bypass Coronary Artery, One Artery from Right Internal Mammary with Zooplastic Tissue, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0210489	Bypass Coronary Artery, One Artery from Left Internal Mammary with Zooplastic Tissue, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
021048C	Bypass Coronary Artery, One Artery from Thoracic Artery with Zooplastic Tissue, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
021048F	Bypass Coronary Artery, One Artery from Abdominal Artery with Zooplastic Tissue, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
021048W	Bypass Coronary Artery, One Artery from Aorta with Zooplastic Tissue, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0210493	Bypass Coronary Artery, One Artery from Coronary Artery with Autologous Venous Tissue, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0210498	Bypass Coronary Artery, One Artery from Right Internal Mammary with Autologous Venous Tissue, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0210499	Bypass Coronary Artery, One Artery from Left Internal Mammary with Autologous Venous Tissue, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
021049C	Bypass Coronary Artery, One Artery from Thoracic Artery with Autologous Venous Tissue, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
021049F	Bypass Coronary Artery, One Artery from Abdominal Artery with Autologous Venous Tissue, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
021049W	Bypass Coronary Artery, One Artery from Aorta with Autologous Venous Tissue, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02104A3	Bypass Coronary Artery, One Artery from Coronary Artery with Autologous Arterial Tissue, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02104A8	Bypass Coronary Artery, One Artery from Right Internal Mammary with Autologous Arterial Tissue, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02104A9	Bypass Coronary Artery, One Artery from Left Internal Mammary with Autologous Arterial Tissue, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02104AC	Bypass Coronary Artery, One Artery from Thoracic Artery with Autologous Arterial Tissue, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02104AF	Bypass Coronary Artery, One Artery from Abdominal Artery with Autologous Arterial Tissue, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02104AW	Bypass Coronary Artery, One Artery from Aorta with Autologous Arterial Tissue, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02104D4	Bypass Coronary Artery, One Artery from Coronary Vein with Intraluminal Device, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02104J3	Bypass Coronary Artery, One Artery from Coronary Artery with Synthetic Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02104J8	Bypass Coronary Artery, One Artery from Right Internal Mammary with Synthetic Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02104J9	Bypass Coronary Artery, One Artery from Left Internal Mammary with Synthetic Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02104JC	Bypass Coronary Artery, One Artery from Thoracic Artery with Synthetic Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02104JF	Bypass Coronary Artery, One Artery from Abdominal Artery with Synthetic Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02104JW	Bypass Coronary Artery, One Artery from Aorta with Synthetic Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
02104K3	Bypass Coronary Artery, One Artery from Coronary Artery with Nonautologous Tissue Substitute. Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02104K8	Bypass Coronary Artery, One Artery from Right Internal Mammary with Nonautologous Tissue Substitute. Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02104K9	Bypass Coronary Artery, One Artery from Left Internal Mammary with Nonautologous Tissue Substitute. Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02104KC	Bypass Coronary Artery, One Artery from Thoracic Artery with Nonautologous Tissue Substitute. Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02104KF	Bypass Coronary Artery, One Artery from Abdominal Artery with Nonautologous Tissue Substitute. Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02104KW	Bypass Coronary Artery, One Artery from Aorta with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02104Z3	Bypass Coronary Artery, One Artery from Coronary Artery, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02104Z8	Bypass Coronary Artery, One Artery from Right Internal Mammary, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02104Z9	Bypass Coronary Artery, One Artery from Left Internal Mammary, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02104ZC	Bypass Coronary Artery, One Artery from Thoracic Artery, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02104ZF	Bypass Coronary Artery, One Artery from Abdominal Artery, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0211083	Bypass Coronary Artery, Two Arteries from Coronary Artery with Zooplastic Tissue, Open Approach	Procedure	ICD-10-PCS
0211088	Bypass Coronary Artery, Two Arteries from Right Internal Mammary with Zooplastic Tissue, Open Approach	Procedure	ICD-10-PCS
0211089	Bypass Coronary Artery, Two Arteries from Left Internal Mammary with Zooplastic Tissue, Open Approach	Procedure	ICD-10-PCS
021108C	Bypass Coronary Artery, Two Arteries from Thoracic Artery with Zooplastic Tissue, Open Approach	Procedure	ICD-10-PCS
021108F	Bypass Coronary Artery, Two Arteries from Abdominal Artery with Zooplastic Tissue, Open Approach	Procedure	ICD-10-PCS
021108W	Bypass Coronary Artery, Two Arteries from Aorta with Zooplastic Tissue, Open Approach	Procedure	ICD-10-PCS
211093	Bypass Coronary Artery, Two Arteries from Coronary Artery with Autologous Venous Tissue, Open Approach	Procedure	ICD-10-PCS
211098	Bypass Coronary Artery, Two Arteries from Right Internal Mammary with Autologous Venous Tissue. Open Approach	Procedure	ICD-10-PCS
211099	Bypass Coronary Artery, Two Arteries from Left Internal Mammary with Autologous Venous Tissue. Open Approach	Procedure	ICD-10-PCS
021109C	Bypass Coronary Artery, Two Arteries from Thoracic Artery with Autologous Venous Tissue, Open Approach	Procedure	ICD-10-PCS
021109F	Bypass Coronary Artery, Two Arteries from Abdominal Artery with Autologous Venous Tissue. Open Approach	Procedure	ICD-10-PCS
021109W	Bypass Coronary Artery, Two Arteries from Aorta with Autologous Venous Tissue, Open Approach	Procedure	ICD-10-PCS
02110A3	Bypass Coronary Artery, Two Arteries from Coronary Artery with Autologous Arterial Tissue, Open Approach	Procedure	ICD-10-PCS

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
02110A8	Bypass Coronary Artery, Two Arteries from Right Internal Mammary with Autologous Arterial Tissue, Open Approach	Procedure	ICD-10-PCS
02110A9	Bypass Coronary Artery, Two Arteries from Left Internal Mammary with Autologous Arterial Tissue, Open Approach	Procedure	ICD-10-PCS
02110AC	Bypass Coronary Artery, Two Arteries from Thoracic Artery with Autologous Arterial Tissue, Open Approach	Procedure	ICD-10-PCS
02110AF	Bypass Coronary Artery, Two Arteries from Abdominal Artery with Autologous Arterial Tissue, Open Approach	Procedure	ICD-10-PCS
02110AW	Bypass Coronary Artery, Two Arteries from Aorta with Autologous Arterial Tissue, Open Approach	Procedure	ICD-10-PCS
02110J3	Bypass Coronary Artery, Two Arteries from Coronary Artery with Synthetic Substitute, Open Approach	Procedure	ICD-10-PCS
02110J8	Bypass Coronary Artery, Two Arteries from Right Internal Mammary with Synthetic Substitute, Open Approach	Procedure	ICD-10-PCS
02110J9	Bypass Coronary Artery, Two Arteries from Left Internal Mammary with Synthetic Substitute, Open Approach	Procedure	ICD-10-PCS
02110JC	Bypass Coronary Artery, Two Arteries from Thoracic Artery with Synthetic Substitute, Open Approach	Procedure	ICD-10-PCS
02110JF	Bypass Coronary Artery, Two Arteries from Abdominal Artery with Synthetic Substitute, Open Approach	Procedure	ICD-10-PCS
02110JW	Bypass Coronary Artery, Two Arteries from Aorta with Synthetic Substitute, Open Approach	Procedure	ICD-10-PCS
02110K3	Bypass Coronary Artery, Two Arteries from Coronary Artery with Nonautologous Tissue Substitute, Open Approach	Procedure	ICD-10-PCS
02110K8	Bypass Coronary Artery, Two Arteries from Right Internal Mammary with Nonautologous Tissue Substitute, Open Approach	Procedure	ICD-10-PCS
02110K9	Bypass Coronary Artery, Two Arteries from Left Internal Mammary with Nonautologous Tissue Substitute, Open Approach	Procedure	ICD-10-PCS
02110KC	Bypass Coronary Artery, Two Arteries from Thoracic Artery with Nonautologous Tissue Substitute, Open Approach	Procedure	ICD-10-PCS
02110KF	Bypass Coronary Artery, Two Arteries from Abdominal Artery with Nonautologous Tissue Substitute, Open Approach	Procedure	ICD-10-PCS
02110KW	Bypass Coronary Artery, Two Arteries from Aorta with Nonautologous Tissue Substitute, Open Approach	Procedure	ICD-10-PCS
02110Z3	Bypass Coronary Artery, Two Arteries from Coronary Artery, Open Approach	Procedure	ICD-10-PCS
02110Z8	Bypass Coronary Artery, Two Arteries from Right Internal Mammary, Open Approach	Procedure	ICD-10-PCS
02110Z9	Bypass Coronary Artery, Two Arteries from Left Internal Mammary, Open Approach	Procedure	ICD-10-PCS
02110ZC	Bypass Coronary Artery, Two Arteries from Thoracic Artery, Open Approach	Procedure	ICD-10-PCS
02110ZF	Bypass Coronary Artery, Two Arteries from Abdominal Artery, Open Approach	Procedure	ICD-10-PCS
0211344	Bypass Coronary Artery, Two Arteries from Coronary Vein with Drug-eluting Intraluminal Device, Percutaneous Approach	Procedure	ICD-10-PCS
02113D4	Bypass Coronary Artery, Two Arteries from Coronary Vein with Intraluminal Device, Percutaneous Approach	Procedure	ICD-10-PCS
0211444	Bypass Coronary Artery, Two Arteries from Coronary Vein with Drug-eluting Intraluminal Device, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0211483	Bypass Coronary Artery, Two Arteries from Coronary Artery with Zooplastic Tissue, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0211488	Bypass Coronary Artery, Two Arteries from Right Internal Mammary with Zooplastic Tissue, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
0211489	Bypass Coronary Artery, Two Arteries from Left Internal Mammary with Zooplastic Tissue, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
021148C	Bypass Coronary Artery, Two Arteries from Thoracic Artery with Zooplastic Tissue, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
021148F	Bypass Coronary Artery, Two Arteries from Abdominal Artery with Zooplastic Tissue, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
021148W	Bypass Coronary Artery, Two Arteries from Aorta with Zooplastic Tissue, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0211493	Bypass Coronary Artery, Two Arteries from Coronary Artery with Autologous Venous Tissue, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0211498	Bypass Coronary Artery, Two Arteries from Right Internal Mammary with Autologous Venous Tissue, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0211499	Bypass Coronary Artery, Two Arteries from Left Internal Mammary with Autologous Venous Tissue, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
021149C	Bypass Coronary Artery, Two Arteries from Thoracic Artery with Autologous Venous Tissue, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
021149F	Bypass Coronary Artery, Two Arteries from Abdominal Artery with Autologous Venous Tissue, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
021149W	Bypass Coronary Artery, Two Arteries from Aorta with Autologous Venous Tissue, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02114A3	Bypass Coronary Artery, Two Arteries from Coronary Artery with Autologous Arterial Tissue, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02114A8	Bypass Coronary Artery, Two Arteries from Right Internal Mammary with Autologous Arterial Tissue, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02114A9	Bypass Coronary Artery, Two Arteries from Left Internal Mammary with Autologous Arterial Tissue, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02114AC	Bypass Coronary Artery, Two Arteries from Thoracic Artery with Autologous Arterial Tissue, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02114AF	Bypass Coronary Artery, Two Arteries from Abdominal Artery with Autologous Arterial Tissue, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02114AW	Bypass Coronary Artery, Two Arteries from Aorta with Autologous Arterial Tissue, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02114D4	Bypass Coronary Artery, Two Arteries from Coronary Vein with Intraluminal Device, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02114J3	Bypass Coronary Artery, Two Arteries from Coronary Artery with Synthetic Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02114J8	Bypass Coronary Artery, Two Arteries from Right Internal Mammary with Synthetic Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02114J9	Bypass Coronary Artery, Two Arteries from Left Internal Mammary with Synthetic Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02114JC	Bypass Coronary Artery, Two Arteries from Thoracic Artery with Synthetic Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02114JF	Bypass Coronary Artery, Two Arteries from Abdominal Artery with Synthetic Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02114JW	Bypass Coronary Artery, Two Arteries from Aorta with Synthetic Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02114K3	Bypass Coronary Artery, Two Arteries from Coronary Artery with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
02114K8	Bypass Coronary Artery, Two Arteries from Right Internal Mammary with Nonautologous Tissue Substitute. Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02114K9	Bypass Coronary Artery, Two Arteries from Left Internal Mammary with Nonautologous Tissue Substitute. Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02114KC	Bypass Coronary Artery, Two Arteries from Thoracic Artery with Nonautologous Tissue Substitute. Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02114KF	Bypass Coronary Artery, Two Arteries from Abdominal Artery with Nonautologous Tissue Substitute. Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02114KW	Bypass Coronary Artery, Two Arteries from Aorta with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02114Z3	Bypass Coronary Artery, Two Arteries from Coronary Artery, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02114Z8	Bypass Coronary Artery, Two Arteries from Right Internal Mammary, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02114Z9	Bypass Coronary Artery, Two Arteries from Left Internal Mammary, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02114ZC	Bypass Coronary Artery, Two Arteries from Thoracic Artery, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02114ZF	Bypass Coronary Artery, Two Arteries from Abdominal Artery, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0212083	Bypass Coronary Artery, Three Arteries from Coronary Artery with Zooplastic Tissue, Open Approach	Procedure	ICD-10-PCS
0212088	Bypass Coronary Artery, Three Arteries from Right Internal Mammary with Zooplastic Tissue, Open Approach	Procedure	ICD-10-PCS
0212089	Bypass Coronary Artery, Three Arteries from Left Internal Mammary with Zooplastic Tissue, Open Approach	Procedure	ICD-10-PCS
021208C	Bypass Coronary Artery, Three Arteries from Thoracic Artery with Zooplastic Tissue, Open Approach	Procedure	ICD-10-PCS
021208F	Bypass Coronary Artery, Three Arteries from Abdominal Artery with Zooplastic Tissue, Open Approach	Procedure	ICD-10-PCS
021208W	Bypass Coronary Artery, Three Arteries from Aorta with Zooplastic Tissue, Open Approach	Procedure	ICD-10-PCS
212093	Bypass Coronary Artery, Three Arteries from Coronary Artery with Autologous Venous Tissue. Open Approach	Procedure	ICD-10-PCS
212098	Bypass Coronary Artery, Three Arteries from Right Internal Mammary with Autologous Venous Tissue. Open Approach	Procedure	ICD-10-PCS
212099	Bypass Coronary Artery, Three Arteries from Left Internal Mammary with Autologous Venous Tissue. Open Approach	Procedure	ICD-10-PCS
021209C	Bypass Coronary Artery, Three Arteries from Thoracic Artery with Autologous Venous Tissue, Open Approach	Procedure	ICD-10-PCS
021209F	Bypass Coronary Artery, Three Arteries from Abdominal Artery with Autologous Venous Tissue. Open Approach	Procedure	ICD-10-PCS
021209W	Bypass Coronary Artery, Three Arteries from Aorta with Autologous Venous Tissue, Open Approach	Procedure	ICD-10-PCS
02120A3	Bypass Coronary Artery, Three Arteries from Coronary Artery with Autologous Arterial Tissue. Open Approach	Procedure	ICD-10-PCS
02120A8	Bypass Coronary Artery, Three Arteries from Right Internal Mammary with Autologous Arterial Tissue. Open Approach	Procedure	ICD-10-PCS

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
02120A9	Bypass Coronary Artery, Three Arteries from Left Internal Mammary with Autologous Arterial Tissue, Open Approach	Procedure	ICD-10-PCS
02120AC	Bypass Coronary Artery, Three Arteries from Thoracic Artery with Autologous Arterial Tissue, Open Approach	Procedure	ICD-10-PCS
02120AF	Bypass Coronary Artery, Three Arteries from Abdominal Artery with Autologous Arterial Tissue, Open Approach	Procedure	ICD-10-PCS
02120AW	Bypass Coronary Artery, Three Arteries from Aorta with Autologous Arterial Tissue, Open Approach	Procedure	ICD-10-PCS
02120J3	Bypass Coronary Artery, Three Arteries from Coronary Artery with Synthetic Substitute, Open Approach	Procedure	ICD-10-PCS
02120J8	Bypass Coronary Artery, Three Arteries from Right Internal Mammary with Synthetic Substitute, Open Approach	Procedure	ICD-10-PCS
02120J9	Bypass Coronary Artery, Three Arteries from Left Internal Mammary with Synthetic Substitute, Open Approach	Procedure	ICD-10-PCS
02120JC	Bypass Coronary Artery, Three Arteries from Thoracic Artery with Synthetic Substitute, Open Approach	Procedure	ICD-10-PCS
02120JF	Bypass Coronary Artery, Three Arteries from Abdominal Artery with Synthetic Substitute, Open Approach	Procedure	ICD-10-PCS
02120JW	Bypass Coronary Artery, Three Arteries from Aorta with Synthetic Substitute, Open	Procedure	ICD-10-PCS
02120K3	Bypass Coronary Artery, Three Arteries from Coronary Artery with Nonautologous Tissue Substitute, Open Approach	Procedure	ICD-10-PCS
02120K8	Bypass Coronary Artery, Three Arteries from Right Internal Mammary with Nonautologous Tissue Substitute, Open Approach	Procedure	ICD-10-PCS
02120K9	Bypass Coronary Artery, Three Arteries from Left Internal Mammary with Nonautologous Tissue Substitute, Open Approach	Procedure	ICD-10-PCS
02120KC	Bypass Coronary Artery, Three Arteries from Thoracic Artery with Nonautologous Tissue Substitute, Open Approach	Procedure	ICD-10-PCS
02120KF	Bypass Coronary Artery, Three Arteries from Abdominal Artery with Nonautologous Tissue Substitute, Open Approach	Procedure	ICD-10-PCS
02120KW	Bypass Coronary Artery, Three Arteries from Aorta with Nonautologous Tissue Substitute, Open Approach	Procedure	ICD-10-PCS
02120Z3	Bypass Coronary Artery, Three Arteries from Coronary Artery, Open Approach	Procedure	ICD-10-PCS
02120Z8	Bypass Coronary Artery, Three Arteries from Right Internal Mammary, Open Approach	Procedure	ICD-10-PCS
02120Z9	Bypass Coronary Artery, Three Arteries from Left Internal Mammary, Open Approach	Procedure	ICD-10-PCS
02120ZC	Bypass Coronary Artery, Three Arteries from Thoracic Artery, Open Approach	Procedure	ICD-10-PCS
02120ZF	Bypass Coronary Artery, Three Arteries from Abdominal Artery, Open Approach	Procedure	ICD-10-PCS
0212344	Bypass Coronary Artery, Three Arteries from Coronary Vein with Drug-eluting Intraluminal Device, Percutaneous Approach	Procedure	ICD-10-PCS
02123D4	Bypass Coronary Artery, Three Arteries from Coronary Vein with Intraluminal Device, Percutaneous Approach	Procedure	ICD-10-PCS
0212444	Bypass Coronary Artery, Three Arteries from Coronary Vein with Drug-eluting Intraluminal Device, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0212483	Bypass Coronary Artery, Three Arteries from Coronary Artery with Zooplastic Tissue, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0212488	Bypass Coronary Artery, Three Arteries from Right Internal Mammary with Zooplastic Tissue, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0212489	Bypass Coronary Artery, Three Arteries from Left Internal Mammary with Zooplastic Tissue, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
021248C	Bypass Coronary Artery, Three Arteries from Thoracic Artery with Zooplastic Tissue, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
021248F	Bypass Coronary Artery, Three Arteries from Abdominal Artery with Zooplastic Tissue, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
021248W	Bypass Coronary Artery, Three Arteries from Aorta with Zooplastic Tissue, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0212493	Bypass Coronary Artery, Three Arteries from Coronary Artery with Autologous Venous Tissue, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0212498	Bypass Coronary Artery, Three Arteries from Right Internal Mammary with Autologous Venous Tissue, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0212499	Bypass Coronary Artery, Three Arteries from Left Internal Mammary with Autologous Venous Tissue, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
021249C	Bypass Coronary Artery, Three Arteries from Thoracic Artery with Autologous Venous Tissue, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
021249F	Bypass Coronary Artery, Three Arteries from Abdominal Artery with Autologous Venous Tissue, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
021249W	Bypass Coronary Artery, Three Arteries from Aorta with Autologous Venous Tissue, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02124A3	Bypass Coronary Artery, Three Arteries from Coronary Artery with Autologous Arterial Tissue, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02124A8	Bypass Coronary Artery, Three Arteries from Right Internal Mammary with Autologous Arterial Tissue, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02124A9	Bypass Coronary Artery, Three Arteries from Left Internal Mammary with Autologous Arterial Tissue, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02124AC	Bypass Coronary Artery, Three Arteries from Thoracic Artery with Autologous Arterial Tissue, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02124AF	Bypass Coronary Artery, Three Arteries from Abdominal Artery with Autologous Arterial Tissue, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02124AW	Bypass Coronary Artery, Three Arteries from Aorta with Autologous Arterial Tissue, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02124D4	Bypass Coronary Artery, Three Arteries from Coronary Vein with Intraluminal Device, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02124J3	Bypass Coronary Artery, Three Arteries from Coronary Artery with Synthetic Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02124J8	Bypass Coronary Artery, Three Arteries from Right Internal Mammary with Synthetic Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02124J9	Bypass Coronary Artery, Three Arteries from Left Internal Mammary with Synthetic Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02124JC	Bypass Coronary Artery, Three Arteries from Thoracic Artery with Synthetic Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02124JF	Bypass Coronary Artery, Three Arteries from Abdominal Artery with Synthetic Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02124JW	Bypass Coronary Artery, Three Arteries from Aorta with Synthetic Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02124K3	Bypass Coronary Artery, Three Arteries from Coronary Artery with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02124K8	Bypass Coronary Artery, Three Arteries from Right Internal Mammary with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
02124K9	Bypass Coronary Artery, Three Arteries from Left Internal Mammary with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02124KC	Bypass Coronary Artery, Three Arteries from Thoracic Artery with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02124KF	Bypass Coronary Artery, Three Arteries from Abdominal Artery with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02124KW	Bypass Coronary Artery, Three Arteries from Aorta with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02124Z3	Bypass Coronary Artery, Three Arteries from Coronary Artery, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02124Z8	Bypass Coronary Artery, Three Arteries from Right Internal Mammary, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02124Z9	Bypass Coronary Artery, Three Arteries from Left Internal Mammary, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02124ZC	Bypass Coronary Artery, Three Arteries from Thoracic Artery, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02124ZF	Bypass Coronary Artery, Three Arteries from Abdominal Artery, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0213083	Bypass Coronary Artery, Four or More Arteries from Coronary Artery with Zooplastic Tissue, Open Approach	Procedure	ICD-10-PCS
0213088	Bypass Coronary Artery, Four or More Arteries from Right Internal Mammary with Zooplastic Tissue, Open Approach	Procedure	ICD-10-PCS
0213089	Bypass Coronary Artery, Four or More Arteries from Left Internal Mammary with Zooplastic Tissue, Open Approach	Procedure	ICD-10-PCS
021308C	Bypass Coronary Artery, Four or More Arteries from Thoracic Artery with Zooplastic Tissue, Open Approach	Procedure	ICD-10-PCS
021308F	Bypass Coronary Artery, Four or More Arteries from Abdominal Artery with Zooplastic Tissue, Open Approach	Procedure	ICD-10-PCS
021308W	Bypass Coronary Artery, Four or More Arteries from Aorta with Zooplastic Tissue, Open Approach	Procedure	ICD-10-PCS
213093	Bypass Coronary Artery, Four or More Arteries from Coronary Artery with Autologous Venous Tissue, Open Approach	Procedure	ICD-10-PCS
213098	Bypass Coronary Artery, Four or More Arteries from Right Internal Mammary with Autologous Venous Tissue, Open Approach	Procedure	ICD-10-PCS
213099	Bypass Coronary Artery, Four or More Arteries from Left Internal Mammary with Autologous Venous Tissue, Open Approach	Procedure	ICD-10-PCS
021309C	Bypass Coronary Artery, Four or More Arteries from Thoracic Artery with Autologous Venous Tissue, Open Approach	Procedure	ICD-10-PCS
021309F	Bypass Coronary Artery, Four or More Arteries from Abdominal Artery with Autologous Venous Tissue, Open Approach	Procedure	ICD-10-PCS
021309W	Bypass Coronary Artery, Four or More Arteries from Aorta with Autologous Venous Tissue, Open Approach	Procedure	ICD-10-PCS
02130A3	Bypass Coronary Artery, Four or More Arteries from Coronary Artery with Autologous Arterial Tissue, Open Approach	Procedure	ICD-10-PCS
02130A8	Bypass Coronary Artery, Four or More Arteries from Right Internal Mammary with Autologous Arterial Tissue, Open Approach	Procedure	ICD-10-PCS
02130A9	Bypass Coronary Artery, Four or More Arteries from Left Internal Mammary with Autologous Arterial Tissue, Open Approach	Procedure	ICD-10-PCS

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
02130AC	Bypass Coronary Artery, Four or More Arteries from Thoracic Artery with Autologous Arterial Tissue, Open Approach	Procedure	ICD-10-PCS
02130AF	Bypass Coronary Artery, Four or More Arteries from Abdominal Artery with Autologous Arterial Tissue, Open Approach	Procedure	ICD-10-PCS
02130AW	Bypass Coronary Artery, Four or More Arteries from Aorta with Autologous Arterial Tissue, Open Approach	Procedure	ICD-10-PCS
02130J3	Bypass Coronary Artery, Four or More Arteries from Coronary Artery with Synthetic Substitute, Open Approach	Procedure	ICD-10-PCS
02130J8	Bypass Coronary Artery, Four or More Arteries from Right Internal Mammary with Synthetic Substitute, Open Approach	Procedure	ICD-10-PCS
02130J9	Bypass Coronary Artery, Four or More Arteries from Left Internal Mammary with Synthetic Substitute, Open Approach	Procedure	ICD-10-PCS
02130JC	Bypass Coronary Artery, Four or More Arteries from Thoracic Artery with Synthetic Substitute, Open Approach	Procedure	ICD-10-PCS
02130JF	Bypass Coronary Artery, Four or More Arteries from Abdominal Artery with Synthetic Substitute, Open Approach	Procedure	ICD-10-PCS
02130JW	Bypass Coronary Artery, Four or More Arteries from Aorta with Synthetic Substitute, Open Approach	Procedure	ICD-10-PCS
02130K3	Bypass Coronary Artery, Four or More Arteries from Coronary Artery with Nonautologous Tissue Substitute, Open Approach	Procedure	ICD-10-PCS
02130K8	Bypass Coronary Artery, Four or More Arteries from Right Internal Mammary with Nonautologous Tissue Substitute, Open Approach	Procedure	ICD-10-PCS
02130K9	Bypass Coronary Artery, Four or More Arteries from Left Internal Mammary with Nonautologous Tissue Substitute, Open Approach	Procedure	ICD-10-PCS
02130KC	Bypass Coronary Artery, Four or More Arteries from Thoracic Artery with Nonautologous Tissue Substitute, Open Approach	Procedure	ICD-10-PCS
02130KF	Bypass Coronary Artery, Four or More Arteries from Abdominal Artery with Nonautologous Tissue Substitute, Open Approach	Procedure	ICD-10-PCS
02130KW	Bypass Coronary Artery, Four or More Arteries from Aorta with Nonautologous Tissue Substitute, Open Approach	Procedure	ICD-10-PCS
02130Z3	Bypass Coronary Artery, Four or More Arteries from Coronary Artery, Open Approach	Procedure	ICD-10-PCS
02130Z8	Bypass Coronary Artery, Four or More Arteries from Right Internal Mammary, Open Approach	Procedure	ICD-10-PCS
02130Z9	Bypass Coronary Artery, Four or More Arteries from Left Internal Mammary, Open Approach	Procedure	ICD-10-PCS
02130ZC	Bypass Coronary Artery, Four or More Arteries from Thoracic Artery, Open Approach	Procedure	ICD-10-PCS
02130ZF	Bypass Coronary Artery, Four or More Arteries from Abdominal Artery, Open Approach	Procedure	ICD-10-PCS
0213344	Bypass Coronary Artery, Four or More Arteries from Coronary Vein with Drug-eluting Intraluminal Device, Percutaneous Approach	Procedure	ICD-10-PCS
02133D4	Bypass Coronary Artery, Four or More Arteries from Coronary Vein with Intraluminal Device, Percutaneous Approach	Procedure	ICD-10-PCS
0213444	Bypass Coronary Artery, Four or More Arteries from Coronary Vein with Drug-eluting Intraluminal Device, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0213483	Bypass Coronary Artery, Four or More Arteries from Coronary Artery with Zooplastic Tissue, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0213488	Bypass Coronary Artery, Four or More Arteries from Right Internal Mammary with Zooplastic Tissue, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0213489	Bypass Coronary Artery, Four or More Arteries from Left Internal Mammary with Zooplastic Tissue, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
021348C	Bypass Coronary Artery, Four or More Arteries from Thoracic Artery with Zooplastic Tissue, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
021348F	Bypass Coronary Artery, Four or More Arteries from Abdominal Artery with Zooplastic Tissue, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
021348W	Bypass Coronary Artery, Four or More Arteries from Aorta with Zooplastic Tissue, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0213493	Bypass Coronary Artery, Four or More Arteries from Coronary Artery with Autologous Venous Tissue, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0213498	Bypass Coronary Artery, Four or More Arteries from Right Internal Mammary with Autologous Venous Tissue, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0213499	Bypass Coronary Artery, Four or More Arteries from Left Internal Mammary with Autologous Venous Tissue, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
021349C	Bypass Coronary Artery, Four or More Arteries from Thoracic Artery with Autologous Venous Tissue, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
021349F	Bypass Coronary Artery, Four or More Arteries from Abdominal Artery with Autologous Venous Tissue, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
021349W	Bypass Coronary Artery, Four or More Arteries from Aorta with Autologous Venous Tissue, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02134A3	Bypass Coronary Artery, Four or More Arteries from Coronary Artery with Autologous Arterial Tissue, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02134A8	Bypass Coronary Artery, Four or More Arteries from Right Internal Mammary with Autologous Arterial Tissue, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02134A9	Bypass Coronary Artery, Four or More Arteries from Left Internal Mammary with Autologous Arterial Tissue, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02134AC	Bypass Coronary Artery, Four or More Arteries from Thoracic Artery with Autologous Arterial Tissue, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02134AF	Bypass Coronary Artery, Four or More Arteries from Abdominal Artery with Autologous Arterial Tissue, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02134AW	Bypass Coronary Artery, Four or More Arteries from Aorta with Autologous Arterial Tissue, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02134D4	Bypass Coronary Artery, Four or More Arteries from Coronary Vein with Intraluminal Device, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02134J3	Bypass Coronary Artery, Four or More Arteries from Coronary Artery with Synthetic Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02134J8	Bypass Coronary Artery, Four or More Arteries from Right Internal Mammary with Synthetic Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02134J9	Bypass Coronary Artery, Four or More Arteries from Left Internal Mammary with Synthetic Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02134JC	Bypass Coronary Artery, Four or More Arteries from Thoracic Artery with Synthetic Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02134JF	Bypass Coronary Artery, Four or More Arteries from Abdominal Artery with Synthetic Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02134JW	Bypass Coronary Artery, Four or More Arteries from Aorta with Synthetic Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02134K3	Bypass Coronary Artery, Four or More Arteries from Coronary Artery with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02134K8	Bypass Coronary Artery, Four or More Arteries from Right Internal Mammary with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
02134K9	Bypass Coronary Artery, Four or More Arteries from Left Internal Mammary with Nonautologous Tissue Substitute. Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02134KC	Bypass Coronary Artery, Four or More Arteries from Thoracic Artery with Nonautologous Tissue Substitute. Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02134KF	Bypass Coronary Artery, Four or More Arteries from Abdominal Artery with Nonautologous Tissue Substitute. Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02134KW	Bypass Coronary Artery, Four or More Arteries from Aorta with Nonautologous Tissue Substitute. Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02134Z3	Bypass Coronary Artery, Four or More Arteries from Coronary Artery, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02134Z8	Bypass Coronary Artery, Four or More Arteries from Right Internal Mammary, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02134Z9	Bypass Coronary Artery, Four or More Arteries from Left Internal Mammary, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02134ZC	Bypass Coronary Artery, Four or More Arteries from Thoracic Artery, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02134ZF	Bypass Coronary Artery, Four or More Arteries from Abdominal Artery, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
021K0Z5	Bypass Right Ventricle to Coronary Circulation, Open Approach	Procedure	ICD-10-PCS
021K0Z8	Bypass Right Ventricle to Right Internal Mammary, Open Approach	Procedure	ICD-10-PCS
021K0Z9	Bypass Right Ventricle to Left Internal Mammary, Open Approach	Procedure	ICD-10-PCS
021K0ZC	Bypass Right Ventricle to Thoracic Artery, Open Approach	Procedure	ICD-10-PCS
021K0ZF	Bypass Right Ventricle to Abdominal Artery, Open Approach	Procedure	ICD-10-PCS
021K0ZW	Bypass Right Ventricle to Aorta, Open Approach	Procedure	ICD-10-PCS
021K4Z5	Bypass Right Ventricle to Coronary Circulation, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
021K4Z8	Bypass Right Ventricle to Right Internal Mammary, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
021K4Z9	Bypass Right Ventricle to Left Internal Mammary, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
021K4ZC	Bypass Right Ventricle to Thoracic Artery, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
021K4ZF	Bypass Right Ventricle to Abdominal Artery, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
021K4ZW	Bypass Right Ventricle to Aorta, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
021L08P	Bypass Left Ventricle to Pulmonary Trunk with Zooplastic Tissue, Open Approach	Procedure	ICD-10-PCS
021L08Q	Bypass Left Ventricle to Right Pulmonary Artery with Zooplastic Tissue, Open Approach	Procedure	ICD-10-PCS
021L08R	Bypass Left Ventricle to Left Pulmonary Artery with Zooplastic Tissue, Open Approach	Procedure	ICD-10-PCS
021L09P	Bypass Left Ventricle to Pulmonary Trunk with Autologous Venous Tissue, Open Approach	Procedure	ICD-10-PCS
021L09Q	Bypass Left Ventricle to Right Pulmonary Artery with Autologous Venous Tissue, Open Approach	Procedure	ICD-10-PCS
021L09R	Bypass Left Ventricle to Left Pulmonary Artery with Autologous Venous Tissue, Open Approach	Procedure	ICD-10-PCS
021L0AP	Bypass Left Ventricle to Pulmonary Trunk with Autologous Arterial Tissue, Open Approach	Procedure	ICD-10-PCS
021L0AQ	Bypass Left Ventricle to Right Pulmonary Artery with Autologous Arterial Tissue, Open Approach	Procedure	ICD-10-PCS
021L0AR	Bypass Left Ventricle to Left Pulmonary Artery with Autologous Arterial Tissue, Open Approach	Procedure	ICD-10-PCS
021L0JP	Bypass Left Ventricle to Pulmonary Trunk with Synthetic Substitute, Open Approach	Procedure	ICD-10-PCS
021L0JQ	Bypass Left Ventricle to Right Pulmonary Artery with Synthetic Substitute, Open Approach	Procedure	ICD-10-PCS
021L0JR	Bypass Left Ventricle to Left Pulmonary Artery with Synthetic Substitute, Open Approach	Procedure	ICD-10-PCS
021L0KP	Bypass Left Ventricle to Pulmonary Trunk with Nonautologous Tissue Substitute, Open Approach	Procedure	ICD-10-PCS

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
021L0KQ	Bypass Left Ventricle to Right Pulmonary Artery with Nonautologous Tissue Substitute, Open Approach	Procedure	ICD-10-PCS
021L0KR	Bypass Left Ventricle to Left Pulmonary Artery with Nonautologous Tissue Substitute, Open Approach	Procedure	ICD-10-PCS
021L0Z5	Bypass Left Ventricle to Coronary Circulation, Open Approach	Procedure	ICD-10-PCS
021L0Z8	Bypass Left Ventricle to Right Internal Mammary, Open Approach	Procedure	ICD-10-PCS
021L0Z9	Bypass Left Ventricle to Left Internal Mammary, Open Approach	Procedure	ICD-10-PCS
021L0ZC	Bypass Left Ventricle to Thoracic Artery, Open Approach	Procedure	ICD-10-PCS
021L0ZF	Bypass Left Ventricle to Abdominal Artery, Open Approach	Procedure	ICD-10-PCS
021L0ZP	Bypass Left Ventricle to Pulmonary Trunk, Open Approach	Procedure	ICD-10-PCS
021L0ZQ	Bypass Left Ventricle to Right Pulmonary Artery, Open Approach	Procedure	ICD-10-PCS
021L0ZR	Bypass Left Ventricle to Left Pulmonary Artery, Open Approach	Procedure	ICD-10-PCS
021L48P	Bypass Left Ventricle to Pulmonary Trunk with Zooplastic Tissue, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
021L48Q	Bypass Left Ventricle to Right Pulmonary Artery with Zooplastic Tissue, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
021L48R	Bypass Left Ventricle to Left Pulmonary Artery with Zooplastic Tissue, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
021L49P	Bypass Left Ventricle to Pulmonary Trunk with Autologous Venous Tissue, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
021L49Q	Bypass Left Ventricle to Right Pulmonary Artery with Autologous Venous Tissue, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
021L49R	Bypass Left Ventricle to Left Pulmonary Artery with Autologous Venous Tissue, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
021L4AP	Bypass Left Ventricle to Pulmonary Trunk with Autologous Arterial Tissue, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
021L4AQ	Bypass Left Ventricle to Right Pulmonary Artery with Autologous Arterial Tissue, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
021L4AR	Bypass Left Ventricle to Left Pulmonary Artery with Autologous Arterial Tissue, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
021L4JP	Bypass Left Ventricle to Pulmonary Trunk with Synthetic Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
021L4JQ	Bypass Left Ventricle to Right Pulmonary Artery with Synthetic Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
021L4JR	Bypass Left Ventricle to Left Pulmonary Artery with Synthetic Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
021L4KP	Bypass Left Ventricle to Pulmonary Trunk with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
021L4KQ	Bypass Left Ventricle to Right Pulmonary Artery with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
021L4KR	Bypass Left Ventricle to Left Pulmonary Artery with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
021L4Z5	Bypass Left Ventricle to Coronary Circulation, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
021L4Z8	Bypass Left Ventricle to Right Internal Mammary, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
021L4Z9	Bypass Left Ventricle to Left Internal Mammary, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
021L4ZC	Bypass Left Ventricle to Thoracic Artery, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
021L4ZF	Bypass Left Ventricle to Abdominal Artery, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
021L4ZP	Bypass Left Ventricle to Pulmonary Trunk, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
021L4ZQ	Bypass Left Ventricle to Right Pulmonary Artery, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
021L4ZR	Bypass Left Ventricle to Left Pulmonary Artery, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0270046	Dilation of Coronary Artery, One Artery, Bifurcation, with Drug-eluting Intraluminal Device, Open Approach	Procedure	ICD-10-PCS
027004Z	Dilation of Coronary Artery, One Artery with Drug-eluting Intraluminal Device, Open Approach	Procedure	ICD-10-PCS
0270056	Dilation of Coronary Artery, One Artery, Bifurcation, with Two Drug-eluting Intraluminal Devices, Open Approach	Procedure	ICD-10-PCS
027005Z	Dilation of Coronary Artery, One Artery with Two Drug-eluting Intraluminal Devices, Open Approach	Procedure	ICD-10-PCS
0270066	Dilation of Coronary Artery, One Artery, Bifurcation, with Three Drug-eluting Intraluminal Devices, Open Approach	Procedure	ICD-10-PCS
027006Z	Dilation of Coronary Artery, One Artery with Three Drug-eluting Intraluminal Devices, Open Approach	Procedure	ICD-10-PCS
0270076	Dilation of Coronary Artery, One Artery, Bifurcation, with Four or More Drug-eluting Intraluminal Devices, Open Approach	Procedure	ICD-10-PCS
027007Z	Dilation of Coronary Artery, One Artery with Four or More Drug-eluting Intraluminal Devices, Open Approach	Procedure	ICD-10-PCS
02700D6	Dilation of Coronary Artery, One Artery, Bifurcation, with Intraluminal Device, Open Approach	Procedure	ICD-10-PCS
02700DZ	Dilation of Coronary Artery, One Artery with Intraluminal Device, Open Approach	Procedure	ICD-10-PCS
02700E6	Dilation of Coronary Artery, One Artery, Bifurcation, with Two Intraluminal Devices, Open Approach	Procedure	ICD-10-PCS
02700EZ	Dilation of Coronary Artery, One Artery with Two Intraluminal Devices, Open Approach	Procedure	ICD-10-PCS
02700F6	Dilation of Coronary Artery, One Artery, Bifurcation, with Three Intraluminal Devices, Open Approach	Procedure	ICD-10-PCS
02700FZ	Dilation of Coronary Artery, One Artery with Three Intraluminal Devices, Open Approach	Procedure	ICD-10-PCS
02700G6	Dilation of Coronary Artery, One Artery, Bifurcation, with Four or More Intraluminal Devices, Open Approach	Procedure	ICD-10-PCS
02700GZ	Dilation of Coronary Artery, One Artery with Four or More Intraluminal Devices, Open Approach	Procedure	ICD-10-PCS
02700T6	Dilation of Coronary Artery, One Artery, Bifurcation, with Radioactive Intraluminal Device, Open Approach	Procedure	ICD-10-PCS
02700TZ	Dilation of Coronary Artery, One Artery with Radioactive Intraluminal Device, Open Approach	Procedure	ICD-10-PCS
02700Z6	Dilation of Coronary Artery, One Artery, Bifurcation, Open Approach	Procedure	ICD-10-PCS
02700ZZ	Dilation of Coronary Artery, One Artery, Open Approach	Procedure	ICD-10-PCS
0270346	Dilation of Coronary Artery, One Artery, Bifurcation, with Drug-eluting Intraluminal Device, Percutaneous Approach	Procedure	ICD-10-PCS
027034Z	Dilation of Coronary Artery, One Artery with Drug-eluting Intraluminal Device, Percutaneous Approach	Procedure	ICD-10-PCS
0270356	Dilation of Coronary Artery, One Artery, Bifurcation, with Two Drug-eluting Intraluminal Devices, Percutaneous Approach	Procedure	ICD-10-PCS
027035Z	Dilation of Coronary Artery, One Artery with Two Drug-eluting Intraluminal Devices, Percutaneous Approach	Procedure	ICD-10-PCS
0270366	Dilation of Coronary Artery, One Artery, Bifurcation, with Three Drug-eluting Intraluminal Devices, Percutaneous Approach	Procedure	ICD-10-PCS

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
027036Z	Dilation of Coronary Artery, One Artery with Three Drug-eluting Intraluminal Devices, Percutaneous Approach	Procedure	ICD-10-PCS
0270376	Dilation of Coronary Artery, One Artery, Bifurcation, with Four or More Drug-eluting Intraluminal Devices, Percutaneous Approach	Procedure	ICD-10-PCS
027037Z	Dilation of Coronary Artery, One Artery with Four or More Drug-eluting Intraluminal Devices, Percutaneous Approach	Procedure	ICD-10-PCS
02703D6	Dilation of Coronary Artery, One Artery, Bifurcation, with Intraluminal Device, Percutaneous Approach	Procedure	ICD-10-PCS
02703DZ	Dilation of Coronary Artery, One Artery with Intraluminal Device, Percutaneous Approach	Procedure	ICD-10-PCS
02703E6	Dilation of Coronary Artery, One Artery, Bifurcation, with Two Intraluminal Devices, Percutaneous Approach	Procedure	ICD-10-PCS
02703EZ	Dilation of Coronary Artery, One Artery with Two Intraluminal Devices, Percutaneous Approach	Procedure	ICD-10-PCS
02703F6	Dilation of Coronary Artery, One Artery, Bifurcation, with Three Intraluminal Devices, Percutaneous Approach	Procedure	ICD-10-PCS
02703FZ	Dilation of Coronary Artery, One Artery with Three Intraluminal Devices, Percutaneous Approach	Procedure	ICD-10-PCS
02703G6	Dilation of Coronary Artery, One Artery, Bifurcation, with Four or More Intraluminal Devices, Percutaneous Approach	Procedure	ICD-10-PCS
02703GZ	Dilation of Coronary Artery, One Artery with Four or More Intraluminal Devices, Percutaneous Approach	Procedure	ICD-10-PCS
02703T6	Dilation of Coronary Artery, One Artery, Bifurcation, with Radioactive Intraluminal Device, Percutaneous Approach	Procedure	ICD-10-PCS
02703TZ	Dilation of Coronary Artery, One Artery with Radioactive Intraluminal Device, Percutaneous Approach	Procedure	ICD-10-PCS
02703Z6	Dilation of Coronary Artery, One Artery, Bifurcation, Percutaneous Approach	Procedure	ICD-10-PCS
02703ZZ	Dilation of Coronary Artery, One Artery, Percutaneous Approach	Procedure	ICD-10-PCS
0270446	Dilation of Coronary Artery, One Artery, Bifurcation, with Drug-eluting Intraluminal Device, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
027044Z	Dilation of Coronary Artery, One Artery with Drug-eluting Intraluminal Device, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0270456	Dilation of Coronary Artery, One Artery, Bifurcation, with Two Drug-eluting Intraluminal Devices, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
027045Z	Dilation of Coronary Artery, One Artery with Two Drug-eluting Intraluminal Devices, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0270466	Dilation of Coronary Artery, One Artery, Bifurcation, with Three Drug-eluting Intraluminal Devices, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
027046Z	Dilation of Coronary Artery, One Artery with Three Drug-eluting Intraluminal Devices, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0270476	Dilation of Coronary Artery, One Artery, Bifurcation, with Four or More Drug-eluting Intraluminal Devices, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
027047Z	Dilation of Coronary Artery, One Artery with Four or More Drug-eluting Intraluminal Devices, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02704D6	Dilation of Coronary Artery, One Artery, Bifurcation, with Intraluminal Device, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02704DZ	Dilation of Coronary Artery, One Artery with Intraluminal Device, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
02704E6	Dilation of Coronary Artery, One Artery, Bifurcation, with Two Intraluminal Devices, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02704EZ	Dilation of Coronary Artery, One Artery with Two Intraluminal Devices, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02704F6	Dilation of Coronary Artery, One Artery, Bifurcation, with Three Intraluminal Devices, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02704FZ	Dilation of Coronary Artery, One Artery with Three Intraluminal Devices, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02704G6	Dilation of Coronary Artery, One Artery, Bifurcation, with Four or More Intraluminal Devices, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02704GZ	Dilation of Coronary Artery, One Artery with Four or More Intraluminal Devices, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02704T6	Dilation of Coronary Artery, One Artery, Bifurcation, with Radioactive Intraluminal Device, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02704TZ	Dilation of Coronary Artery, One Artery with Radioactive Intraluminal Device, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02704Z6	Dilation of Coronary Artery, One Artery, Bifurcation, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02704ZZ	Dilation of Coronary Artery, One Artery, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0271046	Dilation of Coronary Artery, Two Arteries, Bifurcation, with Drug-eluting Intraluminal Device, Open Approach	Procedure	ICD-10-PCS
027104Z	Dilation of Coronary Artery, Two Arteries with Drug-eluting Intraluminal Device, Open Approach	Procedure	ICD-10-PCS
0271056	Dilation of Coronary Artery, Two Arteries, Bifurcation, with Two Drug-eluting Intraluminal Devices, Open Approach	Procedure	ICD-10-PCS
027105Z	Dilation of Coronary Artery, Two Arteries with Two Drug-eluting Intraluminal Devices, Open Approach	Procedure	ICD-10-PCS
0271066	Dilation of Coronary Artery, Two Arteries, Bifurcation, with Three Drug-eluting Intraluminal Devices, Open Approach	Procedure	ICD-10-PCS
027106Z	Dilation of Coronary Artery, Two Arteries with Three Drug-eluting Intraluminal Devices, Open Approach	Procedure	ICD-10-PCS
0271076	Dilation of Coronary Artery, Two Arteries, Bifurcation, with Four or More Drug-eluting Intraluminal Devices, Open Approach	Procedure	ICD-10-PCS
027107Z	Dilation of Coronary Artery, Two Arteries with Four or More Drug-eluting Intraluminal Devices, Open Approach	Procedure	ICD-10-PCS
02710D6	Dilation of Coronary Artery, Two Arteries, Bifurcation, with Intraluminal Device, Open Approach	Procedure	ICD-10-PCS
02710DZ	Dilation of Coronary Artery, Two Arteries with Intraluminal Device, Open Approach	Procedure	ICD-10-PCS
02710E6	Dilation of Coronary Artery, Two Arteries, Bifurcation, with Two Intraluminal Devices, Open Approach	Procedure	ICD-10-PCS
02710EZ	Dilation of Coronary Artery, Two Arteries with Two Intraluminal Devices, Open Approach	Procedure	ICD-10-PCS
02710F6	Dilation of Coronary Artery, Two Arteries, Bifurcation, with Three Intraluminal Devices, Open Approach	Procedure	ICD-10-PCS
02710FZ	Dilation of Coronary Artery, Two Arteries with Three Intraluminal Devices, Open Approach	Procedure	ICD-10-PCS
02710G6	Dilation of Coronary Artery, Two Arteries, Bifurcation, with Four or More Intraluminal Devices, Open Approach	Procedure	ICD-10-PCS
02710GZ	Dilation of Coronary Artery, Two Arteries with Four or More Intraluminal Devices, Open Approach	Procedure	ICD-10-PCS

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
02710T6	Dilation of Coronary Artery, Two Arteries, Bifurcation, with Radioactive Intraluminal Device, Open Approach	Procedure	ICD-10-PCS
02710TZ	Dilation of Coronary Artery, Two Arteries with Radioactive Intraluminal Device, Open Approach	Procedure	ICD-10-PCS
02710Z6	Dilation of Coronary Artery, Two Arteries, Bifurcation, Open Approach	Procedure	ICD-10-PCS
02710ZZ	Dilation of Coronary Artery, Two Arteries, Open Approach	Procedure	ICD-10-PCS
0271346	Dilation of Coronary Artery, Two Arteries, Bifurcation, with Drug-eluting Intraluminal Device, Percutaneous Approach	Procedure	ICD-10-PCS
027134Z	Dilation of Coronary Artery, Two Arteries with Drug-eluting Intraluminal Device, Percutaneous Approach	Procedure	ICD-10-PCS
0271356	Dilation of Coronary Artery, Two Arteries, Bifurcation, with Two Drug-eluting Intraluminal Devices, Percutaneous Approach	Procedure	ICD-10-PCS
027135Z	Dilation of Coronary Artery, Two Arteries with Two Drug-eluting Intraluminal Devices, Percutaneous Approach	Procedure	ICD-10-PCS
0271366	Dilation of Coronary Artery, Two Arteries, Bifurcation, with Three Drug-eluting Intraluminal Devices, Percutaneous Approach	Procedure	ICD-10-PCS
027136Z	Dilation of Coronary Artery, Two Arteries with Three Drug-eluting Intraluminal Devices, Percutaneous Approach	Procedure	ICD-10-PCS
0271376	Dilation of Coronary Artery, Two Arteries, Bifurcation, with Four or More Drug-eluting Intraluminal Devices, Percutaneous Approach	Procedure	ICD-10-PCS
027137Z	Dilation of Coronary Artery, Two Arteries with Four or More Drug-eluting Intraluminal Devices, Percutaneous Approach	Procedure	ICD-10-PCS
02713D6	Dilation of Coronary Artery, Two Arteries, Bifurcation, with Intraluminal Device, Percutaneous Approach	Procedure	ICD-10-PCS
02713DZ	Dilation of Coronary Artery, Two Arteries with Intraluminal Device, Percutaneous Approach	Procedure	ICD-10-PCS
02713E6	Dilation of Coronary Artery, Two Arteries, Bifurcation, with Two Intraluminal Devices, Percutaneous Approach	Procedure	ICD-10-PCS
02713EZ	Dilation of Coronary Artery, Two Arteries with Two Intraluminal Devices, Percutaneous Approach	Procedure	ICD-10-PCS
02713F6	Dilation of Coronary Artery, Two Arteries, Bifurcation, with Three Intraluminal Devices, Percutaneous Approach	Procedure	ICD-10-PCS
02713FZ	Dilation of Coronary Artery, Two Arteries with Three Intraluminal Devices, Percutaneous Approach	Procedure	ICD-10-PCS
02713G6	Dilation of Coronary Artery, Two Arteries, Bifurcation, with Four or More Intraluminal Devices, Percutaneous Approach	Procedure	ICD-10-PCS
02713GZ	Dilation of Coronary Artery, Two Arteries with Four or More Intraluminal Devices, Percutaneous Approach	Procedure	ICD-10-PCS
02713T6	Dilation of Coronary Artery, Two Arteries, Bifurcation, with Radioactive Intraluminal Device, Percutaneous Approach	Procedure	ICD-10-PCS
02713TZ	Dilation of Coronary Artery, Two Arteries with Radioactive Intraluminal Device, Percutaneous Approach	Procedure	ICD-10-PCS
02713Z6	Dilation of Coronary Artery, Two Arteries, Bifurcation, Percutaneous Approach	Procedure	ICD-10-PCS
02713ZZ	Dilation of Coronary Artery, Two Arteries, Percutaneous Approach	Procedure	ICD-10-PCS
0271446	Dilation of Coronary Artery, Two Arteries, Bifurcation, with Drug-eluting Intraluminal Device, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
027144Z	Dilation of Coronary Artery, Two Arteries with Drug-eluting Intraluminal Device, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
0271456	Dilation of Coronary Artery, Two Arteries, Bifurcation, with Two Drug-eluting Intraluminal Devices, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
027145Z	Dilation of Coronary Artery, Two Arteries with Two Drug-eluting Intraluminal Devices, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0271466	Dilation of Coronary Artery, Two Arteries, Bifurcation, with Three Drug-eluting Intraluminal Devices, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
027146Z	Dilation of Coronary Artery, Two Arteries with Three Drug-eluting Intraluminal Devices, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0271476	Dilation of Coronary Artery, Two Arteries, Bifurcation, with Four or More Drug-eluting Intraluminal Devices, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
027147Z	Dilation of Coronary Artery, Two Arteries with Four or More Drug-eluting Intraluminal Devices, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02714D6	Dilation of Coronary Artery, Two Arteries, Bifurcation, with Intraluminal Device, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02714DZ	Dilation of Coronary Artery, Two Arteries with Intraluminal Device, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02714E6	Dilation of Coronary Artery, Two Arteries, Bifurcation, with Two Intraluminal Devices, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02714EZ	Dilation of Coronary Artery, Two Arteries with Two Intraluminal Devices, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02714F6	Dilation of Coronary Artery, Two Arteries, Bifurcation, with Three Intraluminal Devices, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02714FZ	Dilation of Coronary Artery, Two Arteries with Three Intraluminal Devices, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02714G6	Dilation of Coronary Artery, Two Arteries, Bifurcation, with Four or More Intraluminal Devices, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02714GZ	Dilation of Coronary Artery, Two Arteries with Four or More Intraluminal Devices, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02714T6	Dilation of Coronary Artery, Two Arteries, Bifurcation, with Radioactive Intraluminal Device, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02714TZ	Dilation of Coronary Artery, Two Arteries with Radioactive Intraluminal Device, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02714Z6	Dilation of Coronary Artery, Two Arteries, Bifurcation, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02714ZZ	Dilation of Coronary Artery, Two Arteries, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0272046	Dilation of Coronary Artery, Three Arteries, Bifurcation, with Drug-eluting Intraluminal Device, Open Approach	Procedure	ICD-10-PCS
027204Z	Dilation of Coronary Artery, Three Arteries with Drug-eluting Intraluminal Device, Open Approach	Procedure	ICD-10-PCS
0272056	Dilation of Coronary Artery, Three Arteries, Bifurcation, with Two Drug-eluting Intraluminal Devices, Open Approach	Procedure	ICD-10-PCS
027205Z	Dilation of Coronary Artery, Three Arteries with Two Drug-eluting Intraluminal Devices, Open Approach	Procedure	ICD-10-PCS
0272066	Dilation of Coronary Artery, Three Arteries, Bifurcation, with Three Drug-eluting Intraluminal Devices, Open Approach	Procedure	ICD-10-PCS
027206Z	Dilation of Coronary Artery, Three Arteries with Three Drug-eluting Intraluminal Devices, Open Approach	Procedure	ICD-10-PCS
0272076	Dilation of Coronary Artery, Three Arteries, Bifurcation, with Four or More Drug-eluting Intraluminal Devices, Open Approach	Procedure	ICD-10-PCS

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
027207Z	Dilation of Coronary Artery, Three Arteries with Four or More Drug-eluting Intraluminal Devices, Open Approach	Procedure	ICD-10-PCS
02720D6	Dilation of Coronary Artery, Three Arteries, Bifurcation, with Intraluminal Device, Open Approach	Procedure	ICD-10-PCS
02720DZ	Dilation of Coronary Artery, Three Arteries with Intraluminal Device, Open Approach	Procedure	ICD-10-PCS
02720E6	Dilation of Coronary Artery, Three Arteries, Bifurcation, with Two Intraluminal Devices, Open Approach	Procedure	ICD-10-PCS
02720EZ	Dilation of Coronary Artery, Three Arteries with Two Intraluminal Devices, Open Approach	Procedure	ICD-10-PCS
02720F6	Dilation of Coronary Artery, Three Arteries, Bifurcation, with Three Intraluminal Devices, Open Approach	Procedure	ICD-10-PCS
02720FZ	Dilation of Coronary Artery, Three Arteries with Three Intraluminal Devices, Open Approach	Procedure	ICD-10-PCS
02720G6	Dilation of Coronary Artery, Three Arteries, Bifurcation, with Four or More Intraluminal Devices, Open Approach	Procedure	ICD-10-PCS
02720GZ	Dilation of Coronary Artery, Three Arteries with Four or More Intraluminal Devices, Open Approach	Procedure	ICD-10-PCS
02720T6	Dilation of Coronary Artery, Three Arteries, Bifurcation, with Radioactive Intraluminal Device, Open Approach	Procedure	ICD-10-PCS
02720TZ	Dilation of Coronary Artery, Three Arteries with Radioactive Intraluminal Device, Open Approach	Procedure	ICD-10-PCS
02720Z6	Dilation of Coronary Artery, Three Arteries, Bifurcation, Open Approach	Procedure	ICD-10-PCS
02720ZZ	Dilation of Coronary Artery, Three Arteries, Open Approach	Procedure	ICD-10-PCS
0272346	Dilation of Coronary Artery, Three Arteries, Bifurcation, with Drug-eluting Intraluminal Device, Percutaneous Approach	Procedure	ICD-10-PCS
027234Z	Dilation of Coronary Artery, Three Arteries with Drug-eluting Intraluminal Device, Percutaneous Approach	Procedure	ICD-10-PCS
0272356	Dilation of Coronary Artery, Three Arteries, Bifurcation, with Two Drug-eluting Intraluminal Devices, Percutaneous Approach	Procedure	ICD-10-PCS
027235Z	Dilation of Coronary Artery, Three Arteries with Two Drug-eluting Intraluminal Devices, Percutaneous Approach	Procedure	ICD-10-PCS
0272366	Dilation of Coronary Artery, Three Arteries, Bifurcation, with Three Drug-eluting Intraluminal Devices, Percutaneous Approach	Procedure	ICD-10-PCS
027236Z	Dilation of Coronary Artery, Three Arteries with Three Drug-eluting Intraluminal Devices, Percutaneous Approach	Procedure	ICD-10-PCS
0272376	Dilation of Coronary Artery, Three Arteries, Bifurcation, with Four or More Drug-eluting Intraluminal Devices, Percutaneous Approach	Procedure	ICD-10-PCS
027237Z	Dilation of Coronary Artery, Three Arteries with Four or More Drug-eluting Intraluminal Devices, Percutaneous Approach	Procedure	ICD-10-PCS
02723D6	Dilation of Coronary Artery, Three Arteries, Bifurcation, with Intraluminal Device, Percutaneous Approach	Procedure	ICD-10-PCS
02723DZ	Dilation of Coronary Artery, Three Arteries with Intraluminal Device, Percutaneous Approach	Procedure	ICD-10-PCS
02723E6	Dilation of Coronary Artery, Three Arteries, Bifurcation, with Two Intraluminal Devices, Percutaneous Approach	Procedure	ICD-10-PCS
02723EZ	Dilation of Coronary Artery, Three Arteries with Two Intraluminal Devices, Percutaneous Approach	Procedure	ICD-10-PCS
02723F6	Dilation of Coronary Artery, Three Arteries, Bifurcation, with Three Intraluminal Devices, Percutaneous Approach	Procedure	ICD-10-PCS

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
02723FZ	Dilation of Coronary Artery, Three Arteries with Three Intraluminal Devices, Percutaneous Approach	Procedure	ICD-10-PCS
02723G6	Dilation of Coronary Artery, Three Arteries, Bifurcation, with Four or More Intraluminal Devices, Percutaneous Approach	Procedure	ICD-10-PCS
02723GZ	Dilation of Coronary Artery, Three Arteries with Four or More Intraluminal Devices, Percutaneous Approach	Procedure	ICD-10-PCS
02723T6	Dilation of Coronary Artery, Three Arteries, Bifurcation, with Radioactive Intraluminal Device, Percutaneous Approach	Procedure	ICD-10-PCS
02723TZ	Dilation of Coronary Artery, Three Arteries with Radioactive Intraluminal Device, Percutaneous Approach	Procedure	ICD-10-PCS
02723Z6	Dilation of Coronary Artery, Three Arteries, Bifurcation, Percutaneous Approach	Procedure	ICD-10-PCS
02723ZZ	Dilation of Coronary Artery, Three Arteries, Percutaneous Approach	Procedure	ICD-10-PCS
0272446	Dilation of Coronary Artery, Three Arteries, Bifurcation, with Drug-eluting Intraluminal Device, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
027244Z	Dilation of Coronary Artery, Three Arteries with Drug-eluting Intraluminal Device, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0272456	Dilation of Coronary Artery, Three Arteries, Bifurcation, with Two Drug-eluting Intraluminal Devices, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
027245Z	Dilation of Coronary Artery, Three Arteries with Two Drug-eluting Intraluminal Devices, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0272466	Dilation of Coronary Artery, Three Arteries, Bifurcation, with Three Drug-eluting Intraluminal Devices, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
027246Z	Dilation of Coronary Artery, Three Arteries with Three Drug-eluting Intraluminal Devices, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0272476	Dilation of Coronary Artery, Three Arteries, Bifurcation, with Four or More Drug-eluting Intraluminal Devices, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
027247Z	Dilation of Coronary Artery, Three Arteries with Four or More Drug-eluting Intraluminal Devices, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02724D6	Dilation of Coronary Artery, Three Arteries, Bifurcation, with Intraluminal Device, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02724DZ	Dilation of Coronary Artery, Three Arteries with Intraluminal Device, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02724E6	Dilation of Coronary Artery, Three Arteries, Bifurcation, with Two Intraluminal Devices, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02724EZ	Dilation of Coronary Artery, Three Arteries with Two Intraluminal Devices, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02724F6	Dilation of Coronary Artery, Three Arteries, Bifurcation, with Three Intraluminal Devices, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02724FZ	Dilation of Coronary Artery, Three Arteries with Three Intraluminal Devices, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02724G6	Dilation of Coronary Artery, Three Arteries, Bifurcation, with Four or More Intraluminal Devices, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02724GZ	Dilation of Coronary Artery, Three Arteries with Four or More Intraluminal Devices, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02724T6	Dilation of Coronary Artery, Three Arteries, Bifurcation, with Radioactive Intraluminal Device, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02724TZ	Dilation of Coronary Artery, Three Arteries with Radioactive Intraluminal Device, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
02724Z6	Dilation of Coronary Artery, Three Arteries, Bifurcation, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02724ZZ	Dilation of Coronary Artery, Three Arteries, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0273046	Dilation of Coronary Artery, Four or More Arteries, Bifurcation, with Drug-eluting Intraluminal Device, Open Approach	Procedure	ICD-10-PCS
027304Z	Dilation of Coronary Artery, Four or More Arteries with Drug-eluting Intraluminal Device, Open Approach	Procedure	ICD-10-PCS
0273056	Dilation of Coronary Artery, Four or More Arteries, Bifurcation, with Two Drug-eluting Intraluminal Devices, Open Approach	Procedure	ICD-10-PCS
027305Z	Dilation of Coronary Artery, Four or More Arteries with Two Drug-eluting Intraluminal Devices, Open Approach	Procedure	ICD-10-PCS
0273066	Dilation of Coronary Artery, Four or More Arteries, Bifurcation, with Three Drug-eluting Intraluminal Devices, Open Approach	Procedure	ICD-10-PCS
027306Z	Dilation of Coronary Artery, Four or More Arteries with Three Drug-eluting Intraluminal Devices, Open Approach	Procedure	ICD-10-PCS
0273076	Dilation of Coronary Artery, Four or More Arteries, Bifurcation, with Four or More Drug-eluting Intraluminal Devices, Open Approach	Procedure	ICD-10-PCS
027307Z	Dilation of Coronary Artery, Four or More Arteries with Four or More Drug-eluting Intraluminal Devices, Open Approach	Procedure	ICD-10-PCS
02730D6	Dilation of Coronary Artery, Four or More Arteries, Bifurcation, with Intraluminal Device, Open Approach	Procedure	ICD-10-PCS
02730DZ	Dilation of Coronary Artery, Four or More Arteries with Intraluminal Device, Open Approach	Procedure	ICD-10-PCS
02730E6	Dilation of Coronary Artery, Four or More Arteries, Bifurcation, with Two Intraluminal Devices, Open Approach	Procedure	ICD-10-PCS
02730EZ	Dilation of Coronary Artery, Four or More Arteries with Two Intraluminal Devices, Open Approach	Procedure	ICD-10-PCS
02730F6	Dilation of Coronary Artery, Four or More Arteries, Bifurcation, with Three Intraluminal Devices, Open Approach	Procedure	ICD-10-PCS
02730FZ	Dilation of Coronary Artery, Four or More Arteries with Three Intraluminal Devices, Open Approach	Procedure	ICD-10-PCS
02730G6	Dilation of Coronary Artery, Four or More Arteries, Bifurcation, with Four or More Intraluminal Devices, Open Approach	Procedure	ICD-10-PCS
02730GZ	Dilation of Coronary Artery, Four or More Arteries with Four or More Intraluminal Devices, Open Approach	Procedure	ICD-10-PCS
02730T6	Dilation of Coronary Artery, Four or More Arteries, Bifurcation, with Radioactive Intraluminal Device, Open Approach	Procedure	ICD-10-PCS
02730TZ	Dilation of Coronary Artery, Four or More Arteries with Radioactive Intraluminal Device, Open Approach	Procedure	ICD-10-PCS
02730Z6	Dilation of Coronary Artery, Four or More Arteries, Bifurcation, Open Approach	Procedure	ICD-10-PCS
02730ZZ	Dilation of Coronary Artery, Four or More Arteries, Open Approach	Procedure	ICD-10-PCS
0273346	Dilation of Coronary Artery, Four or More Arteries, Bifurcation, with Drug-eluting Intraluminal Device, Percutaneous Approach	Procedure	ICD-10-PCS
027334Z	Dilation of Coronary Artery, Four or More Arteries with Drug-eluting Intraluminal Device, Percutaneous Approach	Procedure	ICD-10-PCS
0273356	Dilation of Coronary Artery, Four or More Arteries, Bifurcation, with Two Drug-eluting Intraluminal Devices, Percutaneous Approach	Procedure	ICD-10-PCS
027335Z	Dilation of Coronary Artery, Four or More Arteries with Two Drug-eluting Intraluminal Devices, Percutaneous Approach	Procedure	ICD-10-PCS

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
0273366	Dilation of Coronary Artery, Four or More Arteries, Bifurcation, with Three Drug-eluting Intraluminal Devices, Percutaneous Approach	Procedure	ICD-10-PCS
027336Z	Dilation of Coronary Artery, Four or More Arteries with Three Drug-eluting Intraluminal Devices, Percutaneous Approach	Procedure	ICD-10-PCS
0273376	Dilation of Coronary Artery, Four or More Arteries, Bifurcation, with Four or More Drug-eluting Intraluminal Devices, Percutaneous Approach	Procedure	ICD-10-PCS
027337Z	Dilation of Coronary Artery, Four or More Arteries with Four or More Drug-eluting Intraluminal Devices, Percutaneous Approach	Procedure	ICD-10-PCS
02733D6	Dilation of Coronary Artery, Four or More Arteries, Bifurcation, with Intraluminal Device, Percutaneous Approach	Procedure	ICD-10-PCS
02733DZ	Dilation of Coronary Artery, Four or More Arteries with Intraluminal Device, Percutaneous Approach	Procedure	ICD-10-PCS
02733E6	Dilation of Coronary Artery, Four or More Arteries, Bifurcation, with Two Intraluminal Devices, Percutaneous Approach	Procedure	ICD-10-PCS
02733EZ	Dilation of Coronary Artery, Four or More Arteries with Two Intraluminal Devices, Percutaneous Approach	Procedure	ICD-10-PCS
02733F6	Dilation of Coronary Artery, Four or More Arteries, Bifurcation, with Three Intraluminal Devices, Percutaneous Approach	Procedure	ICD-10-PCS
02733FZ	Dilation of Coronary Artery, Four or More Arteries with Three Intraluminal Devices, Percutaneous Approach	Procedure	ICD-10-PCS
02733G6	Dilation of Coronary Artery, Four or More Arteries, Bifurcation, with Four or More Intraluminal Devices, Percutaneous Approach	Procedure	ICD-10-PCS
02733GZ	Dilation of Coronary Artery, Four or More Arteries with Four or More Intraluminal Devices, Percutaneous Approach	Procedure	ICD-10-PCS
02733T6	Dilation of Coronary Artery, Four or More Arteries, Bifurcation, with Radioactive Intraluminal Device, Percutaneous Approach	Procedure	ICD-10-PCS
02733TZ	Dilation of Coronary Artery, Four or More Arteries with Radioactive Intraluminal Device, Percutaneous Approach	Procedure	ICD-10-PCS
02733Z6	Dilation of Coronary Artery, Four or More Arteries, Bifurcation, Percutaneous Approach	Procedure	ICD-10-PCS
02733ZZ	Dilation of Coronary Artery, Four or More Arteries, Percutaneous Approach	Procedure	ICD-10-PCS
0273446	Dilation of Coronary Artery, Four or More Arteries, Bifurcation, with Drug-eluting Intraluminal Device, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
027344Z	Dilation of Coronary Artery, Four or More Arteries with Drug-eluting Intraluminal Device, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0273456	Dilation of Coronary Artery, Four or More Arteries, Bifurcation, with Two Drug-eluting Intraluminal Devices, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
027345Z	Dilation of Coronary Artery, Four or More Arteries with Two Drug-eluting Intraluminal Devices, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0273466	Dilation of Coronary Artery, Four or More Arteries, Bifurcation, with Three Drug-eluting Intraluminal Devices, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
027346Z	Dilation of Coronary Artery, Four or More Arteries with Three Drug-eluting Intraluminal Devices, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0273476	Dilation of Coronary Artery, Four or More Arteries, Bifurcation, with Four or More Drug-eluting Intraluminal Devices, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
027347Z	Dilation of Coronary Artery, Four or More Arteries with Four or More Drug-eluting Intraluminal Devices, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02734D6	Dilation of Coronary Artery, Four or More Arteries, Bifurcation, with Intraluminal Device, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
02734DZ	Dilation of Coronary Artery, Four or More Arteries with Intraluminal Device, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02734E6	Dilation of Coronary Artery, Four or More Arteries, Bifurcation, with Two Intraluminal Devices, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02734EZ	Dilation of Coronary Artery, Four or More Arteries with Two Intraluminal Devices, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02734F6	Dilation of Coronary Artery, Four or More Arteries, Bifurcation, with Three Intraluminal Devices, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02734FZ	Dilation of Coronary Artery, Four or More Arteries with Three Intraluminal Devices, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02734G6	Dilation of Coronary Artery, Four or More Arteries, Bifurcation, with Four or More Intraluminal Devices, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02734GZ	Dilation of Coronary Artery, Four or More Arteries with Four or More Intraluminal Devices, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02734T6	Dilation of Coronary Artery, Four or More Arteries, Bifurcation, with Radioactive Intraluminal Device, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02734TZ	Dilation of Coronary Artery, Four or More Arteries with Radioactive Intraluminal Device, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02734Z6	Dilation of Coronary Artery, Four or More Arteries, Bifurcation, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02734ZZ	Dilation of Coronary Artery, Four or More Arteries, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02C00Z6	Extirpation of Matter from Coronary Artery, One Artery, Bifurcation, Open Approach	Procedure	ICD-10-PCS
02C00ZZ	Extirpation of Matter from Coronary Artery, One Artery, Open Approach	Procedure	ICD-10-PCS
02C03Z6	Extirpation of Matter from Coronary Artery, One Artery, Bifurcation, Percutaneous	Procedure	ICD-10-PCS
02C03ZZ	Extirpation of Matter from Coronary Artery, One Artery, Percutaneous Approach	Procedure	ICD-10-PCS
02C04Z6	Extirpation of Matter from Coronary Artery, One Artery, Bifurcation, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02C04ZZ	Extirpation of Matter from Coronary Artery, One Artery, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02C10Z6	Extirpation of Matter from Coronary Artery, Two Arteries, Bifurcation, Open Approach	Procedure	ICD-10-PCS
02C10ZZ	Extirpation of Matter from Coronary Artery, Two Arteries, Open Approach	Procedure	ICD-10-PCS
02C13Z6	Extirpation of Matter from Coronary Artery, Two Arteries, Bifurcation, Percutaneous Approach	Procedure	ICD-10-PCS
02C13ZZ	Extirpation of Matter from Coronary Artery, Two Arteries, Percutaneous Approach	Procedure	ICD-10-PCS
02C14Z6	Extirpation of Matter from Coronary Artery, Two Arteries, Bifurcation, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02C14ZZ	Extirpation of Matter from Coronary Artery, Two Arteries, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02C20Z6	Extirpation of Matter from Coronary Artery, Three Arteries, Bifurcation, Open Approach	Procedure	ICD-10-PCS
02C20ZZ	Extirpation of Matter from Coronary Artery, Three Arteries, Open Approach	Procedure	ICD-10-PCS
02C23Z6	Extirpation of Matter from Coronary Artery, Three Arteries, Bifurcation, Percutaneous Approach	Procedure	ICD-10-PCS
02C23ZZ	Extirpation of Matter from Coronary Artery, Three Arteries, Percutaneous Approach	Procedure	ICD-10-PCS
02C24Z6	Extirpation of Matter from Coronary Artery, Three Arteries, Bifurcation, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02C24ZZ	Extirpation of Matter from Coronary Artery, Three Arteries, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02C30Z6	Extirpation of Matter from Coronary Artery, Four or More Arteries, Bifurcation, Open Approach	Procedure	ICD-10-PCS

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
02C30ZZ	Extirpation of Matter from Coronary Artery, Four or More Arteries, Open Approach	Procedure	ICD-10-PCS
02C33Z6	Extirpation of Matter from Coronary Artery, Four or More Arteries, Bifurcation, Percutaneous Approach	Procedure	ICD-10-PCS
02C33ZZ	Extirpation of Matter from Coronary Artery, Four or More Arteries, Percutaneous Approach	Procedure	ICD-10-PCS
02C34Z6	Extirpation of Matter from Coronary Artery, Four or More Arteries, Bifurcation, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02C34ZZ	Extirpation of Matter from Coronary Artery, Four or More Arteries, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02QA0ZZ	Repair Heart, Open Approach	Procedure	ICD-10-PCS
02QA3ZZ	Repair Heart, Percutaneous Approach	Procedure	ICD-10-PCS
02QA4ZZ	Repair Heart, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02QB0ZZ	Repair Right Heart, Open Approach	Procedure	ICD-10-PCS
02QB3ZZ	Repair Right Heart, Percutaneous Approach	Procedure	ICD-10-PCS
02QB4ZZ	Repair Right Heart, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
02QC0ZZ	Repair Left Heart, Open Approach	Procedure	ICD-10-PCS
02QC3ZZ	Repair Left Heart, Percutaneous Approach	Procedure	ICD-10-PCS
02QC4ZZ	Repair Left Heart, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
3E07017	Introduction of Other Thrombolytic into Coronary Artery, Open Approach	Procedure	ICD-10-PCS
3E070PZ	Introduction of Platelet Inhibitor into Coronary Artery, Open Approach	Procedure	ICD-10-PCS
3E07317	Introduction of Other Thrombolytic into Coronary Artery, Percutaneous Approach	Procedure	ICD-10-PCS
3E073PZ	Introduction of Platelet Inhibitor into Coronary Artery, Percutaneous Approach	Procedure	ICD-10-PCS
00567	Anesthesia for direct coronary artery bypass grafting; with pump oxygenator	Procedure	ICD-10-PCS
35600	Harvest of upper extremity artery, 1 segment, for coronary artery bypass procedure (List separately in addition to code for primary procedure)	Procedure	ICD-10-PCS
93455	Catheter placement in coronary artery(s) for coronary angiography, including intraprocedural injection(s) for coronary angiography, imaging supervision and interpretation; with catheter placement(s) in bypass graft(s) (internal mammary, free arterial, venous grafts) including intraprocedural injection(s) for bypass graft angiography	Procedure	ICD-10-PCS
93457	Catheter placement in coronary artery(s) for coronary angiography, including intraprocedural injection(s) for coronary angiography, imaging supervision and interpretation; with catheter placement(s) in bypass graft(s) (internal mammary, free arterial, venous grafts) including intraprocedural injection(s) for bypass graft angiography and right heart catheterization	Procedure	ICD-10-PCS
93459	Catheter placement in coronary artery(s) for coronary angiography, including intraprocedural injection(s) for coronary angiography, imaging supervision and interpretation; with left heart catheterization including intraprocedural injection(s) for left ventriculography, when performed, catheter placement(s) in bypass graft(s) (internal mammary, free arterial, venous grafts) with bypass graft angiography	Procedure	ICD-10-PCS
93461	Catheter placement in coronary artery(s) for coronary angiography, including intraprocedural injection(s) for coronary angiography, imaging supervision and interpretation; with right and left heart catheterization including intraprocedural injection(s) for left ventriculography, when performed, catheter placement(s) in bypass graft(s) (internal mammary, free arterial, venous grafts) with bypass graft angiography	Procedure	ICD-10-PCS
93508	Catheter placement in coronary artery(s), arterial coronary conduit(s), and/or venous coronary bypass graft(s) for coronary angiography without concomitant left heart catheterization	Procedure	ICD-10-PCS

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
93556	Imaging supervision, interpretation and report for injection procedure(s) during cardiac catheterization; pulmonary angiography, aortography, and/or selective coronary angiography including venous bypass grafts and arterial conduits (whether native or used in bypass)	Procedure	ICD-10-PCS
	Heart failure		
402.01	Malignant hypertensive heart disease with heart failure	Diagnosis	ICD-9-CM
402.11	Benign hypertensive heart disease with heart failure	Diagnosis	ICD-9-CM
402.91	Hypertensive heart disease, unspecified, with heart failure	Diagnosis	ICD-9-CM
404.01	Hypertensive heart and chronic kidney disease, malignant, with heart failure and with chronic kidney disease stage I through stage IV, or unspecified	Diagnosis	ICD-9-CM
404.03	Hypertensive heart and chronic kidney disease, malignant, with heart failure and with chronic kidney disease stage V or end stage renal disease	Diagnosis	ICD-9-CM
404.11	Hypertensive heart and chronic kidney disease, benign, with heart failure and with chronic kidney disease stage I through stage IV, or unspecified	Diagnosis	ICD-9-CM
404.13	Hypertensive heart and chronic kidney disease, benign, with heart failure and chronic kidney disease stage V or end stage renal disease	Diagnosis	ICD-9-CM
404.91	Hypertensive heart and chronic kidney disease, unspecified, with heart failure and with chronic kidney disease stage I through stage IV, or unspecified	Diagnosis	ICD-9-CM
404.93	Hypertensive heart and chronic kidney disease, unspecified, with heart failure and chronic kidney disease stage V or end stage renal disease	Diagnosis	ICD-9-CM
428	Heart failure	Diagnosis	ICD-9-CM
428.0	Congestive heart failure, unspecified	Diagnosis	ICD-9-CM
428.1	Left heart failure	Diagnosis	ICD-9-CM
428.2	Systolic heart failure	Diagnosis	ICD-9-CM
428.20	Unspecified systolic heart failure	Diagnosis	ICD-9-CM
428.21	Acute systolic heart failure	Diagnosis	ICD-9-CM
428.22	Chronic systolic heart failure	Diagnosis	ICD-9-CM
428.23	Acute on chronic systolic heart failure	Diagnosis	ICD-9-CM
428.3	Diastolic heart failure	Diagnosis	ICD-9-CM
428.30	Unspecified diastolic heart failure	Diagnosis	ICD-9-CM
428.31	Acute diastolic heart failure	Diagnosis	ICD-9-CM
428.32	Chronic diastolic heart failure	Diagnosis	ICD-9-CM
428.33	Acute on chronic diastolic heart failure	Diagnosis	ICD-9-CM
428.4	Combined systolic and diastolic heart failure	Diagnosis	ICD-9-CM
428.40	Unspecified combined systolic and diastolic heart failure	Diagnosis	ICD-9-CM
428.41	Acute combined systolic and diastolic heart failure	Diagnosis	ICD-9-CM
428.42	Chronic combined systolic and diastolic heart failure	Diagnosis	ICD-9-CM
428.43	Acute on chronic combined systolic and diastolic heart failure	Diagnosis	ICD-9-CM
428.9	Unspecified heart failure	Diagnosis	ICD-9-CM
37.66	Insertion of implantable heart assist system	Procedure	ICD-9-CM
33980	Removal of ventricular assist device, implantable intracorporeal, single ventricle	Procedure	CPT-4
92970	Cardioassist-method of circulatory assist; internal	Procedure	CPT-4
92971	Cardioassist-method of circulatory assist; external	Procedure	CPT-4
G8027	Heart failure patient with left ventricular systolic dysfunction (LVSD) documented to be on either angiotensin-converting enzyme-inhibitor or angiotensin-receptor blocker (ACE-1 or ARB) therapy	Procedure	HCPCS

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
G8028	Heart failure patient with left ventricular systolic dysfunction (LVSD) not documented to be on either angiotensin-converting enzyme-inhibitor or angiotensin-receptor blocker (ACE-1 or ARB) therapy	Procedure	HCPCS
G8029	Clinician documented that heart failure patient was not an eligible candidate for either angiotensin-converting enzyme-inhibitor or angiotensin-receptor blocker (ACE-1 or ARB) therapy measure	Procedure	HCPCS
G8030	Heart failure patient with left ventricular systolic dysfunction (LVSD) documented to be on beta-blocker therapy	Procedure	HCPCS
G8031	Heart failure patient with left ventricular systolic dysfunction (LVSD) not documented to be on beta-blocker therapy	Procedure	HCPCS
G8032	Clinician documented that heart failure patient was not eligible candidate for beta-blocker therapy measure	Procedure	HCPCS
G8184	Clinician documented that patient with heart failure and atrial fibrillation was not an eligible candidate for warfarin therapy measure	Procedure	HCPCS
I11.0	Hypertensive heart disease with heart failure	Diagnosis	ICD-10-CM
I13.0	Hypertensive heart and chronic kidney disease with heart failure and stage 1 through stage 4 chronic kidney disease, or unspecified chronic kidney disease	Diagnosis	ICD-10-CM
I13.2	Hypertensive heart and chronic kidney disease with heart failure and with stage 5 chronic kidney disease, or end stage renal disease	Diagnosis	ICD-10-CM
I50.1	Left ventricular failure, unspecified	Diagnosis	ICD-10-CM
I50.20	Unspecified systolic (congestive) heart failure	Diagnosis	ICD-10-CM
I50.21	Acute systolic (congestive) heart failure	Diagnosis	ICD-10-CM
I50.22	Chronic systolic (congestive) heart failure	Diagnosis	ICD-10-CM
I50.23	Acute on chronic systolic (congestive) heart failure	Diagnosis	ICD-10-CM
I50.30	Unspecified diastolic (congestive) heart failure	Diagnosis	ICD-10-CM
I50.31	Acute diastolic (congestive) heart failure	Diagnosis	ICD-10-CM
I50.32	Chronic diastolic (congestive) heart failure	Diagnosis	ICD-10-CM
I50.33	Acute on chronic diastolic (congestive) heart failure	Diagnosis	ICD-10-CM
I50.40	Unspecified combined systolic (congestive) and diastolic (congestive) heart failure	Diagnosis	ICD-10-CM
I50.41	Acute combined systolic (congestive) and diastolic (congestive) heart failure	Diagnosis	ICD-10-CM
I50.42	Chronic combined systolic (congestive) and diastolic (congestive) heart failure	Diagnosis	ICD-10-CM
I50.43	Acute on chronic combined systolic (congestive) and diastolic (congestive) heart failure	Diagnosis	ICD-10-CM
I50.810	Right heart failure, unspecified	Diagnosis	ICD-10-CM
I50.811	Acute right heart failure	Diagnosis	ICD-10-CM
I50.812	Chronic right heart failure	Diagnosis	ICD-10-CM
I50.813	Acute on chronic right heart failure	Diagnosis	ICD-10-CM
I50.814	Right heart failure due to left heart failure	Diagnosis	ICD-10-CM
I50.82	Biventricular heart failure	Diagnosis	ICD-10-CM
I50.83	High output heart failure	Diagnosis	ICD-10-CM
I50.84	End stage heart failure	Diagnosis	ICD-10-CM
I50.89	Other heart failure	Diagnosis	ICD-10-CM
I50.9	Heart failure, unspecified	Diagnosis	ICD-10-CM
02HA0QZ	Insertion of Implantable Heart Assist System into Heart, Open Approach	Procedure	ICD-10-PCS
02HA3QZ	Insertion of Implantable Heart Assist System into Heart, Percutaneous Approach	Procedure	ICD-10-PCS
02HA4QZ	Insertion of Implantable Heart Assist System into Heart, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
G8183	Patient with heart failure and atrial fibrillation documented to be on warfarin therapy	Procedure	HCPCS

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
G8184	Clinician documented that patient with heart failure and atrial fibrillation was not an eligible candidate for warfarin therapy measure	Procedure	HCPCS
402.01	Malignant hypertensive heart disease with heart failure	Diagnosis	ICD-9-CM
402.11	Benign hypertensive heart disease with heart failure	Diagnosis	ICD-9-CM
402.91	Hypertensive heart disease, unspecified, with heart failure	Diagnosis	ICD-9-CM
404.01	Hypertensive heart and chronic kidney disease, malignant, with heart failure and with chronic kidney disease stage I through stage IV, or unspecified	Diagnosis	ICD-9-CM
404.03	Hypertensive heart and chronic kidney disease, malignant, with heart failure and with chronic kidney disease stage V or end stage renal disease	Diagnosis	ICD-9-CM
404.11	Hypertensive heart and chronic kidney disease, benign, with heart failure and with chronic kidney disease stage I through stage IV, or unspecified	Diagnosis	ICD-9-CM
404.13	Hypertensive heart and chronic kidney disease, benign, with heart failure and chronic kidney disease stage V or end stage renal disease	Diagnosis	ICD-9-CM
404.91	Hypertensive heart and chronic kidney disease, unspecified, with heart failure and with chronic kidney disease stage I through stage IV, or unspecified	Diagnosis	ICD-9-CM
404.93	Hypertensive heart and chronic kidney disease, unspecified, with heart failure and chronic kidney disease stage V or end stage renal disease	Diagnosis	ICD-9-CM
428	Heart failure	Diagnosis	ICD-9-CM
428.0	Congestive heart failure, unspecified	Diagnosis	ICD-9-CM
428.1	Left heart failure	Diagnosis	ICD-9-CM
428.2	Systolic heart failure	Diagnosis	ICD-9-CM
428.20	Unspecified systolic heart failure	Diagnosis	ICD-9-CM
428.21	Acute systolic heart failure	Diagnosis	ICD-9-CM
428.22	Chronic systolic heart failure	Diagnosis	ICD-9-CM
428.23	Acute on chronic systolic heart failure	Diagnosis	ICD-9-CM
428.3	Diastolic heart failure	Diagnosis	ICD-9-CM
428.30	Unspecified diastolic heart failure	Diagnosis	ICD-9-CM
428.31	Acute diastolic heart failure	Diagnosis	ICD-9-CM
428.32	Chronic diastolic heart failure	Diagnosis	ICD-9-CM
428.33	Acute on chronic diastolic heart failure	Diagnosis	ICD-9-CM
428.4	Combined systolic and diastolic heart failure	Diagnosis	ICD-9-CM
428.40	Unspecified combined systolic and diastolic heart failure	Diagnosis	ICD-9-CM
428.41	Acute combined systolic and diastolic heart failure	Diagnosis	ICD-9-CM
428.42	Chronic combined systolic and diastolic heart failure	Diagnosis	ICD-9-CM
428.43	Acute on chronic combined systolic and diastolic heart failure	Diagnosis	ICD-9-CM
428.9	Unspecified heart failure	Diagnosis	ICD-9-CM
37.66	Insertion of implantable heart assist system	Procedure	ICD-9-CM
33980	Removal of ventricular assist device, implantable intracorporeal, single ventricle	Procedure	CPT-4
92970	Cardioassist-method of circulatory assist; internal	Procedure	CPT-4
92971	Cardioassist-method of circulatory assist; external	Procedure	CPT-4
G8027	Heart failure patient with left ventricular systolic dysfunction (LVSD) documented to be on either angiotensin-converting enzyme-inhibitor or angiotensin-receptor blocker (ACE-1 or ARB) therapy	Procedure	HCPCS
G8028	Heart failure patient with left ventricular systolic dysfunction (LVSD) not documented to be on either angiotensin-converting enzyme-inhibitor or angiotensin-receptor blocker (ACE-1 or ARB) therapy	Procedure	HCPCS

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
G8029	Clinician documented that heart failure patient was not an eligible candidate for either angiotensin-converting enzyme-inhibitor or angiotensin-receptor blocker (ACE-1 or ARB) therapy measure	Procedure	HCPCS
G8030	Heart failure patient with left ventricular systolic dysfunction (LVSD) documented to be on beta-blocker therapy	Procedure	HCPCS
G8031	Heart failure patient with left ventricular systolic dysfunction (LVSD) not documented to be on beta-blocker therapy	Procedure	HCPCS
G8032	Clinician documented that heart failure patient was not eligible candidate for beta-blocker therapy measure	Procedure	HCPCS
G8184	Clinician documented that patient with heart failure and atrial fibrillation was not an eligible candidate for warfarin therapy measure	Procedure	HCPCS
I11.0	Hypertensive heart disease with heart failure	Diagnosis	ICD-10-CM
I13.0	Hypertensive heart and chronic kidney disease with heart failure and stage 1 through stage 4 chronic kidney disease, or unspecified chronic kidney disease	Diagnosis	ICD-10-CM
I13.2	Hypertensive heart and chronic kidney disease with heart failure and with stage 5 chronic kidney disease, or end stage renal disease	Diagnosis	ICD-10-CM
I50.1	Left ventricular failure, unspecified	Diagnosis	ICD-10-CM
I50.20	Unspecified systolic (congestive) heart failure	Diagnosis	ICD-10-CM
I50.21	Acute systolic (congestive) heart failure	Diagnosis	ICD-10-CM
I50.22	Chronic systolic (congestive) heart failure	Diagnosis	ICD-10-CM
I50.23	Acute on chronic systolic (congestive) heart failure	Diagnosis	ICD-10-CM
I50.30	Unspecified diastolic (congestive) heart failure	Diagnosis	ICD-10-CM
I50.31	Acute diastolic (congestive) heart failure	Diagnosis	ICD-10-CM
I50.32	Chronic diastolic (congestive) heart failure	Diagnosis	ICD-10-CM
I50.33	Acute on chronic diastolic (congestive) heart failure	Diagnosis	ICD-10-CM
I50.40	Unspecified combined systolic (congestive) and diastolic (congestive) heart failure	Diagnosis	ICD-10-CM
I50.41	Acute combined systolic (congestive) and diastolic (congestive) heart failure	Diagnosis	ICD-10-CM
I50.42	Chronic combined systolic (congestive) and diastolic (congestive) heart failure	Diagnosis	ICD-10-CM
I50.43	Acute on chronic combined systolic (congestive) and diastolic (congestive) heart failure	Diagnosis	ICD-10-CM
I50.810	Right heart failure, unspecified	Diagnosis	ICD-10-CM
I50.811	Acute right heart failure	Diagnosis	ICD-10-CM
I50.812	Chronic right heart failure	Diagnosis	ICD-10-CM
I50.813	Acute on chronic right heart failure	Diagnosis	ICD-10-CM
I50.814	Right heart failure due to left heart failure	Diagnosis	ICD-10-CM
I50.82	Biventricular heart failure	Diagnosis	ICD-10-CM
I50.83	High output heart failure	Diagnosis	ICD-10-CM
I50.84	End stage heart failure	Diagnosis	ICD-10-CM
I50.89	Other heart failure	Diagnosis	ICD-10-CM
I50.9	Heart failure, unspecified	Diagnosis	ICD-10-CM
02HA0QZ	Insertion of Implantable Heart Assist System into Heart, Open Approach	Procedure	ICD-10-PCS
02HA3QZ	Insertion of Implantable Heart Assist System into Heart, Percutaneous Approach	Procedure	ICD-10-PCS
02HA4QZ	Insertion of Implantable Heart Assist System into Heart, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
G8183	Patient with heart failure and atrial fibrillation documented to be on warfarin therapy	Procedure	HCPCS
G8184	Clinician documented that patient with heart failure and atrial fibrillation was not an eligible candidate for warfarin therapy measure	Procedure	HCPCS
G8681	Patient hospitalized with principal diagnosis of heart failure during the measurement period	Procedure	HCPCS

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
	Other ischemic heart disease		
411	Other acute and subacute forms of ischemic heart disease	Diagnosis	ICD-9-CM
411.0	Postmyocardial infarction syndrome	Diagnosis	ICD-9-CM
411.1	Intermediate coronary syndrome	Diagnosis	ICD-9-CM
411.8	Other acute and subacute forms of ischemic heart disease	Diagnosis	ICD-9-CM
411.81	Acute coronary occlusion without myocardial infarction	Diagnosis	ICD-9-CM
411.89	Other acute and subacute form of ischemic heart disease	Diagnosis	ICD-9-CM
413	Angina pectoris	Diagnosis	ICD-9-CM
413.0	Angina decubitus	Diagnosis	ICD-9-CM
413.1	Prinzmetal angina	Diagnosis	ICD-9-CM
413.9	Other and unspecified angina pectoris	Diagnosis	ICD-9-CM
414	Other forms of chronic ischemic heart disease	Diagnosis	ICD-9-CM
414.0	Coronary atherosclerosis	Diagnosis	ICD-9-CM
414.00	Coronary atherosclerosis of unspecified type of vessel, native or graft	Diagnosis	ICD-9-CM
414.01	Coronary atherosclerosis of native coronary artery	Diagnosis	ICD-9-CM
414.02	Coronary atherosclerosis of autologous vein bypass graft	Diagnosis	ICD-9-CM
414.03	Coronary atherosclerosis of nonautologous biological bypass graft	Diagnosis	ICD-9-CM
414.04	Coronary atherosclerosis of artery bypass graft	Diagnosis	ICD-9-CM
414.05	Coronary atherosclerosis of unspecified type of bypass graft	Diagnosis	ICD-9-CM
414.06	Coronary atherosclerosis, of native coronary artery of transplanted heart	Diagnosis	ICD-9-CM
414.07	Coronary atherosclerosis, of bypass graft (artery) (vein) of transplanted heart	Diagnosis	ICD-9-CM
414.1	Aneurysm and dissection of heart	Diagnosis	ICD-9-CM
414.10	Aneurysm of heart	Diagnosis	ICD-9-CM
414.11	Aneurysm of coronary vessels	Diagnosis	ICD-9-CM
414.12	Dissection of coronary artery	Diagnosis	ICD-9-CM
414.19	Other aneurysm of heart	Diagnosis	ICD-9-CM
414.2	Chronic total occlusion of coronary artery	Diagnosis	ICD-9-CM
414.3	Coronary atherosclerosis due to lipid rich plaque	Diagnosis	ICD-9-CM
414.4	Coronary atherosclerosis due to calcified coronary lesion	Diagnosis	ICD-9-CM
414.8	Other specified forms of chronic ischemic heart disease	Diagnosis	ICD-9-CM
414.9	Unspecified chronic ischemic heart disease	Diagnosis	ICD-9-CM
429.2	Unspecified cardiovascular disease	Diagnosis	ICD-9-CM
429.5	Rupture of chordae tendineae	Diagnosis	ICD-9-CM
429.6	Rupture of papillary muscle	Diagnosis	ICD-9-CM
429.7	Certain sequelae of myocardial infarction, not elsewhere classified	Diagnosis	ICD-9-CM
429.71	Acquired cardiac septal defect	Diagnosis	ICD-9-CM
429.79	Other certain sequelae of myocardial infarction, not elsewhere classified	Diagnosis	ICD-9-CM
429.9	Unspecified heart disease	Diagnosis	ICD-9-CM
G8033	Prior myocardial infarction, coronary artery disease patient documented to be on beta-blocker therapy	Procedure	HCPCS
G8034	Prior myocardial infarction, coronary artery disease patient not documented to be on beta-blocker therapy	Procedure	HCPCS
G8035	Clinician documented that prior myocardial infarction, coronary artery disease patient was not eligible candidate for beta-blocker therapy measure	Procedure	HCPCS
G8036	Coronary artery disease patient documented to be on antiplatelet therapy	Procedure	HCPCS
G8037	Coronary artery disease patient not documented to be on antiplatelet therapy	Procedure	HCPCS
G8038	Clinician documented that coronary artery disease patient was not eligible candidate for antiplatelet therapy measure	Procedure	HCPCS

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
G8039	Coronary artery disease patient with low-density lipoprotein documented to be greater than 100 mg/dl	Procedure	HCPCS
G8040	Coronary artery disease patient with low-density lipoprotein documented to be less than or equal to 100 mg/dl	Procedure	HCPCS
G8041	Clinician documented that coronary artery disease patient was not eligible candidate for low-density lipoprotein measure	Procedure	HCPCS
I20.0	Unstable angina	Diagnosis	ICD-10-CM
I20.1	Angina pectoris with documented spasm	Diagnosis	ICD-10-CM
I20.8	Other forms of angina pectoris	Diagnosis	ICD-10-CM
I20.9	Angina pectoris, unspecified	Diagnosis	ICD-10-CM
I23.0	Hemopericardium as current complication following acute myocardial infarction	Diagnosis	ICD-10-CM
I23.1	Atrial septal defect as current complication following acute myocardial infarction	Diagnosis	ICD-10-CM
I23.2	Ventricular septal defect as current complication following acute myocardial infarction	Diagnosis	ICD-10-CM
I23.3	Rupture of cardiac wall without hemopericardium as current complication following acute myocardial infarction	Diagnosis	ICD-10-CM
I23.4	Rupture of chordae tendineae as current complication following acute myocardial infarction	Diagnosis	ICD-10-CM
I23.5	Rupture of papillary muscle as current complication following acute myocardial infarction	Diagnosis	ICD-10-CM
I23.6	Thrombosis of atrium, auricular appendage, and ventricle as current complications following acute myocardial infarction	Diagnosis	ICD-10-CM
I23.7	Postinfarction angina	Diagnosis	ICD-10-CM
I23.8	Other current complications following acute myocardial infarction	Diagnosis	ICD-10-CM
I24.0	Acute coronary thrombosis not resulting in myocardial infarction	Diagnosis	ICD-10-CM
I24.1	Dressler's syndrome	Diagnosis	ICD-10-CM
I24.8	Other forms of acute ischemic heart disease	Diagnosis	ICD-10-CM
I24.9	Acute ischemic heart disease, unspecified	Diagnosis	ICD-10-CM
I25.10	Atherosclerotic heart disease of native coronary artery without angina pectoris	Diagnosis	ICD-10-CM
I25.110	Atherosclerotic heart disease of native coronary artery with unstable angina pectoris	Diagnosis	ICD-10-CM
I25.111	Atherosclerotic heart disease of native coronary artery with angina pectoris with documented spasm	Diagnosis	ICD-10-CM
I25.118	Atherosclerotic heart disease of native coronary artery with other forms of angina pectoris	Diagnosis	ICD-10-CM
I25.119	Atherosclerotic heart disease of native coronary artery with unspecified angina pectoris	Diagnosis	ICD-10-CM
I25.3	Aneurysm of heart	Diagnosis	ICD-10-CM
I25.41	Coronary artery aneurysm	Diagnosis	ICD-10-CM
I25.42	Coronary artery dissection	Diagnosis	ICD-10-CM
I25.5	Ischemic cardiomyopathy	Diagnosis	ICD-10-CM
I25.6	Silent myocardial ischemia	Diagnosis	ICD-10-CM
I25.700	Atherosclerosis of coronary artery bypass graft(s), unspecified, with unstable angina pectoris	Diagnosis	ICD-10-CM
I25.701	Atherosclerosis of coronary artery bypass graft(s), unspecified, with angina pectoris with documented spasm	Diagnosis	ICD-10-CM
I25.708	Atherosclerosis of coronary artery bypass graft(s), unspecified, with other forms of angina pectoris	Diagnosis	ICD-10-CM
I25.709	Atherosclerosis of coronary artery bypass graft(s), unspecified, with unspecified angina pectoris	Diagnosis	ICD-10-CM
I25.710	Atherosclerosis of autologous vein coronary artery bypass graft(s) with unstable angina pectoris	Diagnosis	ICD-10-CM

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
I25.711	Atherosclerosis of autologous vein coronary artery bypass graft(s) with angina pectoris with documented spasm	Diagnosis	ICD-10-CM
I25.718	Atherosclerosis of autologous vein coronary artery bypass graft(s) with other forms of angina pectoris	Diagnosis	ICD-10-CM
I25.719	Atherosclerosis of autologous vein coronary artery bypass graft(s) with unspecified angina pectoris	Diagnosis	ICD-10-CM
I25.720	Atherosclerosis of autologous artery coronary artery bypass graft(s) with unstable angina pectoris	Diagnosis	ICD-10-CM
I25.721	Atherosclerosis of autologous artery coronary artery bypass graft(s) with angina pectoris with documented spasm	Diagnosis	ICD-10-CM
I25.728	Atherosclerosis of autologous artery coronary artery bypass graft(s) with other forms of angina pectoris	Diagnosis	ICD-10-CM
I25.729	Atherosclerosis of autologous artery coronary artery bypass graft(s) with unspecified angina pectoris	Diagnosis	ICD-10-CM
I25.730	Atherosclerosis of nonautologous biological coronary artery bypass graft(s) with unstable angina pectoris	Diagnosis	ICD-10-CM
I25.731	Atherosclerosis of nonautologous biological coronary artery bypass graft(s) with angina pectoris with documented spasm	Diagnosis	ICD-10-CM
I25.738	Atherosclerosis of nonautologous biological coronary artery bypass graft(s) with other forms of angina pectoris	Diagnosis	ICD-10-CM
I25.739	Atherosclerosis of nonautologous biological coronary artery bypass graft(s) with unspecified angina pectoris	Diagnosis	ICD-10-CM
I25.750	Atherosclerosis of native coronary artery of transplanted heart with unstable angina	Diagnosis	ICD-10-CM
I25.751	Atherosclerosis of native coronary artery of transplanted heart with angina pectoris with documented spasm	Diagnosis	ICD-10-CM
I25.758	Atherosclerosis of native coronary artery of transplanted heart with other forms of angina pectoris	Diagnosis	ICD-10-CM
I25.759	Atherosclerosis of native coronary artery of transplanted heart with unspecified angina pectoris	Diagnosis	ICD-10-CM
I25.760	Atherosclerosis of bypass graft of coronary artery of transplanted heart with unstable angina	Diagnosis	ICD-10-CM
I25.761	Atherosclerosis of bypass graft of coronary artery of transplanted heart with angina pectoris with documented spasm	Diagnosis	ICD-10-CM
I25.768	Atherosclerosis of bypass graft of coronary artery of transplanted heart with other forms of angina pectoris	Diagnosis	ICD-10-CM
I25.769	Atherosclerosis of bypass graft of coronary artery of transplanted heart with unspecified angina pectoris	Diagnosis	ICD-10-CM
I25.790	Atherosclerosis of other coronary artery bypass graft(s) with unstable angina pectoris	Diagnosis	ICD-10-CM
I25.791	Atherosclerosis of other coronary artery bypass graft(s) with angina pectoris with documented spasm	Diagnosis	ICD-10-CM
I25.798	Atherosclerosis of other coronary artery bypass graft(s) with other forms of angina pectoris	Diagnosis	ICD-10-CM
I25.799	Atherosclerosis of other coronary artery bypass graft(s) with unspecified angina pectoris	Diagnosis	ICD-10-CM
I25.810	Atherosclerosis of coronary artery bypass graft(s) without angina pectoris	Diagnosis	ICD-10-CM
I25.811	Atherosclerosis of native coronary artery of transplanted heart without angina pectoris	Diagnosis	ICD-10-CM
I25.812	Atherosclerosis of bypass graft of coronary artery of transplanted heart without angina pectoris	Diagnosis	ICD-10-CM
I25.82	Chronic total occlusion of coronary artery	Diagnosis	ICD-10-CM
I25.83	Coronary atherosclerosis due to lipid rich plaque	Diagnosis	ICD-10-CM

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
I25.84	Coronary atherosclerosis due to calcified coronary lesion	Diagnosis	ICD-10-CM
I25.89	Other forms of chronic ischemic heart disease	Diagnosis	ICD-10-CM
I25.9	Chronic ischemic heart disease, unspecified	Diagnosis	ICD-10-CM
I51.0	Cardiac septal defect, acquired	Diagnosis	ICD-10-CM
I51.1	Rupture of chordae tendineae, not elsewhere classified	Diagnosis	ICD-10-CM
I51.2	Rupture of papillary muscle, not elsewhere classified	Diagnosis	ICD-10-CM
I51.9	Heart disease, unspecified	Diagnosis	ICD-10-CM
I52	Other heart disorders in diseases classified elsewhere	Diagnosis	ICD-10-CM
	Stroke		
430	Subarachnoid hemorrhage	Diagnosis	ICD-9-CM
431	Intracerebral hemorrhage	Diagnosis	ICD-9-CM
433.01	Occlusion and stenosis of basilar artery with cerebral infarction	Diagnosis	ICD-9-CM
433.11	Occlusion and stenosis of carotid artery with cerebral infarction	Diagnosis	ICD-9-CM
433.21	Occlusion and stenosis of vertebral artery with cerebral infarction	Diagnosis	ICD-9-CM
433.31	Occlusion and stenosis of multiple and bilateral precerebral arteries with cerebral infarction	Diagnosis	ICD-9-CM
433.81	Occlusion and stenosis of other specified precerebral artery with cerebral infarction	Diagnosis	ICD-9-CM
433.91	Occlusion and stenosis of unspecified precerebral artery with cerebral infarction	Diagnosis	ICD-9-CM
434.01	Cerebral thrombosis with cerebral infarction	Diagnosis	ICD-9-CM
434.11	Cerebral embolism with cerebral infarction	Diagnosis	ICD-9-CM
434.91	Unspecified cerebral artery occlusion with cerebral infarction	Diagnosis	ICD-9-CM
436	Acute, but ill-defined, cerebrovascular disease	Diagnosis	ICD-9-CM
430	Subarachnoid hemorrhage	Diagnosis	ICD-9-CM
431	Intracerebral hemorrhage	Diagnosis	ICD-9-CM
433.01	Occlusion and stenosis of basilar artery with cerebral infarction	Diagnosis	ICD-9-CM
433.11	Occlusion and stenosis of carotid artery with cerebral infarction	Diagnosis	ICD-9-CM
433.21	Occlusion and stenosis of vertebral artery with cerebral infarction	Diagnosis	ICD-9-CM
433.31	Occlusion and stenosis of multiple and bilateral precerebral arteries with cerebral infarction	Diagnosis	ICD-9-CM
433.81	Occlusion and stenosis of other specified precerebral artery with cerebral infarction	Diagnosis	ICD-9-CM
433.91	Occlusion and stenosis of unspecified precerebral artery with cerebral infarction	Diagnosis	ICD-9-CM
434.01	Cerebral thrombosis with cerebral infarction	Diagnosis	ICD-9-CM
434.11	Cerebral embolism with cerebral infarction	Diagnosis	ICD-9-CM
434.91	Unspecified cerebral artery occlusion with cerebral infarction	Diagnosis	ICD-9-CM
436	Acute, but ill-defined, cerebrovascular disease	Diagnosis	ICD-9-CM
I60.00	Nontraumatic subarachnoid hemorrhage from unspecified carotid siphon and bifurcation	Diagnosis	ICD-10-CM
I60.01	Nontraumatic subarachnoid hemorrhage from right carotid siphon and bifurcation	Diagnosis	ICD-10-CM
I60.02	Nontraumatic subarachnoid hemorrhage from left carotid siphon and bifurcation	Diagnosis	ICD-10-CM
I60.10	Nontraumatic subarachnoid hemorrhage from unspecified middle cerebral artery	Diagnosis	ICD-10-CM
I60.11	Nontraumatic subarachnoid hemorrhage from right middle cerebral artery	Diagnosis	ICD-10-CM
I60.12	Nontraumatic subarachnoid hemorrhage from left middle cerebral artery	Diagnosis	ICD-10-CM
I60.2	Nontraumatic subarachnoid hemorrhage from anterior communicating artery	Diagnosis	ICD-10-CM
I60.30	Nontraumatic subarachnoid hemorrhage from unspecified posterior communicating artery	Diagnosis	ICD-10-CM
I60.31	Nontraumatic subarachnoid hemorrhage from right posterior communicating artery	Diagnosis	ICD-10-CM
I60.32	Nontraumatic subarachnoid hemorrhage from left posterior communicating artery	Diagnosis	ICD-10-CM
I60.4	Nontraumatic subarachnoid hemorrhage from basilar artery	Diagnosis	ICD-10-CM
I60.50	Nontraumatic subarachnoid hemorrhage from unspecified vertebral artery	Diagnosis	ICD-10-CM
I60.51	Nontraumatic subarachnoid hemorrhage from right vertebral artery	Diagnosis	ICD-10-CM

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
I60.52	Nontraumatic subarachnoid hemorrhage from left vertebral artery	Diagnosis	ICD-10-CM
I60.6	Nontraumatic subarachnoid hemorrhage from other intracranial arteries	Diagnosis	ICD-10-CM
I60.7	Nontraumatic subarachnoid hemorrhage from unspecified intracranial artery	Diagnosis	ICD-10-CM
I60.8	Other nontraumatic subarachnoid hemorrhage	Diagnosis	ICD-10-CM
I60.9	Nontraumatic subarachnoid hemorrhage, unspecified	Diagnosis	ICD-10-CM
I61.0	Nontraumatic intracerebral hemorrhage in hemisphere, subcortical	Diagnosis	ICD-10-CM
I61.1	Nontraumatic intracerebral hemorrhage in hemisphere, cortical	Diagnosis	ICD-10-CM
I61.2	Nontraumatic intracerebral hemorrhage in hemisphere, unspecified	Diagnosis	ICD-10-CM
I61.3	Nontraumatic intracerebral hemorrhage in brain stem	Diagnosis	ICD-10-CM
I61.4	Nontraumatic intracerebral hemorrhage in cerebellum	Diagnosis	ICD-10-CM
I61.5	Nontraumatic intracerebral hemorrhage, intraventricular	Diagnosis	ICD-10-CM
I61.6	Nontraumatic intracerebral hemorrhage, multiple localized	Diagnosis	ICD-10-CM
I61.8	Other nontraumatic intracerebral hemorrhage	Diagnosis	ICD-10-CM
I61.9	Nontraumatic intracerebral hemorrhage, unspecified	Diagnosis	ICD-10-CM
I63.00	Cerebral infarction due to thrombosis of unspecified precerebral artery	Diagnosis	ICD-10-CM
I63.011	Cerebral infarction due to thrombosis of right vertebral artery	Diagnosis	ICD-10-CM
I63.012	Cerebral infarction due to thrombosis of left vertebral artery	Diagnosis	ICD-10-CM
I63.013	Cerebral infarction due to thrombosis of bilateral vertebral arteries	Diagnosis	ICD-10-CM
I63.019	Cerebral infarction due to thrombosis of unspecified vertebral artery	Diagnosis	ICD-10-CM
I63.02	Cerebral infarction due to thrombosis of basilar artery	Diagnosis	ICD-10-CM
I63.031	Cerebral infarction due to thrombosis of right carotid artery	Diagnosis	ICD-10-CM
I63.032	Cerebral infarction due to thrombosis of left carotid artery	Diagnosis	ICD-10-CM
I63.033	Cerebral infarction due to thrombosis of bilateral carotid arteries	Diagnosis	ICD-10-CM
I63.039	Cerebral infarction due to thrombosis of unspecified carotid artery	Diagnosis	ICD-10-CM
I63.09	Cerebral infarction due to thrombosis of other precerebral artery	Diagnosis	ICD-10-CM
I63.10	Cerebral infarction due to embolism of unspecified precerebral artery	Diagnosis	ICD-10-CM
I63.111	Cerebral infarction due to embolism of right vertebral artery	Diagnosis	ICD-10-CM
I63.112	Cerebral infarction due to embolism of left vertebral artery	Diagnosis	ICD-10-CM
I63.113	Cerebral infarction due to embolism of bilateral vertebral arteries	Diagnosis	ICD-10-CM
I63.119	Cerebral infarction due to embolism of unspecified vertebral artery	Diagnosis	ICD-10-CM
I63.12	Cerebral infarction due to embolism of basilar artery	Diagnosis	ICD-10-CM
I63.131	Cerebral infarction due to embolism of right carotid artery	Diagnosis	ICD-10-CM
I63.132	Cerebral infarction due to embolism of left carotid artery	Diagnosis	ICD-10-CM
I63.133	Cerebral infarction due to embolism of bilateral carotid arteries	Diagnosis	ICD-10-CM
I63.139	Cerebral infarction due to embolism of unspecified carotid artery	Diagnosis	ICD-10-CM
I63.19	Cerebral infarction due to embolism of other precerebral artery	Diagnosis	ICD-10-CM
I63.20	Cerebral infarction due to unspecified occlusion or stenosis of unspecified precerebral arteries	Diagnosis	ICD-10-CM
I63.211	Cerebral infarction due to unspecified occlusion or stenosis of right vertebral artery	Diagnosis	ICD-10-CM
I63.212	Cerebral infarction due to unspecified occlusion or stenosis of left vertebral artery	Diagnosis	ICD-10-CM
I63.213	Cerebral infarction due to unspecified occlusion or stenosis of bilateral vertebral arteries	Diagnosis	ICD-10-CM
I63.219	Cerebral infarction due to unspecified occlusion or stenosis of unspecified vertebral artery	Diagnosis	ICD-10-CM
I63.22	Cerebral infarction due to unspecified occlusion or stenosis of basilar artery	Diagnosis	ICD-10-CM
I63.231	Cerebral infarction due to unspecified occlusion or stenosis of right carotid arteries	Diagnosis	ICD-10-CM
I63.232	Cerebral infarction due to unspecified occlusion or stenosis of left carotid arteries	Diagnosis	ICD-10-CM
I63.233	Cerebral infarction due to unspecified occlusion or stenosis of bilateral carotid arteries	Diagnosis	ICD-10-CM
I63.239	Cerebral infarction due to unspecified occlusion or stenosis of unspecified carotid artery	Diagnosis	ICD-10-CM
I63.29	Cerebral infarction due to unspecified occlusion or stenosis of other precerebral arteries	Diagnosis	ICD-10-CM

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
I63.30	Cerebral infarction due to thrombosis of unspecified cerebral artery	Diagnosis	ICD-10-CM
I63.311	Cerebral infarction due to thrombosis of right middle cerebral artery	Diagnosis	ICD-10-CM
I63.312	Cerebral infarction due to thrombosis of left middle cerebral artery	Diagnosis	ICD-10-CM
I63.313	Cerebral infarction due to thrombosis of bilateral middle cerebral arteries	Diagnosis	ICD-10-CM
I63.319	Cerebral infarction due to thrombosis of unspecified middle cerebral artery	Diagnosis	ICD-10-CM
I63.321	Cerebral infarction due to thrombosis of right anterior cerebral artery	Diagnosis	ICD-10-CM
I63.322	Cerebral infarction due to thrombosis of left anterior cerebral artery	Diagnosis	ICD-10-CM
I63.323	Cerebral infarction due to thrombosis of bilateral anterior cerebral arteries	Diagnosis	ICD-10-CM
I63.329	Cerebral infarction due to thrombosis of unspecified anterior cerebral artery	Diagnosis	ICD-10-CM
I63.331	Cerebral infarction due to thrombosis of right posterior cerebral artery	Diagnosis	ICD-10-CM
I63.332	Cerebral infarction due to thrombosis of left posterior cerebral artery	Diagnosis	ICD-10-CM
I63.333	Cerebral infarction due to thrombosis of bilateral posterior cerebral arteries	Diagnosis	ICD-10-CM
I63.339	Cerebral infarction due to thrombosis of unspecified posterior cerebral artery	Diagnosis	ICD-10-CM
I63.341	Cerebral infarction due to thrombosis of right cerebellar artery	Diagnosis	ICD-10-CM
I63.342	Cerebral infarction due to thrombosis of left cerebellar artery	Diagnosis	ICD-10-CM
I63.343	Cerebral infarction due to thrombosis of bilateral cerebellar arteries	Diagnosis	ICD-10-CM
I63.349	Cerebral infarction due to thrombosis of unspecified cerebellar artery	Diagnosis	ICD-10-CM
I63.39	Cerebral infarction due to thrombosis of other cerebral artery	Diagnosis	ICD-10-CM
I63.40	Cerebral infarction due to embolism of unspecified cerebral artery	Diagnosis	ICD-10-CM
I63.411	Cerebral infarction due to embolism of right middle cerebral artery	Diagnosis	ICD-10-CM
I63.412	Cerebral infarction due to embolism of left middle cerebral artery	Diagnosis	ICD-10-CM
I63.413	Cerebral infarction due to embolism of bilateral middle cerebral arteries	Diagnosis	ICD-10-CM
I63.419	Cerebral infarction due to embolism of unspecified middle cerebral artery	Diagnosis	ICD-10-CM
I63.421	Cerebral infarction due to embolism of right anterior cerebral artery	Diagnosis	ICD-10-CM
I63.422	Cerebral infarction due to embolism of left anterior cerebral artery	Diagnosis	ICD-10-CM
I63.423	Cerebral infarction due to embolism of bilateral anterior cerebral arteries	Diagnosis	ICD-10-CM
I63.429	Cerebral infarction due to embolism of unspecified anterior cerebral artery	Diagnosis	ICD-10-CM
I63.431	Cerebral infarction due to embolism of right posterior cerebral artery	Diagnosis	ICD-10-CM
I63.432	Cerebral infarction due to embolism of left posterior cerebral artery	Diagnosis	ICD-10-CM
I63.433	Cerebral infarction due to embolism of bilateral posterior cerebral arteries	Diagnosis	ICD-10-CM
I63.439	Cerebral infarction due to embolism of unspecified posterior cerebral artery	Diagnosis	ICD-10-CM
I63.441	Cerebral infarction due to embolism of right cerebellar artery	Diagnosis	ICD-10-CM
I63.442	Cerebral infarction due to embolism of left cerebellar artery	Diagnosis	ICD-10-CM
I63.443	Cerebral infarction due to embolism of bilateral cerebellar arteries	Diagnosis	ICD-10-CM
I63.449	Cerebral infarction due to embolism of unspecified cerebellar artery	Diagnosis	ICD-10-CM
I63.49	Cerebral infarction due to embolism of other cerebral artery	Diagnosis	ICD-10-CM
I63.50	Cerebral infarction due to unspecified occlusion or stenosis of unspecified cerebral artery	Diagnosis	ICD-10-CM
I63.511	Cerebral infarction due to unspecified occlusion or stenosis of right middle cerebral artery	Diagnosis	ICD-10-CM
I63.512	Cerebral infarction due to unspecified occlusion or stenosis of left middle cerebral artery	Diagnosis	ICD-10-CM
I63.513	Cerebral infarction due to unspecified occlusion or stenosis of bilateral middle cerebral arteries	Diagnosis	ICD-10-CM
I63.519	Cerebral infarction due to unspecified occlusion or stenosis of unspecified middle cerebral artery	Diagnosis	ICD-10-CM
I63.521	Cerebral infarction due to unspecified occlusion or stenosis of right anterior cerebral artery	Diagnosis	ICD-10-CM
I63.522	Cerebral infarction due to unspecified occlusion or stenosis of left anterior cerebral artery	Diagnosis	ICD-10-CM

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
I63.523	Cerebral infarction due to unspecified occlusion or stenosis of bilateral anterior cerebral arteries	Diagnosis	ICD-10-CM
I63.529	Cerebral infarction due to unspecified occlusion or stenosis of unspecified anterior cerebral artery	Diagnosis	ICD-10-CM
I63.531	Cerebral infarction due to unspecified occlusion or stenosis of right posterior cerebral artery	Diagnosis	ICD-10-CM
I63.532	Cerebral infarction due to unspecified occlusion or stenosis of left posterior cerebral artery	Diagnosis	ICD-10-CM
I63.533	Cerebral infarction due to unspecified occlusion or stenosis of bilateral posterior cerebral arteries	Diagnosis	ICD-10-CM
I63.539	Cerebral infarction due to unspecified occlusion or stenosis of unspecified posterior cerebral artery	Diagnosis	ICD-10-CM
I63.541	Cerebral infarction due to unspecified occlusion or stenosis of right cerebellar artery	Diagnosis	ICD-10-CM
I63.542	Cerebral infarction due to unspecified occlusion or stenosis of left cerebellar artery	Diagnosis	ICD-10-CM
I63.543	Cerebral infarction due to unspecified occlusion or stenosis of bilateral cerebellar arteries	Diagnosis	ICD-10-CM
I63.549	Cerebral infarction due to unspecified occlusion or stenosis of unspecified cerebellar artery	Diagnosis	ICD-10-CM
I63.59	Cerebral infarction due to unspecified occlusion or stenosis of other cerebral artery	Diagnosis	ICD-10-CM
I63.6	Cerebral infarction due to cerebral venous thrombosis, nonpyogenic	Diagnosis	ICD-10-CM
I63.8	Other cerebral infarction	Diagnosis	ICD-10-CM
I63.9	Cerebral infarction, unspecified	Diagnosis	ICD-10-CM
I67.89	Other cerebrovascular disease	Diagnosis	ICD-10-CM
I60.00	Nontraumatic subarachnoid hemorrhage from unspecified carotid siphon and bifurcation	Diagnosis	ICD-10-CM
I60.01	Nontraumatic subarachnoid hemorrhage from right carotid siphon and bifurcation	Diagnosis	ICD-10-CM
I60.02	Nontraumatic subarachnoid hemorrhage from left carotid siphon and bifurcation	Diagnosis	ICD-10-CM
I60.10	Nontraumatic subarachnoid hemorrhage from unspecified middle cerebral artery	Diagnosis	ICD-10-CM
I60.11	Nontraumatic subarachnoid hemorrhage from right middle cerebral artery	Diagnosis	ICD-10-CM
I60.12	Nontraumatic subarachnoid hemorrhage from left middle cerebral artery	Diagnosis	ICD-10-CM
I60.2	Nontraumatic subarachnoid hemorrhage from anterior communicating artery	Diagnosis	ICD-10-CM
I60.30	Nontraumatic subarachnoid hemorrhage from unspecified posterior communicating artery	Diagnosis	ICD-10-CM
I60.31	Nontraumatic subarachnoid hemorrhage from right posterior communicating artery	Diagnosis	ICD-10-CM
I60.32	Nontraumatic subarachnoid hemorrhage from left posterior communicating artery	Diagnosis	ICD-10-CM
I60.4	Nontraumatic subarachnoid hemorrhage from basilar artery	Diagnosis	ICD-10-CM
I60.50	Nontraumatic subarachnoid hemorrhage from unspecified vertebral artery	Diagnosis	ICD-10-CM
I60.51	Nontraumatic subarachnoid hemorrhage from right vertebral artery	Diagnosis	ICD-10-CM
I60.52	Nontraumatic subarachnoid hemorrhage from left vertebral artery	Diagnosis	ICD-10-CM
I60.6	Nontraumatic subarachnoid hemorrhage from other intracranial arteries	Diagnosis	ICD-10-CM
I60.7	Nontraumatic subarachnoid hemorrhage from unspecified intracranial artery	Diagnosis	ICD-10-CM
I60.8	Other nontraumatic subarachnoid hemorrhage	Diagnosis	ICD-10-CM
I60.9	Nontraumatic subarachnoid hemorrhage, unspecified	Diagnosis	ICD-10-CM
I61.0	Nontraumatic intracerebral hemorrhage in hemisphere, subcortical	Diagnosis	ICD-10-CM
I61.1	Nontraumatic intracerebral hemorrhage in hemisphere, cortical	Diagnosis	ICD-10-CM
I61.2	Nontraumatic intracerebral hemorrhage in hemisphere, unspecified	Diagnosis	ICD-10-CM
I61.3	Nontraumatic intracerebral hemorrhage in brain stem	Diagnosis	ICD-10-CM
I61.4	Nontraumatic intracerebral hemorrhage in cerebellum	Diagnosis	ICD-10-CM
I61.5	Nontraumatic intracerebral hemorrhage, intraventricular	Diagnosis	ICD-10-CM
I61.6	Nontraumatic intracerebral hemorrhage, multiple localized	Diagnosis	ICD-10-CM
I61.8	Other nontraumatic intracerebral hemorrhage	Diagnosis	ICD-10-CM
I61.9	Nontraumatic intracerebral hemorrhage, unspecified	Diagnosis	ICD-10-CM

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
I63.00	Cerebral infarction due to thrombosis of unspecified precerebral artery	Diagnosis	ICD-10-CM
I63.011	Cerebral infarction due to thrombosis of right vertebral artery	Diagnosis	ICD-10-CM
I63.012	Cerebral infarction due to thrombosis of left vertebral artery	Diagnosis	ICD-10-CM
I63.013	Cerebral infarction due to thrombosis of bilateral vertebral arteries	Diagnosis	ICD-10-CM
I63.019	Cerebral infarction due to thrombosis of unspecified vertebral artery	Diagnosis	ICD-10-CM
I63.02	Cerebral infarction due to thrombosis of basilar artery	Diagnosis	ICD-10-CM
I63.031	Cerebral infarction due to thrombosis of right carotid artery	Diagnosis	ICD-10-CM
I63.032	Cerebral infarction due to thrombosis of left carotid artery	Diagnosis	ICD-10-CM
I63.033	Cerebral infarction due to thrombosis of bilateral carotid arteries	Diagnosis	ICD-10-CM
I63.039	Cerebral infarction due to thrombosis of unspecified carotid artery	Diagnosis	ICD-10-CM
I63.09	Cerebral infarction due to thrombosis of other precerebral artery	Diagnosis	ICD-10-CM
I63.10	Cerebral infarction due to embolism of unspecified precerebral artery	Diagnosis	ICD-10-CM
I63.111	Cerebral infarction due to embolism of right vertebral artery	Diagnosis	ICD-10-CM
I63.112	Cerebral infarction due to embolism of left vertebral artery	Diagnosis	ICD-10-CM
I63.113	Cerebral infarction due to embolism of bilateral vertebral arteries	Diagnosis	ICD-10-CM
I63.119	Cerebral infarction due to embolism of unspecified vertebral artery	Diagnosis	ICD-10-CM
I63.12	Cerebral infarction due to embolism of basilar artery	Diagnosis	ICD-10-CM
I63.131	Cerebral infarction due to embolism of right carotid artery	Diagnosis	ICD-10-CM
I63.132	Cerebral infarction due to embolism of left carotid artery	Diagnosis	ICD-10-CM
I63.133	Cerebral infarction due to embolism of bilateral carotid arteries	Diagnosis	ICD-10-CM
I63.139	Cerebral infarction due to embolism of unspecified carotid artery	Diagnosis	ICD-10-CM
I63.19	Cerebral infarction due to embolism of other precerebral artery	Diagnosis	ICD-10-CM
I63.20	Cerebral infarction due to unspecified occlusion or stenosis of unspecified precerebral arteries	Diagnosis	ICD-10-CM
I63.211	Cerebral infarction due to unspecified occlusion or stenosis of right vertebral artery	Diagnosis	ICD-10-CM
I63.212	Cerebral infarction due to unspecified occlusion or stenosis of left vertebral artery	Diagnosis	ICD-10-CM
I63.213	Cerebral infarction due to unspecified occlusion or stenosis of bilateral vertebral arteries	Diagnosis	ICD-10-CM
I63.219	Cerebral infarction due to unspecified occlusion or stenosis of unspecified vertebral artery	Diagnosis	ICD-10-CM
I63.22	Cerebral infarction due to unspecified occlusion or stenosis of basilar artery	Diagnosis	ICD-10-CM
I63.231	Cerebral infarction due to unspecified occlusion or stenosis of right carotid arteries	Diagnosis	ICD-10-CM
I63.232	Cerebral infarction due to unspecified occlusion or stenosis of left carotid arteries	Diagnosis	ICD-10-CM
I63.233	Cerebral infarction due to unspecified occlusion or stenosis of bilateral carotid arteries	Diagnosis	ICD-10-CM
I63.239	Cerebral infarction due to unspecified occlusion or stenosis of unspecified carotid artery	Diagnosis	ICD-10-CM
I63.29	Cerebral infarction due to unspecified occlusion or stenosis of other precerebral arteries	Diagnosis	ICD-10-CM
I63.30	Cerebral infarction due to thrombosis of unspecified cerebral artery	Diagnosis	ICD-10-CM
I63.311	Cerebral infarction due to thrombosis of right middle cerebral artery	Diagnosis	ICD-10-CM
I63.312	Cerebral infarction due to thrombosis of left middle cerebral artery	Diagnosis	ICD-10-CM
I63.313	Cerebral infarction due to thrombosis of bilateral middle cerebral arteries	Diagnosis	ICD-10-CM
I63.319	Cerebral infarction due to thrombosis of unspecified middle cerebral artery	Diagnosis	ICD-10-CM
I63.321	Cerebral infarction due to thrombosis of right anterior cerebral artery	Diagnosis	ICD-10-CM
I63.322	Cerebral infarction due to thrombosis of left anterior cerebral artery	Diagnosis	ICD-10-CM
I63.323	Cerebral infarction due to thrombosis of bilateral anterior cerebral arteries	Diagnosis	ICD-10-CM
I63.329	Cerebral infarction due to thrombosis of unspecified anterior cerebral artery	Diagnosis	ICD-10-CM
I63.331	Cerebral infarction due to thrombosis of right posterior cerebral artery	Diagnosis	ICD-10-CM
I63.332	Cerebral infarction due to thrombosis of left posterior cerebral artery	Diagnosis	ICD-10-CM
I63.333	Cerebral infarction due to thrombosis of bilateral posterior cerebral arteries	Diagnosis	ICD-10-CM
I63.339	Cerebral infarction due to thrombosis of unspecified posterior cerebral artery	Diagnosis	ICD-10-CM

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
I63.341	Cerebral infarction due to thrombosis of right cerebellar artery	Diagnosis	ICD-10-CM
I63.342	Cerebral infarction due to thrombosis of left cerebellar artery	Diagnosis	ICD-10-CM
I63.343	Cerebral infarction due to thrombosis of bilateral cerebellar arteries	Diagnosis	ICD-10-CM
I63.349	Cerebral infarction due to thrombosis of unspecified cerebellar artery	Diagnosis	ICD-10-CM
I63.39	Cerebral infarction due to thrombosis of other cerebral artery	Diagnosis	ICD-10-CM
I63.40	Cerebral infarction due to embolism of unspecified cerebral artery	Diagnosis	ICD-10-CM
I63.411	Cerebral infarction due to embolism of right middle cerebral artery	Diagnosis	ICD-10-CM
I63.412	Cerebral infarction due to embolism of left middle cerebral artery	Diagnosis	ICD-10-CM
I63.413	Cerebral infarction due to embolism of bilateral middle cerebral arteries	Diagnosis	ICD-10-CM
I63.419	Cerebral infarction due to embolism of unspecified middle cerebral artery	Diagnosis	ICD-10-CM
I63.421	Cerebral infarction due to embolism of right anterior cerebral artery	Diagnosis	ICD-10-CM
I63.422	Cerebral infarction due to embolism of left anterior cerebral artery	Diagnosis	ICD-10-CM
I63.423	Cerebral infarction due to embolism of bilateral anterior cerebral arteries	Diagnosis	ICD-10-CM
I63.429	Cerebral infarction due to embolism of unspecified anterior cerebral artery	Diagnosis	ICD-10-CM
I63.431	Cerebral infarction due to embolism of right posterior cerebral artery	Diagnosis	ICD-10-CM
I63.432	Cerebral infarction due to embolism of left posterior cerebral artery	Diagnosis	ICD-10-CM
I63.433	Cerebral infarction due to embolism of bilateral posterior cerebral arteries	Diagnosis	ICD-10-CM
I63.439	Cerebral infarction due to embolism of unspecified posterior cerebral artery	Diagnosis	ICD-10-CM
I63.441	Cerebral infarction due to embolism of right cerebellar artery	Diagnosis	ICD-10-CM
I63.442	Cerebral infarction due to embolism of left cerebellar artery	Diagnosis	ICD-10-CM
I63.443	Cerebral infarction due to embolism of bilateral cerebellar arteries	Diagnosis	ICD-10-CM
I63.449	Cerebral infarction due to embolism of unspecified cerebellar artery	Diagnosis	ICD-10-CM
I63.49	Cerebral infarction due to embolism of other cerebral artery	Diagnosis	ICD-10-CM
I63.50	Cerebral infarction due to unspecified occlusion or stenosis of unspecified cerebral artery	Diagnosis	ICD-10-CM
I63.511	Cerebral infarction due to unspecified occlusion or stenosis of right middle cerebral artery	Diagnosis	ICD-10-CM
I63.512	Cerebral infarction due to unspecified occlusion or stenosis of left middle cerebral artery	Diagnosis	ICD-10-CM
I63.513	Cerebral infarction due to unspecified occlusion or stenosis of bilateral middle cerebral arteries	Diagnosis	ICD-10-CM
I63.519	Cerebral infarction due to unspecified occlusion or stenosis of unspecified middle cerebral artery	Diagnosis	ICD-10-CM
I63.521	Cerebral infarction due to unspecified occlusion or stenosis of right anterior cerebral artery	Diagnosis	ICD-10-CM
I63.522	Cerebral infarction due to unspecified occlusion or stenosis of left anterior cerebral artery	Diagnosis	ICD-10-CM
I63.523	Cerebral infarction due to unspecified occlusion or stenosis of bilateral anterior cerebral arteries	Diagnosis	ICD-10-CM
I63.529	Cerebral infarction due to unspecified occlusion or stenosis of unspecified anterior cerebral artery	Diagnosis	ICD-10-CM
I63.531	Cerebral infarction due to unspecified occlusion or stenosis of right posterior cerebral artery	Diagnosis	ICD-10-CM
I63.532	Cerebral infarction due to unspecified occlusion or stenosis of left posterior cerebral artery	Diagnosis	ICD-10-CM
I63.533	Cerebral infarction due to unspecified occlusion or stenosis of bilateral posterior cerebral arteries	Diagnosis	ICD-10-CM
I63.539	Cerebral infarction due to unspecified occlusion or stenosis of unspecified posterior cerebral artery	Diagnosis	ICD-10-CM
I63.541	Cerebral infarction due to unspecified occlusion or stenosis of right cerebellar artery	Diagnosis	ICD-10-CM
I63.542	Cerebral infarction due to unspecified occlusion or stenosis of left cerebellar artery	Diagnosis	ICD-10-CM
I63.543	Cerebral infarction due to unspecified occlusion or stenosis of bilateral cerebellar arteries	Diagnosis	ICD-10-CM

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
I63.549	Cerebral infarction due to unspecified occlusion or stenosis of unspecified cerebellar artery	Diagnosis	ICD-10-CM
I63.59	Cerebral infarction due to unspecified occlusion or stenosis of other cerebral artery	Diagnosis	ICD-10-CM
I63.6	Cerebral infarction due to cerebral venous thrombosis, nonpyogenic	Diagnosis	ICD-10-CM
I63.8	Other cerebral infarction	Diagnosis	ICD-10-CM
I63.9	Cerebral infarction, unspecified	Diagnosis	ICD-10-CM
I67.89	Other cerebrovascular disease	Diagnosis	ICD-10-CM
	Transient ischemic attack		
435	Transient cerebral ischemia	Diagnosis	ICD-9-CM
435.0	Basilar artery syndrome	Diagnosis	ICD-9-CM
435.1	Vertebral artery syndrome	Diagnosis	ICD-9-CM
435.2	Subclavian steal syndrome	Diagnosis	ICD-9-CM
435.3	Vertebrobasilar artery syndrome	Diagnosis	ICD-9-CM
435.8	Other specified transient cerebral ischemias	Diagnosis	ICD-9-CM
435.9	Unspecified transient cerebral ischemia	Diagnosis	ICD-9-CM
G45.0	Vertebro-basilar artery syndrome	Diagnosis	ICD-10-CM
G45.1	Carotid artery syndrome (hemispheric)	Diagnosis	ICD-10-CM
G45.2	Multiple and bilateral precerebral artery syndromes	Diagnosis	ICD-10-CM
G45.8	Other transient cerebral ischemic attacks and related syndromes	Diagnosis	ICD-10-CM
G45.9	Transient cerebral ischemic attack, unspecified	Diagnosis	ICD-10-CM
G46.0	Middle cerebral artery syndrome	Diagnosis	ICD-10-CM
G46.1	Anterior cerebral artery syndrome	Diagnosis	ICD-10-CM
G46.2	Posterior cerebral artery syndrome	Diagnosis	ICD-10-CM
I67.841	Reversible cerebrovascular vasoconstriction syndrome	Diagnosis	ICD-10-CM
I67.848	Other cerebrovascular vasospasm and vasoconstriction	Diagnosis	ICD-10-CM
	Other medical conditions (falls, fractures, syncope, walker use)e, walker use)		
E880	Accidental fall on or from stairs or steps	Diagnosis	ICD-9-CM
E8800	Accidental fall on or from escalator	Diagnosis	ICD-9-CM
E8801	Accidental fall on or from sidewalk curb	Diagnosis	ICD-9-CM
E8809	Accidental fall on or from other stairs or steps	Diagnosis	ICD-9-CM
E881	Accidental fall on or from ladders or scaffolding	Diagnosis	ICD-9-CM
E8810	Accidental fall from ladder	Diagnosis	ICD-9-CM
E8811	Accidental fall from scaffolding	Diagnosis	ICD-9-CM
E882	Accidental fall from or out of building or other structure	Diagnosis	ICD-9-CM
E883	Accidental fall into hole or other opening in surface	Diagnosis	ICD-9-CM
E8830	Accident from diving or jumping into water (swimming pool)	Diagnosis	ICD-9-CM
E8831	Accidental fall into well	Diagnosis	ICD-9-CM
E8832	Accidental fall into storm drain or manhole	Diagnosis	ICD-9-CM
E8839	Accidental fall into other hole or other opening in surface	Diagnosis	ICD-9-CM
E884	Other accidental fall from one level to another	Diagnosis	ICD-9-CM
E8840	Accidental fall from playground equipment	Diagnosis	ICD-9-CM
E8841	Accidental fall from cliff	Diagnosis	ICD-9-CM
E8842	Accidental fall from chair	Diagnosis	ICD-9-CM
E8843	Accidental fall from wheelchair	Diagnosis	ICD-9-CM
E8844	Accidental fall from bed	Diagnosis	ICD-9-CM
E8845	Accidental fall from other furniture	Diagnosis	ICD-9-CM
E8846	Accidental fall from commode	Diagnosis	ICD-9-CM
E8849	Other accidental fall from one level to another	Diagnosis	ICD-9-CM

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
E885	Accidental fall on same level from slipping, tripping, or stumbling	Diagnosis	ICD-9-CM
E8850	Fall on same level from (nonmotorized) scooter	Diagnosis	ICD-9-CM
E8851	Fall from roller skates	Diagnosis	ICD-9-CM
E8852	Fall from skateboard	Diagnosis	ICD-9-CM
E8853	Fall from skis	Diagnosis	ICD-9-CM
E8854	Fall from snowboard	Diagnosis	ICD-9-CM
E8859	Fall from other slipping, tripping, or stumbling	Diagnosis	ICD-9-CM
E886	Accidental fall on same level from collision, pushing, or shoving, by or with other person	Diagnosis	ICD-9-CM
E8860	Accidental fall on same level from collision, pushing, or shoving, by or with other person in sports	Diagnosis	ICD-9-CM
E8869	Other and unspecified accidental falls on same level from collision, pushing, or shoving, by or with other person	Diagnosis	ICD-9-CM
E887	Fracture in accidental fall, cause unspecified	Diagnosis	ICD-9-CM
E888	Other and unspecified accidental fall	Diagnosis	ICD-9-CM
E8880	Fall resulting in striking against sharp object	Diagnosis	ICD-9-CM
E8881	Fall resulting in striking against other object	Diagnosis	ICD-9-CM
E8888	Other fall	Diagnosis	ICD-9-CM
E8889	Unspecified fall	Diagnosis	ICD-9-CM
E9176	Strike against or struck accidentally by crowd, by collective fear or panic with subsequent fall	Diagnosis	ICD-9-CM
E9177	Strike against or struck accidentally by furniture with subsequent fall	Diagnosis	ICD-9-CM
E9178	Strike against or struck accidentally by other stationary object with subsequent fall	Diagnosis	ICD-9-CM
E9179	Other accident caused by striking against or being struck accidentally by objects or persons	Diagnosis	ICD-9-CM
E9293	Late effects of accidental fall	Diagnosis	ICD-9-CM
807	Closed fracture of rib(s)	Diagnosis	ICD-9-CM
807	Closed fracture of rib(s), unspecified	Diagnosis	ICD-9-CM
807.01	Closed fracture of one rib	Diagnosis	ICD-9-CM
807.02	Closed fracture of two ribs	Diagnosis	ICD-9-CM
807.03	Closed fracture of three ribs	Diagnosis	ICD-9-CM
807.04	Closed fracture of four ribs	Diagnosis	ICD-9-CM
807.05	Closed fracture of five ribs	Diagnosis	ICD-9-CM
807.06	Closed fracture of six ribs	Diagnosis	ICD-9-CM
807.07	Closed fracture of seven ribs	Diagnosis	ICD-9-CM
807.08	Closed fracture of eight or more ribs	Diagnosis	ICD-9-CM
807.09	Closed fracture of multiple ribs, unspecified	Diagnosis	ICD-9-CM
807.1	Open fracture of rib(s)	Diagnosis	ICD-9-CM
807.1	Open fracture of rib(s), unspecified	Diagnosis	ICD-9-CM
807.11	Open fracture of one rib	Diagnosis	ICD-9-CM
807.12	Open fracture of two ribs	Diagnosis	ICD-9-CM
807.13	Open fracture of three ribs	Diagnosis	ICD-9-CM
807.14	Open fracture of four ribs	Diagnosis	ICD-9-CM
807.15	Open fracture of five ribs	Diagnosis	ICD-9-CM
807.16	Open fracture of six ribs	Diagnosis	ICD-9-CM
807.17	Open fracture of seven ribs	Diagnosis	ICD-9-CM
807.18	Open fracture of eight or more ribs	Diagnosis	ICD-9-CM
807.19	Open fracture of multiple ribs, unspecified	Diagnosis	ICD-9-CM
810	Fracture of clavicle	Diagnosis	ICD-9-CM

Sentinel

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
810	Closed fracture of clavicle	Diagnosis	ICD-9-CM
810	Unspecified part of closed fracture of clavicle	Diagnosis	ICD-9-CM
810.01	Closed fracture of sternal end of clavicle	Diagnosis	ICD-9-CM
810.02	Closed fracture of shaft of clavicle	Diagnosis	ICD-9-CM
810.03	Closed fracture of acromial end of clavicle	Diagnosis	ICD-9-CM
810.1	Open fracture of clavicle	Diagnosis	ICD-9-CM
810.1	Unspecified part of open fracture of clavicle	Diagnosis	ICD-9-CM
810.11	Open fracture of sternal end of clavicle	Diagnosis	ICD-9-CM
810.12	Open fracture of shaft of clavicle	Diagnosis	ICD-9-CM
810.13	Open fracture of acromial end of clavicle	Diagnosis	ICD-9-CM
813	Fracture of radius and ulna	Diagnosis	ICD-9-CM
813	Closed fracture of upper end of radius and ulna	Diagnosis	ICD-9-CM
813	Unspecified fracture of radius and ulna, upper end of forearm, closed	Diagnosis	ICD-9-CM
813.01	Closed fracture of olecranon process of ulna	Diagnosis	ICD-9-CM
813.02	Closed fracture of coronoid process of ulna	Diagnosis	ICD-9-CM
813.03	Closed Monteggia's fracture	Diagnosis	ICD-9-CM
813.04	Other and unspecified closed fractures of proximal end of ulna (alone)	Diagnosis	ICD-9-CM
813.05	Closed fracture of head of radius	Diagnosis	ICD-9-CM
813.06	Closed fracture of neck of radius	Diagnosis	ICD-9-CM
813.07	Other and unspecified closed fractures of proximal end of radius (alone)	Diagnosis	ICD-9-CM
813.08	Closed fracture of radius with ulna, upper end (any part)	Diagnosis	ICD-9-CM
813.1	Open fracture of upper end of radius and ulna	Diagnosis	ICD-9-CM
813.1	Unspecified open fracture of upper end of forearm	Diagnosis	ICD-9-CM
813.11	Open fracture of olecranon process of ulna	Diagnosis	ICD-9-CM
813.12	Open fracture of coronoid process of ulna	Diagnosis	ICD-9-CM
813.13	Open Monteggia's fracture	Diagnosis	ICD-9-CM
813.14	Other and unspecified open fractures of proximal end of ulna (alone)	Diagnosis	ICD-9-CM
813.15	Open fracture of head of radius	Diagnosis	ICD-9-CM
813.16	Open fracture of neck of radius	Diagnosis	ICD-9-CM
813.17	Other and unspecified open fractures of proximal end of radius (alone)	Diagnosis	ICD-9-CM
813.18	Open fracture of radius with ulna, upper end (any part)	Diagnosis	ICD-9-CM
813.2	Closed fracture of shaft of radius and ulna	Diagnosis	ICD-9-CM
813.2	Unspecified closed fracture of shaft of radius or ulna	Diagnosis	ICD-9-CM
813.21	Closed fracture of shaft of radius (alone)	Diagnosis	ICD-9-CM
813.22	Closed fracture of shaft of ulna (alone)	Diagnosis	ICD-9-CM
813.23	Closed fracture of shaft of radius with ulna	Diagnosis	ICD-9-CM
813.3	Open fracture of shaft of radius and ulna	Diagnosis	ICD-9-CM
813.3	Unspecified open fracture of shaft of radius or ulna	Diagnosis	ICD-9-CM
813.31	Open fracture of shaft of radius (alone)	Diagnosis	ICD-9-CM
813.32	Open fracture of shaft of ulna (alone)	Diagnosis	ICD-9-CM
813.33	Open fracture of shaft of radius with ulna	Diagnosis	ICD-9-CM
813.4	Closed fracture of lower end of radius and ulna	Diagnosis	ICD-9-CM
813.4	Unspecified closed fracture of lower end of forearm	Diagnosis	ICD-9-CM
813.41	Closed Colles' fracture	Diagnosis	ICD-9-CM
813.42	Other closed fractures of distal end of radius (alone)	Diagnosis	ICD-9-CM
813.43	Closed fracture of distal end of ulna (alone)	Diagnosis	ICD-9-CM
813.44	Closed fracture of lower end of radius with ulna	Diagnosis	ICD-9-CM
813.45	Torus fracture of radius (alone)	Diagnosis	ICD-9-CM

Sentinel

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
813.46	Torus fracture of ulna (alone)	Diagnosis	ICD-9-CM
813.47	Torus fracture of radius and ulna	Diagnosis	ICD-9-CM
813.5	Open fracture of lower end of radius and ulna	Diagnosis	ICD-9-CM
813.5	Unspecified open fracture of lower end of forearm	Diagnosis	ICD-9-CM
813.51	Open Colles' fracture	Diagnosis	ICD-9-CM
813.52	Other open fractures of distal end of radius (alone)	Diagnosis	ICD-9-CM
813.53	Open fracture of distal end of ulna (alone)	Diagnosis	ICD-9-CM
813.54	Open fracture of lower end of radius with ulna	Diagnosis	ICD-9-CM
813.8	Closed fracture of unspecified part of radius with ulna	Diagnosis	ICD-9-CM
813.8	Closed fracture of unspecified part of forearm	Diagnosis	ICD-9-CM
813.81	Closed fracture of unspecified part of radius (alone)	Diagnosis	ICD-9-CM
813.82	Closed fracture of unspecified part of ulna (alone)	Diagnosis	ICD-9-CM
813.83	Closed fracture of unspecified part of radius with ulna	Diagnosis	ICD-9-CM
813.9	Open fracture of unspecified part of radius with ulna	Diagnosis	ICD-9-CM
813.9	Open fracture of unspecified part of forearm	Diagnosis	ICD-9-CM
813.91	Open fracture of unspecified part of radius (alone)	Diagnosis	ICD-9-CM
813.92	Open fracture of unspecified part of ulna (alone)	Diagnosis	ICD-9-CM
813.93	Open fracture of unspecified part of radius with ulna	Diagnosis	ICD-9-CM
820	Fracture of neck of femur	Diagnosis	ICD-9-CM
820	Closed transcervical fracture	Diagnosis	ICD-9-CM
820	Closed fracture of unspecified intracapsular section of neck of femur	Diagnosis	ICD-9-CM
820.01	Closed fracture of epiphysis (separation) (upper) of neck of femur	Diagnosis	ICD-9-CM
820.02	Closed fracture of midcervical section of femur	Diagnosis	ICD-9-CM
820.03	Closed fracture of base of neck of femur	Diagnosis	ICD-9-CM
820.09	Other closed transcervical fracture of femur	Diagnosis	ICD-9-CM
820.1	Open transcervical fracture	Diagnosis	ICD-9-CM
820.1	Open fracture of unspecified intracapsular section of neck of femur	Diagnosis	ICD-9-CM
820.11	Open fracture of epiphysis (separation) (upper) of neck of femur	Diagnosis	ICD-9-CM
820.12	Open fracture of midcervical section of femur	Diagnosis	ICD-9-CM
820.13	Open fracture of base of neck of femur	Diagnosis	ICD-9-CM
820.19	Other open transcervical fracture of femur	Diagnosis	ICD-9-CM
820.2	Closed pertrochanteric fracture of femur	Diagnosis	ICD-9-CM
820.2	Closed fracture of unspecified trochanteric section of femur	Diagnosis	ICD-9-CM
820.21	Closed fracture of intertrochanteric section of femur	Diagnosis	ICD-9-CM
820.22	Closed fracture of subtrochanteric section of femur	Diagnosis	ICD-9-CM
820.3	Open pertrochanteric fracture of femur	Diagnosis	ICD-9-CM
820.3	Open fracture of unspecified trochanteric section of femur	Diagnosis	ICD-9-CM
820.31	Open fracture of intertrochanteric section of femur	Diagnosis	ICD-9-CM
820.32	Open fracture of subtrochanteric section of femur	Diagnosis	ICD-9-CM
820.8	Closed fracture of unspecified part of neck of femur	Diagnosis	ICD-9-CM
820.9	Open fracture of unspecified part of neck of femur	Diagnosis	ICD-9-CM
78.11	Application of external fixator device, scapula, clavicle, and thorax [ribs and sternum]	Procedure	ICD-9-CM
78.13	Application of external fixator device, radius and ulna	Procedure	ICD-9-CM
78.15	Application of external fixator device, femur	Procedure	ICD-9-CM
78.41	Other repair or plastic operations on scapula, clavicle, and thorax (ribs and sternum)	Procedure	ICD-9-CM
78.43	Other repair or plastic operations on radius and ulna	Procedure	ICD-9-CM
78.45	Other repair or plastic operations on femur	Procedure	ICD-9-CM

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
78.51	Internal fixation of scapula, clavicle, and thorax (ribs and sternum) without fracture reduction	Procedure	ICD-9-CM
78.53	Internal fixation of radius and ulna without fracture reduction	Procedure	ICD-9-CM
78.55	Internal fixation of femur without fracture reduction	Procedure	ICD-9-CM
78.61	Removal of implanted device from scapula, clavicle, and thorax (ribs and sternum)	Procedure	ICD-9-CM
78.63	Removal of implanted device from radius and ulna	Procedure	ICD-9-CM
78.65	Removal of implanted device from femur	Procedure	ICD-9-CM
79.02	Closed reduction of fracture of radius and ulna without internal fixation	Procedure	ICD-9-CM
79.05	Closed reduction of fracture of femur without internal fixation	Procedure	ICD-9-CM
79.12	Closed reduction of fracture of radius and ulna with internal fixation	Procedure	ICD-9-CM
79.15	Closed reduction of fracture of femur with internal fixation	Procedure	ICD-9-CM
79.22	Open reduction of fracture of radius and ulna without internal fixation	Procedure	ICD-9-CM
79.25	Open reduction of fracture of femur without internal fixation	Procedure	ICD-9-CM
79.32	Open reduction of fracture of radius and ulna with internal fixation	Procedure	ICD-9-CM
79.35	Open reduction of fracture of femur with internal fixation	Procedure	ICD-9-CM
79.62	Debridement of open fracture of radius and ulna	Procedure	ICD-9-CM
79.65	Debridement of open fracture of femur	Procedure	ICD-9-CM
21800	Closed treatment of broken rib	Procedure	CPT-4
21805	Open treatment of broken rib	Procedure	CPT-4
21810	Treatment of broken rib	Procedure	CPT-4
21812	Open treatment of broken ribs with insertion of hardware	Procedure	CPT-4
21813	Open treatment of broken ribs with insertion of hardware	Procedure	CPT-4
23485	Incision to repair collar bone for nonunion of fracture with bone graft	Procedure	CPT-4
23500	Closed treatment of collar bone fracture	Procedure	CPT-4
23505	Closed treatment of collar bone broken with manipulation	Procedure	CPT-4
23515	Open treatment of collar bone broken	Procedure	CPT-4
24586	Open treatment of broken and/or dislocated upper or lower arm bones at elbow	Procedure	CPT-4
24587	Open treatment of broken and/or dislocated upper or lower arm bones at elbow with implant	Procedure	CPT-4
24620	Closed treatment of broken and dislocated forearm bones at elbow with manipulation	Procedure	CPT-4
24635	Open treatment of broken and dislocated forearm bones at elbow	Procedure	CPT-4
24650	Closed treatment of broken forearm bone at elbow	Procedure	CPT-4
24655	Closed treatment of broken forearm bone at elbow with manipulation	Procedure	CPT-4
24665	Open treatment of broken forearm bone at elbow	Procedure	CPT-4
24666	Open treatment of broken forearm bone at elbow with prosthetic replacement	Procedure	CPT-4
24670	Closed treatment of broken forearm bone at elbow	Procedure	CPT-4
24675	Closed treatment of broken forearm bone at elbow with manipulation	Procedure	CPT-4
24685	Open treatment of broken forearm bone at elbow	Procedure	CPT-4
25500	Closed treatment of broken forearm bone	Procedure	CPT-4
25505	Closed treatment of broken forearm bone with manipulation	Procedure	CPT-4
25515	Open treatment of broken forearm bone	Procedure	CPT-4
25520	Closed treatment of broken forearm and dislocated wrist bones	Procedure	CPT-4
25525	Open treatment of broken forearm bone and closed treatment of joint dislocation	Procedure	CPT-4
25526	Open treatment of broken forearm bone	Procedure	CPT-4
25530	Closed treatment of broken forearm bone	Procedure	CPT-4
25535	Closed treatment of broken forearm bone with manipulation	Procedure	CPT-4
25545	Open treatment of broken forearm bone	Procedure	CPT-4
25560	Closed treatment of broken forearm bones	Procedure	CPT-4

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
25565	Closed treatment of broken forearm bones with manipulation	Procedure	CPT-4
25574	Open treatment of broken forearm bones	Procedure	CPT-4
25575	Open treatment of broken forearm bones	Procedure	CPT-4
25600	Closed treatment of broken forearm bones	Procedure	CPT-4
25605	Closed treatment of broken or growth plate separate of forearm bone at wrist with manipulation	Procedure	CPT-4
25606	Insertion of hardware to lower forearm bone broken or growth plate separation, accessed through the skin	Procedure	CPT-4
25607	Open treatment of broken or lower forearm bone or growth plate separation with insertion of hardware	Procedure	CPT-4
25608	Open treatment of broken of lower forearm or growth plate separation with insertion of hardware of 2 fragments	Procedure	CPT-4
25609	Open treatment of broken of lower forearm or growth plate separation with insertion of hardware of 3 or more fragments	Procedure	CPT-4
25611	Percutaneous skeletal fixation of distal radial fracture (eg, colles or smith type) or epiphyseal separation, with or without fracture of ulnar styloid, requiring manipulation, with or without external fixation	Procedure	CPT-4
25620	Open treatment of distal radial fracture (eg, colles or smith type) or epiphyseal separation, with or without fracture of ulnar styloid, with or without internal or external fixation	Procedure	CPT-4
25650	Closed treatment of broken forearm bone at wrist bone	Procedure	CPT-4
25651	Insertion of hardware broken bone of forearm at wrist, accessed through the skin	Procedure	CPT-4
25652	Open treatment of broken wrist	Procedure	CPT-4
27230	Closed treatment of upper thigh bone fracture	Procedure	CPT-4
27232	Closed treatment of thigh bone fracture with manipulation	Procedure	CPT-4
27235	Insertion of hardware to broken thigh bone, accessed through the skin	Procedure	CPT-4
27236	Open treatment of broken thigh bone with insertion of hardware or prosthetic replacement	Procedure	CPT-4
27238	Closed treatment of fracture below neck of upper thigh bone	Procedure	CPT-4
27240	Closed treatment of broken thigh bone with manipulation	Procedure	CPT-4
27244	Surgical treatment of broken thigh bone	Procedure	CPT-4
27245	Surgical treatment of broken thigh bone	Procedure	CPT-4
27246	Closed treatment of broken thigh bone	Procedure	CPT-4
27248	Open treatment of broken thigh bone	Procedure	CPT-4
27254	Open treatment of fracture and traumatic dislocation of hip socket and thigh bone	Procedure	CPT-4
27267	Closed treatment of broken thigh bone	Procedure	CPT-4
27268	Closed treatment of fracture of upper portion and head of thigh bone with manipulation	Procedure	CPT-4
27269	Open treatment of fracture of thigh bone	Procedure	CPT-4
27500	Closed treatment of thigh bone fracture	Procedure	CPT-4
27501	Closed treatment of broken thigh bone	Procedure	CPT-4
27502	Closed treatment of broken thigh bone with manipulation	Procedure	CPT-4
27503	Closed treatment of broken thigh bone with manipulation	Procedure	CPT-4
27506	Open treatment of broken thigh bone	Procedure	CPT-4
27507	Open treatment of broken thigh bone	Procedure	CPT-4
27508	Closed treatment of broken thigh bone	Procedure	CPT-4
27509	Insertion of hardware to stabilize broken thigh bone or separated growth plate, accessed through the skin	Procedure	CPT-4
27510	Closed treatment of broken thigh bone with manipulation	Procedure	CPT-4
27511	Open treatment of broken thigh bone	Procedure	CPT-4
27513	Open treatment of broken thigh bone	Procedure	CPT-4

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
27514	Open treatment of broken thigh bone	Procedure	CPT-4
E0130	Walker, rigid (pickup), adjustable or fixed height	Procedure	HCPCS
E0135	Walker, folding (pickup), adjustable or fixed height	Procedure	HCPCS
E0140	Walker, with trunk support, adjustable or fixed height, any type	Procedure	HCPCS
E0141	Walker, rigid, wheeled, adjustable or fixed height	Procedure	HCPCS
E0142	Rigid walker, wheeled, with seat	Procedure	HCPCS
E0143	Walker, folding, wheeled, adjustable or fixed height	Procedure	HCPCS
E0144	Walker, enclosed, 4 sided framed, rigid or folding, wheeled with posterior seat	Procedure	HCPCS
E0145	Walker, wheeled, with seat and crutch attachments	Procedure	HCPCS
E0146	Folding walker, wheeled, with seat	Procedure	HCPCS
E0147	Walker, heavy duty, multiple braking system, variable wheel resistance	Procedure	HCPCS
E0148	Walker, heavy-duty, without wheels, rigid or folding, any type, each	Procedure	HCPCS
E0149	Walker, heavy-duty, wheeled, rigid or folding, any type	Procedure	HCPCS
E0154	Platform attachment, walker, each	Procedure	HCPCS
E0155	Wheel attachment, rigid pick-up walker, per pair	Procedure	HCPCS
E0156	Seat attachment, walker	Procedure	HCPCS
E0157	Crutch attachment, walker, each	Procedure	HCPCS
E0158	Leg extensions for walker, per set of 4	Procedure	HCPCS
E0159	Brake attachment for wheeled walker, replacement, each	Procedure	HCPCS
K0458	Heavy duty walker, without wheels, each	Procedure	HCPCS
K0459	Heavy duty wheeled walker, each	Procedure	HCPCS
L1520	Thkao, swivel walker	Procedure	HCPCS
780.2	Syncope and collapse	Diagnosis	ICD-9-CM
V00.01XA	Pedestrian on foot injured in collision with roller-skater, initial encounter	Diagnosis	ICD-10-CM
V00.01XD	Pedestrian on foot injured in collision with roller-skater, subsequent encounter	Diagnosis	ICD-10-CM
V00.02XA	Pedestrian on foot injured in collision with skateboarder, initial encounter	Diagnosis	ICD-10-CM
V00.02XD	Pedestrian on foot injured in collision with skateboarder, subsequent encounter	Diagnosis	ICD-10-CM
V00.09XA	Pedestrian on foot injured in collision with other pedestrian conveyance, initial encounter	Diagnosis	ICD-10-CM
V00.09XD	Pedestrian on foot injured in collision with other pedestrian conveyance, subsequent encounter	Diagnosis	ICD-10-CM
V00.111A	Fall from in-line roller-skates, initial encounter	Diagnosis	ICD-10-CM
V00.111D	Fall from in-line roller-skates, subsequent encounter	Diagnosis	ICD-10-CM
V00.111S	Fall from in-line roller-skates, sequela	Diagnosis	ICD-10-CM
V00.112A	In-line roller-skater colliding with stationary object, initial encounter	Diagnosis	ICD-10-CM
V00.112D	In-line roller-skater colliding with stationary object, subsequent encounter	Diagnosis	ICD-10-CM
V00.112S	In-line roller-skater colliding with stationary object, sequela	Diagnosis	ICD-10-CM
V00.118A	Other in-line roller-skate accident, initial encounter	Diagnosis	ICD-10-CM
V00.118D	Other in-line roller-skate accident, subsequent encounter	Diagnosis	ICD-10-CM
V00.118S	Other in-line roller-skate accident, sequela	Diagnosis	ICD-10-CM
V00.121A	Fall from non-in-line roller-skates, initial encounter	Diagnosis	ICD-10-CM
V00.121D	Fall from non-in-line roller-skates, subsequent encounter	Diagnosis	ICD-10-CM
V00.121S	Fall from non-in-line roller-skates, sequela	Diagnosis	ICD-10-CM
V00.122A	Non-in-line roller-skater colliding with stationary object, initial encounter	Diagnosis	ICD-10-CM
V00.122D	Non-in-line roller-skater colliding with stationary object, subsequent encounter	Diagnosis	ICD-10-CM
V00.122S	Non-in-line roller-skater colliding with stationary object, sequela	Diagnosis	ICD-10-CM
V00.128A	Other non-in-line roller-skating accident, initial encounter	Diagnosis	ICD-10-CM
V00.128D	Other non-in-line roller-skating accident, subsequent encounter	Diagnosis	ICD-10-CM
V00.128S	Other non-in-line roller-skating accident, sequela	Diagnosis	ICD-10-CM

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
V00.131A	Fall from skateboard, initial encounter	Diagnosis	ICD-10-CM
V00.131D	Fall from skateboard, subsequent encounter	Diagnosis	ICD-10-CM
V00.131S	Fall from skateboard, sequela	Diagnosis	ICD-10-CM
V00.132A	Skateboarder colliding with stationary object, initial encounter	Diagnosis	ICD-10-CM
V00.132D	Skateboarder colliding with stationary object, subsequent encounter	Diagnosis	ICD-10-CM
V00.132S	Skateboarder colliding with stationary object, sequela	Diagnosis	ICD-10-CM
V00.138A	Other skateboard accident, initial encounter	Diagnosis	ICD-10-CM
V00.138D	Other skateboard accident, subsequent encounter	Diagnosis	ICD-10-CM
V00.138S	Other skateboard accident, sequela	Diagnosis	ICD-10-CM
V00.141A	Fall from scooter (nonmotorized), initial encounter	Diagnosis	ICD-10-CM
V00.141D	Fall from scooter (nonmotorized), subsequent encounter	Diagnosis	ICD-10-CM
V00.141S	Fall from scooter (nonmotorized), sequela	Diagnosis	ICD-10-CM
V00.142A	Scooter (nonmotorized) colliding with stationary object, initial encounter	Diagnosis	ICD-10-CM
V00.142D	Scooter (nonmotorized) colliding with stationary object, subsequent encounter	Diagnosis	ICD-10-CM
V00.142S	Scooter (nonmotorized) colliding with stationary object, sequela	Diagnosis	ICD-10-CM
V00.148A	Other scooter (nonmotorized) accident, initial encounter	Diagnosis	ICD-10-CM
V00.148D	Other scooter (nonmotorized) accident, subsequent encounter	Diagnosis	ICD-10-CM
V00.148S	Other scooter (nonmotorized) accident, sequela	Diagnosis	ICD-10-CM
V00.151A	Fall from heelies, initial encounter	Diagnosis	ICD-10-CM
V00.151D	Fall from heelies, subsequent encounter	Diagnosis	ICD-10-CM
V00.151S	Fall from heelies, sequela	Diagnosis	ICD-10-CM
V00.152A	Heelies colliding with stationary object, initial encounter	Diagnosis	ICD-10-CM
V00.152D	Heelies colliding with stationary object, subsequent encounter	Diagnosis	ICD-10-CM
V00.152S	Heelies colliding with stationary object, sequela	Diagnosis	ICD-10-CM
V00.158A	Other heelies accident, initial encounter	Diagnosis	ICD-10-CM
V00.158D	Other heelies accident, subsequent encounter	Diagnosis	ICD-10-CM
V00.158S	Other heelies accident, sequela	Diagnosis	ICD-10-CM
V00.181A	Fall from other rolling-type pedestrian conveyance, initial encounter	Diagnosis	ICD-10-CM
V00.181D	Fall from other rolling-type pedestrian conveyance, subsequent encounter	Diagnosis	ICD-10-CM
V00.181S	Fall from other rolling-type pedestrian conveyance, sequela	Diagnosis	ICD-10-CM
V00.182A	Pedestrian on other rolling-type pedestrian conveyance colliding with stationary object, initial encounter	Diagnosis	ICD-10-CM
V00.182D	Pedestrian on other rolling-type pedestrian conveyance colliding with stationary object, subsequent encounter	Diagnosis	ICD-10-CM
V00.182S	Pedestrian on other rolling-type pedestrian conveyance colliding with stationary object, sequela	Diagnosis	ICD-10-CM
V00.188A	Other accident on other rolling-type pedestrian conveyance, initial encounter	Diagnosis	ICD-10-CM
V00.188D	Other accident on other rolling-type pedestrian conveyance, subsequent encounter	Diagnosis	ICD-10-CM
V00.188S	Other accident on other rolling-type pedestrian conveyance, sequela	Diagnosis	ICD-10-CM
V00.211A	Fall from ice-skates, initial encounter	Diagnosis	ICD-10-CM
V00.211D	Fall from ice-skates, subsequent encounter	Diagnosis	ICD-10-CM
V00.211S	Fall from ice-skates, sequela	Diagnosis	ICD-10-CM
V00.212A	Ice-skater colliding with stationary object, initial encounter	Diagnosis	ICD-10-CM
V00.212D	Ice-skater colliding with stationary object, subsequent encounter	Diagnosis	ICD-10-CM
V00.212S	Ice-skater colliding with stationary object, sequela	Diagnosis	ICD-10-CM
V00.218A	Other ice-skates accident, initial encounter	Diagnosis	ICD-10-CM
V00.218D	Other ice-skates accident, subsequent encounter	Diagnosis	ICD-10-CM
V00.218S	Other ice-skates accident, sequela	Diagnosis	ICD-10-CM

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
V00.221A	Fall from sled, initial encounter	Diagnosis	ICD-10-CM
V00.221D	Fall from sled, subsequent encounter	Diagnosis	ICD-10-CM
V00.221S	Fall from sled, sequela	Diagnosis	ICD-10-CM
V00.222A	Sledder colliding with stationary object, initial encounter	Diagnosis	ICD-10-CM
V00.222D	Sledder colliding with stationary object, subsequent encounter	Diagnosis	ICD-10-CM
V00.222S	Sledder colliding with stationary object, sequela	Diagnosis	ICD-10-CM
V00.228A	Other sled accident, initial encounter	Diagnosis	ICD-10-CM
V00.228D	Other sled accident, subsequent encounter	Diagnosis	ICD-10-CM
V00.228S	Other sled accident, sequela	Diagnosis	ICD-10-CM
V00.281A	Fall from other gliding-type pedestrian conveyance, initial encounter	Diagnosis	ICD-10-CM
V00.281D	Fall from other gliding-type pedestrian conveyance, subsequent encounter	Diagnosis	ICD-10-CM
V00.281S	Fall from other gliding-type pedestrian conveyance, sequela	Diagnosis	ICD-10-CM
V00.282A	Pedestrian on other gliding-type pedestrian conveyance colliding with stationary object, initial encounter	Diagnosis	ICD-10-CM
V00.282D	Pedestrian on other gliding-type pedestrian conveyance colliding with stationary object, subsequent encounter	Diagnosis	ICD-10-CM
V00.282S	Pedestrian on other gliding-type pedestrian conveyance colliding with stationary object, sequela	Diagnosis	ICD-10-CM
V00.288A	Other accident on other gliding-type pedestrian conveyance, initial encounter	Diagnosis	ICD-10-CM
V00.288D	Other accident on other gliding-type pedestrian conveyance, subsequent encounter	Diagnosis	ICD-10-CM
V00.288S	Other accident on other gliding-type pedestrian conveyance, sequela	Diagnosis	ICD-10-CM
V00.311A	Fall from snowboard, initial encounter	Diagnosis	ICD-10-CM
V00.311D	Fall from snowboard, subsequent encounter	Diagnosis	ICD-10-CM
V00.311S	Fall from snowboard, sequela	Diagnosis	ICD-10-CM
V00.312A	Snowboarder colliding with stationary object, initial encounter	Diagnosis	ICD-10-CM
V00.312D	Snowboarder colliding with stationary object, subsequent encounter	Diagnosis	ICD-10-CM
V00.312S	Snowboarder colliding with stationary object, sequela	Diagnosis	ICD-10-CM
V00.318A	Other snowboard accident, initial encounter	Diagnosis	ICD-10-CM
V00.318D	Other snowboard accident, subsequent encounter	Diagnosis	ICD-10-CM
V00.318S	Other snowboard accident, sequela	Diagnosis	ICD-10-CM
V00.321A	Fall from snow-skis, initial encounter	Diagnosis	ICD-10-CM
V00.321D	Fall from snow-skis, subsequent encounter	Diagnosis	ICD-10-CM
V00.321S	Fall from snow-skis, sequela	Diagnosis	ICD-10-CM
V00.322A	Snow-skier colliding with stationary object, initial encounter	Diagnosis	ICD-10-CM
V00.322D	Snow-skier colliding with stationary object, subsequent encounter	Diagnosis	ICD-10-CM
V00.322S	Snow-skier colliding with stationary object, sequela	Diagnosis	ICD-10-CM
V00.328A	Other snow-ski accident, initial encounter	Diagnosis	ICD-10-CM
V00.328D	Other snow-ski accident, subsequent encounter	Diagnosis	ICD-10-CM
V00.328S	Other snow-ski accident, sequela	Diagnosis	ICD-10-CM
V00.381A	Fall from other flat-bottomed pedestrian conveyance, initial encounter	Diagnosis	ICD-10-CM
V00.381D	Fall from other flat-bottomed pedestrian conveyance, subsequent encounter	Diagnosis	ICD-10-CM
V00.381S	Fall from other flat-bottomed pedestrian conveyance, sequela	Diagnosis	ICD-10-CM
V00.382A	Pedestrian on other flat-bottomed pedestrian conveyance colliding with stationary object, initial encounter	Diagnosis	ICD-10-CM
V00.382D	Pedestrian on other flat-bottomed pedestrian conveyance colliding with stationary object, subsequent encounter	Diagnosis	ICD-10-CM
V00.382S	Pedestrian on other flat-bottomed pedestrian conveyance colliding with stationary object, sequela	Diagnosis	ICD-10-CM

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
V00.388A	Other accident on other flat-bottomed pedestrian conveyance, initial encounter	Diagnosis	ICD-10-CM
V00.388D	Other accident on other flat-bottomed pedestrian conveyance, subsequent encounter	Diagnosis	ICD-10-CM
V00.388S	Other accident on other flat-bottomed pedestrian conveyance, sequela	Diagnosis	ICD-10-CM
V00.811A	Fall from moving wheelchair (powered), initial encounter	Diagnosis	ICD-10-CM
V00.811D	Fall from moving wheelchair (powered), subsequent encounter	Diagnosis	ICD-10-CM
V00.811S	Fall from moving wheelchair (powered), sequela	Diagnosis	ICD-10-CM
V00.812A	Wheelchair (powered) colliding with stationary object, initial encounter	Diagnosis	ICD-10-CM
V00.812D	Wheelchair (powered) colliding with stationary object, subsequent encounter	Diagnosis	ICD-10-CM
V00.812S	Wheelchair (powered) colliding with stationary object, sequela	Diagnosis	ICD-10-CM
V00.818A	Other accident with wheelchair (powered), initial encounter	Diagnosis	ICD-10-CM
V00.818D	Other accident with wheelchair (powered), subsequent encounter	Diagnosis	ICD-10-CM
V00.818S	Other accident with wheelchair (powered), sequela	Diagnosis	ICD-10-CM
V00.821A	Fall from baby stroller, initial encounter	Diagnosis	ICD-10-CM
V00.821D	Fall from baby stroller, subsequent encounter	Diagnosis	ICD-10-CM
V00.821S	Fall from baby stroller, sequela	Diagnosis	ICD-10-CM
V00.822A	Baby stroller colliding with stationary object, initial encounter	Diagnosis	ICD-10-CM
V00.822D	Baby stroller colliding with stationary object, subsequent encounter	Diagnosis	ICD-10-CM
V00.822S	Baby stroller colliding with stationary object, sequela	Diagnosis	ICD-10-CM
V00.828A	Other accident with baby stroller, initial encounter	Diagnosis	ICD-10-CM
V00.828D	Other accident with baby stroller, subsequent encounter	Diagnosis	ICD-10-CM
V00.828S	Other accident with baby stroller, sequela	Diagnosis	ICD-10-CM
V00.831A	Fall from motorized mobility scooter, initial encounter	Diagnosis	ICD-10-CM
V00.831D	Fall from motorized mobility scooter, subsequent encounter	Diagnosis	ICD-10-CM
V00.831S	Fall from motorized mobility scooter, sequela	Diagnosis	ICD-10-CM
V00.832A	Motorized mobility scooter colliding with stationary object, initial encounter	Diagnosis	ICD-10-CM
V00.832D	Motorized mobility scooter colliding with stationary object, subsequent encounter	Diagnosis	ICD-10-CM
V00.832S	Motorized mobility scooter colliding with stationary object, sequela	Diagnosis	ICD-10-CM
V00.838A	Other accident with motorized mobility scooter, initial encounter	Diagnosis	ICD-10-CM
V00.838D	Other accident with motorized mobility scooter, subsequent encounter	Diagnosis	ICD-10-CM
V00.838S	Other accident with motorized mobility scooter, sequela	Diagnosis	ICD-10-CM
V00.891A	Fall from other pedestrian conveyance, initial encounter	Diagnosis	ICD-10-CM
V00.891D	Fall from other pedestrian conveyance, subsequent encounter	Diagnosis	ICD-10-CM
V00.891S	Fall from other pedestrian conveyance, sequela	Diagnosis	ICD-10-CM
V00.892A	Pedestrian on other pedestrian conveyance colliding with stationary object, initial encounter	Diagnosis	ICD-10-CM
V00.892D	Pedestrian on other pedestrian conveyance colliding with stationary object, subsequent encounter	Diagnosis	ICD-10-CM
V00.892S	Pedestrian on other pedestrian conveyance colliding with stationary object, sequela	Diagnosis	ICD-10-CM
V00.898A	Other accident on other pedestrian conveyance, initial encounter	Diagnosis	ICD-10-CM
V00.898D	Other accident on other pedestrian conveyance, subsequent encounter	Diagnosis	ICD-10-CM
V00.898S	Other accident on other pedestrian conveyance, sequela	Diagnosis	ICD-10-CM
W00.0XXA	Fall on same level due to ice and snow, initial encounter	Diagnosis	ICD-10-CM
W00.0XXD	Fall on same level due to ice and snow, subsequent encounter	Diagnosis	ICD-10-CM
W00.0XXS	Fall on same level due to ice and snow, sequela	Diagnosis	ICD-10-CM
W00.1XXA	Fall from stairs and steps due to ice and snow, initial encounter	Diagnosis	ICD-10-CM
W00.1XXD	Fall from stairs and steps due to ice and snow, subsequent encounter	Diagnosis	ICD-10-CM
W00.1XXS	Fall from stairs and steps due to ice and snow, sequela	Diagnosis	ICD-10-CM
W00.2XXA	Other fall from one level to another due to ice and snow, initial encounter	Diagnosis	ICD-10-CM

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
W00.2XXD	Other fall from one level to another due to ice and snow, subsequent encounter	Diagnosis	ICD-10-CM
W00.2XXS	Other fall from one level to another due to ice and snow, sequela	Diagnosis	ICD-10-CM
W00.9XXA	Unspecified fall due to ice and snow, initial encounter	Diagnosis	ICD-10-CM
W00.9XXD	Unspecified fall due to ice and snow, subsequent encounter	Diagnosis	ICD-10-CM
W00.9XXS	Unspecified fall due to ice and snow, sequela	Diagnosis	ICD-10-CM
W01.0XXA	Fall on same level from slipping, tripping and stumbling without subsequent striking against object, initial encounter	Diagnosis	ICD-10-CM
W01.0XXD	Fall on same level from slipping, tripping and stumbling without subsequent striking against object, subsequent encounter	Diagnosis	ICD-10-CM
W01.0XXS	Fall on same level from slipping, tripping and stumbling without subsequent striking against object, sequela	Diagnosis	ICD-10-CM
W01.10XA	Fall on same level from slipping, tripping and stumbling with subsequent striking against unspecified object, initial encounter	Diagnosis	ICD-10-CM
W01.10XD	Fall on same level from slipping, tripping and stumbling with subsequent striking against unspecified object, subsequent encounter	Diagnosis	ICD-10-CM
W01.10XS	Fall on same level from slipping, tripping and stumbling with subsequent striking against unspecified object, sequela	Diagnosis	ICD-10-CM
W01.110A	Fall on same level from slipping, tripping and stumbling with subsequent striking against sharp glass, initial encounter	Diagnosis	ICD-10-CM
W01.110D	Fall on same level from slipping, tripping and stumbling with subsequent striking against sharp glass, subsequent encounter	Diagnosis	ICD-10-CM
W01.110S	Fall on same level from slipping, tripping and stumbling with subsequent striking against sharp glass, sequela	Diagnosis	ICD-10-CM
W01.111A	Fall on same level from slipping, tripping and stumbling with subsequent striking against power tool or machine, initial encounter	Diagnosis	ICD-10-CM
W01.111D	Fall on same level from slipping, tripping and stumbling with subsequent striking against power tool or machine, subsequent encounter	Diagnosis	ICD-10-CM
W01.111S	Fall on same level from slipping, tripping and stumbling with subsequent striking against power tool or machine, sequela	Diagnosis	ICD-10-CM
W01.118A	Fall on same level from slipping, tripping and stumbling with subsequent striking against other sharp object, initial encounter	Diagnosis	ICD-10-CM
W01.118D	Fall on same level from slipping, tripping and stumbling with subsequent striking against other sharp object, subsequent encounter	Diagnosis	ICD-10-CM
W01.118S	Fall on same level from slipping, tripping and stumbling with subsequent striking against other sharp object, sequela	Diagnosis	ICD-10-CM
W01.119A	Fall on same level from slipping, tripping and stumbling with subsequent striking against unspecified sharp object, initial encounter	Diagnosis	ICD-10-CM
W01.119D	Fall on same level from slipping, tripping and stumbling with subsequent striking against unspecified sharp object, subsequent encounter	Diagnosis	ICD-10-CM
W01.119S	Fall on same level from slipping, tripping and stumbling with subsequent striking against unspecified sharp object, sequela	Diagnosis	ICD-10-CM
W01.190A	Fall on same level from slipping, tripping and stumbling with subsequent striking against furniture, initial encounter	Diagnosis	ICD-10-CM
W01.190D	Fall on same level from slipping, tripping and stumbling with subsequent striking against furniture, subsequent encounter	Diagnosis	ICD-10-CM
W01.190S	Fall on same level from slipping, tripping and stumbling with subsequent striking against furniture, sequela	Diagnosis	ICD-10-CM

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
W01.198A	Fall on same level from slipping, tripping and stumbling with subsequent striking against other object, initial encounter	Diagnosis	ICD-10-CM
W01.198D	Fall on same level from slipping, tripping and stumbling with subsequent striking against other object, subsequent encounter	Diagnosis	ICD-10-CM
W01.198S	Fall on same level from slipping, tripping and stumbling with subsequent striking against other object, sequela	Diagnosis	ICD-10-CM
W03.XXXA	Other fall on same level due to collision with another person, initial encounter	Diagnosis	ICD-10-CM
W03.XXXD	Other fall on same level due to collision with another person, subsequent encounter	Diagnosis	ICD-10-CM
W03.XXXS	Other fall on same level due to collision with another person, sequela	Diagnosis	ICD-10-CM
W04.XXXA	Fall while being carried or supported by other persons, initial encounter	Diagnosis	ICD-10-CM
W04.XXXD	Fall while being carried or supported by other persons, subsequent encounter	Diagnosis	ICD-10-CM
W04.XXXS	Fall while being carried or supported by other persons, sequela	Diagnosis	ICD-10-CM
W05.0XXA	Fall from non-moving wheelchair, initial encounter	Diagnosis	ICD-10-CM
W05.0XXD	Fall from non-moving wheelchair, subsequent encounter	Diagnosis	ICD-10-CM
W05.0XXS	Fall from non-moving wheelchair, sequela	Diagnosis	ICD-10-CM
W05.1XXA	Fall from non-moving nonmotorized scooter, initial encounter	Diagnosis	ICD-10-CM
W05.1XXD	Fall from non-moving nonmotorized scooter, subsequent encounter	Diagnosis	ICD-10-CM
W05.1XXS	Fall from non-moving nonmotorized scooter, sequela	Diagnosis	ICD-10-CM
W05.2XXA	Fall from non-moving motorized mobility scooter, initial encounter	Diagnosis	ICD-10-CM
W05.2XXD	Fall from non-moving motorized mobility scooter, subsequent encounter	Diagnosis	ICD-10-CM
W05.2XXS	Fall from non-moving motorized mobility scooter, sequela	Diagnosis	ICD-10-CM
W06.XXXA	Fall from bed, initial encounter	Diagnosis	ICD-10-CM
W06.XXXD	Fall from bed, subsequent encounter	Diagnosis	ICD-10-CM
W06.XXXS	Fall from bed, sequela	Diagnosis	ICD-10-CM
W07.XXXA	Fall from chair, initial encounter	Diagnosis	ICD-10-CM
W07.XXXD	Fall from chair, subsequent encounter	Diagnosis	ICD-10-CM
W07.XXXS	Fall from chair, sequela	Diagnosis	ICD-10-CM
W08.XXXA	Fall from other furniture, initial encounter	Diagnosis	ICD-10-CM
W08.XXXD	Fall from other furniture, subsequent encounter	Diagnosis	ICD-10-CM
W08.XXXS	Fall from other furniture, sequela	Diagnosis	ICD-10-CM
W09.0XXA	Fall on or from playground slide, initial encounter	Diagnosis	ICD-10-CM
W09.0XXD	Fall on or from playground slide, subsequent encounter	Diagnosis	ICD-10-CM
W09.0XXS	Fall on or from playground slide, sequela	Diagnosis	ICD-10-CM
W09.1XXA	Fall from playground swing, initial encounter	Diagnosis	ICD-10-CM
W09.1XXD	Fall from playground swing, subsequent encounter	Diagnosis	ICD-10-CM
W09.1XXS	Fall from playground swing, sequela	Diagnosis	ICD-10-CM
W09.2XXA	Fall on or from jungle gym, initial encounter	Diagnosis	ICD-10-CM
W09.2XXD	Fall on or from jungle gym, subsequent encounter	Diagnosis	ICD-10-CM
W09.2XXS	Fall on or from jungle gym, sequela	Diagnosis	ICD-10-CM
W09.8XXA	Fall on or from other playground equipment, initial encounter	Diagnosis	ICD-10-CM
W09.8XXD	Fall on or from other playground equipment, subsequent encounter	Diagnosis	ICD-10-CM
W09.8XXS	Fall on or from other playground equipment, sequela	Diagnosis	ICD-10-CM
W10.0XXA	Fall (on)(from) escalator, initial encounter	Diagnosis	ICD-10-CM
W10.0XXD	Fall (on)(from) escalator, subsequent encounter	Diagnosis	ICD-10-CM
W10.0XXS	Fall (on)(from) escalator, sequela	Diagnosis	ICD-10-CM
W10.1XXA	Fall (on)(from) sidewalk curb, initial encounter	Diagnosis	ICD-10-CM
W10.1XXD	Fall (on)(from) sidewalk curb, subsequent encounter	Diagnosis	ICD-10-CM
W10.1XXS	Fall (on)(from) sidewalk curb, sequela	Diagnosis	ICD-10-CM

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
W10.2XXA	Fall (on)(from) incline, initial encounter	Diagnosis	ICD-10-CM
W10.2XXD	Fall (on)(from) incline, subsequent encounter	Diagnosis	ICD-10-CM
W10.2XXS	Fall (on)(from) incline, sequela	Diagnosis	ICD-10-CM
W10.8XXA	Fall (on) (from) other stairs and steps, initial encounter	Diagnosis	ICD-10-CM
W10.8XXD	Fall (on) (from) other stairs and steps, subsequent encounter	Diagnosis	ICD-10-CM
W10.8XXS	Fall (on) (from) other stairs and steps, sequela	Diagnosis	ICD-10-CM
W10.9XXA	Fall (on) (from) unspecified stairs and steps, initial encounter	Diagnosis	ICD-10-CM
W10.9XXD	Fall (on) (from) unspecified stairs and steps, subsequent encounter	Diagnosis	ICD-10-CM
W10.9XXS	Fall (on) (from) unspecified stairs and steps, sequela	Diagnosis	ICD-10-CM
W11.XXXA	Fall on and from ladder, initial encounter	Diagnosis	ICD-10-CM
W11.XXXD	Fall on and from ladder, subsequent encounter	Diagnosis	ICD-10-CM
W11.XXXS	Fall on and from ladder, sequela	Diagnosis	ICD-10-CM
W12.XXXA	Fall on and from scaffolding, initial encounter	Diagnosis	ICD-10-CM
W12.XXXD	Fall on and from scaffolding, subsequent encounter	Diagnosis	ICD-10-CM
W12.XXXS	Fall on and from scaffolding, sequela	Diagnosis	ICD-10-CM
W13.0XXA	Fall from, out of or through balcony, initial encounter	Diagnosis	ICD-10-CM
W13.0XXD	Fall from, out of or through balcony, subsequent encounter	Diagnosis	ICD-10-CM
W13.0XXS	Fall from, out of or through balcony, sequela	Diagnosis	ICD-10-CM
W13.1XXA	Fall from, out of or through bridge, initial encounter	Diagnosis	ICD-10-CM
W13.1XXD	Fall from, out of or through bridge, subsequent encounter	Diagnosis	ICD-10-CM
W13.1XXS	Fall from, out of or through bridge, sequela	Diagnosis	ICD-10-CM
W13.2XXA	Fall from, out of or through roof, initial encounter	Diagnosis	ICD-10-CM
W13.2XXD	Fall from, out of or through roof, subsequent encounter	Diagnosis	ICD-10-CM
W13.2XXS	Fall from, out of or through roof, sequela	Diagnosis	ICD-10-CM
W13.3XXA	Fall through floor, initial encounter	Diagnosis	ICD-10-CM
W13.3XXD	Fall through floor, subsequent encounter	Diagnosis	ICD-10-CM
W13.3XXS	Fall through floor, sequela	Diagnosis	ICD-10-CM
W13.4XXA	Fall from, out of or through window, initial encounter	Diagnosis	ICD-10-CM
W13.4XXD	Fall from, out of or through window, subsequent encounter	Diagnosis	ICD-10-CM
W13.4XXS	Fall from, out of or through window, sequela	Diagnosis	ICD-10-CM
W13.8XXA	Fall from, out of or through other building or structure, initial encounter	Diagnosis	ICD-10-CM
W13.8XXD	Fall from, out of or through other building or structure, subsequent encounter	Diagnosis	ICD-10-CM
W13.8XXS	Fall from, out of or through other building or structure, sequela	Diagnosis	ICD-10-CM
W13.9XXA	Fall from, out of or through building, not otherwise specified, initial encounter	Diagnosis	ICD-10-CM
W13.9XXD	Fall from, out of or through building, not otherwise specified, subsequent encounter	Diagnosis	ICD-10-CM
W13.9XXS	Fall from, out of or through building, not otherwise specified, sequela	Diagnosis	ICD-10-CM
W14.XXXA	Fall from tree, initial encounter	Diagnosis	ICD-10-CM
W14.XXXD	Fall from tree, subsequent encounter	Diagnosis	ICD-10-CM
W14.XXXS	Fall from tree, sequela	Diagnosis	ICD-10-CM
W15.XXXA	Fall from cliff, initial encounter	Diagnosis	ICD-10-CM
W15.XXXD	Fall from cliff, subsequent encounter	Diagnosis	ICD-10-CM
W15.XXXS	Fall from cliff, sequela	Diagnosis	ICD-10-CM
W16.011A	Fall into swimming pool striking water surface causing drowning and submersion, initial encounter	Diagnosis	ICD-10-CM
W16.011D	Fall into swimming pool striking water surface causing drowning and submersion, subsequent encounter	Diagnosis	ICD-10-CM
W16.011S	Fall into swimming pool striking water surface causing drowning and submersion, sequela	Diagnosis	ICD-10-CM
W16.012A	Fall into swimming pool striking water surface causing other injury, initial encounter	Diagnosis	ICD-10-CM

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
W16.012D	Fall into swimming pool striking water surface causing other injury, subsequent encounter	Diagnosis	ICD-10-CM
W16.012S	Fall into swimming pool striking water surface causing other injury, sequela	Diagnosis	ICD-10-CM
W16.021A	Fall into swimming pool striking bottom causing drowning and submersion, initial encounter	Diagnosis	ICD-10-CM
W16.021D	Fall into swimming pool striking bottom causing drowning and submersion, subsequent encounter	Diagnosis	ICD-10-CM
W16.021S	Fall into swimming pool striking bottom causing drowning and submersion, sequela	Diagnosis	ICD-10-CM
W16.022A	Fall into swimming pool striking bottom causing other injury, initial encounter	Diagnosis	ICD-10-CM
W16.022D	Fall into swimming pool striking bottom causing other injury, subsequent encounter	Diagnosis	ICD-10-CM
W16.022S	Fall into swimming pool striking bottom causing other injury, sequela	Diagnosis	ICD-10-CM
W16.031A	Fall into swimming pool striking wall causing drowning and submersion, initial encounter	Diagnosis	ICD-10-CM
W16.031D	Fall into swimming pool striking wall causing drowning and submersion, subsequent encounter	Diagnosis	ICD-10-CM
W16.031S	Fall into swimming pool striking wall causing drowning and submersion, sequela	Diagnosis	ICD-10-CM
W16.032A	Fall into swimming pool striking wall causing other injury, initial encounter	Diagnosis	ICD-10-CM
W16.032D	Fall into swimming pool striking wall causing other injury, subsequent encounter	Diagnosis	ICD-10-CM
W16.032S	Fall into swimming pool striking wall causing other injury, sequela	Diagnosis	ICD-10-CM
W16.111A	Fall into natural body of water striking water surface causing drowning and submersion, initial encounter	Diagnosis	ICD-10-CM
W16.111D	Fall into natural body of water striking water surface causing drowning and submersion, subsequent encounter	Diagnosis	ICD-10-CM
W16.111S	Fall into natural body of water striking water surface causing drowning and submersion, sequela	Diagnosis	ICD-10-CM
W16.112A	Fall into natural body of water striking water surface causing other injury, initial encounter	Diagnosis	ICD-10-CM
W16.112D	Fall into natural body of water striking water surface causing other injury, subsequent encounter	Diagnosis	ICD-10-CM
W16.112S	Fall into natural body of water striking water surface causing other injury, sequela	Diagnosis	ICD-10-CM
W16.121A	Fall into natural body of water striking bottom causing drowning and submersion, initial encounter	Diagnosis	ICD-10-CM
W16.121D	Fall into natural body of water striking bottom causing drowning and submersion, subsequent encounter	Diagnosis	ICD-10-CM
W16.121S	Fall into natural body of water striking bottom causing drowning and submersion, sequela	Diagnosis	ICD-10-CM
W16.122A	Fall into natural body of water striking bottom causing other injury, initial encounter	Diagnosis	ICD-10-CM
W16.122D	Fall into natural body of water striking bottom causing other injury, subsequent encounter	Diagnosis	ICD-10-CM
W16.122S	Fall into natural body of water striking bottom causing other injury, sequela	Diagnosis	ICD-10-CM
W16.131A	Fall into natural body of water striking side causing drowning and submersion, initial encounter	Diagnosis	ICD-10-CM
W16.131D	Fall into natural body of water striking side causing drowning and submersion, subsequent encounter	Diagnosis	ICD-10-CM
W16.131S	Fall into natural body of water striking side causing drowning and submersion, sequela	Diagnosis	ICD-10-CM
W16.132A	Fall into natural body of water striking side causing other injury, initial encounter	Diagnosis	ICD-10-CM
W16.132D	Fall into natural body of water striking side causing other injury, subsequent encounter	Diagnosis	ICD-10-CM
W16.132S	Fall into natural body of water striking side causing other injury, sequela	Diagnosis	ICD-10-CM
W16.211A	Fall in (into) filled bathtub causing drowning and submersion, initial encounter	Diagnosis	ICD-10-CM
W16.211D	Fall in (into) filled bathtub causing drowning and submersion, subsequent encounter	Diagnosis	ICD-10-CM
W16.211S	Fall in (into) filled bathtub causing drowning and submersion, sequela	Diagnosis	ICD-10-CM
W16.212A	Fall in (into) filled bathtub causing other injury, initial encounter	Diagnosis	ICD-10-CM
W16.212D	Fall in (into) filled bathtub causing other injury, subsequent encounter	Diagnosis	ICD-10-CM

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
W16.212S	Fall in (into) filled bathtub causing other injury, sequela	Diagnosis	ICD-10-CM
W16.221A	Fall in (into) bucket of water causing drowning and submersion, initial encounter	Diagnosis	ICD-10-CM
W16.221D	Fall in (into) bucket of water causing drowning and submersion, subsequent encounter	Diagnosis	ICD-10-CM
W16.221S	Fall in (into) bucket of water causing drowning and submersion, sequela	Diagnosis	ICD-10-CM
W16.222A	Fall in (into) bucket of water causing other injury, initial encounter	Diagnosis	ICD-10-CM
W16.222D	Fall in (into) bucket of water causing other injury, subsequent encounter	Diagnosis	ICD-10-CM
W16.222S	Fall in (into) bucket of water causing other injury, sequela	Diagnosis	ICD-10-CM
W16.311A	Fall into other water striking water surface causing drowning and submersion, initial encounter	Diagnosis	ICD-10-CM
W16.311D	Fall into other water striking water surface causing drowning and submersion, subsequent encounter	Diagnosis	ICD-10-CM
W16.311S	Fall into other water striking water surface causing drowning and submersion, sequela	Diagnosis	ICD-10-CM
W16.312A	Fall into other water striking water surface causing other injury, initial encounter	Diagnosis	ICD-10-CM
W16.312D	Fall into other water striking water surface causing other injury, subsequent encounter	Diagnosis	ICD-10-CM
W16.312S	Fall into other water striking water surface causing other injury, sequela	Diagnosis	ICD-10-CM
W16.321A	Fall into other water striking bottom causing drowning and submersion, initial encounter	Diagnosis	ICD-10-CM
W16.321D	Fall into other water striking bottom causing drowning and submersion, subsequent encounter	Diagnosis	ICD-10-CM
W16.321S	Fall into other water striking bottom causing drowning and submersion, sequela	Diagnosis	ICD-10-CM
W16.322A	Fall into other water striking bottom causing other injury, initial encounter	Diagnosis	ICD-10-CM
W16.322D	Fall into other water striking bottom causing other injury, subsequent encounter	Diagnosis	ICD-10-CM
W16.322S	Fall into other water striking bottom causing other injury, sequela	Diagnosis	ICD-10-CM
W16.331A	Fall into other water striking wall causing drowning and submersion, initial encounter	Diagnosis	ICD-10-CM
W16.331D	Fall into other water striking wall causing drowning and submersion, subsequent encounter	Diagnosis	ICD-10-CM
W16.331S	Fall into other water striking wall causing drowning and submersion, sequela	Diagnosis	ICD-10-CM
W16.332A	Fall into other water striking wall causing other injury, initial encounter	Diagnosis	ICD-10-CM
W16.332D	Fall into other water striking wall causing other injury, subsequent encounter	Diagnosis	ICD-10-CM
W16.332S	Fall into other water striking wall causing other injury, sequela	Diagnosis	ICD-10-CM
W16.41XA	Fall into unspecified water causing drowning and submersion, initial encounter	Diagnosis	ICD-10-CM
W16.41XD	Fall into unspecified water causing drowning and submersion, subsequent encounter	Diagnosis	ICD-10-CM
W16.41XS	Fall into unspecified water causing drowning and submersion, sequela	Diagnosis	ICD-10-CM
W16.42XA	Fall into unspecified water causing other injury, initial encounter	Diagnosis	ICD-10-CM
W16.42XD	Fall into unspecified water causing other injury, subsequent encounter	Diagnosis	ICD-10-CM
W16.42XS	Fall into unspecified water causing other injury, sequela	Diagnosis	ICD-10-CM
W16.511A	Jumping or diving into swimming pool striking water surface causing drowning and submersion, initial encounter	Diagnosis	ICD-10-CM
W16.511D	Jumping or diving into swimming pool striking water surface causing drowning and submersion, subsequent encounter	Diagnosis	ICD-10-CM
W16.511S	Jumping or diving into swimming pool striking water surface causing drowning and submersion, sequela	Diagnosis	ICD-10-CM
W16.512A	Jumping or diving into swimming pool striking water surface causing other injury, initial encounter	Diagnosis	ICD-10-CM
W16.512D	Jumping or diving into swimming pool striking water surface causing other injury, subsequent encounter	Diagnosis	ICD-10-CM
W16.512S	Jumping or diving into swimming pool striking water surface causing other injury, sequela	Diagnosis	ICD-10-CM
W16.521A	Jumping or diving into swimming pool striking bottom causing drowning and submersion, initial encounter	Diagnosis	ICD-10-CM

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
W16.521D	Jumping or diving into swimming pool striking bottom causing drowning and submersion, subsequent encounter	Diagnosis	ICD-10-CM
W16.521S	Jumping or diving into swimming pool striking bottom causing drowning and submersion, sequela	Diagnosis	ICD-10-CM
W16.522A	Jumping or diving into swimming pool striking bottom causing other injury, initial encounter	Diagnosis	ICD-10-CM
W16.522D	Jumping or diving into swimming pool striking bottom causing other injury, subsequent encounter	Diagnosis	ICD-10-CM
W16.522S	Jumping or diving into swimming pool striking bottom causing other injury, sequela	Diagnosis	ICD-10-CM
W16.531A	Jumping or diving into swimming pool striking wall causing drowning and submersion, initial encounter	Diagnosis	ICD-10-CM
W16.531D	Jumping or diving into swimming pool striking wall causing drowning and submersion, subsequent encounter	Diagnosis	ICD-10-CM
W16.531S	Jumping or diving into swimming pool striking wall causing drowning and submersion, sequela	Diagnosis	ICD-10-CM
W16.532A	Jumping or diving into swimming pool striking wall causing other injury, initial encounter	Diagnosis	ICD-10-CM
W16.532D	Jumping or diving into swimming pool striking wall causing other injury, subsequent encounter	Diagnosis	ICD-10-CM
W16.532S	Jumping or diving into swimming pool striking wall causing other injury, sequela	Diagnosis	ICD-10-CM
W16.611A	Jumping or diving into natural body of water striking water surface causing drowning and submersion, initial encounter	Diagnosis	ICD-10-CM
W16.611D	Jumping or diving into natural body of water striking water surface causing drowning and submersion, subsequent encounter	Diagnosis	ICD-10-CM
W16.611S	Jumping or diving into natural body of water striking water surface causing drowning and submersion, sequela	Diagnosis	ICD-10-CM
W16.612A	Jumping or diving into natural body of water striking water surface causing other injury, initial encounter	Diagnosis	ICD-10-CM
W16.612D	Jumping or diving into natural body of water striking water surface causing other injury, subsequent encounter	Diagnosis	ICD-10-CM
W16.612S	Jumping or diving into natural body of water striking water surface causing other injury, sequela	Diagnosis	ICD-10-CM
W16.621A	Jumping or diving into natural body of water striking bottom causing drowning and submersion, initial encounter	Diagnosis	ICD-10-CM
W16.621D	Jumping or diving into natural body of water striking bottom causing drowning and submersion, subsequent encounter	Diagnosis	ICD-10-CM
W16.621S	Jumping or diving into natural body of water striking bottom causing drowning and submersion, sequela	Diagnosis	ICD-10-CM
W16.622A	Jumping or diving into natural body of water striking bottom causing other injury, initial encounter	Diagnosis	ICD-10-CM
W16.622D	Jumping or diving into natural body of water striking bottom causing other injury, subsequent encounter	Diagnosis	ICD-10-CM
W16.622S	Jumping or diving into natural body of water striking bottom causing other injury, sequela	Diagnosis	ICD-10-CM
W16.711A	Jumping or diving from boat striking water surface causing drowning and submersion, initial encounter	Diagnosis	ICD-10-CM
W16.711D	Jumping or diving from boat striking water surface causing drowning and submersion, subsequent encounter	Diagnosis	ICD-10-CM
W16.711S	Jumping or diving from boat striking water surface causing drowning and submersion, sequela	Diagnosis	ICD-10-CM

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
W16.712A	Jumping or diving from boat striking water surface causing other injury, initial encounter	Diagnosis	ICD-10-CM
W16.712D	Jumping or diving from boat striking water surface causing other injury, subsequent encounter	Diagnosis	ICD-10-CM
W16.712S	Jumping or diving from boat striking water surface causing other injury, sequela	Diagnosis	ICD-10-CM
W16.721A	Jumping or diving from boat striking bottom causing drowning and submersion, initial encounter	Diagnosis	ICD-10-CM
W16.721D	Jumping or diving from boat striking bottom causing drowning and submersion, subsequent encounter	Diagnosis	ICD-10-CM
W16.721S	Jumping or diving from boat striking bottom causing drowning and submersion, sequela	Diagnosis	ICD-10-CM
W16.722A	Jumping or diving from boat striking bottom causing other injury, initial encounter	Diagnosis	ICD-10-CM
W16.722D	Jumping or diving from boat striking bottom causing other injury, subsequent encounter	Diagnosis	ICD-10-CM
W16.722S	Jumping or diving from boat striking bottom causing other injury, sequela	Diagnosis	ICD-10-CM
W16.811A	Jumping or diving into other water striking water surface causing drowning and submersion, initial encounter	Diagnosis	ICD-10-CM
W16.811D	Jumping or diving into other water striking water surface causing drowning and submersion, subsequent encounter	Diagnosis	ICD-10-CM
W16.811S	Jumping or diving into other water striking water surface causing drowning and submersion, sequela	Diagnosis	ICD-10-CM
W16.812A	Jumping or diving into other water striking water surface causing other injury, initial encounter	Diagnosis	ICD-10-CM
W16.812D	Jumping or diving into other water striking water surface causing other injury, subsequent encounter	Diagnosis	ICD-10-CM
W16.812S	Jumping or diving into other water striking water surface causing other injury, sequela	Diagnosis	ICD-10-CM
W16.821A	Jumping or diving into other water striking bottom causing drowning and submersion, initial encounter	Diagnosis	ICD-10-CM
W16.821D	Jumping or diving into other water striking bottom causing drowning and submersion, subsequent encounter	Diagnosis	ICD-10-CM
W16.821S	Jumping or diving into other water striking bottom causing drowning and submersion, sequela	Diagnosis	ICD-10-CM
W16.822A	Jumping or diving into other water striking bottom causing other injury, initial encounter	Diagnosis	ICD-10-CM
W16.822D	Jumping or diving into other water striking bottom causing other injury, subsequent encounter	Diagnosis	ICD-10-CM
W16.822S	Jumping or diving into other water striking bottom causing other injury, sequela	Diagnosis	ICD-10-CM
W16.831A	Jumping or diving into other water striking wall causing drowning and submersion, initial encounter	Diagnosis	ICD-10-CM
W16.831D	Jumping or diving into other water striking wall causing drowning and submersion, subsequent encounter	Diagnosis	ICD-10-CM
W16.831S	Jumping or diving into other water striking wall causing drowning and submersion, sequela	Diagnosis	ICD-10-CM
W16.832A	Jumping or diving into other water striking wall causing other injury, initial encounter	Diagnosis	ICD-10-CM
W16.832D	Jumping or diving into other water striking wall causing other injury, subsequent encounter	Diagnosis	ICD-10-CM
W16.832S	Jumping or diving into other water striking wall causing other injury, sequela	Diagnosis	ICD-10-CM
W16.91XA	Jumping or diving into unspecified water causing drowning and submersion, initial encounter	Diagnosis	ICD-10-CM
W16.91XD	Jumping or diving into unspecified water causing drowning and submersion, subsequent encounter	Diagnosis	ICD-10-CM
W16.91XS	Jumping or diving into unspecified water causing drowning and submersion, sequela	Diagnosis	ICD-10-CM
W16.92XA	Jumping or diving into unspecified water causing other injury, initial encounter	Diagnosis	ICD-10-CM
W16.92XD	Jumping or diving into unspecified water causing other injury, subsequent encounter	Diagnosis	ICD-10-CM

Sentinel

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
W16.92XS	Jumping or diving into unspecified water causing other injury, sequela	Diagnosis	ICD-10-CM
W17.0XXA	Fall into well, initial encounter	Diagnosis	ICD-10-CM
W17.0XXD	Fall into well, subsequent encounter	Diagnosis	ICD-10-CM
W17.0XXS	Fall into well, sequela	Diagnosis	ICD-10-CM
W17.1XXA	Fall into storm drain or manhole, initial encounter	Diagnosis	ICD-10-CM
W17.1XXD	Fall into storm drain or manhole, subsequent encounter	Diagnosis	ICD-10-CM
W17.1XXS	Fall into storm drain or manhole, sequela	Diagnosis	ICD-10-CM
W17.2XXA	Fall into hole, initial encounter	Diagnosis	ICD-10-CM
W17.2XXD	Fall into hole, subsequent encounter	Diagnosis	ICD-10-CM
W17.2XXS	Fall into hole, sequela	Diagnosis	ICD-10-CM
W17.3XXA	Fall into empty swimming pool, initial encounter	Diagnosis	ICD-10-CM
W17.3XXD	Fall into empty swimming pool, subsequent encounter	Diagnosis	ICD-10-CM
W17.3XXS	Fall into empty swimming pool, sequela	Diagnosis	ICD-10-CM
W17.4XXA	Fall from dock, initial encounter	Diagnosis	ICD-10-CM
W17.4XXD	Fall from dock, subsequent encounter	Diagnosis	ICD-10-CM
W17.4XXS	Fall from dock, sequela	Diagnosis	ICD-10-CM
W17.81XA	Fall down embankment (hill), initial encounter	Diagnosis	ICD-10-CM
W17.81XD	Fall down embankment (hill), subsequent encounter	Diagnosis	ICD-10-CM
W17.81XS	Fall down embankment (hill), sequela	Diagnosis	ICD-10-CM
W17.82XA	Fall from (out of) grocery cart, initial encounter	Diagnosis	ICD-10-CM
W17.82XD	Fall from (out of) grocery cart, subsequent encounter	Diagnosis	ICD-10-CM
W17.82XS	Fall from (out of) grocery cart, sequela	Diagnosis	ICD-10-CM
W17.89XA	Other fall from one level to another, initial encounter	Diagnosis	ICD-10-CM
W17.89XD	Other fall from one level to another, subsequent encounter	Diagnosis	ICD-10-CM
W17.89XS	Other fall from one level to another, sequela	Diagnosis	ICD-10-CM
W18.00XA	Striking against unspecified object with subsequent fall, initial encounter	Diagnosis	ICD-10-CM
W18.00XD	Striking against unspecified object with subsequent fall, subsequent encounter	Diagnosis	ICD-10-CM
W18.00XS	Striking against unspecified object with subsequent fall, sequela	Diagnosis	ICD-10-CM
W18.01XA	Striking against sports equipment with subsequent fall, initial encounter	Diagnosis	ICD-10-CM
W18.01XD	Striking against sports equipment with subsequent fall, subsequent encounter	Diagnosis	ICD-10-CM
W18.01XS	Striking against sports equipment with subsequent fall, sequela	Diagnosis	ICD-10-CM
W18.02XA	Striking against glass with subsequent fall, initial encounter	Diagnosis	ICD-10-CM
W18.02XD	Striking against glass with subsequent fall, subsequent encounter	Diagnosis	ICD-10-CM
W18.02XS	Striking against glass with subsequent fall, sequela	Diagnosis	ICD-10-CM
W18.09XA	Striking against other object with subsequent fall, initial encounter	Diagnosis	ICD-10-CM
W18.09XD	Striking against other object with subsequent fall, subsequent encounter	Diagnosis	ICD-10-CM
W18.09XS	Striking against other object with subsequent fall, sequela	Diagnosis	ICD-10-CM
W18.11XA	Fall from or off toilet without subsequent striking against object, initial encounter	Diagnosis	ICD-10-CM
W18.11XD	Fall from or off toilet without subsequent striking against object, subsequent encounter	Diagnosis	ICD-10-CM
W18.11XS	Fall from or off toilet without subsequent striking against object, sequela	Diagnosis	ICD-10-CM
W18.12XA	Fall from or off toilet with subsequent striking against object, initial encounter	Diagnosis	ICD-10-CM
W18.12XD	Fall from or off toilet with subsequent striking against object, subsequent encounter	Diagnosis	ICD-10-CM
W18.12XS	Fall from or off toilet with subsequent striking against object, sequela	Diagnosis	ICD-10-CM
W18.2XXA	Fall in (into) shower or empty bathtub, initial encounter	Diagnosis	ICD-10-CM
W18.2XXD	Fall in (into) shower or empty bathtub, subsequent encounter	Diagnosis	ICD-10-CM
W18.2XXS	Fall in (into) shower or empty bathtub, sequela	Diagnosis	ICD-10-CM
W18.30XA	Fall on same level, unspecified, initial encounter	Diagnosis	ICD-10-CM
W18.30XD	Fall on same level, unspecified, subsequent encounter	Diagnosis	ICD-10-CM

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
W18.30XS	Fall on same level, unspecified, sequela	Diagnosis	ICD-10-CM
W18.31XA	Fall on same level due to stepping on an object, initial encounter	Diagnosis	ICD-10-CM
W18.31XD	Fall on same level due to stepping on an object, subsequent encounter	Diagnosis	ICD-10-CM
W18.31XS	Fall on same level due to stepping on an object, sequela	Diagnosis	ICD-10-CM
W18.39XA	Other fall on same level, initial encounter	Diagnosis	ICD-10-CM
W18.39XD	Other fall on same level, subsequent encounter	Diagnosis	ICD-10-CM
W18.39XS	Other fall on same level, sequela	Diagnosis	ICD-10-CM
W18.40XA	Slipping, tripping and stumbling without falling, unspecified, initial encounter	Diagnosis	ICD-10-CM
W18.40XD	Slipping, tripping and stumbling without falling, unspecified, subsequent encounter	Diagnosis	ICD-10-CM
W18.40XS	Slipping, tripping and stumbling without falling, unspecified, sequela	Diagnosis	ICD-10-CM
W18.41XA	Slipping, tripping and stumbling without falling due to stepping on object, initial encounter	Diagnosis	ICD-10-CM
W18.41XD	Slipping, tripping and stumbling without falling due to stepping on object, subsequent encounter	Diagnosis	ICD-10-CM
W18.41XS	Slipping, tripping and stumbling without falling due to stepping on object, sequela	Diagnosis	ICD-10-CM
W18.42XA	Slipping, tripping and stumbling without falling due to stepping into hole or opening, initial encounter	Diagnosis	ICD-10-CM
W18.42XD	Slipping, tripping and stumbling without falling due to stepping into hole or opening, subsequent encounter	Diagnosis	ICD-10-CM
W18.42XS	Slipping, tripping and stumbling without falling due to stepping into hole or opening, sequela	Diagnosis	ICD-10-CM
W18.43XA	Slipping, tripping and stumbling without falling due to stepping from one level to another, initial encounter	Diagnosis	ICD-10-CM
W18.43XD	Slipping, tripping and stumbling without falling due to stepping from one level to another, subsequent encounter	Diagnosis	ICD-10-CM
W18.43XS	Slipping, tripping and stumbling without falling due to stepping from one level to another, sequela	Diagnosis	ICD-10-CM
W18.49XA	Other slipping, tripping and stumbling without falling, initial encounter	Diagnosis	ICD-10-CM
W18.49XD	Other slipping, tripping and stumbling without falling, subsequent encounter	Diagnosis	ICD-10-CM
W18.49XS	Other slipping, tripping and stumbling without falling, sequela	Diagnosis	ICD-10-CM
W19.XXXA	Unspecified fall, initial encounter	Diagnosis	ICD-10-CM
W19.XXXD	Unspecified fall, subsequent encounter	Diagnosis	ICD-10-CM
W19.XXXS	Unspecified fall, sequela	Diagnosis	ICD-10-CM
W50.0XXA	Accidental hit or strike by another person, initial encounter	Diagnosis	ICD-10-CM
W50.0XXD	Accidental hit or strike by another person, subsequent encounter	Diagnosis	ICD-10-CM
W50.1XXA	Accidental kick by another person, initial encounter	Diagnosis	ICD-10-CM
W50.1XXD	Accidental kick by another person, subsequent encounter	Diagnosis	ICD-10-CM
W50.2XXA	Accidental twist by another person, initial encounter	Diagnosis	ICD-10-CM
W50.2XXD	Accidental twist by another person, subsequent encounter	Diagnosis	ICD-10-CM
W50.4XXA	Accidental scratch by another person, initial encounter	Diagnosis	ICD-10-CM
W50.4XXD	Accidental scratch by another person, subsequent encounter	Diagnosis	ICD-10-CM
W51.XXXA	Accidental striking against or bumped into by another person, initial encounter	Diagnosis	ICD-10-CM
W51.XXXD	Accidental striking against or bumped into by another person, subsequent encounter	Diagnosis	ICD-10-CM
W52.XXXA	Crushed, pushed or stepped on by crowd or human stampede, initial encounter	Diagnosis	ICD-10-CM
S22.31XA	Fracture of one rib, right side, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S22.31XB	Fracture of one rib, right side, initial encounter for open fracture	Diagnosis	ICD-10-CM
S22.32XA	Fracture of one rib, left side, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S22.32XB	Fracture of one rib, left side, initial encounter for open fracture	Diagnosis	ICD-10-CM
S22.39XA	Fracture of one rib, unspecified side, initial encounter for closed fracture	Diagnosis	ICD-10-CM

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
S22.39XB	Fracture of one rib, unspecified side, initial encounter for open fracture	Diagnosis	ICD-10-CM
S22.41XA	Multiple fractures of ribs, right side, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S22.41XB	Multiple fractures of ribs, right side, initial encounter for open fracture	Diagnosis	ICD-10-CM
S22.42XA	Multiple fractures of ribs, left side, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S22.42XB	Multiple fractures of ribs, left side, initial encounter for open fracture	Diagnosis	ICD-10-CM
S22.43XA	Multiple fractures of ribs, bilateral, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S22.43XB	Multiple fractures of ribs, bilateral, initial encounter for open fracture	Diagnosis	ICD-10-CM
S22.49XA	Multiple fractures of ribs, unspecified side, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S22.49XB	Multiple fractures of ribs, unspecified side, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.001A	Fracture of unspecified part of right clavicle, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.001B	Fracture of unspecified part of right clavicle, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.002A	Fracture of unspecified part of left clavicle, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.002B	Fracture of unspecified part of left clavicle, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.009A	Fracture of unspecified part of unspecified clavicle, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.009B	Fracture of unspecified part of unspecified clavicle, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.011A	Anterior displaced fracture of sternal end of right clavicle, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.011B	Anterior displaced fracture of sternal end of right clavicle, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.012A	Anterior displaced fracture of sternal end of left clavicle, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.012B	Anterior displaced fracture of sternal end of left clavicle, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.013A	Anterior displaced fracture of sternal end of unspecified clavicle, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.013B	Anterior displaced fracture of sternal end of unspecified clavicle, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.014A	Posterior displaced fracture of sternal end of right clavicle, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.014B	Posterior displaced fracture of sternal end of right clavicle, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.015A	Posterior displaced fracture of sternal end of left clavicle, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.015B	Posterior displaced fracture of sternal end of left clavicle, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.016A	Posterior displaced fracture of sternal end of unspecified clavicle, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.016B	Posterior displaced fracture of sternal end of unspecified clavicle, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.017A	Nondisplaced fracture of sternal end of right clavicle, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.017B	Nondisplaced fracture of sternal end of right clavicle, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.018A	Nondisplaced fracture of sternal end of left clavicle, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.018B	Nondisplaced fracture of sternal end of left clavicle, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.019A	Nondisplaced fracture of sternal end of unspecified clavicle, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.019B	Nondisplaced fracture of sternal end of unspecified clavicle, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.021A	Displaced fracture of shaft of right clavicle, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.021B	Displaced fracture of shaft of right clavicle, initial encounter for open fracture	Diagnosis	ICD-10-CM

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
S42.022A	Displaced fracture of shaft of left clavicle, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.022B	Displaced fracture of shaft of left clavicle, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.023A	Displaced fracture of shaft of unspecified clavicle, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.023B	Displaced fracture of shaft of unspecified clavicle, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.024A	Nondisplaced fracture of shaft of right clavicle, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.024B	Nondisplaced fracture of shaft of right clavicle, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.025A	Nondisplaced fracture of shaft of left clavicle, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.025B	Nondisplaced fracture of shaft of left clavicle, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.026A	Nondisplaced fracture of shaft of unspecified clavicle, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.026B	Nondisplaced fracture of shaft of unspecified clavicle, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.031A	Displaced fracture of lateral end of right clavicle, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.031B	Displaced fracture of lateral end of right clavicle, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.032A	Displaced fracture of lateral end of left clavicle, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.032B	Displaced fracture of lateral end of left clavicle, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.033A	Displaced fracture of lateral end of unspecified clavicle, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.033B	Displaced fracture of lateral end of unspecified clavicle, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.034A	Nondisplaced fracture of lateral end of right clavicle, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.034B	Nondisplaced fracture of lateral end of right clavicle, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.035A	Nondisplaced fracture of lateral end of left clavicle, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.035B	Nondisplaced fracture of lateral end of left clavicle, initial encounter for open fracture	Diagnosis	ICD-10-CM
S42.036A	Nondisplaced fracture of lateral end of unspecified clavicle, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S42.036B	Nondisplaced fracture of lateral end of unspecified clavicle, initial encounter for open fracture	Diagnosis	ICD-10-CM
S52.001A	Unspecified fracture of upper end of right ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.001B	Unspecified fracture of upper end of right ulna, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.001C	Unspecified fracture of upper end of right ulna, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.002A	Unspecified fracture of upper end of left ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.002B	Unspecified fracture of upper end of left ulna, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.002C	Unspecified fracture of upper end of left ulna, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.009A	Unspecified fracture of upper end of unspecified ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.009B	Unspecified fracture of upper end of unspecified ulna, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.009C	Unspecified fracture of upper end of unspecified ulna, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.011A	Torus fracture of upper end of right ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.012A	Torus fracture of upper end of left ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.019A	Torus fracture of upper end of unspecified ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.021A	Displaced fracture of olecranon process without intraarticular extension of right ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.021B	Displaced fracture of olecranon process without intraarticular extension of right ulna, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.021C	Displaced fracture of olecranon process without intraarticular extension of right ulna, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
S52.022A	Displaced fracture of olecranon process without intraarticular extension of left ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.022B	Displaced fracture of olecranon process without intraarticular extension of left ulna, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.022C	Displaced fracture of olecranon process without intraarticular extension of left ulna, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.023A	Displaced fracture of olecranon process without intraarticular extension of unspecified ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.023B	Displaced fracture of olecranon process without intraarticular extension of unspecified ulna, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.023C	Displaced fracture of olecranon process without intraarticular extension of unspecified ulna, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.024A	Nondisplaced fracture of olecranon process without intraarticular extension of right ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.024B	Nondisplaced fracture of olecranon process without intraarticular extension of right ulna, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.024C	Nondisplaced fracture of olecranon process without intraarticular extension of right ulna, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.025A	Nondisplaced fracture of olecranon process without intraarticular extension of left ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.025B	Nondisplaced fracture of olecranon process without intraarticular extension of left ulna, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.025C	Nondisplaced fracture of olecranon process without intraarticular extension of left ulna, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.026A	Nondisplaced fracture of olecranon process without intraarticular extension of unspecified ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.026B	Nondisplaced fracture of olecranon process without intraarticular extension of unspecified ulna, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.026C	Nondisplaced fracture of olecranon process without intraarticular extension of unspecified ulna, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.031A	Displaced fracture of olecranon process with intraarticular extension of right ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.031B	Displaced fracture of olecranon process with intraarticular extension of right ulna, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.031C	Displaced fracture of olecranon process with intraarticular extension of right ulna, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.032A	Displaced fracture of olecranon process with intraarticular extension of left ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.032B	Displaced fracture of olecranon process with intraarticular extension of left ulna, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.032C	Displaced fracture of olecranon process with intraarticular extension of left ulna, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.033A	Displaced fracture of olecranon process with intraarticular extension of unspecified ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.033B	Displaced fracture of olecranon process with intraarticular extension of unspecified ulna, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.033C	Displaced fracture of olecranon process with intraarticular extension of unspecified ulna, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
S52.034A	Nondisplaced fracture of olecranon process with intraarticular extension of right ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.034B	Nondisplaced fracture of olecranon process with intraarticular extension of right ulna, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.034C	Nondisplaced fracture of olecranon process with intraarticular extension of right ulna, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.035A	Nondisplaced fracture of olecranon process with intraarticular extension of left ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.035B	Nondisplaced fracture of olecranon process with intraarticular extension of left ulna, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.035C	Nondisplaced fracture of olecranon process with intraarticular extension of left ulna, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.036A	Nondisplaced fracture of olecranon process with intraarticular extension of unspecified ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.036B	Nondisplaced fracture of olecranon process with intraarticular extension of unspecified ulna, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.036C	Nondisplaced fracture of olecranon process with intraarticular extension of unspecified ulna, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.041A	Displaced fracture of coronoid process of right ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.041B	Displaced fracture of coronoid process of right ulna, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.041C	Displaced fracture of coronoid process of right ulna, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.042A	Displaced fracture of coronoid process of left ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.042B	Displaced fracture of coronoid process of left ulna, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.042C	Displaced fracture of coronoid process of left ulna, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.043A	Displaced fracture of coronoid process of unspecified ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.043B	Displaced fracture of coronoid process of unspecified ulna, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.043C	Displaced fracture of coronoid process of unspecified ulna, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.044A	Nondisplaced fracture of coronoid process of right ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.044B	Nondisplaced fracture of coronoid process of right ulna, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.044C	Nondisplaced fracture of coronoid process of right ulna, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.045A	Nondisplaced fracture of coronoid process of left ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.045B	Nondisplaced fracture of coronoid process of left ulna, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.045C	Nondisplaced fracture of coronoid process of left ulna, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.046A	Nondisplaced fracture of coronoid process of unspecified ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
S52.046B	Nondisplaced fracture of coronoid process of unspecified ulna, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.046C	Nondisplaced fracture of coronoid process of unspecified ulna, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.091A	Other fracture of upper end of right ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.091B	Other fracture of upper end of right ulna, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.091C	Other fracture of upper end of right ulna, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.092A	Other fracture of upper end of left ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.092B	Other fracture of upper end of left ulna, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.092C	Other fracture of upper end of left ulna, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.099A	Other fracture of upper end of unspecified ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.099B	Other fracture of upper end of unspecified ulna, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.099C	Other fracture of upper end of unspecified ulna, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.101A	Unspecified fracture of upper end of right radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.101B	Unspecified fracture of upper end of right radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.101C	Unspecified fracture of upper end of right radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.102A	Unspecified fracture of upper end of left radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.102B	Unspecified fracture of upper end of left radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.102C	Unspecified fracture of upper end of left radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.109A	Unspecified fracture of upper end of unspecified radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.109B	Unspecified fracture of upper end of unspecified radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.109C	Unspecified fracture of upper end of unspecified radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.111A	Torus fracture of upper end of right radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.112A	Torus fracture of upper end of left radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.119A	Torus fracture of upper end of unspecified radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.121A	Displaced fracture of head of right radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.121B	Displaced fracture of head of right radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.121C	Displaced fracture of head of right radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.122A	Displaced fracture of head of left radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.122B	Displaced fracture of head of left radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.122C	Displaced fracture of head of left radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.123A	Displaced fracture of head of unspecified radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.123B	Displaced fracture of head of unspecified radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
S52.123C	Displaced fracture of head of unspecified radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.124A	Nondisplaced fracture of head of right radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.124B	Nondisplaced fracture of head of right radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.124C	Nondisplaced fracture of head of right radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.125A	Nondisplaced fracture of head of left radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.125B	Nondisplaced fracture of head of left radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.125C	Nondisplaced fracture of head of left radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.126A	Nondisplaced fracture of head of unspecified radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.126B	Nondisplaced fracture of head of unspecified radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.126C	Nondisplaced fracture of head of unspecified radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.131A	Displaced fracture of neck of right radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.131B	Displaced fracture of neck of right radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.131C	Displaced fracture of neck of right radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.132A	Displaced fracture of neck of left radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.132B	Displaced fracture of neck of left radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.132C	Displaced fracture of neck of left radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.133A	Displaced fracture of neck of unspecified radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.133B	Displaced fracture of neck of unspecified radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.133C	Displaced fracture of neck of unspecified radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.134A	Nondisplaced fracture of neck of right radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.134B	Nondisplaced fracture of neck of right radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.134C	Nondisplaced fracture of neck of right radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.135A	Nondisplaced fracture of neck of left radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.135B	Nondisplaced fracture of neck of left radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.135C	Nondisplaced fracture of neck of left radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.136A	Nondisplaced fracture of neck of unspecified radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.136B	Nondisplaced fracture of neck of unspecified radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.136C	Nondisplaced fracture of neck of unspecified radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.181A	Other fracture of upper end of right radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.181B	Other fracture of upper end of right radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.181C	Other fracture of upper end of right radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.182A	Other fracture of upper end of left radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.182B	Other fracture of upper end of left radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
S52.182C	Other fracture of upper end of left radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.189A	Other fracture of upper end of unspecified radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.189B	Other fracture of upper end of unspecified radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.189C	Other fracture of upper end of unspecified radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.201A	Unspecified fracture of shaft of right ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.201B	Unspecified fracture of shaft of right ulna, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.201C	Unspecified fracture of shaft of right ulna, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.202A	Unspecified fracture of shaft of left ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.202B	Unspecified fracture of shaft of left ulna, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.202C	Unspecified fracture of shaft of left ulna, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.209A	Unspecified fracture of shaft of unspecified ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.209B	Unspecified fracture of shaft of unspecified ulna, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.209C	Unspecified fracture of shaft of unspecified ulna, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.211A	Greenstick fracture of shaft of right ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.212A	Greenstick fracture of shaft of left ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.219A	Greenstick fracture of shaft of unspecified ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.221A	Displaced transverse fracture of shaft of right ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.221B	Displaced transverse fracture of shaft of right ulna, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.221C	Displaced transverse fracture of shaft of right ulna, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.222A	Displaced transverse fracture of shaft of left ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.222B	Displaced transverse fracture of shaft of left ulna, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.222C	Displaced transverse fracture of shaft of left ulna, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.223A	Displaced transverse fracture of shaft of unspecified ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.223B	Displaced transverse fracture of shaft of unspecified ulna, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.223C	Displaced transverse fracture of shaft of unspecified ulna, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.224A	Nondisplaced transverse fracture of shaft of right ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.224B	Nondisplaced transverse fracture of shaft of right ulna, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.224C	Nondisplaced transverse fracture of shaft of right ulna, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.225A	Nondisplaced transverse fracture of shaft of left ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.225B	Nondisplaced transverse fracture of shaft of left ulna, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
S52.225C	Nondisplaced transverse fracture of shaft of left ulna, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.226A	Nondisplaced transverse fracture of shaft of unspecified ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.226B	Nondisplaced transverse fracture of shaft of unspecified ulna, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.226C	Nondisplaced transverse fracture of shaft of unspecified ulna, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.231A	Displaced oblique fracture of shaft of right ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.231B	Displaced oblique fracture of shaft of right ulna, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.231C	Displaced oblique fracture of shaft of right ulna, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.232A	Displaced oblique fracture of shaft of left ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.232B	Displaced oblique fracture of shaft of left ulna, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.232C	Displaced oblique fracture of shaft of left ulna, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.233A	Displaced oblique fracture of shaft of unspecified ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.233B	Displaced oblique fracture of shaft of unspecified ulna, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.233C	Displaced oblique fracture of shaft of unspecified ulna, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.234A	Nondisplaced oblique fracture of shaft of right ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.234B	Nondisplaced oblique fracture of shaft of right ulna, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.234C	Nondisplaced oblique fracture of shaft of right ulna, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.235A	Nondisplaced oblique fracture of shaft of left ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.235B	Nondisplaced oblique fracture of shaft of left ulna, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.235C	Nondisplaced oblique fracture of shaft of left ulna, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.236A	Nondisplaced oblique fracture of shaft of unspecified ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.236B	Nondisplaced oblique fracture of shaft of unspecified ulna, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.236C	Nondisplaced oblique fracture of shaft of unspecified ulna, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.241A	Displaced spiral fracture of shaft of ulna, right arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.241B	Displaced spiral fracture of shaft of ulna, right arm, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.241C	Displaced spiral fracture of shaft of ulna, right arm, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.242A	Displaced spiral fracture of shaft of ulna, left arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.242B	Displaced spiral fracture of shaft of ulna, left arm, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
S52.242C	Displaced spiral fracture of shaft of ulna, left arm, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.243A	Displaced spiral fracture of shaft of ulna, unspecified arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.243B	Displaced spiral fracture of shaft of ulna, unspecified arm, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.243C	Displaced spiral fracture of shaft of ulna, unspecified arm, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.244A	Nondisplaced spiral fracture of shaft of ulna, right arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.244B	Nondisplaced spiral fracture of shaft of ulna, right arm, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.244C	Nondisplaced spiral fracture of shaft of ulna, right arm, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.245A	Nondisplaced spiral fracture of shaft of ulna, left arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.245B	Nondisplaced spiral fracture of shaft of ulna, left arm, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.245C	Nondisplaced spiral fracture of shaft of ulna, left arm, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.246A	Nondisplaced spiral fracture of shaft of ulna, unspecified arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.246B	Nondisplaced spiral fracture of shaft of ulna, unspecified arm, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.246C	Nondisplaced spiral fracture of shaft of ulna, unspecified arm, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.251A	Displaced comminuted fracture of shaft of ulna, right arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.251B	Displaced comminuted fracture of shaft of ulna, right arm, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.251C	Displaced comminuted fracture of shaft of ulna, right arm, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.252A	Displaced comminuted fracture of shaft of ulna, left arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.252B	Displaced comminuted fracture of shaft of ulna, left arm, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.252C	Displaced comminuted fracture of shaft of ulna, left arm, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.253A	Displaced comminuted fracture of shaft of ulna, unspecified arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.253B	Displaced comminuted fracture of shaft of ulna, unspecified arm, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.253C	Displaced comminuted fracture of shaft of ulna, unspecified arm, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.254A	Nondisplaced comminuted fracture of shaft of ulna, right arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.254B	Nondisplaced comminuted fracture of shaft of ulna, right arm, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
S52.254C	Nondisplaced comminuted fracture of shaft of ulna, right arm, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.255A	Nondisplaced comminuted fracture of shaft of ulna, left arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.255B	Nondisplaced comminuted fracture of shaft of ulna, left arm, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.255C	Nondisplaced comminuted fracture of shaft of ulna, left arm, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.256A	Nondisplaced comminuted fracture of shaft of ulna, unspecified arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.256B	Nondisplaced comminuted fracture of shaft of ulna, unspecified arm, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.256C	Nondisplaced comminuted fracture of shaft of ulna, unspecified arm, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.261A	Displaced segmental fracture of shaft of ulna, right arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.261B	Displaced segmental fracture of shaft of ulna, right arm, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.261C	Displaced segmental fracture of shaft of ulna, right arm, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.262A	Displaced segmental fracture of shaft of ulna, left arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.262B	Displaced segmental fracture of shaft of ulna, left arm, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.262C	Displaced segmental fracture of shaft of ulna, left arm, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.263A	Displaced segmental fracture of shaft of ulna, unspecified arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.263B	Displaced segmental fracture of shaft of ulna, unspecified arm, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.263C	Displaced segmental fracture of shaft of ulna, unspecified arm, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.264A	Nondisplaced segmental fracture of shaft of ulna, right arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.264B	Nondisplaced segmental fracture of shaft of ulna, right arm, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.264C	Nondisplaced segmental fracture of shaft of ulna, right arm, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.265A	Nondisplaced segmental fracture of shaft of ulna, left arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.265B	Nondisplaced segmental fracture of shaft of ulna, left arm, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.265C	Nondisplaced segmental fracture of shaft of ulna, left arm, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.266A	Nondisplaced segmental fracture of shaft of ulna, unspecified arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.266B	Nondisplaced segmental fracture of shaft of ulna, unspecified arm, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
S52.266C	Nondisplaced segmental fracture of shaft of ulna, unspecified arm, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.271A	Monteggia's fracture of right ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.271B	Monteggia's fracture of right ulna, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.271C	Monteggia's fracture of right ulna, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.272A	Monteggia's fracture of left ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.272B	Monteggia's fracture of left ulna, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.272C	Monteggia's fracture of left ulna, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.279A	Monteggia's fracture of unspecified ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.279B	Monteggia's fracture of unspecified ulna, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.279C	Monteggia's fracture of unspecified ulna, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.281A	Bent bone of right ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.281B	Bent bone of right ulna, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.281C	Bent bone of right ulna, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.282A	Bent bone of left ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.282B	Bent bone of left ulna, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.282C	Bent bone of left ulna, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.283A	Bent bone of unspecified ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.283B	Bent bone of unspecified ulna, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.283C	Bent bone of unspecified ulna, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.291A	Other fracture of shaft of right ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.291B	Other fracture of shaft of right ulna, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.291C	Other fracture of shaft of right ulna, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.292A	Other fracture of shaft of left ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.292B	Other fracture of shaft of left ulna, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.292C	Other fracture of shaft of left ulna, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.299A	Other fracture of shaft of unspecified ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.299B	Other fracture of shaft of unspecified ulna, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.299C	Other fracture of shaft of unspecified ulna, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.301A	Unspecified fracture of shaft of right radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.301B	Unspecified fracture of shaft of right radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.301C	Unspecified fracture of shaft of right radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.302A	Unspecified fracture of shaft of left radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.302B	Unspecified fracture of shaft of left radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.302C	Unspecified fracture of shaft of left radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.309A	Unspecified fracture of shaft of unspecified radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.309B	Unspecified fracture of shaft of unspecified radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.309C	Unspecified fracture of shaft of unspecified radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.311A	Greenstick fracture of shaft of radius, right arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.312A	Greenstick fracture of shaft of radius, left arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.319A	Greenstick fracture of shaft of radius, unspecified arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.321A	Displaced transverse fracture of shaft of right radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
S52.321B	Displaced transverse fracture of shaft of right radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.321C	Displaced transverse fracture of shaft of right radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.322A	Displaced transverse fracture of shaft of left radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.322B	Displaced transverse fracture of shaft of left radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.322C	Displaced transverse fracture of shaft of left radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.323A	Displaced transverse fracture of shaft of unspecified radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.323B	Displaced transverse fracture of shaft of unspecified radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.323C	Displaced transverse fracture of shaft of unspecified radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.324A	Nondisplaced transverse fracture of shaft of right radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.324B	Nondisplaced transverse fracture of shaft of right radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.324C	Nondisplaced transverse fracture of shaft of right radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.325A	Nondisplaced transverse fracture of shaft of left radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.325B	Nondisplaced transverse fracture of shaft of left radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.325C	Nondisplaced transverse fracture of shaft of left radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.326A	Nondisplaced transverse fracture of shaft of unspecified radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.326B	Nondisplaced transverse fracture of shaft of unspecified radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.326C	Nondisplaced transverse fracture of shaft of unspecified radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.331A	Displaced oblique fracture of shaft of right radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.331B	Displaced oblique fracture of shaft of right radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.331C	Displaced oblique fracture of shaft of right radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.332A	Displaced oblique fracture of shaft of left radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.332B	Displaced oblique fracture of shaft of left radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.332C	Displaced oblique fracture of shaft of left radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.333A	Displaced oblique fracture of shaft of unspecified radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.333B	Displaced oblique fracture of shaft of unspecified radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
S52.333C	Displaced oblique fracture of shaft of unspecified radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.334A	Nondisplaced oblique fracture of shaft of right radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.334B	Nondisplaced oblique fracture of shaft of right radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.334C	Nondisplaced oblique fracture of shaft of right radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.335A	Nondisplaced oblique fracture of shaft of left radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.335B	Nondisplaced oblique fracture of shaft of left radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.335C	Nondisplaced oblique fracture of shaft of left radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.336A	Nondisplaced oblique fracture of shaft of unspecified radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.336B	Nondisplaced oblique fracture of shaft of unspecified radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.336C	Nondisplaced oblique fracture of shaft of unspecified radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.341A	Displaced spiral fracture of shaft of radius, right arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.341B	Displaced spiral fracture of shaft of radius, right arm, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.341C	Displaced spiral fracture of shaft of radius, right arm, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.342A	Displaced spiral fracture of shaft of radius, left arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.342B	Displaced spiral fracture of shaft of radius, left arm, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.342C	Displaced spiral fracture of shaft of radius, left arm, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.343A	Displaced spiral fracture of shaft of radius, unspecified arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.343B	Displaced spiral fracture of shaft of radius, unspecified arm, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.343C	Displaced spiral fracture of shaft of radius, unspecified arm, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.344A	Nondisplaced spiral fracture of shaft of radius, right arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.344B	Nondisplaced spiral fracture of shaft of radius, right arm, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.344C	Nondisplaced spiral fracture of shaft of radius, right arm, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.345A	Nondisplaced spiral fracture of shaft of radius, left arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.345B	Nondisplaced spiral fracture of shaft of radius, left arm, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.345C	Nondisplaced spiral fracture of shaft of radius, left arm, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.346A	Nondisplaced spiral fracture of shaft of radius, unspecified arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
S52.346B	Nondisplaced spiral fracture of shaft of radius, unspecified arm, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.346C	Nondisplaced spiral fracture of shaft of radius, unspecified arm, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.351A	Displaced comminuted fracture of shaft of radius, right arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.351B	Displaced comminuted fracture of shaft of radius, right arm, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.351C	Displaced comminuted fracture of shaft of radius, right arm, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.352A	Displaced comminuted fracture of shaft of radius, left arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.352B	Displaced comminuted fracture of shaft of radius, left arm, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.352C	Displaced comminuted fracture of shaft of radius, left arm, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.353A	Displaced comminuted fracture of shaft of radius, unspecified arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.353B	Displaced comminuted fracture of shaft of radius, unspecified arm, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.353C	Displaced comminuted fracture of shaft of radius, unspecified arm, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.354A	Nondisplaced comminuted fracture of shaft of radius, right arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.354B	Nondisplaced comminuted fracture of shaft of radius, right arm, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.354C	Nondisplaced comminuted fracture of shaft of radius, right arm, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.355A	Nondisplaced comminuted fracture of shaft of radius, left arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.355B	Nondisplaced comminuted fracture of shaft of radius, left arm, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.355C	Nondisplaced comminuted fracture of shaft of radius, left arm, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.356A	Nondisplaced comminuted fracture of shaft of radius, unspecified arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.356B	Nondisplaced comminuted fracture of shaft of radius, unspecified arm, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.356C	Nondisplaced comminuted fracture of shaft of radius, unspecified arm, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.361A	Displaced segmental fracture of shaft of radius, right arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.361B	Displaced segmental fracture of shaft of radius, right arm, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.361C	Displaced segmental fracture of shaft of radius, right arm, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.362A	Displaced segmental fracture of shaft of radius, left arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
S52.362B	Displaced segmental fracture of shaft of radius, left arm, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.362C	Displaced segmental fracture of shaft of radius, left arm, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.363A	Displaced segmental fracture of shaft of radius, unspecified arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.363B	Displaced segmental fracture of shaft of radius, unspecified arm, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.363C	Displaced segmental fracture of shaft of radius, unspecified arm, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.364A	Nondisplaced segmental fracture of shaft of radius, right arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.364B	Nondisplaced segmental fracture of shaft of radius, right arm, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.364C	Nondisplaced segmental fracture of shaft of radius, right arm, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.365A	Nondisplaced segmental fracture of shaft of radius, left arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.365B	Nondisplaced segmental fracture of shaft of radius, left arm, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.365C	Nondisplaced segmental fracture of shaft of radius, left arm, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.366A	Nondisplaced segmental fracture of shaft of radius, unspecified arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.366B	Nondisplaced segmental fracture of shaft of radius, unspecified arm, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.366C	Nondisplaced segmental fracture of shaft of radius, unspecified arm, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.371A	Galeazzi's fracture of right radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.371B	Galeazzi's fracture of right radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.371C	Galeazzi's fracture of right radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.372A	Galeazzi's fracture of left radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.372B	Galeazzi's fracture of left radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.372C	Galeazzi's fracture of left radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.379A	Galeazzi's fracture of unspecified radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.379B	Galeazzi's fracture of unspecified radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.379C	Galeazzi's fracture of unspecified radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.381A	Bent bone of right radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.381B	Bent bone of right radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.381C	Bent bone of right radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.382A	Bent bone of left radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.382B	Bent bone of left radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.382C	Bent bone of left radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.389A	Bent bone of unspecified radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.389B	Bent bone of unspecified radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.389C	Bent bone of unspecified radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.391A	Other fracture of shaft of radius, right arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
S52.391B	Other fracture of shaft of radius, right arm, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.391C	Other fracture of shaft of radius, right arm, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.392A	Other fracture of shaft of radius, left arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.392B	Other fracture of shaft of radius, left arm, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.392C	Other fracture of shaft of radius, left arm, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.399A	Other fracture of shaft of radius, unspecified arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.399B	Other fracture of shaft of radius, unspecified arm, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.399C	Other fracture of shaft of radius, unspecified arm, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.501A	Unspecified fracture of the lower end of right radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.501B	Unspecified fracture of the lower end of right radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.501C	Unspecified fracture of the lower end of right radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.502A	Unspecified fracture of the lower end of left radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.502B	Unspecified fracture of the lower end of left radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.502C	Unspecified fracture of the lower end of left radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.509A	Unspecified fracture of the lower end of unspecified radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.509B	Unspecified fracture of the lower end of unspecified radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.509C	Unspecified fracture of the lower end of unspecified radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.511A	Displaced fracture of right radial styloid process, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.511B	Displaced fracture of right radial styloid process, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.511C	Displaced fracture of right radial styloid process, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.512A	Displaced fracture of left radial styloid process, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.512B	Displaced fracture of left radial styloid process, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.512C	Displaced fracture of left radial styloid process, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.513A	Displaced fracture of unspecified radial styloid process, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.513B	Displaced fracture of unspecified radial styloid process, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.513C	Displaced fracture of unspecified radial styloid process, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.514A	Nondisplaced fracture of right radial styloid process, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.514B	Nondisplaced fracture of right radial styloid process, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
S52.514C	Nondisplaced fracture of right radial styloid process, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.515A	Nondisplaced fracture of left radial styloid process, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.515B	Nondisplaced fracture of left radial styloid process, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.515C	Nondisplaced fracture of left radial styloid process, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.516A	Nondisplaced fracture of unspecified radial styloid process, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.516B	Nondisplaced fracture of unspecified radial styloid process, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.516C	Nondisplaced fracture of unspecified radial styloid process, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.521A	Torus fracture of lower end of right radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.522A	Torus fracture of lower end of left radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.529A	Torus fracture of lower end of unspecified radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.531A	Colles' fracture of right radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.531B	Colles' fracture of right radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.531C	Colles' fracture of right radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.532A	Colles' fracture of left radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.532B	Colles' fracture of left radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.532C	Colles' fracture of left radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.539A	Colles' fracture of unspecified radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.539B	Colles' fracture of unspecified radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.539C	Colles' fracture of unspecified radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.541A	Smith's fracture of right radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.541B	Smith's fracture of right radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.541C	Smith's fracture of right radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.542A	Smith's fracture of left radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.542B	Smith's fracture of left radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.542C	Smith's fracture of left radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.549A	Smith's fracture of unspecified radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.549B	Smith's fracture of unspecified radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.549C	Smith's fracture of unspecified radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.551A	Other extraarticular fracture of lower end of right radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.551B	Other extraarticular fracture of lower end of right radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.551C	Other extraarticular fracture of lower end of right radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.552A	Other extraarticular fracture of lower end of left radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.552B	Other extraarticular fracture of lower end of left radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.552C	Other extraarticular fracture of lower end of left radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
S52.559A	Other extraarticular fracture of lower end of unspecified radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.559B	Other extraarticular fracture of lower end of unspecified radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.559C	Other extraarticular fracture of lower end of unspecified radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.561A	Barton's fracture of right radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.561B	Barton's fracture of right radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.561C	Barton's fracture of right radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.562A	Barton's fracture of left radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.562B	Barton's fracture of left radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.562C	Barton's fracture of left radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.569A	Barton's fracture of unspecified radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.569B	Barton's fracture of unspecified radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.569C	Barton's fracture of unspecified radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.571A	Other intraarticular fracture of lower end of right radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.571B	Other intraarticular fracture of lower end of right radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.571C	Other intraarticular fracture of lower end of right radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.572A	Other intraarticular fracture of lower end of left radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.572B	Other intraarticular fracture of lower end of left radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.572C	Other intraarticular fracture of lower end of left radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.579A	Other intraarticular fracture of lower end of unspecified radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.579B	Other intraarticular fracture of lower end of unspecified radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.579C	Other intraarticular fracture of lower end of unspecified radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.591A	Other fractures of lower end of right radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.591B	Other fractures of lower end of right radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.591C	Other fractures of lower end of right radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.592A	Other fractures of lower end of left radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.592B	Other fractures of lower end of left radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.592C	Other fractures of lower end of left radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.599A	Other fractures of lower end of unspecified radius, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.599B	Other fractures of lower end of unspecified radius, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.599C	Other fractures of lower end of unspecified radius, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.601A	Unspecified fracture of lower end of right ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
S52.601B	Unspecified fracture of lower end of right ulna, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.601C	Unspecified fracture of lower end of right ulna, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.602A	Unspecified fracture of lower end of left ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.602B	Unspecified fracture of lower end of left ulna, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.602C	Unspecified fracture of lower end of left ulna, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.609A	Unspecified fracture of lower end of unspecified ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.609B	Unspecified fracture of lower end of unspecified ulna, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.609C	Unspecified fracture of lower end of unspecified ulna, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.611A	Displaced fracture of right ulna styloid process, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.611B	Displaced fracture of right ulna styloid process, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.611C	Displaced fracture of right ulna styloid process, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.612A	Displaced fracture of left ulna styloid process, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.612B	Displaced fracture of left ulna styloid process, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.612C	Displaced fracture of left ulna styloid process, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.613A	Displaced fracture of unspecified ulna styloid process, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.613B	Displaced fracture of unspecified ulna styloid process, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.613C	Displaced fracture of unspecified ulna styloid process, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.614A	Nondisplaced fracture of right ulna styloid process, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.614B	Nondisplaced fracture of right ulna styloid process, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.614C	Nondisplaced fracture of right ulna styloid process, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.615A	Nondisplaced fracture of left ulna styloid process, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.615B	Nondisplaced fracture of left ulna styloid process, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.615C	Nondisplaced fracture of left ulna styloid process, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.616A	Nondisplaced fracture of unspecified ulna styloid process, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.616B	Nondisplaced fracture of unspecified ulna styloid process, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.616C	Nondisplaced fracture of unspecified ulna styloid process, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.621A	Torus fracture of lower end of right ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.622A	Torus fracture of lower end of left ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.629A	Torus fracture of lower end of unspecified ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.691A	Other fracture of lower end of right ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
S52.691B	Other fracture of lower end of right ulna, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.691C	Other fracture of lower end of right ulna, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.692A	Other fracture of lower end of left ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.692B	Other fracture of lower end of left ulna, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.692C	Other fracture of lower end of left ulna, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.699A	Other fracture of lower end of unspecified ulna, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.699B	Other fracture of lower end of unspecified ulna, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.699C	Other fracture of lower end of unspecified ulna, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.90XA	Unspecified fracture of unspecified forearm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.90XB	Unspecified fracture of unspecified forearm, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.90XC	Unspecified fracture of unspecified forearm, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.91XA	Unspecified fracture of right forearm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.91XB	Unspecified fracture of right forearm, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.91XC	Unspecified fracture of right forearm, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S52.92XA	Unspecified fracture of left forearm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S52.92XB	Unspecified fracture of left forearm, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S52.92XC	Unspecified fracture of left forearm, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S59.001A	Unspecified physeal fracture of lower end of ulna, right arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S59.002A	Unspecified physeal fracture of lower end of ulna, left arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S59.009A	Unspecified physeal fracture of lower end of ulna, unspecified arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S59.011A	Salter-Harris Type I physeal fracture of lower end of ulna, right arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S59.012A	Salter-Harris Type I physeal fracture of lower end of ulna, left arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S59.019A	Salter-Harris Type I physeal fracture of lower end of ulna, unspecified arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S59.021A	Salter-Harris Type II physeal fracture of lower end of ulna, right arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S59.022A	Salter-Harris Type II physeal fracture of lower end of ulna, left arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S59.029A	Salter-Harris Type II physeal fracture of lower end of ulna, unspecified arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S59.031A	Salter-Harris Type III physeal fracture of lower end of ulna, right arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S59.032A	Salter-Harris Type III physeal fracture of lower end of ulna, left arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S59.039A	Salter-Harris Type III physeal fracture of lower end of ulna, unspecified arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
S59.041A	Salter-Harris Type IV physeal fracture of lower end of ulna, right arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S59.042A	Salter-Harris Type IV physeal fracture of lower end of ulna, left arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S59.049A	Salter-Harris Type IV physeal fracture of lower end of ulna, unspecified arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S59.091A	Other physeal fracture of lower end of ulna, right arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S59.092A	Other physeal fracture of lower end of ulna, left arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S59.099A	Other physeal fracture of lower end of ulna, unspecified arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S59.101A	Unspecified physeal fracture of upper end of radius, right arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S59.102A	Unspecified physeal fracture of upper end of radius, left arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S59.109A	Unspecified physeal fracture of upper end of radius, unspecified arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S59.111A	Salter-Harris Type I physeal fracture of upper end of radius, right arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S59.112A	Salter-Harris Type I physeal fracture of upper end of radius, left arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S59.119A	Salter-Harris Type I physeal fracture of upper end of radius, unspecified arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S59.121A	Salter-Harris Type II physeal fracture of upper end of radius, right arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S59.122A	Salter-Harris Type II physeal fracture of upper end of radius, left arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S59.129A	Salter-Harris Type II physeal fracture of upper end of radius, unspecified arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S59.131A	Salter-Harris Type III physeal fracture of upper end of radius, right arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S59.132A	Salter-Harris Type III physeal fracture of upper end of radius, left arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S59.139A	Salter-Harris Type III physeal fracture of upper end of radius, unspecified arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S59.141A	Salter-Harris Type IV physeal fracture of upper end of radius, right arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S59.142A	Salter-Harris Type IV physeal fracture of upper end of radius, left arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S59.149A	Salter-Harris Type IV physeal fracture of upper end of radius, unspecified arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S59.191A	Other physeal fracture of upper end of radius, right arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S59.192A	Other physeal fracture of upper end of radius, left arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S59.199A	Other physeal fracture of upper end of radius, unspecified arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S59.201A	Unspecified physeal fracture of lower end of radius, right arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
S59.202A	Unspecified physeal fracture of lower end of radius, left arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S59.209A	Unspecified physeal fracture of lower end of radius, unspecified arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S59.211A	Salter-Harris Type I physeal fracture of lower end of radius, right arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S59.212A	Salter-Harris Type I physeal fracture of lower end of radius, left arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S59.219A	Salter-Harris Type I physeal fracture of lower end of radius, unspecified arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S59.221A	Salter-Harris Type II physeal fracture of lower end of radius, right arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S59.222A	Salter-Harris Type II physeal fracture of lower end of radius, left arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S59.229A	Salter-Harris Type II physeal fracture of lower end of radius, unspecified arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S59.231A	Salter-Harris Type III physeal fracture of lower end of radius, right arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S59.232A	Salter-Harris Type III physeal fracture of lower end of radius, left arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S59.239A	Salter-Harris Type III physeal fracture of lower end of radius, unspecified arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S59.241A	Salter-Harris Type IV physeal fracture of lower end of radius, right arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S59.242A	Salter-Harris Type IV physeal fracture of lower end of radius, left arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S59.249A	Salter-Harris Type IV physeal fracture of lower end of radius, unspecified arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S59.291A	Other physeal fracture of lower end of radius, right arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S59.292A	Other physeal fracture of lower end of radius, left arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S59.299A	Other physeal fracture of lower end of radius, unspecified arm, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.001A	Fracture of unspecified part of neck of right femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.001B	Fracture of unspecified part of neck of right femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.001C	Fracture of unspecified part of neck of right femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.002A	Fracture of unspecified part of neck of left femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.002B	Fracture of unspecified part of neck of left femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.002C	Fracture of unspecified part of neck of left femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.009A	Fracture of unspecified part of neck of unspecified femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.009B	Fracture of unspecified part of neck of unspecified femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
S72.009C	Fracture of unspecified part of neck of unspecified femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.011A	Unspecified intracapsular fracture of right femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.011B	Unspecified intracapsular fracture of right femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.011C	Unspecified intracapsular fracture of right femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.012A	Unspecified intracapsular fracture of left femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.012B	Unspecified intracapsular fracture of left femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.012C	Unspecified intracapsular fracture of left femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.019A	Unspecified intracapsular fracture of unspecified femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.019B	Unspecified intracapsular fracture of unspecified femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.019C	Unspecified intracapsular fracture of unspecified femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.021A	Displaced fracture of epiphysis (separation) (upper) of right femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.021B	Displaced fracture of epiphysis (separation) (upper) of right femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.021C	Displaced fracture of epiphysis (separation) (upper) of right femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.022A	Displaced fracture of epiphysis (separation) (upper) of left femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.022B	Displaced fracture of epiphysis (separation) (upper) of left femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.022C	Displaced fracture of epiphysis (separation) (upper) of left femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.023A	Displaced fracture of epiphysis (separation) (upper) of unspecified femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.023B	Displaced fracture of epiphysis (separation) (upper) of unspecified femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.023C	Displaced fracture of epiphysis (separation) (upper) of unspecified femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.024A	Nondisplaced fracture of epiphysis (separation) (upper) of right femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.024B	Nondisplaced fracture of epiphysis (separation) (upper) of right femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.024C	Nondisplaced fracture of epiphysis (separation) (upper) of right femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.025A	Nondisplaced fracture of epiphysis (separation) (upper) of left femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.025B	Nondisplaced fracture of epiphysis (separation) (upper) of left femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.025C	Nondisplaced fracture of epiphysis (separation) (upper) of left femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
S72.026A	Nondisplaced fracture of epiphysis (separation) (upper) of unspecified femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.026B	Nondisplaced fracture of epiphysis (separation) (upper) of unspecified femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.026C	Nondisplaced fracture of epiphysis (separation) (upper) of unspecified femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.031A	Displaced midcervical fracture of right femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.031B	Displaced midcervical fracture of right femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.031C	Displaced midcervical fracture of right femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.032A	Displaced midcervical fracture of left femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.032B	Displaced midcervical fracture of left femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.032C	Displaced midcervical fracture of left femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.033A	Displaced midcervical fracture of unspecified femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.033B	Displaced midcervical fracture of unspecified femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.033C	Displaced midcervical fracture of unspecified femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.034A	Nondisplaced midcervical fracture of right femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.034B	Nondisplaced midcervical fracture of right femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.034C	Nondisplaced midcervical fracture of right femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.035A	Nondisplaced midcervical fracture of left femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.035B	Nondisplaced midcervical fracture of left femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.035C	Nondisplaced midcervical fracture of left femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.036A	Nondisplaced midcervical fracture of unspecified femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.036B	Nondisplaced midcervical fracture of unspecified femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.036C	Nondisplaced midcervical fracture of unspecified femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.041A	Displaced fracture of base of neck of right femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.041B	Displaced fracture of base of neck of right femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.041C	Displaced fracture of base of neck of right femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.042A	Displaced fracture of base of neck of left femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.042B	Displaced fracture of base of neck of left femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.042C	Displaced fracture of base of neck of left femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.043A	Displaced fracture of base of neck of unspecified femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
S72.043B	Displaced fracture of base of neck of unspecified femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.043C	Displaced fracture of base of neck of unspecified femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.044A	Nondisplaced fracture of base of neck of right femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.044B	Nondisplaced fracture of base of neck of right femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.044C	Nondisplaced fracture of base of neck of right femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.045A	Nondisplaced fracture of base of neck of left femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.045B	Nondisplaced fracture of base of neck of left femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.045C	Nondisplaced fracture of base of neck of left femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.046A	Nondisplaced fracture of base of neck of unspecified femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.046B	Nondisplaced fracture of base of neck of unspecified femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.046C	Nondisplaced fracture of base of neck of unspecified femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.051A	Unspecified fracture of head of right femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.051B	Unspecified fracture of head of right femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.051C	Unspecified fracture of head of right femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.052A	Unspecified fracture of head of left femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.052B	Unspecified fracture of head of left femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.052C	Unspecified fracture of head of left femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.059A	Unspecified fracture of head of unspecified femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.059B	Unspecified fracture of head of unspecified femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.059C	Unspecified fracture of head of unspecified femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.061A	Displaced articular fracture of head of right femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.061B	Displaced articular fracture of head of right femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.061C	Displaced articular fracture of head of right femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.062A	Displaced articular fracture of head of left femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.062B	Displaced articular fracture of head of left femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.062C	Displaced articular fracture of head of left femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.063A	Displaced articular fracture of head of unspecified femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.063B	Displaced articular fracture of head of unspecified femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
S72.063C	Displaced articular fracture of head of unspecified femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.064A	Nondisplaced articular fracture of head of right femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.064B	Nondisplaced articular fracture of head of right femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.064C	Nondisplaced articular fracture of head of right femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.065A	Nondisplaced articular fracture of head of left femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.065B	Nondisplaced articular fracture of head of left femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.065C	Nondisplaced articular fracture of head of left femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.066A	Nondisplaced articular fracture of head of unspecified femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.066B	Nondisplaced articular fracture of head of unspecified femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.066C	Nondisplaced articular fracture of head of unspecified femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.091A	Other fracture of head and neck of right femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.091B	Other fracture of head and neck of right femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.091C	Other fracture of head and neck of right femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.092A	Other fracture of head and neck of left femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.092B	Other fracture of head and neck of left femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.092C	Other fracture of head and neck of left femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.099A	Other fracture of head and neck of unspecified femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.099B	Other fracture of head and neck of unspecified femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.099C	Other fracture of head and neck of unspecified femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.101A	Unspecified trochanteric fracture of right femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.101B	Unspecified trochanteric fracture of right femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.101C	Unspecified trochanteric fracture of right femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.102A	Unspecified trochanteric fracture of left femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.102B	Unspecified trochanteric fracture of left femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.102C	Unspecified trochanteric fracture of left femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.109A	Unspecified trochanteric fracture of unspecified femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.109B	Unspecified trochanteric fracture of unspecified femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.109C	Unspecified trochanteric fracture of unspecified femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.111A	Displaced fracture of greater trochanter of right femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
S72.111B	Displaced fracture of greater trochanter of right femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.111C	Displaced fracture of greater trochanter of right femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.112A	Displaced fracture of greater trochanter of left femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.112B	Displaced fracture of greater trochanter of left femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.112C	Displaced fracture of greater trochanter of left femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.113A	Displaced fracture of greater trochanter of unspecified femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.113B	Displaced fracture of greater trochanter of unspecified femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.113C	Displaced fracture of greater trochanter of unspecified femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.114A	Nondisplaced fracture of greater trochanter of right femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.114B	Nondisplaced fracture of greater trochanter of right femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.114C	Nondisplaced fracture of greater trochanter of right femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.115A	Nondisplaced fracture of greater trochanter of left femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.115B	Nondisplaced fracture of greater trochanter of left femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.115C	Nondisplaced fracture of greater trochanter of left femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.116A	Nondisplaced fracture of greater trochanter of unspecified femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.116B	Nondisplaced fracture of greater trochanter of unspecified femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.116C	Nondisplaced fracture of greater trochanter of unspecified femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.121A	Displaced fracture of lesser trochanter of right femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.121B	Displaced fracture of lesser trochanter of right femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.121C	Displaced fracture of lesser trochanter of right femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.122A	Displaced fracture of lesser trochanter of left femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.122B	Displaced fracture of lesser trochanter of left femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.122C	Displaced fracture of lesser trochanter of left femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.123A	Displaced fracture of lesser trochanter of unspecified femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.123B	Displaced fracture of lesser trochanter of unspecified femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
S72.123C	Displaced fracture of lesser trochanter of unspecified femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.124A	Nondisplaced fracture of lesser trochanter of right femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.124B	Nondisplaced fracture of lesser trochanter of right femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.124C	Nondisplaced fracture of lesser trochanter of right femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.125A	Nondisplaced fracture of lesser trochanter of left femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.125B	Nondisplaced fracture of lesser trochanter of left femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.125C	Nondisplaced fracture of lesser trochanter of left femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.126A	Nondisplaced fracture of lesser trochanter of unspecified femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.126B	Nondisplaced fracture of lesser trochanter of unspecified femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.126C	Nondisplaced fracture of lesser trochanter of unspecified femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.131A	Displaced apophyseal fracture of right femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.131B	Displaced apophyseal fracture of right femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.131C	Displaced apophyseal fracture of right femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.132A	Displaced apophyseal fracture of left femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.132B	Displaced apophyseal fracture of left femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.132C	Displaced apophyseal fracture of left femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.133A	Displaced apophyseal fracture of unspecified femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.133B	Displaced apophyseal fracture of unspecified femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.133C	Displaced apophyseal fracture of unspecified femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.134A	Nondisplaced apophyseal fracture of right femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.134B	Nondisplaced apophyseal fracture of right femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.134C	Nondisplaced apophyseal fracture of right femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.135A	Nondisplaced apophyseal fracture of left femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.135B	Nondisplaced apophyseal fracture of left femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.135C	Nondisplaced apophyseal fracture of left femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.136A	Nondisplaced apophyseal fracture of unspecified femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.136B	Nondisplaced apophyseal fracture of unspecified femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
S72.136C	Nondisplaced apophyseal fracture of unspecified femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.141A	Displaced intertrochanteric fracture of right femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.141B	Displaced intertrochanteric fracture of right femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.141C	Displaced intertrochanteric fracture of right femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.142A	Displaced intertrochanteric fracture of left femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.142B	Displaced intertrochanteric fracture of left femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.142C	Displaced intertrochanteric fracture of left femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.143A	Displaced intertrochanteric fracture of unspecified femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.143B	Displaced intertrochanteric fracture of unspecified femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.143C	Displaced intertrochanteric fracture of unspecified femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.144A	Nondisplaced intertrochanteric fracture of right femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.144B	Nondisplaced intertrochanteric fracture of right femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.144C	Nondisplaced intertrochanteric fracture of right femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.145A	Nondisplaced intertrochanteric fracture of left femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.145B	Nondisplaced intertrochanteric fracture of left femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.145C	Nondisplaced intertrochanteric fracture of left femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.146A	Nondisplaced intertrochanteric fracture of unspecified femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.146B	Nondisplaced intertrochanteric fracture of unspecified femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.146C	Nondisplaced intertrochanteric fracture of unspecified femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.21XA	Displaced subtrochanteric fracture of right femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.21XB	Displaced subtrochanteric fracture of right femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.21XC	Displaced subtrochanteric fracture of right femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.22XA	Displaced subtrochanteric fracture of left femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.22XB	Displaced subtrochanteric fracture of left femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.22XC	Displaced subtrochanteric fracture of left femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.23XA	Displaced subtrochanteric fracture of unspecified femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.23XB	Displaced subtrochanteric fracture of unspecified femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
S72.23XC	Displaced subtrochanteric fracture of unspecified femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.24XA	Nondisplaced subtrochanteric fracture of right femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.24XB	Nondisplaced subtrochanteric fracture of right femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.24XC	Nondisplaced subtrochanteric fracture of right femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.25XA	Nondisplaced subtrochanteric fracture of left femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.25XB	Nondisplaced subtrochanteric fracture of left femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.25XC	Nondisplaced subtrochanteric fracture of left femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S72.26XA	Nondisplaced subtrochanteric fracture of unspecified femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S72.26XB	Nondisplaced subtrochanteric fracture of unspecified femur, initial encounter for open fracture type I or II	Diagnosis	ICD-10-CM
S72.26XC	Nondisplaced subtrochanteric fracture of unspecified femur, initial encounter for open fracture type IIIA, IIIB, or IIIC	Diagnosis	ICD-10-CM
S79.001A	Unspecified physeal fracture of upper end of right femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S79.002A	Unspecified physeal fracture of upper end of left femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S79.009A	Unspecified physeal fracture of upper end of unspecified femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S79.011A	Salter-Harris Type I physeal fracture of upper end of right femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S79.012A	Salter-Harris Type I physeal fracture of upper end of left femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S79.019A	Salter-Harris Type I physeal fracture of upper end of unspecified femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S79.091A	Other physeal fracture of upper end of right femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S79.092A	Other physeal fracture of upper end of left femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
S79.099A	Other physeal fracture of upper end of unspecified femur, initial encounter for closed fracture	Diagnosis	ICD-10-CM
0PBH0ZZ	Excision of Right Radius, Open Approach	Procedure	ICD-10-PCS
0PBJ0ZZ	Excision of Left Radius, Open Approach	Procedure	ICD-10-PCS
0PBK0ZZ	Excision of Right Ulna, Open Approach	Procedure	ICD-10-PCS
0PBL0ZZ	Excision of Left Ulna, Open Approach	Procedure	ICD-10-PCS
0PH004Z	Insertion of Internal Fixation Device into Sternum, Open Approach	Procedure	ICD-10-PCS
0PH034Z	Insertion of Internal Fixation Device into Sternum, Percutaneous Approach	Procedure	ICD-10-PCS
0PH044Z	Insertion of Internal Fixation Device into Sternum, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PH104Z	Insertion of Internal Fixation Device into 1 to 2 Ribs, Open Approach	Procedure	ICD-10-PCS
0PH134Z	Insertion of Internal Fixation Device into 1 to 2 Ribs, Percutaneous Approach	Procedure	ICD-10-PCS
0PH144Z	Insertion of Internal Fixation Device into 1 to 2 Ribs, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PH204Z	Insertion of Internal Fixation Device into 3 or More Ribs, Open Approach	Procedure	ICD-10-PCS
0PH234Z	Insertion of Internal Fixation Device into 3 or More Ribs, Percutaneous Approach	Procedure	ICD-10-PCS
0PH244Z	Insertion of Internal Fixation Device into 3 or More Ribs, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PH504Z	Insertion of Internal Fixation Device into Right Scapula, Open Approach	Procedure	ICD-10-PCS

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
0PH534Z	Insertion of Internal Fixation Device into Right Scapula, Percutaneous Approach	Procedure	ICD-10-PCS
0PH544Z	Insertion of Internal Fixation Device into Right Scapula, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PH604Z	Insertion of Internal Fixation Device into Left Scapula, Open Approach	Procedure	ICD-10-PCS
0PH634Z	Insertion of Internal Fixation Device into Left Scapula, Percutaneous Approach	Procedure	ICD-10-PCS
0PH644Z	Insertion of Internal Fixation Device into Left Scapula, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PH704Z	Insertion of Internal Fixation Device into Right Glenoid Cavity, Open Approach	Procedure	ICD-10-PCS
0PH734Z	Insertion of Internal Fixation Device into Right Glenoid Cavity, Percutaneous Approach	Procedure	ICD-10-PCS
0PH744Z	Insertion of Internal Fixation Device into Right Glenoid Cavity, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PH804Z	Insertion of Internal Fixation Device into Left Glenoid Cavity, Open Approach	Procedure	ICD-10-PCS
0PH834Z	Insertion of Internal Fixation Device into Left Glenoid Cavity, Percutaneous Approach	Procedure	ICD-10-PCS
0PH844Z	Insertion of Internal Fixation Device into Left Glenoid Cavity, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PH904Z	Insertion of Internal Fixation Device into Right Clavicle, Open Approach	Procedure	ICD-10-PCS
0PH934Z	Insertion of Internal Fixation Device into Right Clavicle, Percutaneous Approach	Procedure	ICD-10-PCS
0PH944Z	Insertion of Internal Fixation Device into Right Clavicle, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PHB04Z	Insertion of Internal Fixation Device into Left Clavicle, Open Approach	Procedure	ICD-10-PCS
0PHB34Z	Insertion of Internal Fixation Device into Left Clavicle, Percutaneous Approach	Procedure	ICD-10-PCS
0PHB44Z	Insertion of Internal Fixation Device into Left Clavicle, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PHH04Z	Insertion of Internal Fixation Device into Right Radius, Open Approach	Procedure	ICD-10-PCS
0PHH05Z	Insertion of External Fixation Device into Right Radius, Open Approach	Procedure	ICD-10-PCS
0PHH06Z	Insertion of Intramedullary Internal Fixation Device into Right Radius, Open Approach	Procedure	ICD-10-PCS
0PHH0BZ	Insertion of Monoplanar External Fixation Device into Right Radius, Open Approach	Procedure	ICD-10-PCS
0PHH0CZ	Insertion of Ring External Fixation Device into Right Radius, Open Approach	Procedure	ICD-10-PCS
0PHH0DZ	Insertion of Hybrid External Fixation Device into Right Radius, Open Approach	Procedure	ICD-10-PCS
0PHH34Z	Insertion of Internal Fixation Device into Right Radius, Percutaneous Approach	Procedure	ICD-10-PCS
0PHH35Z	Insertion of External Fixation Device into Right Radius, Percutaneous Approach	Procedure	ICD-10-PCS
0PHH36Z	Insertion of Intramedullary Internal Fixation Device into Right Radius, Percutaneous Approach	Procedure	ICD-10-PCS
0PHH3BZ	Insertion of Monoplanar External Fixation Device into Right Radius, Percutaneous Approach	Procedure	ICD-10-PCS
0PHH3CZ	Insertion of Ring External Fixation Device into Right Radius, Percutaneous Approach	Procedure	ICD-10-PCS
0PHH3DZ	Insertion of Hybrid External Fixation Device into Right Radius, Percutaneous Approach	Procedure	ICD-10-PCS
0PHH44Z	Insertion of Internal Fixation Device into Right Radius, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PHH45Z	Insertion of External Fixation Device into Right Radius, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PHH46Z	Insertion of Intramedullary Internal Fixation Device into Right Radius, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PHH4BZ	Insertion of Monoplanar External Fixation Device into Right Radius, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PHH4CZ	Insertion of Ring External Fixation Device into Right Radius, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PHH4DZ	Insertion of Hybrid External Fixation Device into Right Radius, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PHJ04Z	Insertion of Internal Fixation Device into Left Radius, Open Approach	Procedure	ICD-10-PCS
0PHJ05Z	Insertion of External Fixation Device into Left Radius, Open Approach	Procedure	ICD-10-PCS
0PHJ06Z	Insertion of Intramedullary Internal Fixation Device into Left Radius, Open Approach	Procedure	ICD-10-PCS
0PHJ0BZ	Insertion of Monoplanar External Fixation Device into Left Radius, Open Approach	Procedure	ICD-10-PCS
0PHJ0CZ	Insertion of Ring External Fixation Device into Left Radius, Open Approach	Procedure	ICD-10-PCS

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
0PHJ0DZ	Insertion of Hybrid External Fixation Device into Left Radius, Open Approach	Procedure	ICD-10-PCS
0PHJ34Z	Insertion of Internal Fixation Device into Left Radius, Percutaneous Approach	Procedure	ICD-10-PCS
0PHJ35Z	Insertion of External Fixation Device into Left Radius, Percutaneous Approach	Procedure	ICD-10-PCS
0PHJ36Z	Insertion of Intramedullary Internal Fixation Device into Left Radius, Percutaneous Approach	Procedure	ICD-10-PCS
0PHJ3BZ	Insertion of Monoplanar External Fixation Device into Left Radius, Percutaneous Approach	Procedure	ICD-10-PCS
0PHJ3CZ	Insertion of Ring External Fixation Device into Left Radius, Percutaneous Approach	Procedure	ICD-10-PCS
0PHJ3DZ	Insertion of Hybrid External Fixation Device into Left Radius, Percutaneous Approach	Procedure	ICD-10-PCS
0PHJ44Z	Insertion of Internal Fixation Device into Left Radius, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PHJ45Z	Insertion of External Fixation Device into Left Radius, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PHJ46Z	Insertion of Intramedullary Internal Fixation Device into Left Radius, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PHJ4BZ	Insertion of Monoplanar External Fixation Device into Left Radius, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PHJ4CZ	Insertion of Ring External Fixation Device into Left Radius, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PHJ4DZ	Insertion of Hybrid External Fixation Device into Left Radius, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PHK04Z	Insertion of Internal Fixation Device into Right Ulna, Open Approach	Procedure	ICD-10-PCS
0PHK05Z	Insertion of External Fixation Device into Right Ulna, Open Approach	Procedure	ICD-10-PCS
0PHK06Z	Insertion of Intramedullary Internal Fixation Device into Right Ulna, Open Approach	Procedure	ICD-10-PCS
0PHK0BZ	Insertion of Monoplanar External Fixation Device into Right Ulna, Open Approach	Procedure	ICD-10-PCS
0PHK0CZ	Insertion of Ring External Fixation Device into Right Ulna, Open Approach	Procedure	ICD-10-PCS
0PHK0DZ	Insertion of Hybrid External Fixation Device into Right Ulna, Open Approach	Procedure	ICD-10-PCS
0PHK34Z	Insertion of Internal Fixation Device into Right Ulna, Percutaneous Approach	Procedure	ICD-10-PCS
0PHK35Z	Insertion of External Fixation Device into Right Ulna, Percutaneous Approach	Procedure	ICD-10-PCS
0PHK36Z	Insertion of Intramedullary Internal Fixation Device into Right Ulna, Percutaneous Approach	Procedure	ICD-10-PCS
0PHK3BZ	Insertion of Monoplanar External Fixation Device into Right Ulna, Percutaneous Approach	Procedure	ICD-10-PCS
0PHK3CZ	Insertion of Ring External Fixation Device into Right Ulna, Percutaneous Approach	Procedure	ICD-10-PCS
0PHK3DZ	Insertion of Hybrid External Fixation Device into Right Ulna, Percutaneous Approach	Procedure	ICD-10-PCS
0PHK44Z	Insertion of Internal Fixation Device into Right Ulna, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PHK45Z	Insertion of External Fixation Device into Right Ulna, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PHK46Z	Insertion of Intramedullary Internal Fixation Device into Right Ulna, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PHK4BZ	Insertion of Monoplanar External Fixation Device into Right Ulna, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PHK4CZ	Insertion of Ring External Fixation Device into Right Ulna, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PHK4DZ	Insertion of Hybrid External Fixation Device into Right Ulna, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PHL04Z	Insertion of Internal Fixation Device into Left Ulna, Open Approach	Procedure	ICD-10-PCS
0PHL05Z	Insertion of External Fixation Device into Left Ulna, Open Approach	Procedure	ICD-10-PCS
0PHL06Z	Insertion of Intramedullary Internal Fixation Device into Left Ulna, Open Approach	Procedure	ICD-10-PCS
0PHL0BZ	Insertion of Monoplanar External Fixation Device into Left Ulna, Open Approach	Procedure	ICD-10-PCS
0PHL0CZ	Insertion of Ring External Fixation Device into Left Ulna, Open Approach	Procedure	ICD-10-PCS
0PHL0DZ	Insertion of Hybrid External Fixation Device into Left Ulna, Open Approach	Procedure	ICD-10-PCS
0PHL34Z	Insertion of Internal Fixation Device into Left Ulna, Percutaneous Approach	Procedure	ICD-10-PCS

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
0PHL35Z	Insertion of External Fixation Device into Left Ulna, Percutaneous Approach	Procedure	ICD-10-PCS
0PHL36Z	Insertion of Intramedullary Internal Fixation Device into Left Ulna, Percutaneous Approach	Procedure	ICD-10-PCS
0PHL3BZ	Insertion of Monoplanar External Fixation Device into Left Ulna, Percutaneous Approach	Procedure	ICD-10-PCS
0PHL3CZ	Insertion of Ring External Fixation Device into Left Ulna, Percutaneous Approach	Procedure	ICD-10-PCS
0PHL3DZ	Insertion of Hybrid External Fixation Device into Left Ulna, Percutaneous Approach	Procedure	ICD-10-PCS
0PHL44Z	Insertion of Internal Fixation Device into Left Ulna, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PHL45Z	Insertion of External Fixation Device into Left Ulna, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PHL46Z	Insertion of Intramedullary Internal Fixation Device into Left Ulna, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PHL4BZ	Insertion of Monoplanar External Fixation Device into Left Ulna, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PHL4CZ	Insertion of Ring External Fixation Device into Left Ulna, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PHL4DZ	Insertion of Hybrid External Fixation Device into Left Ulna, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PN00ZZ	Release Sternum, Open Approach	Procedure	ICD-10-PCS
0PN03ZZ	Release Sternum, Percutaneous Approach	Procedure	ICD-10-PCS
0PN04ZZ	Release Sternum, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PN10ZZ	Release 1 to 2 Ribs, Open Approach	Procedure	ICD-10-PCS
0PN13ZZ	Release 1 to 2 Ribs, Percutaneous Approach	Procedure	ICD-10-PCS
0PN14ZZ	Release 1 to 2 Ribs, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PN20ZZ	Release 3 or More Ribs, Open Approach	Procedure	ICD-10-PCS
0PN23ZZ	Release 3 or More Ribs, Percutaneous Approach	Procedure	ICD-10-PCS
0PN24ZZ	Release 3 or More Ribs, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PN50ZZ	Release Right Scapula, Open Approach	Procedure	ICD-10-PCS
0PN53ZZ	Release Right Scapula, Percutaneous Approach	Procedure	ICD-10-PCS
0PN54ZZ	Release Right Scapula, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PN60ZZ	Release Left Scapula, Open Approach	Procedure	ICD-10-PCS
0PN63ZZ	Release Left Scapula, Percutaneous Approach	Procedure	ICD-10-PCS
0PN64ZZ	Release Left Scapula, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PN70ZZ	Release Right Glenoid Cavity, Open Approach	Procedure	ICD-10-PCS
0PN73ZZ	Release Right Glenoid Cavity, Percutaneous Approach	Procedure	ICD-10-PCS
0PN74ZZ	Release Right Glenoid Cavity, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PN80ZZ	Release Left Glenoid Cavity, Open Approach	Procedure	ICD-10-PCS
0PN83ZZ	Release Left Glenoid Cavity, Percutaneous Approach	Procedure	ICD-10-PCS
0PN84ZZ	Release Left Glenoid Cavity, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PN90ZZ	Release Right Clavicle, Open Approach	Procedure	ICD-10-PCS
0PN93ZZ	Release Right Clavicle, Percutaneous Approach	Procedure	ICD-10-PCS
0PN94ZZ	Release Right Clavicle, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PNB0ZZ	Release Left Clavicle, Open Approach	Procedure	ICD-10-PCS
0PNB3ZZ	Release Left Clavicle, Percutaneous Approach	Procedure	ICD-10-PCS
0PNB4ZZ	Release Left Clavicle, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PNH0ZZ	Release Right Radius, Open Approach	Procedure	ICD-10-PCS
0PNH3ZZ	Release Right Radius, Percutaneous Approach	Procedure	ICD-10-PCS
0PNH4ZZ	Release Right Radius, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PNJ0ZZ	Release Left Radius, Open Approach	Procedure	ICD-10-PCS
0PNJ3ZZ	Release Left Radius, Percutaneous Approach	Procedure	ICD-10-PCS
0PNJ4ZZ	Release Left Radius, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
0PNK0ZZ	Release Right Ulna, Open Approach	Procedure	ICD-10-PCS
0PNK3ZZ	Release Right Ulna, Percutaneous Approach	Procedure	ICD-10-PCS
0PNK4ZZ	Release Right Ulna, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PNL0ZZ	Release Left Ulna, Open Approach	Procedure	ICD-10-PCS
0PNL3ZZ	Release Left Ulna, Percutaneous Approach	Procedure	ICD-10-PCS
0PNL4ZZ	Release Left Ulna, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PP004Z	Removal of Internal Fixation Device from Sternum, Open Approach	Procedure	ICD-10-PCS
0PP007Z	Removal of Autologous Tissue Substitute from Sternum, Open Approach	Procedure	ICD-10-PCS
0PP00JZ	Removal of Synthetic Substitute from Sternum, Open Approach	Procedure	ICD-10-PCS
0PP00KZ	Removal of Nonautologous Tissue Substitute from Sternum, Open Approach	Procedure	ICD-10-PCS
0PP034Z	Removal of Internal Fixation Device from Sternum, Percutaneous Approach	Procedure	ICD-10-PCS
0PP037Z	Removal of Autologous Tissue Substitute from Sternum, Percutaneous Approach	Procedure	ICD-10-PCS
0PP03JZ	Removal of Synthetic Substitute from Sternum, Percutaneous Approach	Procedure	ICD-10-PCS
0PP03KZ	Removal of Nonautologous Tissue Substitute from Sternum, Percutaneous Approach	Procedure	ICD-10-PCS
0PP044Z	Removal of Internal Fixation Device from Sternum, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PP047Z	Removal of Autologous Tissue Substitute from Sternum, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PP04JZ	Removal of Synthetic Substitute from Sternum, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PP04KZ	Removal of Nonautologous Tissue Substitute from Sternum, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PP104Z	Removal of Internal Fixation Device from 1 to 2 Ribs, Open Approach	Procedure	ICD-10-PCS
0PP107Z	Removal of Autologous Tissue Substitute from 1 to 2 Ribs, Open Approach	Procedure	ICD-10-PCS
0PP10JZ	Removal of Synthetic Substitute from 1 to 2 Ribs, Open Approach	Procedure	ICD-10-PCS
0PP10KZ	Removal of Nonautologous Tissue Substitute from 1 to 2 Ribs, Open Approach	Procedure	ICD-10-PCS
0PP134Z	Removal of Internal Fixation Device from 1 to 2 Ribs, Percutaneous Approach	Procedure	ICD-10-PCS
0PP137Z	Removal of Autologous Tissue Substitute from 1 to 2 Ribs, Percutaneous Approach	Procedure	ICD-10-PCS
0PP13JZ	Removal of Synthetic Substitute from 1 to 2 Ribs, Percutaneous Approach	Procedure	ICD-10-PCS
0PP13KZ	Removal of Nonautologous Tissue Substitute from 1 to 2 Ribs, Percutaneous Approach	Procedure	ICD-10-PCS
0PP144Z	Removal of Internal Fixation Device from 1 to 2 Ribs, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PP147Z	Removal of Autologous Tissue Substitute from 1 to 2 Ribs, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PP14JZ	Removal of Synthetic Substitute from 1 to 2 Ribs, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PP14KZ	Removal of Nonautologous Tissue Substitute from 1 to 2 Ribs, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PP204Z	Removal of Internal Fixation Device from 3 or More Ribs, Open Approach	Procedure	ICD-10-PCS
0PP207Z	Removal of Autologous Tissue Substitute from 3 or More Ribs, Open Approach	Procedure	ICD-10-PCS
0PP20JZ	Removal of Synthetic Substitute from 3 or More Ribs, Open Approach	Procedure	ICD-10-PCS
0PP20KZ	Removal of Nonautologous Tissue Substitute from 3 or More Ribs, Open Approach	Procedure	ICD-10-PCS
0PP234Z	Removal of Internal Fixation Device from 3 or More Ribs, Percutaneous Approach	Procedure	ICD-10-PCS
0PP237Z	Removal of Autologous Tissue Substitute from 3 or More Ribs, Percutaneous Approach	Procedure	ICD-10-PCS
0PP23JZ	Removal of Synthetic Substitute from 3 or More Ribs, Percutaneous Approach	Procedure	ICD-10-PCS
0PP23KZ	Removal of Nonautologous Tissue Substitute from 3 or More Ribs, Percutaneous Approach	Procedure	ICD-10-PCS
0PP244Z	Removal of Internal Fixation Device from 3 or More Ribs, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PP247Z	Removal of Autologous Tissue Substitute from 3 or More Ribs, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PP24JZ	Removal of Synthetic Substitute from 3 or More Ribs, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PP24KZ	Removal of Nonautologous Tissue Substitute from 3 or More Ribs, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
0PP504Z	Removal of Internal Fixation Device from Right Scapula, Open Approach	Procedure	ICD-10-PCS
0PP507Z	Removal of Autologous Tissue Substitute from Right Scapula, Open Approach	Procedure	ICD-10-PCS
0PP50JZ	Removal of Synthetic Substitute from Right Scapula, Open Approach	Procedure	ICD-10-PCS
0PP50KZ	Removal of Nonautologous Tissue Substitute from Right Scapula, Open Approach	Procedure	ICD-10-PCS
0PP534Z	Removal of Internal Fixation Device from Right Scapula, Percutaneous Approach	Procedure	ICD-10-PCS
0PP537Z	Removal of Autologous Tissue Substitute from Right Scapula, Percutaneous Approach	Procedure	ICD-10-PCS
0PP53JZ	Removal of Synthetic Substitute from Right Scapula, Percutaneous Approach	Procedure	ICD-10-PCS
0PP53KZ	Removal of Nonautologous Tissue Substitute from Right Scapula, Percutaneous Approach	Procedure	ICD-10-PCS
0PP544Z	Removal of Internal Fixation Device from Right Scapula, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PP547Z	Removal of Autologous Tissue Substitute from Right Scapula, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PP54JZ	Removal of Synthetic Substitute from Right Scapula, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PP54KZ	Removal of Nonautologous Tissue Substitute from Right Scapula, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PP604Z	Removal of Internal Fixation Device from Left Scapula, Open Approach	Procedure	ICD-10-PCS
0PP607Z	Removal of Autologous Tissue Substitute from Left Scapula, Open Approach	Procedure	ICD-10-PCS
0PP60JZ	Removal of Synthetic Substitute from Left Scapula, Open Approach	Procedure	ICD-10-PCS
0PP60KZ	Removal of Nonautologous Tissue Substitute from Left Scapula, Open Approach	Procedure	ICD-10-PCS
0PP634Z	Removal of Internal Fixation Device from Left Scapula, Percutaneous Approach	Procedure	ICD-10-PCS
0PP637Z	Removal of Autologous Tissue Substitute from Left Scapula, Percutaneous Approach	Procedure	ICD-10-PCS
0PP63JZ	Removal of Synthetic Substitute from Left Scapula, Percutaneous Approach	Procedure	ICD-10-PCS
0PP63KZ	Removal of Nonautologous Tissue Substitute from Left Scapula, Percutaneous Approach	Procedure	ICD-10-PCS
0PP644Z	Removal of Internal Fixation Device from Left Scapula, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PP647Z	Removal of Autologous Tissue Substitute from Left Scapula, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PP64JZ	Removal of Synthetic Substitute from Left Scapula, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PP64KZ	Removal of Nonautologous Tissue Substitute from Left Scapula, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PP704Z	Removal of Internal Fixation Device from Right Glenoid Cavity, Open Approach	Procedure	ICD-10-PCS
0PP707Z	Removal of Autologous Tissue Substitute from Right Glenoid Cavity, Open Approach	Procedure	ICD-10-PCS
0PP70JZ	Removal of Synthetic Substitute from Right Glenoid Cavity, Open Approach	Procedure	ICD-10-PCS
0PP70KZ	Removal of Nonautologous Tissue Substitute from Right Glenoid Cavity, Open Approach	Procedure	ICD-10-PCS
0PP734Z	Removal of Internal Fixation Device from Right Glenoid Cavity, Percutaneous Approach	Procedure	ICD-10-PCS
0PP737Z	Removal of Autologous Tissue Substitute from Right Glenoid Cavity, Percutaneous Approach	Procedure	ICD-10-PCS
0PP73JZ	Removal of Synthetic Substitute from Right Glenoid Cavity, Percutaneous Approach	Procedure	ICD-10-PCS
0PP73KZ	Removal of Nonautologous Tissue Substitute from Right Glenoid Cavity, Percutaneous Approach	Procedure	ICD-10-PCS
0PP744Z	Removal of Internal Fixation Device from Right Glenoid Cavity, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PP747Z	Removal of Autologous Tissue Substitute from Right Glenoid Cavity, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PP74JZ	Removal of Synthetic Substitute from Right Glenoid Cavity, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PP74KZ	Removal of Nonautologous Tissue Substitute from Right Glenoid Cavity, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PP804Z	Removal of Internal Fixation Device from Left Glenoid Cavity, Open Approach	Procedure	ICD-10-PCS
0PP807Z	Removal of Autologous Tissue Substitute from Left Glenoid Cavity, Open Approach	Procedure	ICD-10-PCS

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
0PP80JZ	Removal of Synthetic Substitute from Left Glenoid Cavity, Open Approach	Procedure	ICD-10-PCS
0PP80KZ	Removal of Nonautologous Tissue Substitute from Left Glenoid Cavity, Open Approach	Procedure	ICD-10-PCS
0PP834Z	Removal of Internal Fixation Device from Left Glenoid Cavity, Percutaneous Approach	Procedure	ICD-10-PCS
0PP837Z	Removal of Autologous Tissue Substitute from Left Glenoid Cavity, Percutaneous Approach	Procedure	ICD-10-PCS
0PP83JZ	Removal of Synthetic Substitute from Left Glenoid Cavity, Percutaneous Approach	Procedure	ICD-10-PCS
0PP83KZ	Removal of Nonautologous Tissue Substitute from Left Glenoid Cavity, Percutaneous Approach	Procedure	ICD-10-PCS
0PP844Z	Removal of Internal Fixation Device from Left Glenoid Cavity, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PP847Z	Removal of Autologous Tissue Substitute from Left Glenoid Cavity, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PP84JZ	Removal of Synthetic Substitute from Left Glenoid Cavity, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PP84KZ	Removal of Nonautologous Tissue Substitute from Left Glenoid Cavity, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PP904Z	Removal of Internal Fixation Device from Right Clavicle, Open Approach	Procedure	ICD-10-PCS
0PP907Z	Removal of Autologous Tissue Substitute from Right Clavicle, Open Approach	Procedure	ICD-10-PCS
0PP90JZ	Removal of Synthetic Substitute from Right Clavicle, Open Approach	Procedure	ICD-10-PCS
0PP90KZ	Removal of Nonautologous Tissue Substitute from Right Clavicle, Open Approach	Procedure	ICD-10-PCS
0PP934Z	Removal of Internal Fixation Device from Right Clavicle, Percutaneous Approach	Procedure	ICD-10-PCS
0PP937Z	Removal of Autologous Tissue Substitute from Right Clavicle, Percutaneous Approach	Procedure	ICD-10-PCS
0PP93JZ	Removal of Synthetic Substitute from Right Clavicle, Percutaneous Approach	Procedure	ICD-10-PCS
0PP93KZ	Removal of Nonautologous Tissue Substitute from Right Clavicle, Percutaneous Approach	Procedure	ICD-10-PCS
0PP944Z	Removal of Internal Fixation Device from Right Clavicle, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PP947Z	Removal of Autologous Tissue Substitute from Right Clavicle, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PP94JZ	Removal of Synthetic Substitute from Right Clavicle, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PP94KZ	Removal of Nonautologous Tissue Substitute from Right Clavicle, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PPB04Z	Removal of Internal Fixation Device from Left Clavicle, Open Approach	Procedure	ICD-10-PCS
0PPB07Z	Removal of Autologous Tissue Substitute from Left Clavicle, Open Approach	Procedure	ICD-10-PCS
0PPB0JZ	Removal of Synthetic Substitute from Left Clavicle, Open Approach	Procedure	ICD-10-PCS
0PPB0KZ	Removal of Nonautologous Tissue Substitute from Left Clavicle, Open Approach	Procedure	ICD-10-PCS
0PPB34Z	Removal of Internal Fixation Device from Left Clavicle, Percutaneous Approach	Procedure	ICD-10-PCS
0PPB37Z	Removal of Autologous Tissue Substitute from Left Clavicle, Percutaneous Approach	Procedure	ICD-10-PCS
0PPB3JZ	Removal of Synthetic Substitute from Left Clavicle, Percutaneous Approach	Procedure	ICD-10-PCS
0PPB3KZ	Removal of Nonautologous Tissue Substitute from Left Clavicle, Percutaneous Approach	Procedure	ICD-10-PCS
0PPB44Z	Removal of Internal Fixation Device from Left Clavicle, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PPB47Z	Removal of Autologous Tissue Substitute from Left Clavicle, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PPB4JZ	Removal of Synthetic Substitute from Left Clavicle, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PPB4KZ	Removal of Nonautologous Tissue Substitute from Left Clavicle, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PPH04Z	Removal of Internal Fixation Device from Right Radius, Open Approach	Procedure	ICD-10-PCS
0PPH05Z	Removal of External Fixation Device from Right Radius, Open Approach	Procedure	ICD-10-PCS
0PPH07Z	Removal of Autologous Tissue Substitute from Right Radius, Open Approach	Procedure	ICD-10-PCS
0PPH0JZ	Removal of Synthetic Substitute from Right Radius, Open Approach	Procedure	ICD-10-PCS

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
0PPH0KZ	Removal of Nonautologous Tissue Substitute from Right Radius, Open Approach	Procedure	ICD-10-PCS
0PPH34Z	Removal of Internal Fixation Device from Right Radius, Percutaneous Approach	Procedure	ICD-10-PCS
0PPH35Z	Removal of External Fixation Device from Right Radius, Percutaneous Approach	Procedure	ICD-10-PCS
0PPH37Z	Removal of Autologous Tissue Substitute from Right Radius, Percutaneous Approach	Procedure	ICD-10-PCS
0PPH3JZ	Removal of Synthetic Substitute from Right Radius, Percutaneous Approach	Procedure	ICD-10-PCS
0PPH3KZ	Removal of Nonautologous Tissue Substitute from Right Radius, Percutaneous Approach	Procedure	ICD-10-PCS
0PPH44Z	Removal of Internal Fixation Device from Right Radius, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PPH45Z	Removal of External Fixation Device from Right Radius, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PPH47Z	Removal of Autologous Tissue Substitute from Right Radius, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PPH4JZ	Removal of Synthetic Substitute from Right Radius, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PPH4KZ	Removal of Nonautologous Tissue Substitute from Right Radius, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PPJ04Z	Removal of Internal Fixation Device from Left Radius, Open Approach	Procedure	ICD-10-PCS
0PPJ05Z	Removal of External Fixation Device from Left Radius, Open Approach	Procedure	ICD-10-PCS
0PPJ07Z	Removal of Autologous Tissue Substitute from Left Radius, Open Approach	Procedure	ICD-10-PCS
0PPJ0JZ	Removal of Synthetic Substitute from Left Radius, Open Approach	Procedure	ICD-10-PCS
0PPJ0KZ	Removal of Nonautologous Tissue Substitute from Left Radius, Open Approach	Procedure	ICD-10-PCS
0PPJ34Z	Removal of Internal Fixation Device from Left Radius, Percutaneous Approach	Procedure	ICD-10-PCS
0PPJ35Z	Removal of External Fixation Device from Left Radius, Percutaneous Approach	Procedure	ICD-10-PCS
0PPJ37Z	Removal of Autologous Tissue Substitute from Left Radius, Percutaneous Approach	Procedure	ICD-10-PCS
0PPJ3JZ	Removal of Synthetic Substitute from Left Radius, Percutaneous Approach	Procedure	ICD-10-PCS
0PPJ3KZ	Removal of Nonautologous Tissue Substitute from Left Radius, Percutaneous Approach	Procedure	ICD-10-PCS
0PPJ44Z	Removal of Internal Fixation Device from Left Radius, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PPJ45Z	Removal of External Fixation Device from Left Radius, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PPJ47Z	Removal of Autologous Tissue Substitute from Left Radius, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PPJ4JZ	Removal of Synthetic Substitute from Left Radius, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PPJ4KZ	Removal of Nonautologous Tissue Substitute from Left Radius, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PPK04Z	Removal of Internal Fixation Device from Right Ulna, Open Approach	Procedure	ICD-10-PCS
0PPK05Z	Removal of External Fixation Device from Right Ulna, Open Approach	Procedure	ICD-10-PCS
0PPK07Z	Removal of Autologous Tissue Substitute from Right Ulna, Open Approach	Procedure	ICD-10-PCS
0PPK0JZ	Removal of Synthetic Substitute from Right Ulna, Open Approach	Procedure	ICD-10-PCS
0PPK0KZ	Removal of Nonautologous Tissue Substitute from Right Ulna, Open Approach	Procedure	ICD-10-PCS
0PPK34Z	Removal of Internal Fixation Device from Right Ulna, Percutaneous Approach	Procedure	ICD-10-PCS
0PPK35Z	Removal of External Fixation Device from Right Ulna, Percutaneous Approach	Procedure	ICD-10-PCS
0PPK37Z	Removal of Autologous Tissue Substitute from Right Ulna, Percutaneous Approach	Procedure	ICD-10-PCS
0PPK3JZ	Removal of Synthetic Substitute from Right Ulna, Percutaneous Approach	Procedure	ICD-10-PCS
0PPK3KZ	Removal of Nonautologous Tissue Substitute from Right Ulna, Percutaneous Approach	Procedure	ICD-10-PCS
0PPK44Z	Removal of Internal Fixation Device from Right Ulna, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PPK45Z	Removal of External Fixation Device from Right Ulna, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PPK47Z	Removal of Autologous Tissue Substitute from Right Ulna, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PPK4JZ	Removal of Synthetic Substitute from Right Ulna, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PPK4KZ	Removal of Nonautologous Tissue Substitute from Right Ulna, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PPL04Z	Removal of Internal Fixation Device from Left Ulna, Open Approach	Procedure	ICD-10-PCS

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
0PPL05Z	Removal of External Fixation Device from Left Ulna, Open Approach	Procedure	ICD-10-PCS
0PPL07Z	Removal of Autologous Tissue Substitute from Left Ulna, Open Approach	Procedure	ICD-10-PCS
0PPL0JZ	Removal of Synthetic Substitute from Left Ulna, Open Approach	Procedure	ICD-10-PCS
0PPL0KZ	Removal of Nonautologous Tissue Substitute from Left Ulna, Open Approach	Procedure	ICD-10-PCS
0PPL34Z	Removal of Internal Fixation Device from Left Ulna, Percutaneous Approach	Procedure	ICD-10-PCS
0PPL35Z	Removal of External Fixation Device from Left Ulna, Percutaneous Approach	Procedure	ICD-10-PCS
0PPL37Z	Removal of Autologous Tissue Substitute from Left Ulna, Percutaneous Approach	Procedure	ICD-10-PCS
0PPL3JZ	Removal of Synthetic Substitute from Left Ulna, Percutaneous Approach	Procedure	ICD-10-PCS
0PPL3KZ	Removal of Nonautologous Tissue Substitute from Left Ulna, Percutaneous Approach	Procedure	ICD-10-PCS
0PPL44Z	Removal of Internal Fixation Device from Left Ulna, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PPL45Z	Removal of External Fixation Device from Left Ulna, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PPL47Z	Removal of Autologous Tissue Substitute from Left Ulna, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PPL4JZ	Removal of Synthetic Substitute from Left Ulna, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PPL4KZ	Removal of Nonautologous Tissue Substitute from Left Ulna, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PQ00ZZ	Repair Sternum, Open Approach	Procedure	ICD-10-PCS
0PQ03ZZ	Repair Sternum, Percutaneous Approach	Procedure	ICD-10-PCS
0PQ04ZZ	Repair Sternum, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PQ0XZZ	Repair Sternum, External Approach	Procedure	ICD-10-PCS
0PQ10ZZ	Repair 1 to 2 Ribs, Open Approach	Procedure	ICD-10-PCS
0PQ13ZZ	Repair 1 to 2 Ribs, Percutaneous Approach	Procedure	ICD-10-PCS
0PQ14ZZ	Repair 1 to 2 Ribs, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PQ1XZZ	Repair 1 to 2 Ribs, External Approach	Procedure	ICD-10-PCS
0PQ20ZZ	Repair 3 or More Ribs, Open Approach	Procedure	ICD-10-PCS
0PQ23ZZ	Repair 3 or More Ribs, Percutaneous Approach	Procedure	ICD-10-PCS
0PQ24ZZ	Repair 3 or More Ribs, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PQ2XZZ	Repair 3 or More Ribs, External Approach	Procedure	ICD-10-PCS
0PQ50ZZ	Repair Right Scapula, Open Approach	Procedure	ICD-10-PCS
0PQ53ZZ	Repair Right Scapula, Percutaneous Approach	Procedure	ICD-10-PCS
0PQ54ZZ	Repair Right Scapula, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PQ5XZZ	Repair Right Scapula, External Approach	Procedure	ICD-10-PCS
0PQ60ZZ	Repair Left Scapula, Open Approach	Procedure	ICD-10-PCS
0PQ63ZZ	Repair Left Scapula, Percutaneous Approach	Procedure	ICD-10-PCS
0PQ64ZZ	Repair Left Scapula, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PQ6XZZ	Repair Left Scapula, External Approach	Procedure	ICD-10-PCS
0PQ70ZZ	Repair Right Glenoid Cavity, Open Approach	Procedure	ICD-10-PCS
0PQ73ZZ	Repair Right Glenoid Cavity, Percutaneous Approach	Procedure	ICD-10-PCS
0PQ74ZZ	Repair Right Glenoid Cavity, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PQ7XZZ	Repair Right Glenoid Cavity, External Approach	Procedure	ICD-10-PCS
0PQ80ZZ	Repair Left Glenoid Cavity, Open Approach	Procedure	ICD-10-PCS
0PQ83ZZ	Repair Left Glenoid Cavity, Percutaneous Approach	Procedure	ICD-10-PCS
0PQ84ZZ	Repair Left Glenoid Cavity, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PQ8XZZ	Repair Left Glenoid Cavity, External Approach	Procedure	ICD-10-PCS
0PQ90ZZ	Repair Right Clavicle, Open Approach	Procedure	ICD-10-PCS
0PQ93ZZ	Repair Right Clavicle, Percutaneous Approach	Procedure	ICD-10-PCS
0PQ94ZZ	Repair Right Clavicle, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PQ9XZZ	Repair Right Clavicle, External Approach	Procedure	ICD-10-PCS

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
0PQB0ZZ	Repair Left Clavicle, Open Approach	Procedure	ICD-10-PCS
0PQB3ZZ	Repair Left Clavicle, Percutaneous Approach	Procedure	ICD-10-PCS
0PQB4ZZ	Repair Left Clavicle, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PQBXZZ	Repair Left Clavicle, External Approach	Procedure	ICD-10-PCS
0PQH0ZZ	Repair Right Radius, Open Approach	Procedure	ICD-10-PCS
0PQH3ZZ	Repair Right Radius, Percutaneous Approach	Procedure	ICD-10-PCS
0PQH4ZZ	Repair Right Radius, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PQHXZZ	Repair Right Radius, External Approach	Procedure	ICD-10-PCS
0PQJ0ZZ	Repair Left Radius, Open Approach	Procedure	ICD-10-PCS
0PQJ3ZZ	Repair Left Radius, Percutaneous Approach	Procedure	ICD-10-PCS
0PQJ4ZZ	Repair Left Radius, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PQJXZZ	Repair Left Radius, External Approach	Procedure	ICD-10-PCS
0PQK0ZZ	Repair Right Ulna, Open Approach	Procedure	ICD-10-PCS
0PQK3ZZ	Repair Right Ulna, Percutaneous Approach	Procedure	ICD-10-PCS
0PQK4ZZ	Repair Right Ulna, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PQKXZZ	Repair Right Ulna, External Approach	Procedure	ICD-10-PCS
0PQL0ZZ	Repair Left Ulna, Open Approach	Procedure	ICD-10-PCS
0PQL3ZZ	Repair Left Ulna, Percutaneous Approach	Procedure	ICD-10-PCS
0PQL4ZZ	Repair Left Ulna, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PQLXZZ	Repair Left Ulna, External Approach	Procedure	ICD-10-PCS
0PR00JZ	Replacement of Sternum with Synthetic Substitute, Open Approach	Procedure	ICD-10-PCS
0PR03JZ	Replacement of Sternum with Synthetic Substitute, Percutaneous Approach	Procedure	ICD-10-PCS
0PR04JZ	Replacement of Sternum with Synthetic Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PR10JZ	Replacement of 1 to 2 Ribs with Synthetic Substitute, Open Approach	Procedure	ICD-10-PCS
0PR13JZ	Replacement of 1 to 2 Ribs with Synthetic Substitute, Percutaneous Approach	Procedure	ICD-10-PCS
0PR14JZ	Replacement of 1 to 2 Ribs with Synthetic Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PR20JZ	Replacement of 3 or More Ribs with Synthetic Substitute, Open Approach	Procedure	ICD-10-PCS
0PR23JZ	Replacement of 3 or More Ribs with Synthetic Substitute, Percutaneous Approach	Procedure	ICD-10-PCS
0PR24JZ	Replacement of 3 or More Ribs with Synthetic Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PR50JZ	Replacement of Right Scapula with Synthetic Substitute, Open Approach	Procedure	ICD-10-PCS
0PR53JZ	Replacement of Right Scapula with Synthetic Substitute, Percutaneous Approach	Procedure	ICD-10-PCS
0PR54JZ	Replacement of Right Scapula with Synthetic Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PR60JZ	Replacement of Left Scapula with Synthetic Substitute, Open Approach	Procedure	ICD-10-PCS
0PR63JZ	Replacement of Left Scapula with Synthetic Substitute, Percutaneous Approach	Procedure	ICD-10-PCS
0PR64JZ	Replacement of Left Scapula with Synthetic Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PR70JZ	Replacement of Right Glenoid Cavity with Synthetic Substitute, Open Approach	Procedure	ICD-10-PCS
0PR73JZ	Replacement of Right Glenoid Cavity with Synthetic Substitute, Percutaneous Approach	Procedure	ICD-10-PCS
0PR74JZ	Replacement of Right Glenoid Cavity with Synthetic Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PR80JZ	Replacement of Left Glenoid Cavity with Synthetic Substitute, Open Approach	Procedure	ICD-10-PCS
0PR83JZ	Replacement of Left Glenoid Cavity with Synthetic Substitute, Percutaneous Approach	Procedure	ICD-10-PCS
0PR84JZ	Replacement of Left Glenoid Cavity with Synthetic Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PR90JZ	Replacement of Right Clavicle with Synthetic Substitute, Open Approach	Procedure	ICD-10-PCS
0PR93JZ	Replacement of Right Clavicle with Synthetic Substitute, Percutaneous Approach	Procedure	ICD-10-PCS
0PR94JZ	Replacement of Right Clavicle with Synthetic Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PRB0JZ	Replacement of Left Clavicle with Synthetic Substitute, Open Approach	Procedure	ICD-10-PCS

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
0PRB3JZ	Replacement of Left Clavicle with Synthetic Substitute, Percutaneous Approach	Procedure	ICD-10-PCS
0PRB4JZ	Replacement of Left Clavicle with Synthetic Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PRH0JZ	Replacement of Right Radius with Synthetic Substitute, Open Approach	Procedure	ICD-10-PCS
0PRH3JZ	Replacement of Right Radius with Synthetic Substitute, Percutaneous Approach	Procedure	ICD-10-PCS
0PRH4JZ	Replacement of Right Radius with Synthetic Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PRJ0JZ	Replacement of Left Radius with Synthetic Substitute, Open Approach	Procedure	ICD-10-PCS
0PRJ3JZ	Replacement of Left Radius with Synthetic Substitute, Percutaneous Approach	Procedure	ICD-10-PCS
0PRJ4JZ	Replacement of Left Radius with Synthetic Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PRK0JZ	Replacement of Right Ulna with Synthetic Substitute, Open Approach	Procedure	ICD-10-PCS
0PRK3JZ	Replacement of Right Ulna with Synthetic Substitute, Percutaneous Approach	Procedure	ICD-10-PCS
0PRK4JZ	Replacement of Right Ulna with Synthetic Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PRL0JZ	Replacement of Left Ulna with Synthetic Substitute, Open Approach	Procedure	ICD-10-PCS
0PRL3JZ	Replacement of Left Ulna with Synthetic Substitute, Percutaneous Approach	Procedure	ICD-10-PCS
0PRL4JZ	Replacement of Left Ulna with Synthetic Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PSH04Z	Reposition Right Radius with Internal Fixation Device, Open Approach	Procedure	ICD-10-PCS
0PSH05Z	Reposition Right Radius with External Fixation Device, Open Approach	Procedure	ICD-10-PCS
0PSH06Z	Reposition Right Radius with Intramedullary Internal Fixation Device, Open Approach	Procedure	ICD-10-PCS
0PSH0BZ	Reposition Right Radius with Monoplanar External Fixation Device, Open Approach	Procedure	ICD-10-PCS
0PSH0CZ	Reposition Right Radius with Ring External Fixation Device, Open Approach	Procedure	ICD-10-PCS
0PSH0DZ	Reposition Right Radius with Hybrid External Fixation Device, Open Approach	Procedure	ICD-10-PCS
0PSH0ZZ	Reposition Right Radius, Open Approach	Procedure	ICD-10-PCS
0PSH34Z	Reposition Right Radius with Internal Fixation Device, Percutaneous Approach	Procedure	ICD-10-PCS
0PSH35Z	Reposition Right Radius with External Fixation Device, Percutaneous Approach	Procedure	ICD-10-PCS
0PSH36Z	Reposition Right Radius with Intramedullary Internal Fixation Device, Percutaneous Approach	Procedure	ICD-10-PCS
0PSH3BZ	Reposition Right Radius with Monoplanar External Fixation Device, Percutaneous Approach	Procedure	ICD-10-PCS
0PSH3CZ	Reposition Right Radius with Ring External Fixation Device, Percutaneous Approach	Procedure	ICD-10-PCS
0PSH3DZ	Reposition Right Radius with Hybrid External Fixation Device, Percutaneous Approach	Procedure	ICD-10-PCS
0PSH3ZZ	Reposition Right Radius, Percutaneous Approach	Procedure	ICD-10-PCS
0PSH44Z	Reposition Right Radius with Internal Fixation Device, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PSH45Z	Reposition Right Radius with External Fixation Device, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PSH46Z	Reposition Right Radius with Intramedullary Internal Fixation Device, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PSH4BZ	Reposition Right Radius with Monoplanar External Fixation Device, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PSH4CZ	Reposition Right Radius with Ring External Fixation Device, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PSH4DZ	Reposition Right Radius with Hybrid External Fixation Device, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PSH4ZZ	Reposition Right Radius, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PSHXZZ	Reposition Right Radius, External Approach	Procedure	ICD-10-PCS
0PSJ04Z	Reposition Left Radius with Internal Fixation Device, Open Approach	Procedure	ICD-10-PCS
0PSJ05Z	Reposition Left Radius with External Fixation Device, Open Approach	Procedure	ICD-10-PCS
0PSJ06Z	Reposition Left Radius with Intramedullary Internal Fixation Device, Open Approach	Procedure	ICD-10-PCS
0PSJ0BZ	Reposition Left Radius with Monoplanar External Fixation Device, Open Approach	Procedure	ICD-10-PCS
0PSJ0CZ	Reposition Left Radius with Ring External Fixation Device, Open Approach	Procedure	ICD-10-PCS
0PSJ0DZ	Reposition Left Radius with Hybrid External Fixation Device, Open Approach	Procedure	ICD-10-PCS
0PSJ0ZZ	Reposition Left Radius, Open Approach	Procedure	ICD-10-PCS

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
0PSJ34Z	Reposition Left Radius with Internal Fixation Device, Percutaneous Approach	Procedure	ICD-10-PCS
0PSJ35Z	Reposition Left Radius with External Fixation Device, Percutaneous Approach	Procedure	ICD-10-PCS
0PSJ36Z	Reposition Left Radius with Intramedullary Internal Fixation Device, Percutaneous Approach	Procedure	ICD-10-PCS
0PSJ3BZ	Reposition Left Radius with Monoplanar External Fixation Device, Percutaneous Approach	Procedure	ICD-10-PCS
0PSJ3CZ	Reposition Left Radius with Ring External Fixation Device, Percutaneous Approach	Procedure	ICD-10-PCS
0PSJ3DZ	Reposition Left Radius with Hybrid External Fixation Device, Percutaneous Approach	Procedure	ICD-10-PCS
0PSJ3ZZ	Reposition Left Radius, Percutaneous Approach	Procedure	ICD-10-PCS
0PSJ44Z	Reposition Left Radius with Internal Fixation Device, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PSJ45Z	Reposition Left Radius with External Fixation Device, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PSJ46Z	Reposition Left Radius with Intramedullary Internal Fixation Device, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PSJ4BZ	Reposition Left Radius with Monoplanar External Fixation Device, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PSJ4CZ	Reposition Left Radius with Ring External Fixation Device, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PSJ4DZ	Reposition Left Radius with Hybrid External Fixation Device, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PSJ4ZZ	Reposition Left Radius, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PSJXZZ	Reposition Left Radius, External Approach	Procedure	ICD-10-PCS
0PSK04Z	Reposition Right Ulna with Internal Fixation Device, Open Approach	Procedure	ICD-10-PCS
0PSK05Z	Reposition Right Ulna with External Fixation Device, Open Approach	Procedure	ICD-10-PCS
0PSK06Z	Reposition Right Ulna with Intramedullary Internal Fixation Device, Open Approach	Procedure	ICD-10-PCS
0PSK0BZ	Reposition Right Ulna with Monoplanar External Fixation Device, Open Approach	Procedure	ICD-10-PCS
0PSK0CZ	Reposition Right Ulna with Ring External Fixation Device, Open Approach	Procedure	ICD-10-PCS
0PSK0DZ	Reposition Right Ulna with Hybrid External Fixation Device, Open Approach	Procedure	ICD-10-PCS
0PSK0ZZ	Reposition Right Ulna, Open Approach	Procedure	ICD-10-PCS
0PSK34Z	Reposition Right Ulna with Internal Fixation Device, Percutaneous Approach	Procedure	ICD-10-PCS
0PSK35Z	Reposition Right Ulna with External Fixation Device, Percutaneous Approach	Procedure	ICD-10-PCS
0PSK36Z	Reposition Right Ulna with Intramedullary Internal Fixation Device, Percutaneous Approach	Procedure	ICD-10-PCS
0PSK3BZ	Reposition Right Ulna with Monoplanar External Fixation Device, Percutaneous Approach	Procedure	ICD-10-PCS
0PSK3CZ	Reposition Right Ulna with Ring External Fixation Device, Percutaneous Approach	Procedure	ICD-10-PCS
0PSK3DZ	Reposition Right Ulna with Hybrid External Fixation Device, Percutaneous Approach	Procedure	ICD-10-PCS
0PSK3ZZ	Reposition Right Ulna, Percutaneous Approach	Procedure	ICD-10-PCS
0PSK44Z	Reposition Right Ulna with Internal Fixation Device, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PSK45Z	Reposition Right Ulna with External Fixation Device, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PSK46Z	Reposition Right Ulna with Intramedullary Internal Fixation Device, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PSK4BZ	Reposition Right Ulna with Monoplanar External Fixation Device, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PSK4CZ	Reposition Right Ulna with Ring External Fixation Device, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PSK4DZ	Reposition Right Ulna with Hybrid External Fixation Device, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PSK4ZZ	Reposition Right Ulna, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PSKXZZ	Reposition Right Ulna, External Approach	Procedure	ICD-10-PCS
0PSL04Z	Reposition Left Ulna with Internal Fixation Device, Open Approach	Procedure	ICD-10-PCS
0PSL05Z	Reposition Left Ulna with External Fixation Device, Open Approach	Procedure	ICD-10-PCS

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
0PSL06Z	Reposition Left Ulna with Intramedullary Internal Fixation Device, Open Approach	Procedure	ICD-10-PCS
0PSL0BZ	Reposition Left Ulna with Monoplanar External Fixation Device, Open Approach	Procedure	ICD-10-PCS
0PSL0CZ	Reposition Left Ulna with Ring External Fixation Device, Open Approach	Procedure	ICD-10-PCS
0PSL0DZ	Reposition Left Ulna with Hybrid External Fixation Device, Open Approach	Procedure	ICD-10-PCS
0PSL0ZZ	Reposition Left Ulna, Open Approach	Procedure	ICD-10-PCS
0PSL34Z	Reposition Left Ulna with Internal Fixation Device, Percutaneous Approach	Procedure	ICD-10-PCS
0PSL35Z	Reposition Left Ulna with External Fixation Device, Percutaneous Approach	Procedure	ICD-10-PCS
0PSL36Z	Reposition Left Ulna with Intramedullary Internal Fixation Device, Percutaneous Approach	Procedure	ICD-10-PCS
0PSL3BZ	Reposition Left Ulna with Monoplanar External Fixation Device, Percutaneous Approach	Procedure	ICD-10-PCS
0PSL3CZ	Reposition Left Ulna with Ring External Fixation Device, Percutaneous Approach	Procedure	ICD-10-PCS
0PSL3DZ	Reposition Left Ulna with Hybrid External Fixation Device, Percutaneous Approach	Procedure	ICD-10-PCS
0PSL3ZZ	Reposition Left Ulna, Percutaneous Approach	Procedure	ICD-10-PCS
0PSL44Z	Reposition Left Ulna with Internal Fixation Device, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PSL45Z	Reposition Left Ulna with External Fixation Device, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PSL46Z	Reposition Left Ulna with Intramedullary Internal Fixation Device, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PSL4BZ	Reposition Left Ulna with Monoplanar External Fixation Device, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PSL4CZ	Reposition Left Ulna with Ring External Fixation Device, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PSL4DZ	Reposition Left Ulna with Hybrid External Fixation Device, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PSL4ZZ	Reposition Left Ulna, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PSLXZZ	Reposition Left Ulna, External Approach	Procedure	ICD-10-PCS
0PU00JZ	Supplement Sternum with Synthetic Substitute, Open Approach	Procedure	ICD-10-PCS
0PU03JZ	Supplement Sternum with Synthetic Substitute, Percutaneous Approach	Procedure	ICD-10-PCS
0PU04JZ	Supplement Sternum with Synthetic Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PU10JZ	Supplement 1 to 2 Ribs with Synthetic Substitute, Open Approach	Procedure	ICD-10-PCS
0PU13JZ	Supplement 1 to 2 Ribs with Synthetic Substitute, Percutaneous Approach	Procedure	ICD-10-PCS
0PU14JZ	Supplement 1 to 2 Ribs with Synthetic Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PU20JZ	Supplement 3 or More Ribs with Synthetic Substitute, Open Approach	Procedure	ICD-10-PCS
0PU23JZ	Supplement 3 or More Ribs with Synthetic Substitute, Percutaneous Approach	Procedure	ICD-10-PCS
0PU24JZ	Supplement 3 or More Ribs with Synthetic Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PU50JZ	Supplement Right Scapula with Synthetic Substitute, Open Approach	Procedure	ICD-10-PCS
0PU53JZ	Supplement Right Scapula with Synthetic Substitute, Percutaneous Approach	Procedure	ICD-10-PCS
0PU54JZ	Supplement Right Scapula with Synthetic Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PU60JZ	Supplement Left Scapula with Synthetic Substitute, Open Approach	Procedure	ICD-10-PCS
0PU63JZ	Supplement Left Scapula with Synthetic Substitute, Percutaneous Approach	Procedure	ICD-10-PCS
0PU64JZ	Supplement Left Scapula with Synthetic Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PU70JZ	Supplement Right Glenoid Cavity with Synthetic Substitute, Open Approach	Procedure	ICD-10-PCS
0PU73JZ	Supplement Right Glenoid Cavity with Synthetic Substitute, Percutaneous Approach	Procedure	ICD-10-PCS
0PU74JZ	Supplement Right Glenoid Cavity with Synthetic Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PU80JZ	Supplement Left Glenoid Cavity with Synthetic Substitute, Open Approach	Procedure	ICD-10-PCS
0PU83JZ	Supplement Left Glenoid Cavity with Synthetic Substitute, Percutaneous Approach	Procedure	ICD-10-PCS
0PU84JZ	Supplement Left Glenoid Cavity with Synthetic Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PU90JZ	Supplement Right Clavicle with Synthetic Substitute, Open Approach	Procedure	ICD-10-PCS
0PU93JZ	Supplement Right Clavicle with Synthetic Substitute, Percutaneous Approach	Procedure	ICD-10-PCS

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
0PU94JZ	Supplement Right Clavicle with Synthetic Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PUB0JZ	Supplement Left Clavicle with Synthetic Substitute, Open Approach	Procedure	ICD-10-PCS
0PUB3JZ	Supplement Left Clavicle with Synthetic Substitute, Percutaneous Approach	Procedure	ICD-10-PCS
0PUB4JZ	Supplement Left Clavicle with Synthetic Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PUH0JZ	Supplement Right Radius with Synthetic Substitute, Open Approach	Procedure	ICD-10-PCS
0PUH3JZ	Supplement Right Radius with Synthetic Substitute, Percutaneous Approach	Procedure	ICD-10-PCS
0PUH4JZ	Supplement Right Radius with Synthetic Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PUJ0JZ	Supplement Left Radius with Synthetic Substitute, Open Approach	Procedure	ICD-10-PCS
0PUJ3JZ	Supplement Left Radius with Synthetic Substitute, Percutaneous Approach	Procedure	ICD-10-PCS
0PUJ4JZ	Supplement Left Radius with Synthetic Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PUK0JZ	Supplement Right Ulna with Synthetic Substitute, Open Approach	Procedure	ICD-10-PCS
0PUK3JZ	Supplement Right Ulna with Synthetic Substitute, Percutaneous Approach	Procedure	ICD-10-PCS
0PUK4JZ	Supplement Right Ulna with Synthetic Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0PUL0JZ	Supplement Left Ulna with Synthetic Substitute, Open Approach	Procedure	ICD-10-PCS
0PUL3JZ	Supplement Left Ulna with Synthetic Substitute, Percutaneous Approach	Procedure	ICD-10-PCS
0PUL4JZ	Supplement Left Ulna with Synthetic Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QB60ZZ	Excision of Right Upper Femur, Open Approach	Procedure	ICD-10-PCS
0QB70ZZ	Excision of Left Upper Femur, Open Approach	Procedure	ICD-10-PCS
0QB80ZZ	Excision of Right Femoral Shaft, Open Approach	Procedure	ICD-10-PCS
0QB90ZZ	Excision of Left Femoral Shaft, Open Approach	Procedure	ICD-10-PCS
0QBB0ZZ	Excision of Right Lower Femur, Open Approach	Procedure	ICD-10-PCS
0QBC0ZZ	Excision of Left Lower Femur, Open Approach	Procedure	ICD-10-PCS
0QH604Z	Insertion of Internal Fixation Device into Right Upper Femur, Open Approach	Procedure	ICD-10-PCS
0QH605Z	Insertion of External Fixation Device into Right Upper Femur, Open Approach	Procedure	ICD-10-PCS
0QH606Z	Insertion of Intramedullary Internal Fixation Device into Right Upper Femur, Open Approach	Procedure	ICD-10-PCS
0QH60BZ	Insertion of Monoplanar External Fixation Device into Right Upper Femur, Open Approach	Procedure	ICD-10-PCS
0QH60CZ	Insertion of Ring External Fixation Device into Right Upper Femur, Open Approach	Procedure	ICD-10-PCS
0QH60DZ	Insertion of Hybrid External Fixation Device into Right Upper Femur, Open Approach	Procedure	ICD-10-PCS
0QH634Z	Insertion of Internal Fixation Device into Right Upper Femur, Percutaneous Approach	Procedure	ICD-10-PCS
0QH635Z	Insertion of External Fixation Device into Right Upper Femur, Percutaneous Approach	Procedure	ICD-10-PCS
0QH636Z	Insertion of Intramedullary Internal Fixation Device into Right Upper Femur, Percutaneous Approach	Procedure	ICD-10-PCS
0QH63BZ	Insertion of Monoplanar External Fixation Device into Right Upper Femur, Percutaneous Approach	Procedure	ICD-10-PCS
0QH63CZ	Insertion of Ring External Fixation Device into Right Upper Femur, Percutaneous Approach	Procedure	ICD-10-PCS
0QH63DZ	Insertion of Hybrid External Fixation Device into Right Upper Femur, Percutaneous Approach	Procedure	ICD-10-PCS
0QH644Z	Insertion of Internal Fixation Device into Right Upper Femur, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QH645Z	Insertion of External Fixation Device into Right Upper Femur, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QH646Z	Insertion of Intramedullary Internal Fixation Device into Right Upper Femur, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QH64BZ	Insertion of Monoplanar External Fixation Device into Right Upper Femur, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QH64CZ	Insertion of Ring External Fixation Device into Right Upper Femur, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
0QH64DZ	Insertion of Hybrid External Fixation Device into Right Upper Femur, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QH704Z	Insertion of Internal Fixation Device into Left Upper Femur, Open Approach	Procedure	ICD-10-PCS
0QH705Z	Insertion of External Fixation Device into Left Upper Femur, Open Approach	Procedure	ICD-10-PCS
0QH706Z	Insertion of Intramedullary Internal Fixation Device into Left Upper Femur, Open Approach	Procedure	ICD-10-PCS
0QH70BZ	Insertion of Monoplanar External Fixation Device into Left Upper Femur, Open Approach	Procedure	ICD-10-PCS
0QH70CZ	Insertion of Ring External Fixation Device into Left Upper Femur, Open Approach	Procedure	ICD-10-PCS
0QH70DZ	Insertion of Hybrid External Fixation Device into Left Upper Femur, Open Approach	Procedure	ICD-10-PCS
0QH734Z	Insertion of Internal Fixation Device into Left Upper Femur, Percutaneous Approach	Procedure	ICD-10-PCS
0QH735Z	Insertion of External Fixation Device into Left Upper Femur, Percutaneous Approach	Procedure	ICD-10-PCS
0QH736Z	Insertion of Intramedullary Internal Fixation Device into Left Upper Femur, Percutaneous Approach	Procedure	ICD-10-PCS
0QH73BZ	Insertion of Monoplanar External Fixation Device into Left Upper Femur, Percutaneous Approach	Procedure	ICD-10-PCS
0QH73CZ	Insertion of Ring External Fixation Device into Left Upper Femur, Percutaneous Approach	Procedure	ICD-10-PCS
0QH73DZ	Insertion of Hybrid External Fixation Device into Left Upper Femur, Percutaneous Approach	Procedure	ICD-10-PCS
0QH744Z	Insertion of Internal Fixation Device into Left Upper Femur, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QH745Z	Insertion of External Fixation Device into Left Upper Femur, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QH746Z	Insertion of Intramedullary Internal Fixation Device into Left Upper Femur, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QH74BZ	Insertion of Monoplanar External Fixation Device into Left Upper Femur, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QH74CZ	Insertion of Ring External Fixation Device into Left Upper Femur, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QH74DZ	Insertion of Hybrid External Fixation Device into Left Upper Femur, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QH804Z	Insertion of Internal Fixation Device into Right Femoral Shaft, Open Approach	Procedure	ICD-10-PCS
0QH805Z	Insertion of External Fixation Device into Right Femoral Shaft, Open Approach	Procedure	ICD-10-PCS
0QH806Z	Insertion of Intramedullary Internal Fixation Device into Right Femoral Shaft, Open Approach	Procedure	ICD-10-PCS
0QH80BZ	Insertion of Monoplanar External Fixation Device into Right Femoral Shaft, Open Approach	Procedure	ICD-10-PCS
0QH80CZ	Insertion of Ring External Fixation Device into Right Femoral Shaft, Open Approach	Procedure	ICD-10-PCS
0QH80DZ	Insertion of Hybrid External Fixation Device into Right Femoral Shaft, Open Approach	Procedure	ICD-10-PCS
0QH834Z	Insertion of Internal Fixation Device into Right Femoral Shaft, Percutaneous Approach	Procedure	ICD-10-PCS
0QH835Z	Insertion of External Fixation Device into Right Femoral Shaft, Percutaneous Approach	Procedure	ICD-10-PCS
0QH836Z	Insertion of Intramedullary Internal Fixation Device into Right Femoral Shaft, Percutaneous Approach	Procedure	ICD-10-PCS
0QH83BZ	Insertion of Monoplanar External Fixation Device into Right Femoral Shaft, Percutaneous Approach	Procedure	ICD-10-PCS
0QH83CZ	Insertion of Ring External Fixation Device into Right Femoral Shaft, Percutaneous Approach	Procedure	ICD-10-PCS
0QH83DZ	Insertion of Hybrid External Fixation Device into Right Femoral Shaft, Percutaneous Approach	Procedure	ICD-10-PCS
0QH844Z	Insertion of Internal Fixation Device into Right Femoral Shaft, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QH845Z	Insertion of External Fixation Device into Right Femoral Shaft, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
0QH846Z	Insertion of Intramedullary Internal Fixation Device into Right Femoral Shaft, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QH84BZ	Insertion of Monoplanar External Fixation Device into Right Femoral Shaft, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QH84CZ	Insertion of Ring External Fixation Device into Right Femoral Shaft, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QH84DZ	Insertion of Hybrid External Fixation Device into Right Femoral Shaft, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QH904Z	Insertion of Internal Fixation Device into Left Femoral Shaft, Open Approach	Procedure	ICD-10-PCS
0QH905Z	Insertion of External Fixation Device into Left Femoral Shaft, Open Approach	Procedure	ICD-10-PCS
0QH906Z	Insertion of Intramedullary Internal Fixation Device into Left Femoral Shaft, Open Approach	Procedure	ICD-10-PCS
0QH90BZ	Insertion of Monoplanar External Fixation Device into Left Femoral Shaft, Open Approach	Procedure	ICD-10-PCS
0QH90CZ	Insertion of Ring External Fixation Device into Left Femoral Shaft, Open Approach	Procedure	ICD-10-PCS
0QH90DZ	Insertion of Hybrid External Fixation Device into Left Femoral Shaft, Open Approach	Procedure	ICD-10-PCS
0QH934Z	Insertion of Internal Fixation Device into Left Femoral Shaft, Percutaneous Approach	Procedure	ICD-10-PCS
0QH935Z	Insertion of External Fixation Device into Left Femoral Shaft, Percutaneous Approach	Procedure	ICD-10-PCS
0QH936Z	Insertion of Intramedullary Internal Fixation Device into Left Femoral Shaft, Percutaneous Approach	Procedure	ICD-10-PCS
0QH93BZ	Insertion of Monoplanar External Fixation Device into Left Femoral Shaft, Percutaneous Approach	Procedure	ICD-10-PCS
0QH93CZ	Insertion of Ring External Fixation Device into Left Femoral Shaft, Percutaneous Approach	Procedure	ICD-10-PCS
0QH93DZ	Insertion of Hybrid External Fixation Device into Left Femoral Shaft, Percutaneous Approach	Procedure	ICD-10-PCS
0QH944Z	Insertion of Internal Fixation Device into Left Femoral Shaft, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QH945Z	Insertion of External Fixation Device into Left Femoral Shaft, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QH946Z	Insertion of Intramedullary Internal Fixation Device into Left Femoral Shaft, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QH94BZ	Insertion of Monoplanar External Fixation Device into Left Femoral Shaft, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QH94CZ	Insertion of Ring External Fixation Device into Left Femoral Shaft, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QH94DZ	Insertion of Hybrid External Fixation Device into Left Femoral Shaft, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QHB04Z	Insertion of Internal Fixation Device into Right Lower Femur, Open Approach	Procedure	ICD-10-PCS
0QHB05Z	Insertion of External Fixation Device into Right Lower Femur, Open Approach	Procedure	ICD-10-PCS
0QHB06Z	Insertion of Intramedullary Internal Fixation Device into Right Lower Femur, Open Approach	Procedure	ICD-10-PCS
0QHB0BZ	Insertion of Monoplanar External Fixation Device into Right Lower Femur, Open Approach	Procedure	ICD-10-PCS
0QHB0CZ	Insertion of Ring External Fixation Device into Right Lower Femur, Open Approach	Procedure	ICD-10-PCS
0QHB0DZ	Insertion of Hybrid External Fixation Device into Right Lower Femur, Open Approach	Procedure	ICD-10-PCS
0QHB34Z	Insertion of Internal Fixation Device into Right Lower Femur, Percutaneous Approach	Procedure	ICD-10-PCS
0QHB35Z	Insertion of External Fixation Device into Right Lower Femur, Percutaneous Approach	Procedure	ICD-10-PCS
0QHB36Z	Insertion of Intramedullary Internal Fixation Device into Right Lower Femur, Percutaneous Approach	Procedure	ICD-10-PCS
0QHB3BZ	Insertion of Monoplanar External Fixation Device into Right Lower Femur, Percutaneous Approach	Procedure	ICD-10-PCS
0QHB3CZ	Insertion of Ring External Fixation Device into Right Lower Femur, Percutaneous Approach	Procedure	ICD-10-PCS
0QHB3DZ	Insertion of Hybrid External Fixation Device into Right Lower Femur, Percutaneous Approach	Procedure	ICD-10-PCS

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
0QHB44Z	Insertion of Internal Fixation Device into Right Lower Femur, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QHB45Z	Insertion of External Fixation Device into Right Lower Femur, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QHB46Z	Insertion of Intramedullary Internal Fixation Device into Right Lower Femur, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QHB4BZ	Insertion of Monoplanar External Fixation Device into Right Lower Femur, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QHB4CZ	Insertion of Ring External Fixation Device into Right Lower Femur, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QHB4DZ	Insertion of Hybrid External Fixation Device into Right Lower Femur, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QHC04Z	Insertion of Internal Fixation Device into Left Lower Femur, Open Approach	Procedure	ICD-10-PCS
0QHC05Z	Insertion of External Fixation Device into Left Lower Femur, Open Approach	Procedure	ICD-10-PCS
0QHC06Z	Insertion of Intramedullary Internal Fixation Device into Left Lower Femur, Open Approach	Procedure	ICD-10-PCS
0QHC0BZ	Insertion of Monoplanar External Fixation Device into Left Lower Femur, Open Approach	Procedure	ICD-10-PCS
0QHC0CZ	Insertion of Ring External Fixation Device into Left Lower Femur, Open Approach	Procedure	ICD-10-PCS
0QHC0DZ	Insertion of Hybrid External Fixation Device into Left Lower Femur, Open Approach	Procedure	ICD-10-PCS
0QHC34Z	Insertion of Internal Fixation Device into Left Lower Femur, Percutaneous Approach	Procedure	ICD-10-PCS
0QHC35Z	Insertion of External Fixation Device into Left Lower Femur, Percutaneous Approach	Procedure	ICD-10-PCS
0QHC36Z	Insertion of Intramedullary Internal Fixation Device into Left Lower Femur, Percutaneous Approach	Procedure	ICD-10-PCS
0QHC3BZ	Insertion of Monoplanar External Fixation Device into Left Lower Femur, Percutaneous Approach	Procedure	ICD-10-PCS
0QHC3CZ	Insertion of Ring External Fixation Device into Left Lower Femur, Percutaneous Approach	Procedure	ICD-10-PCS
0QHC3DZ	Insertion of Hybrid External Fixation Device into Left Lower Femur, Percutaneous Approach	Procedure	ICD-10-PCS
0QHC44Z	Insertion of Internal Fixation Device into Left Lower Femur, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QHC45Z	Insertion of External Fixation Device into Left Lower Femur, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QHC46Z	Insertion of Intramedullary Internal Fixation Device into Left Lower Femur, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QHC4BZ	Insertion of Monoplanar External Fixation Device into Left Lower Femur, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QHC4CZ	Insertion of Ring External Fixation Device into Left Lower Femur, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QHC4DZ	Insertion of Hybrid External Fixation Device into Left Lower Femur, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QN60ZZ	Release Right Upper Femur, Open Approach	Procedure	ICD-10-PCS
0QN63ZZ	Release Right Upper Femur, Percutaneous Approach	Procedure	ICD-10-PCS
0QN64ZZ	Release Right Upper Femur, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QN70ZZ	Release Left Upper Femur, Open Approach	Procedure	ICD-10-PCS
0QN73ZZ	Release Left Upper Femur, Percutaneous Approach	Procedure	ICD-10-PCS
0QN74ZZ	Release Left Upper Femur, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QN80ZZ	Release Right Femoral Shaft, Open Approach	Procedure	ICD-10-PCS
0QN83ZZ	Release Right Femoral Shaft, Percutaneous Approach	Procedure	ICD-10-PCS
0QN84ZZ	Release Right Femoral Shaft, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QN90ZZ	Release Left Femoral Shaft, Open Approach	Procedure	ICD-10-PCS

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
0QN93ZZ	Release Left Femoral Shaft, Percutaneous Approach	Procedure	ICD-10-PCS
0QN94ZZ	Release Left Femoral Shaft, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QNB0ZZ	Release Right Lower Femur, Open Approach	Procedure	ICD-10-PCS
0QNB3ZZ	Release Right Lower Femur, Percutaneous Approach	Procedure	ICD-10-PCS
0QNB4ZZ	Release Right Lower Femur, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QNC0ZZ	Release Left Lower Femur, Open Approach	Procedure	ICD-10-PCS
0QNC3ZZ	Release Left Lower Femur, Percutaneous Approach	Procedure	ICD-10-PCS
0QNC4ZZ	Release Left Lower Femur, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QP604Z	Removal of Internal Fixation Device from Right Upper Femur, Open Approach	Procedure	ICD-10-PCS
0QP605Z	Removal of External Fixation Device from Right Upper Femur, Open Approach	Procedure	ICD-10-PCS
0QP607Z	Removal of Autologous Tissue Substitute from Right Upper Femur, Open Approach	Procedure	ICD-10-PCS
0QP60JZ	Removal of Synthetic Substitute from Right Upper Femur, Open Approach	Procedure	ICD-10-PCS
0QP60KZ	Removal of Nonautologous Tissue Substitute from Right Upper Femur, Open Approach	Procedure	ICD-10-PCS
0QP634Z	Removal of Internal Fixation Device from Right Upper Femur, Percutaneous Approach	Procedure	ICD-10-PCS
0QP635Z	Removal of External Fixation Device from Right Upper Femur, Percutaneous Approach	Procedure	ICD-10-PCS
0QP637Z	Removal of Autologous Tissue Substitute from Right Upper Femur, Percutaneous Approach	Procedure	ICD-10-PCS
0QP63JZ	Removal of Synthetic Substitute from Right Upper Femur, Percutaneous Approach	Procedure	ICD-10-PCS
0QP63KZ	Removal of Nonautologous Tissue Substitute from Right Upper Femur, Percutaneous Approach	Procedure	ICD-10-PCS
0QP644Z	Removal of Internal Fixation Device from Right Upper Femur, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QP645Z	Removal of External Fixation Device from Right Upper Femur, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QP647Z	Removal of Autologous Tissue Substitute from Right Upper Femur, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QP64JZ	Removal of Synthetic Substitute from Right Upper Femur, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QP64KZ	Removal of Nonautologous Tissue Substitute from Right Upper Femur, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QP704Z	Removal of Internal Fixation Device from Left Upper Femur, Open Approach	Procedure	ICD-10-PCS
0QP705Z	Removal of External Fixation Device from Left Upper Femur, Open Approach	Procedure	ICD-10-PCS
0QP707Z	Removal of Autologous Tissue Substitute from Left Upper Femur, Open Approach	Procedure	ICD-10-PCS
0QP70JZ	Removal of Synthetic Substitute from Left Upper Femur, Open Approach	Procedure	ICD-10-PCS
0QP70KZ	Removal of Nonautologous Tissue Substitute from Left Upper Femur, Open Approach	Procedure	ICD-10-PCS
0QP734Z	Removal of Internal Fixation Device from Left Upper Femur, Percutaneous Approach	Procedure	ICD-10-PCS
0QP735Z	Removal of External Fixation Device from Left Upper Femur, Percutaneous Approach	Procedure	ICD-10-PCS
0QP737Z	Removal of Autologous Tissue Substitute from Left Upper Femur, Percutaneous Approach	Procedure	ICD-10-PCS
0QP73JZ	Removal of Synthetic Substitute from Left Upper Femur, Percutaneous Approach	Procedure	ICD-10-PCS
0QP73KZ	Removal of Nonautologous Tissue Substitute from Left Upper Femur, Percutaneous Approach	Procedure	ICD-10-PCS
0QP744Z	Removal of Internal Fixation Device from Left Upper Femur, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QP745Z	Removal of External Fixation Device from Left Upper Femur, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QP747Z	Removal of Autologous Tissue Substitute from Left Upper Femur, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QP74JZ	Removal of Synthetic Substitute from Left Upper Femur, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
0QP74KZ	Removal of Nonautologous Tissue Substitute from Left Upper Femur, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QP804Z	Removal of Internal Fixation Device from Right Femoral Shaft, Open Approach	Procedure	ICD-10-PCS
0QP805Z	Removal of External Fixation Device from Right Femoral Shaft, Open Approach	Procedure	ICD-10-PCS
0QP807Z	Removal of Autologous Tissue Substitute from Right Femoral Shaft, Open Approach	Procedure	ICD-10-PCS
0QP80JZ	Removal of Synthetic Substitute from Right Femoral Shaft, Open Approach	Procedure	ICD-10-PCS
0QP80KZ	Removal of Nonautologous Tissue Substitute from Right Femoral Shaft, Open Approach	Procedure	ICD-10-PCS
0QP834Z	Removal of Internal Fixation Device from Right Femoral Shaft, Percutaneous Approach	Procedure	ICD-10-PCS
0QP835Z	Removal of External Fixation Device from Right Femoral Shaft, Percutaneous Approach	Procedure	ICD-10-PCS
0QP837Z	Removal of Autologous Tissue Substitute from Right Femoral Shaft, Percutaneous Approach	Procedure	ICD-10-PCS
0QP83JZ	Removal of Synthetic Substitute from Right Femoral Shaft, Percutaneous Approach	Procedure	ICD-10-PCS
0QP83KZ	Removal of Nonautologous Tissue Substitute from Right Femoral Shaft, Percutaneous Approach	Procedure	ICD-10-PCS
0QP844Z	Removal of Internal Fixation Device from Right Femoral Shaft, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QP845Z	Removal of External Fixation Device from Right Femoral Shaft, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QP847Z	Removal of Autologous Tissue Substitute from Right Femoral Shaft, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QP84JZ	Removal of Synthetic Substitute from Right Femoral Shaft, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QP84KZ	Removal of Nonautologous Tissue Substitute from Right Femoral Shaft, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QP904Z	Removal of Internal Fixation Device from Left Femoral Shaft, Open Approach	Procedure	ICD-10-PCS
0QP905Z	Removal of External Fixation Device from Left Femoral Shaft, Open Approach	Procedure	ICD-10-PCS
0QP907Z	Removal of Autologous Tissue Substitute from Left Femoral Shaft, Open Approach	Procedure	ICD-10-PCS
0QP90JZ	Removal of Synthetic Substitute from Left Femoral Shaft, Open Approach	Procedure	ICD-10-PCS
0QP90KZ	Removal of Nonautologous Tissue Substitute from Left Femoral Shaft, Open Approach	Procedure	ICD-10-PCS
0QP934Z	Removal of Internal Fixation Device from Left Femoral Shaft, Percutaneous Approach	Procedure	ICD-10-PCS
0QP935Z	Removal of External Fixation Device from Left Femoral Shaft, Percutaneous Approach	Procedure	ICD-10-PCS
0QP937Z	Removal of Autologous Tissue Substitute from Left Femoral Shaft, Percutaneous Approach	Procedure	ICD-10-PCS
0QP93JZ	Removal of Synthetic Substitute from Left Femoral Shaft, Percutaneous Approach	Procedure	ICD-10-PCS
0QP93KZ	Removal of Nonautologous Tissue Substitute from Left Femoral Shaft, Percutaneous Approach	Procedure	ICD-10-PCS
0QP944Z	Removal of Internal Fixation Device from Left Femoral Shaft, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QP945Z	Removal of External Fixation Device from Left Femoral Shaft, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QP947Z	Removal of Autologous Tissue Substitute from Left Femoral Shaft, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QP94JZ	Removal of Synthetic Substitute from Left Femoral Shaft, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QP94KZ	Removal of Nonautologous Tissue Substitute from Left Femoral Shaft, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QPB04Z	Removal of Internal Fixation Device from Right Lower Femur, Open Approach	Procedure	ICD-10-PCS
0QPB05Z	Removal of External Fixation Device from Right Lower Femur, Open Approach	Procedure	ICD-10-PCS
0QPB07Z	Removal of Autologous Tissue Substitute from Right Lower Femur, Open Approach	Procedure	ICD-10-PCS
0QPB0JZ	Removal of Synthetic Substitute from Right Lower Femur, Open Approach	Procedure	ICD-10-PCS

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
0QPB0KZ	Removal of Nonautologous Tissue Substitute from Right Lower Femur, Open Approach	Procedure	ICD-10-PCS
0QPB34Z	Removal of Internal Fixation Device from Right Lower Femur, Percutaneous Approach	Procedure	ICD-10-PCS
0QPB35Z	Removal of External Fixation Device from Right Lower Femur, Percutaneous Approach	Procedure	ICD-10-PCS
0QPB37Z	Removal of Autologous Tissue Substitute from Right Lower Femur, Percutaneous Approach	Procedure	ICD-10-PCS
0QPB3JZ	Removal of Synthetic Substitute from Right Lower Femur, Percutaneous Approach	Procedure	ICD-10-PCS
0QPB3KZ	Removal of Nonautologous Tissue Substitute from Right Lower Femur, Percutaneous Approach	Procedure	ICD-10-PCS
0QPB44Z	Removal of Internal Fixation Device from Right Lower Femur, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QPB45Z	Removal of External Fixation Device from Right Lower Femur, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QPB47Z	Removal of Autologous Tissue Substitute from Right Lower Femur, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QPB4JZ	Removal of Synthetic Substitute from Right Lower Femur, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QPB4KZ	Removal of Nonautologous Tissue Substitute from Right Lower Femur, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QPC04Z	Removal of Internal Fixation Device from Left Lower Femur, Open Approach	Procedure	ICD-10-PCS
0QPC05Z	Removal of External Fixation Device from Left Lower Femur, Open Approach	Procedure	ICD-10-PCS
0QPC07Z	Removal of Autologous Tissue Substitute from Left Lower Femur, Open Approach	Procedure	ICD-10-PCS
0QPC0JZ	Removal of Synthetic Substitute from Left Lower Femur, Open Approach	Procedure	ICD-10-PCS
0QPC0KZ	Removal of Nonautologous Tissue Substitute from Left Lower Femur, Open Approach	Procedure	ICD-10-PCS
0QPC34Z	Removal of Internal Fixation Device from Left Lower Femur, Percutaneous Approach	Procedure	ICD-10-PCS
0QPC35Z	Removal of External Fixation Device from Left Lower Femur, Percutaneous Approach	Procedure	ICD-10-PCS
0QPC37Z	Removal of Autologous Tissue Substitute from Left Lower Femur, Percutaneous Approach	Procedure	ICD-10-PCS
0QPC3JZ	Removal of Synthetic Substitute from Left Lower Femur, Percutaneous Approach	Procedure	ICD-10-PCS
0QPC3KZ	Removal of Nonautologous Tissue Substitute from Left Lower Femur, Percutaneous	Procedure	ICD-10-PCS
0QPC44Z	Removal of Internal Fixation Device from Left Lower Femur, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QPC45Z	Removal of External Fixation Device from Left Lower Femur, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QPC47Z	Removal of Autologous Tissue Substitute from Left Lower Femur, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QPC4JZ	Removal of Synthetic Substitute from Left Lower Femur, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QPC4KZ	Removal of Nonautologous Tissue Substitute from Left Lower Femur, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QQ60ZZ	Repair Right Upper Femur, Open Approach	Procedure	ICD-10-PCS
0QQ63ZZ	Repair Right Upper Femur, Percutaneous Approach	Procedure	ICD-10-PCS
0QQ64ZZ	Repair Right Upper Femur, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QQ6XZZ	Repair Right Upper Femur, External Approach	Procedure	ICD-10-PCS
0QQ70ZZ	Repair Left Upper Femur, Open Approach	Procedure	ICD-10-PCS
0QQ73ZZ	Repair Left Upper Femur, Percutaneous Approach	Procedure	ICD-10-PCS
0QQ74ZZ	Repair Left Upper Femur, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QQ7XZZ	Repair Left Upper Femur, External Approach	Procedure	ICD-10-PCS
0QQ80ZZ	Repair Right Femoral Shaft, Open Approach	Procedure	ICD-10-PCS
0QQ83ZZ	Repair Right Femoral Shaft, Percutaneous Approach	Procedure	ICD-10-PCS
0QQ84ZZ	Repair Right Femoral Shaft, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QQ8XZZ	Repair Right Femoral Shaft, External Approach	Procedure	ICD-10-PCS

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
0QQ90ZZ	Repair Left Femoral Shaft, Open Approach	Procedure	ICD-10-PCS
0QQ93ZZ	Repair Left Femoral Shaft, Percutaneous Approach	Procedure	ICD-10-PCS
0QQ94ZZ	Repair Left Femoral Shaft, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QQ9XZZ	Repair Left Femoral Shaft, External Approach	Procedure	ICD-10-PCS
0QQB0ZZ	Repair Right Lower Femur, Open Approach	Procedure	ICD-10-PCS
0QQB3ZZ	Repair Right Lower Femur, Percutaneous Approach	Procedure	ICD-10-PCS
0QQB4ZZ	Repair Right Lower Femur, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QQBXZZ	Repair Right Lower Femur, External Approach	Procedure	ICD-10-PCS
0QQC0ZZ	Repair Left Lower Femur, Open Approach	Procedure	ICD-10-PCS
0QQC3ZZ	Repair Left Lower Femur, Percutaneous Approach	Procedure	ICD-10-PCS
0QQC4ZZ	Repair Left Lower Femur, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QQCXZZ	Repair Left Lower Femur, External Approach	Procedure	ICD-10-PCS
0QR60JZ	Replacement of Right Upper Femur with Synthetic Substitute, Open Approach	Procedure	ICD-10-PCS
0QR63JZ	Replacement of Right Upper Femur with Synthetic Substitute, Percutaneous Approach	Procedure	ICD-10-PCS
0QR64JZ	Replacement of Right Upper Femur with Synthetic Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QR70JZ	Replacement of Left Upper Femur with Synthetic Substitute, Open Approach	Procedure	ICD-10-PCS
0QR73JZ	Replacement of Left Upper Femur with Synthetic Substitute, Percutaneous Approach	Procedure	ICD-10-PCS
0QR74JZ	Replacement of Left Upper Femur with Synthetic Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QR80JZ	Replacement of Right Femoral Shaft with Synthetic Substitute, Open Approach	Procedure	ICD-10-PCS
0QR83JZ	Replacement of Right Femoral Shaft with Synthetic Substitute, Percutaneous Approach	Procedure	ICD-10-PCS
0QR84JZ	Replacement of Right Femoral Shaft with Synthetic Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QR90JZ	Replacement of Left Femoral Shaft with Synthetic Substitute, Open Approach	Procedure	ICD-10-PCS
0QR93JZ	Replacement of Left Femoral Shaft with Synthetic Substitute, Percutaneous Approach	Procedure	ICD-10-PCS
0QR94JZ	Replacement of Left Femoral Shaft with Synthetic Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QRB0JZ	Replacement of Right Lower Femur with Synthetic Substitute, Open Approach	Procedure	ICD-10-PCS
0QRB3JZ	Replacement of Right Lower Femur with Synthetic Substitute, Percutaneous Approach	Procedure	ICD-10-PCS
0QRB4JZ	Replacement of Right Lower Femur with Synthetic Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QRC0JZ	Replacement of Left Lower Femur with Synthetic Substitute, Open Approach	Procedure	ICD-10-PCS
0QRC3JZ	Replacement of Left Lower Femur with Synthetic Substitute, Percutaneous Approach	Procedure	ICD-10-PCS
0QRC4JZ	Replacement of Left Lower Femur with Synthetic Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QS604Z	Reposition Right Upper Femur with Internal Fixation Device, Open Approach	Procedure	ICD-10-PCS
0QS605Z	Reposition Right Upper Femur with External Fixation Device, Open Approach	Procedure	ICD-10-PCS
0QS606Z	Reposition Right Upper Femur with Intramedullary Internal Fixation Device, Open Approach	Procedure	ICD-10-PCS
0QS60BZ	Reposition Right Upper Femur with Monoplanar External Fixation Device, Open Approach	Procedure	ICD-10-PCS
0QS60CZ	Reposition Right Upper Femur with Ring External Fixation Device, Open Approach	Procedure	ICD-10-PCS
0QS60DZ	Reposition Right Upper Femur with Hybrid External Fixation Device, Open Approach	Procedure	ICD-10-PCS
0QS60ZZ	Reposition Right Upper Femur, Open Approach	Procedure	ICD-10-PCS
0QS634Z	Reposition Right Upper Femur with Internal Fixation Device, Percutaneous Approach	Procedure	ICD-10-PCS
0QS635Z	Reposition Right Upper Femur with External Fixation Device, Percutaneous Approach	Procedure	ICD-10-PCS
0QS636Z	Reposition Right Upper Femur with Intramedullary Internal Fixation Device, Percutaneous Approach	Procedure	ICD-10-PCS

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
0QS63BZ	Reposition Right Upper Femur with Monoplanar External Fixation Device, Percutaneous Approach	Procedure	ICD-10-PCS
0QS63CZ	Reposition Right Upper Femur with Ring External Fixation Device, Percutaneous Approach	Procedure	ICD-10-PCS
0QS63DZ	Reposition Right Upper Femur with Hybrid External Fixation Device, Percutaneous Approach	Procedure	ICD-10-PCS
0QS63ZZ	Reposition Right Upper Femur, Percutaneous Approach	Procedure	ICD-10-PCS
0QS644Z	Reposition Right Upper Femur with Internal Fixation Device, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QS645Z	Reposition Right Upper Femur with External Fixation Device, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QS646Z	Reposition Right Upper Femur with Intramedullary Internal Fixation Device, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QS64BZ	Reposition Right Upper Femur with Monoplanar External Fixation Device, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QS64CZ	Reposition Right Upper Femur with Ring External Fixation Device, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QS64DZ	Reposition Right Upper Femur with Hybrid External Fixation Device, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QS64ZZ	Reposition Right Upper Femur, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QS6XZZ	Reposition Right Upper Femur, External Approach	Procedure	ICD-10-PCS
0QS704Z	Reposition Left Upper Femur with Internal Fixation Device, Open Approach	Procedure	ICD-10-PCS
0QS705Z	Reposition Left Upper Femur with External Fixation Device, Open Approach	Procedure	ICD-10-PCS
0QS706Z	Reposition Left Upper Femur with Intramedullary Internal Fixation Device, Open Approach	Procedure	ICD-10-PCS
0QS70BZ	Reposition Left Upper Femur with Monoplanar External Fixation Device, Open Approach	Procedure	ICD-10-PCS
0QS70CZ	Reposition Left Upper Femur with Ring External Fixation Device, Open Approach	Procedure	ICD-10-PCS
0QS70DZ	Reposition Left Upper Femur with Hybrid External Fixation Device, Open Approach	Procedure	ICD-10-PCS
0QS70ZZ	Reposition Left Upper Femur, Open Approach	Procedure	ICD-10-PCS
0QS734Z	Reposition Left Upper Femur with Internal Fixation Device, Percutaneous Approach	Procedure	ICD-10-PCS
0QS735Z	Reposition Left Upper Femur with External Fixation Device, Percutaneous Approach	Procedure	ICD-10-PCS
0QS736Z	Reposition Left Upper Femur with Intramedullary Internal Fixation Device, Percutaneous Approach	Procedure	ICD-10-PCS
0QS73BZ	Reposition Left Upper Femur with Monoplanar External Fixation Device, Percutaneous Approach	Procedure	ICD-10-PCS
0QS73CZ	Reposition Left Upper Femur with Ring External Fixation Device, Percutaneous Approach	Procedure	ICD-10-PCS
0QS73DZ	Reposition Left Upper Femur with Hybrid External Fixation Device, Percutaneous Approach	Procedure	ICD-10-PCS
0QS73ZZ	Reposition Left Upper Femur, Percutaneous Approach	Procedure	ICD-10-PCS
0QS744Z	Reposition Left Upper Femur with Internal Fixation Device, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QS745Z	Reposition Left Upper Femur with External Fixation Device, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QS746Z	Reposition Left Upper Femur with Intramedullary Internal Fixation Device, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QS74BZ	Reposition Left Upper Femur with Monoplanar External Fixation Device, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QS74CZ	Reposition Left Upper Femur with Ring External Fixation Device, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QS74DZ	Reposition Left Upper Femur with Hybrid External Fixation Device, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QS74ZZ	Reposition Left Upper Femur, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
0QS7XZZ	Reposition Left Upper Femur, External Approach	Procedure	ICD-10-PCS
0QS804Z	Reposition Right Femoral Shaft with Internal Fixation Device, Open Approach	Procedure	ICD-10-PCS
0QS805Z	Reposition Right Femoral Shaft with External Fixation Device, Open Approach	Procedure	ICD-10-PCS
0QS806Z	Reposition Right Femoral Shaft with Intramedullary Internal Fixation Device, Open Approach	Procedure	ICD-10-PCS
0QS80BZ	Reposition Right Femoral Shaft with Monoplanar External Fixation Device, Open Approach	Procedure	ICD-10-PCS
0QS80CZ	Reposition Right Femoral Shaft with Ring External Fixation Device, Open Approach	Procedure	ICD-10-PCS
0QS80DZ	Reposition Right Femoral Shaft with Hybrid External Fixation Device, Open Approach	Procedure	ICD-10-PCS
0QS80ZZ	Reposition Right Femoral Shaft, Open Approach	Procedure	ICD-10-PCS
0QS834Z	Reposition Right Femoral Shaft with Internal Fixation Device, Percutaneous Approach	Procedure	ICD-10-PCS
0QS835Z	Reposition Right Femoral Shaft with External Fixation Device, Percutaneous Approach	Procedure	ICD-10-PCS
0QS836Z	Reposition Right Femoral Shaft with Intramedullary Internal Fixation Device, Percutaneous Approach	Procedure	ICD-10-PCS
0QS83BZ	Reposition Right Femoral Shaft with Monoplanar External Fixation Device, Percutaneous Approach	Procedure	ICD-10-PCS
0QS83CZ	Reposition Right Femoral Shaft with Ring External Fixation Device, Percutaneous Approach	Procedure	ICD-10-PCS
0QS83DZ	Reposition Right Femoral Shaft with Hybrid External Fixation Device, Percutaneous Approach	Procedure	ICD-10-PCS
0QS83ZZ	Reposition Right Femoral Shaft, Percutaneous Approach	Procedure	ICD-10-PCS
0QS844Z	Reposition Right Femoral Shaft with Internal Fixation Device, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QS845Z	Reposition Right Femoral Shaft with External Fixation Device, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QS846Z	Reposition Right Femoral Shaft with Intramedullary Internal Fixation Device, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QS84BZ	Reposition Right Femoral Shaft with Monoplanar External Fixation Device, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QS84CZ	Reposition Right Femoral Shaft with Ring External Fixation Device, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QS84DZ	Reposition Right Femoral Shaft with Hybrid External Fixation Device, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QS84ZZ	Reposition Right Femoral Shaft, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QS8XZZ	Reposition Right Femoral Shaft, External Approach	Procedure	ICD-10-PCS
0QS904Z	Reposition Left Femoral Shaft with Internal Fixation Device, Open Approach	Procedure	ICD-10-PCS
0QS905Z	Reposition Left Femoral Shaft with External Fixation Device, Open Approach	Procedure	ICD-10-PCS
0QS906Z	Reposition Left Femoral Shaft with Intramedullary Internal Fixation Device, Open Approach	Procedure	ICD-10-PCS
0QS90BZ	Reposition Left Femoral Shaft with Monoplanar External Fixation Device, Open Approach	Procedure	ICD-10-PCS
0QS90CZ	Reposition Left Femoral Shaft with Ring External Fixation Device, Open Approach	Procedure	ICD-10-PCS
0QS90DZ	Reposition Left Femoral Shaft with Hybrid External Fixation Device, Open Approach	Procedure	ICD-10-PCS
0QS90ZZ	Reposition Left Femoral Shaft, Open Approach	Procedure	ICD-10-PCS
0QS934Z	Reposition Left Femoral Shaft with Internal Fixation Device, Percutaneous Approach	Procedure	ICD-10-PCS
0QS935Z	Reposition Left Femoral Shaft with External Fixation Device, Percutaneous Approach	Procedure	ICD-10-PCS
0QS936Z	Reposition Left Femoral Shaft with Intramedullary Internal Fixation Device, Percutaneous Approach	Procedure	ICD-10-PCS
0QS93BZ	Reposition Left Femoral Shaft with Monoplanar External Fixation Device, Percutaneous Approach	Procedure	ICD-10-PCS
0QS93CZ	Reposition Left Femoral Shaft with Ring External Fixation Device, Percutaneous Approach	Procedure	ICD-10-PCS
0QS93DZ	Reposition Left Femoral Shaft with Hybrid External Fixation Device, Percutaneous Approach	Procedure	ICD-10-PCS

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
0QS93ZZ	Reposition Left Femoral Shaft, Percutaneous Approach	Procedure	ICD-10-PCS
0QS944Z	Reposition Left Femoral Shaft with Internal Fixation Device, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QS945Z	Reposition Left Femoral Shaft with External Fixation Device, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QS946Z	Reposition Left Femoral Shaft with Intramedullary Internal Fixation Device, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QS94BZ	Reposition Left Femoral Shaft with Monoplanar External Fixation Device, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QS94CZ	Reposition Left Femoral Shaft with Ring External Fixation Device, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QS94DZ	Reposition Left Femoral Shaft with Hybrid External Fixation Device, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QS94ZZ	Reposition Left Femoral Shaft, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QS9XZZ	Reposition Left Femoral Shaft, External Approach	Procedure	ICD-10-PCS
0QSB04Z	Reposition Right Lower Femur with Internal Fixation Device, Open Approach	Procedure	ICD-10-PCS
0QSB05Z	Reposition Right Lower Femur with External Fixation Device, Open Approach	Procedure	ICD-10-PCS
0QSB06Z	Reposition Right Lower Femur with Intramedullary Internal Fixation Device, Open Approach	Procedure	ICD-10-PCS
0QSB0BZ	Reposition Right Lower Femur with Monoplanar External Fixation Device, Open Approach	Procedure	ICD-10-PCS
0QSB0CZ	Reposition Right Lower Femur with Ring External Fixation Device, Open Approach	Procedure	ICD-10-PCS
0QSB0DZ	Reposition Right Lower Femur with Hybrid External Fixation Device, Open Approach	Procedure	ICD-10-PCS
0QSB0ZZ	Reposition Right Lower Femur, Open Approach	Procedure	ICD-10-PCS
0QSB34Z	Reposition Right Lower Femur with Internal Fixation Device, Percutaneous Approach	Procedure	ICD-10-PCS
0QSB35Z	Reposition Right Lower Femur with External Fixation Device, Percutaneous Approach	Procedure	ICD-10-PCS
0QSB36Z	Reposition Right Lower Femur with Intramedullary Internal Fixation Device, Percutaneous Approach	Procedure	ICD-10-PCS
0QSB3BZ	Reposition Right Lower Femur with Monoplanar External Fixation Device, Percutaneous Approach	Procedure	ICD-10-PCS
0QSB3CZ	Reposition Right Lower Femur with Ring External Fixation Device, Percutaneous Approach	Procedure	ICD-10-PCS
0QSB3DZ	Reposition Right Lower Femur with Hybrid External Fixation Device, Percutaneous Approach	Procedure	ICD-10-PCS
0QSB3ZZ	Reposition Right Lower Femur, Percutaneous Approach	Procedure	ICD-10-PCS
0QSB44Z	Reposition Right Lower Femur with Internal Fixation Device, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QSB45Z	Reposition Right Lower Femur with External Fixation Device, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QSB46Z	Reposition Right Lower Femur with Intramedullary Internal Fixation Device, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QSB4BZ	Reposition Right Lower Femur with Monoplanar External Fixation Device, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QSB4CZ	Reposition Right Lower Femur with Ring External Fixation Device, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QSB4DZ	Reposition Right Lower Femur with Hybrid External Fixation Device, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QSB4ZZ	Reposition Right Lower Femur, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QSBXZZ	Reposition Right Lower Femur, External Approach	Procedure	ICD-10-PCS
0QSC04Z	Reposition Left Lower Femur with Internal Fixation Device, Open Approach	Procedure	ICD-10-PCS
0QSC05Z	Reposition Left Lower Femur with External Fixation Device, Open Approach	Procedure	ICD-10-PCS
0QSC06Z	Reposition Left Lower Femur with Intramedullary Internal Fixation Device, Open Approach	Procedure	ICD-10-PCS

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
0QSC0BZ	Reposition Left Lower Femur with Monoplanar External Fixation Device, Open Approach	Procedure	ICD-10-PCS
0QSC0CZ	Reposition Left Lower Femur with Ring External Fixation Device, Open Approach	Procedure	ICD-10-PCS
0QSC0DZ	Reposition Left Lower Femur with Hybrid External Fixation Device, Open Approach	Procedure	ICD-10-PCS
0QSC0ZZ	Reposition Left Lower Femur, Open Approach	Procedure	ICD-10-PCS
0QSC34Z	Reposition Left Lower Femur with Internal Fixation Device, Percutaneous Approach	Procedure	ICD-10-PCS
0QSC35Z	Reposition Left Lower Femur with External Fixation Device, Percutaneous Approach	Procedure	ICD-10-PCS
0QSC36Z	Reposition Left Lower Femur with Intramedullary Internal Fixation Device, Percutaneous Approach	Procedure	ICD-10-PCS
0QSC3BZ	Reposition Left Lower Femur with Monoplanar External Fixation Device, Percutaneous Approach	Procedure	ICD-10-PCS
0QSC3CZ	Reposition Left Lower Femur with Ring External Fixation Device, Percutaneous Approach	Procedure	ICD-10-PCS
0QSC3DZ	Reposition Left Lower Femur with Hybrid External Fixation Device, Percutaneous Approach	Procedure	ICD-10-PCS
0QSC3ZZ	Reposition Left Lower Femur, Percutaneous Approach	Procedure	ICD-10-PCS
0QSC44Z	Reposition Left Lower Femur with Internal Fixation Device, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QSC45Z	Reposition Left Lower Femur with External Fixation Device, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QSC46Z	Reposition Left Lower Femur with Intramedullary Internal Fixation Device, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QSC4BZ	Reposition Left Lower Femur with Monoplanar External Fixation Device, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QSC4CZ	Reposition Left Lower Femur with Ring External Fixation Device, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QSC4DZ	Reposition Left Lower Femur with Hybrid External Fixation Device, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QSC4ZZ	Reposition Left Lower Femur, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QSCXZZ	Reposition Left Lower Femur, External Approach	Procedure	ICD-10-PCS
0QU60JZ	Supplement Right Upper Femur with Synthetic Substitute, Open Approach	Procedure	ICD-10-PCS
0QU63JZ	Supplement Right Upper Femur with Synthetic Substitute, Percutaneous Approach	Procedure	ICD-10-PCS
0QU64JZ	Supplement Right Upper Femur with Synthetic Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QU70JZ	Supplement Left Upper Femur with Synthetic Substitute, Open Approach	Procedure	ICD-10-PCS
0QU73JZ	Supplement Left Upper Femur with Synthetic Substitute, Percutaneous Approach	Procedure	ICD-10-PCS
0QU74JZ	Supplement Left Upper Femur with Synthetic Substitute, Percutaneous Endoscopic	Procedure	ICD-10-PCS
0QU80JZ	Supplement Right Femoral Shaft with Synthetic Substitute, Open Approach	Procedure	ICD-10-PCS
0QU83JZ	Supplement Right Femoral Shaft with Synthetic Substitute, Percutaneous Approach	Procedure	ICD-10-PCS
0QU84JZ	Supplement Right Femoral Shaft with Synthetic Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QU90JZ	Supplement Left Femoral Shaft with Synthetic Substitute, Open Approach	Procedure	ICD-10-PCS
0QU93JZ	Supplement Left Femoral Shaft with Synthetic Substitute, Percutaneous Approach	Procedure	ICD-10-PCS
0QU94JZ	Supplement Left Femoral Shaft with Synthetic Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QUB0JZ	Supplement Right Lower Femur with Synthetic Substitute, Open Approach	Procedure	ICD-10-PCS
0QUB3JZ	Supplement Right Lower Femur with Synthetic Substitute, Percutaneous Approach	Procedure	ICD-10-PCS
0QUB4JZ	Supplement Right Lower Femur with Synthetic Substitute, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0QUC0JZ	Supplement Left Lower Femur with Synthetic Substitute, Open Approach	Procedure	ICD-10-PCS
0QUC3JZ	Supplement Left Lower Femur with Synthetic Substitute, Percutaneous Approach	Procedure	ICD-10-PCS

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
0QUC4JZ	Supplement Left Lower Femur with Synthetic Substitute, Percutaneous Endoscopic	Procedure	ICD-10-PCS
0XH23YZ	Insertion of Other Device into Right Shoulder Region, Percutaneous Approach	Procedure	ICD-10-PCS
0XH33YZ	Insertion of Other Device into Left Shoulder Region, Percutaneous Approach	Procedure	ICD-10-PCS
R55	Syncope and collapse	Diagnosis	ICD-10-CM
	Cardioversion		
99.61	Atrial cardioversion	Procedure	ICD-9-CM
99.62	Other electric countershock of heart	Procedure	ICD-9-CM
92960	External shock to heart to regulate heart beat	Procedure	CPT-4
92961	Internal shock to heart to regulate heart beat	Procedure	CPT-4
5A2204Z	Restoration of Cardiac Rhythm, Single	Procedure	ICD-10-PCS
	Cardioablation		
37.33	Excision or destruction of other lesion or tissue of heart, open approach	Procedure	ICD-9-CM
37.34	Excision or destruction of other lesion or tissue of heart, other approach	Procedure	ICD-9-CM
33250	Operative ablation of supraventricular arrhythmogenic focus or pathway (eg, Wolff-Parkinson-White, atrioventricular node re-entry), tract(s) and/or focus (foci); without cardiopulmonary bypass	Procedure	CPT-4
33251	Operative ablation of supraventricular arrhythmogenic focus or pathway (eg, Wolff-Parkinson-White, atrioventricular node re-entry), tract(s) and/or focus (foci); with cardiopulmonary bypass	Procedure	CPT-4
33254	Operative tissue ablation and reconstruction of atria, limited (eg, modified maze procedure)	Procedure	CPT-4
33255	Operative tissue ablation and reconstruction of atria, extensive (eg, maze procedure); without cardiopulmonary bypass	Procedure	CPT-4
33256	Operative tissue ablation and reconstruction of atria, extensive (eg, maze procedure); with cardiopulmonary bypass	Procedure	CPT-4
33257	Operative tissue ablation and reconstruction of atria, performed at the time of other cardiac procedure(s), limited (eg, modified maze procedure) (List separately in addition to code for primary procedure)	Procedure	CPT-4
33258	Operative tissue ablation and reconstruction of atria, performed at the time of other cardiac procedure(s), extensive (eg, maze procedure), without cardiopulmonary bypass (List separately in addition to code for primary procedure)	Procedure	CPT-4
33259	Operative tissue ablation and reconstruction of atria, performed at the time of other cardiac procedure(s), extensive (eg, maze procedure), with cardiopulmonary bypass (List separately in addition to code for primary procedure)	Procedure	CPT-4
33261	Operative ablation of ventricular arrhythmogenic focus with cardiopulmonary bypass	Procedure	CPT-4
33265	Endoscopy, surgical; operative tissue ablation and reconstruction of atria, limited (eg, modified maze procedure), without cardiopulmonary bypass	Procedure	CPT-4
33266	Endoscopy, surgical; operative tissue ablation and reconstruction of atria, extensive (eg, maze procedure), without cardiopulmonary bypass	Procedure	CPT-4
93650	Intracardiac catheter ablation of atrioventricular node function, atrioventricular conduction for creation of complete heart block, with or without temporary pacemaker placement	Procedure	CPT-4
93651	Intracardiac catheter ablation of arrhythmogenic focus; for treatment of supraventricular tachycardia by ablation of fast or slow atrioventricular pathways, accessory atrioventricular connections or other atrial foci, singly or in combination	Procedure	CPT-4
93652	Intracardiac catheter ablation of arrhythmogenic focus; for treatment of ventricular tachycardia	Procedure	CPT-4
C1732	Catheter, electrophysiology, diagnostic/ablation, 3D or vector mapping	Procedure	HCPCS

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
C1733	Catheter, electrophysiology, diagnostic/ablation, other than 3D or vector mapping, other than cool-tip	Procedure	HCPCS
C2630	Catheter, electrophysiology, diagnostic/ablation, other than 3D or vector mapping, cool-tip	Procedure	HCPCS
02550ZZ	Destruction of Atrial Septum, Open Approach	Procedure	ICD-10-PCS
02553ZZ	Destruction of Atrial Septum, Percutaneous Approach	Procedure	ICD-10-PCS
02560ZZ	Destruction of Right Atrium, Open Approach	Procedure	ICD-10-PCS
02563ZZ	Destruction of Right Atrium, Percutaneous Approach	Procedure	ICD-10-PCS
02570ZZ	Destruction of Left Atrium, Open Approach	Procedure	ICD-10-PCS
02573ZZ	Destruction of Left Atrium, Percutaneous Approach	Procedure	ICD-10-PCS
02580ZZ	Destruction of Conduction Mechanism, Open Approach	Procedure	ICD-10-PCS
02583ZZ	Destruction of Conduction Mechanism, Percutaneous Approach	Procedure	ICD-10-PCS
02590ZZ	Destruction of Chordae Tendineae, Open Approach	Procedure	ICD-10-PCS
02593ZZ	Destruction of Chordae Tendineae, Percutaneous Approach	Procedure	ICD-10-PCS
025F0ZZ	Destruction of Aortic Valve, Open Approach	Procedure	ICD-10-PCS
025F3ZZ	Destruction of Aortic Valve, Percutaneous Approach	Procedure	ICD-10-PCS
025G0ZZ	Destruction of Mitral Valve, Open Approach	Procedure	ICD-10-PCS
025G3ZZ	Destruction of Mitral Valve, Percutaneous Approach	Procedure	ICD-10-PCS
025H0ZZ	Destruction of Pulmonary Valve, Open Approach	Procedure	ICD-10-PCS
025H3ZZ	Destruction of Pulmonary Valve, Percutaneous Approach	Procedure	ICD-10-PCS
025J0ZZ	Destruction of Tricuspid Valve, Open Approach	Procedure	ICD-10-PCS
025J3ZZ	Destruction of Tricuspid Valve, Percutaneous Approach	Procedure	ICD-10-PCS
025K0ZZ	Destruction of Right Ventricle, Open Approach	Procedure	ICD-10-PCS
025K3ZZ	Destruction of Right Ventricle, Percutaneous Approach	Procedure	ICD-10-PCS
025L0ZZ	Destruction of Left Ventricle, Open Approach	Procedure	ICD-10-PCS
025L3ZZ	Destruction of Left Ventricle, Percutaneous Approach	Procedure	ICD-10-PCS
025M0ZZ	Destruction of Ventricular Septum, Open Approach	Procedure	ICD-10-PCS
025M3ZZ	Destruction of Ventricular Septum, Percutaneous Approach	Procedure	ICD-10-PCS
02B50ZZ	Excision of Atrial Septum, Open Approach	Procedure	ICD-10-PCS
02B53ZZ	Excision of Atrial Septum, Percutaneous Approach	Procedure	ICD-10-PCS
02B60ZZ	Excision of Right Atrium, Open Approach	Procedure	ICD-10-PCS
02B63ZZ	Excision of Right Atrium, Percutaneous Approach	Procedure	ICD-10-PCS
02B70ZZ	Excision of Left Atrium, Open Approach	Procedure	ICD-10-PCS
02B73ZZ	Excision of Left Atrium, Percutaneous Approach	Procedure	ICD-10-PCS
02B80ZZ	Excision of Conduction Mechanism, Open Approach	Procedure	ICD-10-PCS
02B83ZZ	Excision of Conduction Mechanism, Percutaneous Approach	Procedure	ICD-10-PCS
02B90ZZ	Excision of Chordae Tendineae, Open Approach	Procedure	ICD-10-PCS
02B93ZZ	Excision of Chordae Tendineae, Percutaneous Approach	Procedure	ICD-10-PCS
02BF0ZZ	Excision of Aortic Valve, Open Approach	Procedure	ICD-10-PCS
02BF3ZZ	Excision of Aortic Valve, Percutaneous Approach	Procedure	ICD-10-PCS
02BG0ZZ	Excision of Mitral Valve, Open Approach	Procedure	ICD-10-PCS
02BG3ZZ	Excision of Mitral Valve, Percutaneous Approach	Procedure	ICD-10-PCS
02BH0ZZ	Excision of Pulmonary Valve, Open Approach	Procedure	ICD-10-PCS
02BH3ZZ	Excision of Pulmonary Valve, Percutaneous Approach	Procedure	ICD-10-PCS
02BJ0ZZ	Excision of Tricuspid Valve, Open Approach	Procedure	ICD-10-PCS
02BJ3ZZ	Excision of Tricuspid Valve, Percutaneous Approach	Procedure	ICD-10-PCS
02BK0ZZ	Excision of Right Ventricle, Open Approach	Procedure	ICD-10-PCS
02BK3ZZ	Excision of Right Ventricle, Percutaneous Approach	Procedure	ICD-10-PCS
02BL0ZZ	Excision of Left Ventricle, Open Approach	Procedure	ICD-10-PCS

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
02BL3ZZ	Excision of Left Ventricle, Percutaneous Approach	Procedure	ICD-10-PCS
02BM0ZZ	Excision of Ventricular Septum, Open Approach	Procedure	ICD-10-PCS
02BM3ZZ	Excision of Ventricular Septum, Percutaneous Approach	Procedure	ICD-10-PCS
02T80ZZ	Resection of Conduction Mechanism, Open Approach	Procedure	ICD-10-PCS
02T83ZZ	Resection of Conduction Mechanism, Percutaneous Approach	Procedure	ICD-10-PCS
C2618	Probe/needle, cryoablation	Procedure	HCPCS
	Hospitalized for bleeding		
280.0	Iron deficiency anemia secondary to blood loss (chronic)	Diagnosis	ICD-9-CM
285.1	Acute posthemorrhagic anemia	Diagnosis	ICD-9-CM
285.9	Unspecified anemia	Diagnosis	ICD-9-CM
423.0	Hemopericardium	Diagnosis	ICD-9-CM
430	Subarachnoid hemorrhage	Diagnosis	ICD-9-CM
431	Intracerebral hemorrhage	Diagnosis	ICD-9-CM
432.0	Nontraumatic extradural hemorrhage	Diagnosis	ICD-9-CM
432.1	Subdural hemorrhage	Diagnosis	ICD-9-CM
432.9	Unspecified intracranial hemorrhage	Diagnosis	ICD-9-CM
455	Hemorrhoids	Diagnosis	ICD-9-CM
455.0	Internal hemorrhoids without mention of complication	Diagnosis	ICD-9-CM
455.1	Internal thrombosed hemorrhoids	Diagnosis	ICD-9-CM
455.2	Internal hemorrhoids with other complication	Diagnosis	ICD-9-CM
455.3	External hemorrhoids without mention of complication	Diagnosis	ICD-9-CM
455.4	External thrombosed hemorrhoids	Diagnosis	ICD-9-CM
455.5	External hemorrhoids with other complication	Diagnosis	ICD-9-CM
455.6	Unspecified hemorrhoids without mention of complication	Diagnosis	ICD-9-CM
455.7	Unspecified thrombosed hemorrhoids	Diagnosis	ICD-9-CM
455.8	Unspecified hemorrhoids with other complication	Diagnosis	ICD-9-CM
455.9	Residual hemorrhoidal skin tags	Diagnosis	ICD-9-CM
456.0	Esophageal varices with bleeding	Diagnosis	ICD-9-CM
456.20	Esophageal varices with bleeding in diseases classified elsewhere	Diagnosis	ICD-9-CM
459.0	Unspecified hemorrhage	Diagnosis	ICD-9-CM
530.1	Esophagitis	Diagnosis	ICD-9-CM
530.10	Unspecified esophagitis	Diagnosis	ICD-9-CM
530.11	Reflux esophagitis	Diagnosis	ICD-9-CM
530.12	Acute esophagitis	Diagnosis	ICD-9-CM
530.13	Eosinophilic esophagitis	Diagnosis	ICD-9-CM
530.19	Other esophagitis	Diagnosis	ICD-9-CM
530.7	Gastroesophageal laceration-hemorrhage syndrome	Diagnosis	ICD-9-CM
530.82	Esophageal hemorrhage	Diagnosis	ICD-9-CM
531.0	Acute gastric ulcer with hemorrhage	Diagnosis	ICD-9-CM
531.00	Acute gastric ulcer with hemorrhage, without mention of obstruction	Diagnosis	ICD-9-CM
531.01	Acute gastric ulcer with hemorrhage and obstruction	Diagnosis	ICD-9-CM
531.1	Acute gastric ulcer with perforation	Diagnosis	ICD-9-CM
531.10	Acute gastric ulcer with perforation, without mention of obstruction	Diagnosis	ICD-9-CM
531.11	Acute gastric ulcer with perforation and obstruction	Diagnosis	ICD-9-CM
531.2	Acute gastric ulcer with hemorrhage and perforation	Diagnosis	ICD-9-CM
531.20	Acute gastric ulcer with hemorrhage and perforation, without mention of obstruction	Diagnosis	ICD-9-CM
531.21	Acute gastric ulcer with hemorrhage, perforation, and obstruction	Diagnosis	ICD-9-CM
531.3	Acute gastric ulcer without mention of hemorrhage or perforation	Diagnosis	ICD-9-CM

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
531.30	Acute gastric ulcer without mention of hemorrhage, perforation, or obstruction	Diagnosis	ICD-9-CM
531.31	Acute gastric ulcer without mention of hemorrhage or perforation, with obstruction	Diagnosis	ICD-9-CM
531.4	Chronic or unspecified gastric ulcer with hemorrhage	Diagnosis	ICD-9-CM
531.40	Chronic or unspecified gastric ulcer with hemorrhage, without mention of obstruction	Diagnosis	ICD-9-CM
531.41	Chronic or unspecified gastric ulcer with hemorrhage and obstruction	Diagnosis	ICD-9-CM
531.5	Chronic or unspecified gastric ulcer with perforation	Diagnosis	ICD-9-CM
531.50	Chronic or unspecified gastric ulcer with perforation, without mention of obstruction	Diagnosis	ICD-9-CM
531.51	Chronic or unspecified gastric ulcer with perforation and obstruction	Diagnosis	ICD-9-CM
531.6	Chronic or unspecified gastric ulcer with hemorrhage and perforation	Diagnosis	ICD-9-CM
531.60	Chronic or unspecified gastric ulcer with hemorrhage and perforation, without mention of obstruction	Diagnosis	ICD-9-CM
531.61	Chronic or unspecified gastric ulcer with hemorrhage, perforation, and obstruction	Diagnosis	ICD-9-CM
531.7	Chronic gastric ulcer without mention of hemorrhage or perforation	Diagnosis	ICD-9-CM
531.70	Chronic gastric ulcer without mention of hemorrhage, perforation, without mention of obstruction	Diagnosis	ICD-9-CM
531.71	Chronic gastric ulcer without mention of hemorrhage or perforation, with obstruction	Diagnosis	ICD-9-CM
531.9	Gastric ulcer, unspecified as acute or chronic, without mention of hemorrhage or perforation	Diagnosis	ICD-9-CM
531.90	Gastric ulcer, unspecified as acute or chronic, without mention of hemorrhage, perforation, or obstruction	Diagnosis	ICD-9-CM
531.91	Gastric ulcer, unspecified as acute or chronic, without mention of hemorrhage or perforation, with obstruction	Diagnosis	ICD-9-CM
532.0	Acute duodenal ulcer with hemorrhage	Diagnosis	ICD-9-CM
532.00	Acute duodenal ulcer with hemorrhage, without mention of obstruction	Diagnosis	ICD-9-CM
532.01	Acute duodenal ulcer with hemorrhage and obstruction	Diagnosis	ICD-9-CM
532.1	Acute duodenal ulcer with perforation	Diagnosis	ICD-9-CM
532.10	Acute duodenal ulcer with perforation, without mention of obstruction	Diagnosis	ICD-9-CM
532.11	Acute duodenal ulcer with perforation and obstruction	Diagnosis	ICD-9-CM
532.2	Acute duodenal ulcer with hemorrhage and perforation	Diagnosis	ICD-9-CM
532.20	Acute duodenal ulcer with hemorrhage and perforation, without mention of obstruction	Diagnosis	ICD-9-CM
532.21	Acute duodenal ulcer with hemorrhage, perforation, and obstruction	Diagnosis	ICD-9-CM
532.3	Acute duodenal ulcer without mention of hemorrhage or perforation	Diagnosis	ICD-9-CM
532.30	Acute duodenal ulcer without mention of hemorrhage, perforation, or obstruction	Diagnosis	ICD-9-CM
532.31	Acute duodenal ulcer without mention of hemorrhage or perforation, with obstruction	Diagnosis	ICD-9-CM
532.4	Chronic or unspecified duodenal ulcer with hemorrhage	Diagnosis	ICD-9-CM
532.40	Duodenal ulcer, chronic or unspecified, with hemorrhage, without mention of obstruction	Diagnosis	ICD-9-CM
532.41	Chronic or unspecified duodenal ulcer with hemorrhage and obstruction	Diagnosis	ICD-9-CM
532.5	Chronic or unspecified duodenal ulcer with perforation	Diagnosis	ICD-9-CM
532.50	Chronic or unspecified duodenal ulcer with perforation, without mention of obstruction	Diagnosis	ICD-9-CM
532.51	Chronic or unspecified duodenal ulcer with perforation and obstruction	Diagnosis	ICD-9-CM
532.6	Chronic or unspecified duodenal ulcer with hemorrhage and perforation	Diagnosis	ICD-9-CM
532.60	Chronic or unspecified duodenal ulcer with hemorrhage and perforation, without mention of obstruction	Diagnosis	ICD-9-CM
532.61	Chronic or unspecified duodenal ulcer with hemorrhage, perforation, and obstruction	Diagnosis	ICD-9-CM
532.7	Chronic duodenal ulcer without mention of hemorrhage or perforation	Diagnosis	ICD-9-CM
532.70	Chronic duodenal ulcer without mention of hemorrhage, perforation, or obstruction	Diagnosis	ICD-9-CM
532.71	Chronic duodenal ulcer without mention of hemorrhage or perforation, with obstruction	Diagnosis	ICD-9-CM

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
532.9	Duodenal ulcer, unspecified as acute or chronic, without mention of hemorrhage or perforation	Diagnosis	ICD-9-CM
532.90	Duodenal ulcer, unspecified as acute or chronic, without hemorrhage, perforation, or obstruction	Diagnosis	ICD-9-CM
532.91	Duodenal ulcer, unspecified as acute or chronic, without mention of hemorrhage or perforation, with obstruction	Diagnosis	ICD-9-CM
533.0	Acute peptic ulcer, unspecified site, with hemorrhage	Diagnosis	ICD-9-CM
533.00	Acute peptic ulcer, unspecified site, with hemorrhage, without mention of obstruction	Diagnosis	ICD-9-CM
533.01	Acute peptic ulcer, unspecified site, with hemorrhage and obstruction	Diagnosis	ICD-9-CM
533.1	Acute peptic ulcer, unspecified site, with perforation	Diagnosis	ICD-9-CM
533.10	Acute peptic ulcer, unspecified site, with perforation, without mention of obstruction	Diagnosis	ICD-9-CM
533.11	Acute peptic ulcer, unspecified site, with perforation and obstruction	Diagnosis	ICD-9-CM
533.2	Acute peptic ulcer, unspecified site, with hemorrhage and perforation	Diagnosis	ICD-9-CM
533.20	Acute peptic ulcer, unspecified site, with hemorrhage and perforation, without mention of obstruction	Diagnosis	ICD-9-CM
533.21	Acute peptic ulcer, unspecified site, with hemorrhage, perforation, and obstruction	Diagnosis	ICD-9-CM
533.3	Acute peptic ulcer, unspecified site, without mention of hemorrhage and perforation	Diagnosis	ICD-9-CM
533.30	Acute peptic ulcer, unspecified site, without mention of hemorrhage, perforation, or obstruction	Diagnosis	ICD-9-CM
533.31	Acute peptic ulcer, unspecified site, without mention of hemorrhage and perforation, with obstruction	Diagnosis	ICD-9-CM
533.4	Chronic or unspecified peptic ulcer, unspecified site, with hemorrhage	Diagnosis	ICD-9-CM
533.40	Chronic or unspecified peptic ulcer, unspecified site, with hemorrhage, without mention of obstruction	Diagnosis	ICD-9-CM
533.41	Chronic or unspecified peptic ulcer, unspecified site, with hemorrhage and obstruction	Diagnosis	ICD-9-CM
533.5	Chronic or unspecified peptic ulcer, unspecified site, with perforation	Diagnosis	ICD-9-CM
533.50	Chronic or unspecified peptic ulcer, unspecified site, with perforation, without mention of obstruction	Diagnosis	ICD-9-CM
533.51	Chronic or unspecified peptic ulcer, unspecified site, with perforation and obstruction	Diagnosis	ICD-9-CM
533.6	Chronic or unspecified peptic ulcer, unspecified site, with hemorrhage and perforation	Diagnosis	ICD-9-CM
533.60	Chronic or unspecified peptic ulcer, unspecified site, with hemorrhage and perforation, without mention of obstruction	Diagnosis	ICD-9-CM
533.61	Chronic or unspecified peptic ulcer, unspecified site, with hemorrhage, perforation, and obstruction	Diagnosis	ICD-9-CM
533.7	Chronic peptic ulcer, unspecified site, without mention of hemorrhage or perforation	Diagnosis	ICD-9-CM
533.70	Chronic peptic ulcer, unspecified site, without mention of hemorrhage, perforation, or obstruction	Diagnosis	ICD-9-CM
533.71	Chronic peptic ulcer of unspecified site without mention of hemorrhage or perforation, with obstruction	Diagnosis	ICD-9-CM
533.9	Peptic ulcer, unspecified site, unspecified as acute or chronic, without mention of hemorrhage or perforation	Diagnosis	ICD-9-CM
533.90	Peptic ulcer, unspecified site, unspecified as acute or chronic, without mention of hemorrhage, perforation, or obstruction	Diagnosis	ICD-9-CM
533.91	Peptic ulcer, unspecified site, unspecified as acute or chronic, without mention of hemorrhage or perforation, with obstruction	Diagnosis	ICD-9-CM
534.0	Acute gastrojejunal ulcer with hemorrhage	Diagnosis	ICD-9-CM
534.00	Acute gastrojejunal ulcer with hemorrhage, without mention of obstruction	Diagnosis	ICD-9-CM
534.01	Acute gastrojejunal ulcer, with hemorrhage and obstruction	Diagnosis	ICD-9-CM

Sentinel

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
534.1	Acute gastrojejunal ulcer with perforation	Diagnosis	ICD-9-CM
534.10	Acute gastrojejunal ulcer with perforation, without mention of obstruction	Diagnosis	ICD-9-CM
534.11	Acute gastrojejunal ulcer with perforation and obstruction	Diagnosis	ICD-9-CM
534.2	Acute gastrojejunal ulcer with hemorrhage and perforation	Diagnosis	ICD-9-CM
534.20	Acute gastrojejunal ulcer with hemorrhage and perforation, without mention of obstruction	Diagnosis	ICD-9-CM
534.21	Acute gastrojejunal ulcer with hemorrhage, perforation, and obstruction	Diagnosis	ICD-9-CM
534.3	Acute gastrojejunal ulcer without mention of hemorrhage or perforation	Diagnosis	ICD-9-CM
534.30	Acute gastrojejunal ulcer without mention of hemorrhage, perforation, or obstruction	Diagnosis	ICD-9-CM
534.31	Acute gastrojejunal ulcer without mention of hemorrhage or perforation, with obstruction	Diagnosis	ICD-9-CM
534.4	Chronic or unspecified gastrojejunal ulcer with hemorrhage	Diagnosis	ICD-9-CM
534.40	Chronic or unspecified gastrojejunal ulcer with hemorrhage, without mention of obstruction	Diagnosis	ICD-9-CM
534.41	Chronic or unspecified gastrojejunal ulcer, with hemorrhage and obstruction	Diagnosis	ICD-9-CM
534.5	Chronic or unspecified gastrojejunal ulcer with perforation	Diagnosis	ICD-9-CM
534.50	Chronic or unspecified gastrojejunal ulcer with perforation, without mention of obstruction	Diagnosis	ICD-9-CM
534.51	Chronic or unspecified gastrojejunal ulcer with perforation and obstruction	Diagnosis	ICD-9-CM
534.6	Chronic or unspecified gastrojejunal ulcer with hemorrhage and perforation	Diagnosis	ICD-9-CM
534.60	Chronic or unspecified gastrojejunal ulcer with hemorrhage and perforation, without mention of obstruction	Diagnosis	ICD-9-CM
534.61	Chronic or unspecified gastrojejunal ulcer with hemorrhage, perforation, and obstruction	Diagnosis	ICD-9-CM
534.7	Chronic gastrojejunal ulcer without mention of hemorrhage or perforation	Diagnosis	ICD-9-CM
534.70	Chronic gastrojejunal ulcer without mention of hemorrhage, perforation, or obstruction	Diagnosis	ICD-9-CM
534.71	Chronic gastrojejunal ulcer without mention of hemorrhage or perforation, with obstruction	Diagnosis	ICD-9-CM
534.9	Gastrojejunal ulcer, unspecified as acute or chronic, without mention of hemorrhage or perforation	Diagnosis	ICD-9-CM
534.90	Gastrojejunal ulcer, unspecified as acute or chronic, without mention of hemorrhage, perforation, or obstruction	Diagnosis	ICD-9-CM
534.91	Gastrojejunal ulcer, unspecified as acute or chronic, without mention of hemorrhage or perforation, with obstruction	Diagnosis	ICD-9-CM
535.00	Acute gastritis without mention of hemorrhage	Diagnosis	ICD-9-CM
535.01	Acute gastritis with hemorrhage	Diagnosis	ICD-9-CM
535.10	Atrophic gastritis without mention of hemorrhage	Diagnosis	ICD-9-CM
535.11	Atrophic gastritis with hemorrhage	Diagnosis	ICD-9-CM
535.20	Gastric mucosal hypertrophy without mention of hemorrhage	Diagnosis	ICD-9-CM
535.21	Gastric mucosal hypertrophy with hemorrhage	Diagnosis	ICD-9-CM
535.30	Alcoholic gastritis without mention of hemorrhage	Diagnosis	ICD-9-CM
535.31	Alcoholic gastritis with hemorrhage	Diagnosis	ICD-9-CM
535.40	Other specified gastritis without mention of hemorrhage	Diagnosis	ICD-9-CM
535.41	Other specified gastritis with hemorrhage	Diagnosis	ICD-9-CM
535.50	Unspecified gastritis and gastroduodenitis without mention of hemorrhage	Diagnosis	ICD-9-CM
535.51	Unspecified gastritis and gastroduodenitis with hemorrhage	Diagnosis	ICD-9-CM
535.60	Duodenitis without mention of hemorrhage	Diagnosis	ICD-9-CM
535.61	Duodenitis with hemorrhage	Diagnosis	ICD-9-CM
537.83	Angiodysplasia of stomach and duodenum with hemorrhage	Diagnosis	ICD-9-CM
562.00	Diverticulosis of small intestine (without mention of hemorrhage)	Diagnosis	ICD-9-CM
562.01	Diverticulitis of small intestine (without mention of hemorrhage)	Diagnosis	ICD-9-CM
562.02	Diverticulosis of small intestine with hemorrhage	Diagnosis	ICD-9-CM

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
562.03	Diverticulitis of small intestine with hemorrhage	Diagnosis	ICD-9-CM
562.10	Diverticulosis of colon (without mention of hemorrhage)	Diagnosis	ICD-9-CM
562.11	Diverticulitis of colon (without mention of hemorrhage)	Diagnosis	ICD-9-CM
562.12	Diverticulosis of colon with hemorrhage	Diagnosis	ICD-9-CM
562.13	Diverticulitis of colon with hemorrhage	Diagnosis	ICD-9-CM
568.81	Hemoperitoneum (nontraumatic)	Diagnosis	ICD-9-CM
569.3	Hemorrhage of rectum and anus	Diagnosis	ICD-9-CM
569.85	Angiodysplasia of intestine with hemorrhage	Diagnosis	ICD-9-CM
578.0	Hematemesis	Diagnosis	ICD-9-CM
578.1	Blood in stool	Diagnosis	ICD-9-CM
578.9	Hemorrhage of gastrointestinal tract, unspecified	Diagnosis	ICD-9-CM
593.81	Vascular disorders of kidney	Diagnosis	ICD-9-CM
599.7	Hematuria	Diagnosis	ICD-9-CM
599.70	Hematuria, unspecified	Diagnosis	ICD-9-CM
599.71	Gross hematuria	Diagnosis	ICD-9-CM
599.72	Microscopic hematuria	Diagnosis	ICD-9-CM
623.8	Other specified noninflammatory disorder of vagina	Diagnosis	ICD-9-CM
626.2	Excessive or frequent menstruation	Diagnosis	ICD-9-CM
626.6	Metrorrhagia	Diagnosis	ICD-9-CM
719.1	Hemarthrosis	Diagnosis	ICD-9-CM
719.10	Hemarthrosis, site unspecified	Diagnosis	ICD-9-CM
719.11	Hemarthrosis, shoulder region	Diagnosis	ICD-9-CM
719.12	Hemarthrosis, upper arm	Diagnosis	ICD-9-CM
719.13	Hemarthrosis, forearm	Diagnosis	ICD-9-CM
719.14	Hemarthrosis, hand	Diagnosis	ICD-9-CM
719.15	Hemarthrosis, pelvic region and thigh	Diagnosis	ICD-9-CM
719.16	Hemarthrosis, lower leg	Diagnosis	ICD-9-CM
719.17	Hemarthrosis, ankle and foot	Diagnosis	ICD-9-CM
719.18	Hemarthrosis, other specified site	Diagnosis	ICD-9-CM
719.19	Hemarthrosis, multiple sites	Diagnosis	ICD-9-CM
784.7	Epistaxis	Diagnosis	ICD-9-CM
784.8	Hemorrhage from throat	Diagnosis	ICD-9-CM
786.3	Hemoptysis	Diagnosis	ICD-9-CM
790.92	Abnormal coagulation profile	Diagnosis	ICD-9-CM
852.0	Subarachnoid hemorrhage following injury without mention of open intracranial wound	Diagnosis	ICD-9-CM
852.00	Subarachnoid hemorrhage following injury, without mention of open intracranial wound, unspecified state of consciousness	Diagnosis	ICD-9-CM
852.01	Subarachnoid hemorrhage following injury, without mention of open intracranial wound, no loss of consciousness	Diagnosis	ICD-9-CM
852.02	Subarachnoid hemorrhage following injury, without mention of open intracranial wound, brief (less than 1 hour) loss of consciousness	Diagnosis	ICD-9-CM
852.03	Subarachnoid hemorrhage following injury, without mention of open intracranial wound, moderate (1-24 hours) loss of consciousness	Diagnosis	ICD-9-CM
852.04	Subarachnoid hemorrhage following injury, without mention of open intracranial wound, prolonged (more than 24 hours) loss of consciousness and return to pre-existing conscious level	Diagnosis	ICD-9-CM

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
852.05	Subarachnoid hemorrhage following injury, without mention of open intracranial wound, prolonged (more than 24 hours) loss of consciousness, without return to pre-existing conscious level	Diagnosis	ICD-9-CM
852.06	Subarachnoid hemorrhage following injury, without mention of open intracranial wound, loss of consciousness of unspecified duration	Diagnosis	ICD-9-CM
852.09	Subarachnoid hemorrhage following injury, without mention of open intracranial wound, unspecified concussion	Diagnosis	ICD-9-CM
852.2	Subdural hemorrhage following injury without mention of open intracranial wound	Diagnosis	ICD-9-CM
852.20	Subdural hemorrhage following injury, without mention of open intracranial wound, unspecified state of consciousness	Diagnosis	ICD-9-CM
852.21	Subdural hemorrhage following injury, without mention of open intracranial wound, no loss of consciousness	Diagnosis	ICD-9-CM
852.22	Subdural hemorrhage following injury, without mention of open intracranial wound, brief (less than one hour) loss of consciousness	Diagnosis	ICD-9-CM
852.23	Subdural hemorrhage following injury, without mention of open intracranial wound, moderate (1-24 hours) loss of consciousness	Diagnosis	ICD-9-CM
852.24	Subdural hemorrhage following injury, without mention of open intracranial wound, prolonged (more than 24 hours) loss of consciousness and return to pre-existing conscious level	Diagnosis	ICD-9-CM
852.25	Subdural hemorrhage following injury, without mention of open intracranial wound, prolonged (more than 24 hours) loss of consciousness, without return to pre-existing conscious level	Diagnosis	ICD-9-CM
852.26	Subdural hemorrhage following injury, without mention of open intracranial wound, loss of consciousness of unspecified duration	Diagnosis	ICD-9-CM
852.29	Subdural hemorrhage following injury, without mention of open intracranial wound, unspecified concussion	Diagnosis	ICD-9-CM
852.4	Extradural hemorrhage following injury without mention of open intracranial wound	Diagnosis	ICD-9-CM
852.40	Extradural hemorrhage following injury, without mention of open intracranial wound, unspecified state of consciousness	Diagnosis	ICD-9-CM
852.41	Extradural hemorrhage following injury, without mention of open intracranial wound, no loss of consciousness	Diagnosis	ICD-9-CM
852.42	Extradural hemorrhage following injury, without mention of open intracranial wound, brief (less than 1 hour) loss of consciousness	Diagnosis	ICD-9-CM
852.43	Extradural hemorrhage following injury, without mention of open intracranial wound, moderate (1-24 hours) loss of consciousness	Diagnosis	ICD-9-CM
852.44	Extradural hemorrhage following injury, without mention of open intracranial wound, prolonged (more than 24 hours) loss of consciousness and return to pre-existing conscious level	Diagnosis	ICD-9-CM
852.45	Extradural hemorrhage following injury, without mention of open intracranial wound, prolonged (more than 24 hours) loss of consciousness, without return to pre-existing conscious level	Diagnosis	ICD-9-CM
852.46	Extradural hemorrhage following injury, without mention of open intracranial wound, loss of consciousness of unspecified duration	Diagnosis	ICD-9-CM
852.49	Extradural hemorrhage following injury, without mention of open intracranial wound, unspecified concussion	Diagnosis	ICD-9-CM
853.0	Other and unspecified intracranial hemorrhage following injury, without mention of open intracranial wound	Diagnosis	ICD-9-CM
D50.0	Iron deficiency anemia secondary to blood loss (chronic)	Diagnosis	ICD-10-CM

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
D62	Acute posthemorrhagic anemia	Diagnosis	ICD-10-CM
D64.9	Anemia, unspecified	Diagnosis	ICD-10-CM
I31.2	Hemopericardium, not elsewhere classified	Diagnosis	ICD-10-CM
I60.00	Nontraumatic subarachnoid hemorrhage from unspecified carotid siphon and bifurcation	Diagnosis	ICD-10-CM
I60.01	Nontraumatic subarachnoid hemorrhage from right carotid siphon and bifurcation	Diagnosis	ICD-10-CM
I60.02	Nontraumatic subarachnoid hemorrhage from left carotid siphon and bifurcation	Diagnosis	ICD-10-CM
I60.10	Nontraumatic subarachnoid hemorrhage from unspecified middle cerebral artery	Diagnosis	ICD-10-CM
I60.11	Nontraumatic subarachnoid hemorrhage from right middle cerebral artery	Diagnosis	ICD-10-CM
I60.12	Nontraumatic subarachnoid hemorrhage from left middle cerebral artery	Diagnosis	ICD-10-CM
I60.2	Nontraumatic subarachnoid hemorrhage from anterior communicating artery	Diagnosis	ICD-10-CM
I60.30	Nontraumatic subarachnoid hemorrhage from unspecified posterior communicating artery	Diagnosis	ICD-10-CM
I60.31	Nontraumatic subarachnoid hemorrhage from right posterior communicating artery	Diagnosis	ICD-10-CM
I60.32	Nontraumatic subarachnoid hemorrhage from left posterior communicating artery	Diagnosis	ICD-10-CM
I60.4	Nontraumatic subarachnoid hemorrhage from basilar artery	Diagnosis	ICD-10-CM
I60.50	Nontraumatic subarachnoid hemorrhage from unspecified vertebral artery	Diagnosis	ICD-10-CM
I60.51	Nontraumatic subarachnoid hemorrhage from right vertebral artery	Diagnosis	ICD-10-CM
I60.52	Nontraumatic subarachnoid hemorrhage from left vertebral artery	Diagnosis	ICD-10-CM
I60.6	Nontraumatic subarachnoid hemorrhage from other intracranial arteries	Diagnosis	ICD-10-CM
I60.7	Nontraumatic subarachnoid hemorrhage from unspecified intracranial artery	Diagnosis	ICD-10-CM
I60.8	Other nontraumatic subarachnoid hemorrhage	Diagnosis	ICD-10-CM
I60.9	Nontraumatic subarachnoid hemorrhage, unspecified	Diagnosis	ICD-10-CM
I61.0	Nontraumatic intracerebral hemorrhage in hemisphere, subcortical	Diagnosis	ICD-10-CM
I61.1	Nontraumatic intracerebral hemorrhage in hemisphere, cortical	Diagnosis	ICD-10-CM
I61.2	Nontraumatic intracerebral hemorrhage in hemisphere, unspecified	Diagnosis	ICD-10-CM
I61.3	Nontraumatic intracerebral hemorrhage in brain stem	Diagnosis	ICD-10-CM
I61.4	Nontraumatic intracerebral hemorrhage in cerebellum	Diagnosis	ICD-10-CM
I61.5	Nontraumatic intracerebral hemorrhage, intraventricular	Diagnosis	ICD-10-CM
I61.6	Nontraumatic intracerebral hemorrhage, multiple localized	Diagnosis	ICD-10-CM
I61.8	Other nontraumatic intracerebral hemorrhage	Diagnosis	ICD-10-CM
I61.9	Nontraumatic intracerebral hemorrhage, unspecified	Diagnosis	ICD-10-CM
I62.00	Nontraumatic subdural hemorrhage, unspecified	Diagnosis	ICD-10-CM
I62.01	Nontraumatic acute subdural hemorrhage	Diagnosis	ICD-10-CM
I62.02	Nontraumatic subacute subdural hemorrhage	Diagnosis	ICD-10-CM
I62.03	Nontraumatic chronic subdural hemorrhage	Diagnosis	ICD-10-CM
I62.1	Nontraumatic extradural hemorrhage	Diagnosis	ICD-10-CM
I62.9	Nontraumatic intracranial hemorrhage, unspecified	Diagnosis	ICD-10-CM
I85.01	Esophageal varices with bleeding	Diagnosis	ICD-10-CM
I85.11	Secondary esophageal varices with bleeding	Diagnosis	ICD-10-CM
K20.0	Eosinophilic esophagitis	Diagnosis	ICD-10-CM
K20.8	Other esophagitis	Diagnosis	ICD-10-CM
K20.9	Esophagitis, unspecified	Diagnosis	ICD-10-CM
K21.0	Gastro-esophageal reflux disease with esophagitis	Diagnosis	ICD-10-CM
K22.6	Gastro-esophageal laceration-hemorrhage syndrome	Diagnosis	ICD-10-CM
K22.8	Other specified diseases of esophagus	Diagnosis	ICD-10-CM
K25.0	Acute gastric ulcer with hemorrhage	Diagnosis	ICD-10-CM
K25.1	Acute gastric ulcer with perforation	Diagnosis	ICD-10-CM
K25.2	Acute gastric ulcer with both hemorrhage and perforation	Diagnosis	ICD-10-CM
K25.3	Acute gastric ulcer without hemorrhage or perforation	Diagnosis	ICD-10-CM

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
K25.4	Chronic or unspecified gastric ulcer with hemorrhage	Diagnosis	ICD-10-CM
K25.5	Chronic or unspecified gastric ulcer with perforation	Diagnosis	ICD-10-CM
K25.6	Chronic or unspecified gastric ulcer with both hemorrhage and perforation	Diagnosis	ICD-10-CM
K25.7	Chronic gastric ulcer without hemorrhage or perforation	Diagnosis	ICD-10-CM
K25.9	Gastric ulcer, unspecified as acute or chronic, without hemorrhage or perforation	Diagnosis	ICD-10-CM
K26.0	Acute duodenal ulcer with hemorrhage	Diagnosis	ICD-10-CM
K26.1	Acute duodenal ulcer with perforation	Diagnosis	ICD-10-CM
K26.2	Acute duodenal ulcer with both hemorrhage and perforation	Diagnosis	ICD-10-CM
K26.3	Acute duodenal ulcer without hemorrhage or perforation	Diagnosis	ICD-10-CM
K26.4	Chronic or unspecified duodenal ulcer with hemorrhage	Diagnosis	ICD-10-CM
K26.5	Chronic or unspecified duodenal ulcer with perforation	Diagnosis	ICD-10-CM
K26.6	Chronic or unspecified duodenal ulcer with both hemorrhage and perforation	Diagnosis	ICD-10-CM
K26.7	Chronic duodenal ulcer without hemorrhage or perforation	Diagnosis	ICD-10-CM
K26.9	Duodenal ulcer, unspecified as acute or chronic, without hemorrhage or perforation	Diagnosis	ICD-10-CM
K27.0	Acute peptic ulcer, site unspecified, with hemorrhage	Diagnosis	ICD-10-CM
K27.1	Acute peptic ulcer, site unspecified, with perforation	Diagnosis	ICD-10-CM
K27.2	Acute peptic ulcer, site unspecified, with both hemorrhage and perforation	Diagnosis	ICD-10-CM
K27.3	Acute peptic ulcer, site unspecified, without hemorrhage or perforation	Diagnosis	ICD-10-CM
K27.4	Chronic or unspecified peptic ulcer, site unspecified, with hemorrhage	Diagnosis	ICD-10-CM
K27.5	Chronic or unspecified peptic ulcer, site unspecified, with perforation	Diagnosis	ICD-10-CM
K27.6	Chronic or unspecified peptic ulcer, site unspecified, with both hemorrhage and perforation	Diagnosis	ICD-10-CM
K27.7	Chronic peptic ulcer, site unspecified, without hemorrhage or perforation	Diagnosis	ICD-10-CM
K27.9	Peptic ulcer, site unspecified, unspecified as acute or chronic, without hemorrhage or perforation	Diagnosis	ICD-10-CM
K28.0	Acute gastrojejunal ulcer with hemorrhage	Diagnosis	ICD-10-CM
K28.1	Acute gastrojejunal ulcer with perforation	Diagnosis	ICD-10-CM
K28.2	Acute gastrojejunal ulcer with both hemorrhage and perforation	Diagnosis	ICD-10-CM
K28.3	Acute gastrojejunal ulcer without hemorrhage or perforation	Diagnosis	ICD-10-CM
K28.4	Chronic or unspecified gastrojejunal ulcer with hemorrhage	Diagnosis	ICD-10-CM
K28.5	Chronic or unspecified gastrojejunal ulcer with perforation	Diagnosis	ICD-10-CM
K28.6	Chronic or unspecified gastrojejunal ulcer with both hemorrhage and perforation	Diagnosis	ICD-10-CM
K28.7	Chronic gastrojejunal ulcer without hemorrhage or perforation	Diagnosis	ICD-10-CM
K28.9	Gastrojejunal ulcer, unspecified as acute or chronic, without hemorrhage or perforation	Diagnosis	ICD-10-CM
K29.00	Acute gastritis without bleeding	Diagnosis	ICD-10-CM
K29.01	Acute gastritis with bleeding	Diagnosis	ICD-10-CM
K29.20	Alcoholic gastritis without bleeding	Diagnosis	ICD-10-CM
K29.21	Alcoholic gastritis with bleeding	Diagnosis	ICD-10-CM
K29.30	Chronic superficial gastritis without bleeding	Diagnosis	ICD-10-CM
K29.31	Chronic superficial gastritis with bleeding	Diagnosis	ICD-10-CM
K29.40	Chronic atrophic gastritis without bleeding	Diagnosis	ICD-10-CM
K29.41	Chronic atrophic gastritis with bleeding	Diagnosis	ICD-10-CM
K29.50	Unspecified chronic gastritis without bleeding	Diagnosis	ICD-10-CM
K29.51	Unspecified chronic gastritis with bleeding	Diagnosis	ICD-10-CM
K29.60	Other gastritis without bleeding	Diagnosis	ICD-10-CM
K29.61	Other gastritis with bleeding	Diagnosis	ICD-10-CM
K29.70	Gastritis, unspecified, without bleeding	Diagnosis	ICD-10-CM
K29.71	Gastritis, unspecified, with bleeding	Diagnosis	ICD-10-CM
K29.80	Duodenitis without bleeding	Diagnosis	ICD-10-CM

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
K29.81	Duodenitis with bleeding	Diagnosis	ICD-10-CM
K29.90	Gastroduodenitis, unspecified, without bleeding	Diagnosis	ICD-10-CM
K29.91	Gastroduodenitis, unspecified, with bleeding	Diagnosis	ICD-10-CM
K31.811	Angiodysplasia of stomach and duodenum with bleeding	Diagnosis	ICD-10-CM
K55.21	Angiodysplasia of colon with hemorrhage	Diagnosis	ICD-10-CM
K56.699	Other intestinal obstruction unspecified as to partial versus complete obstruction	Diagnosis	ICD-10-CM
K57.00	Diverticulitis of small intestine with perforation and abscess without bleeding	Diagnosis	ICD-10-CM
K57.01	Diverticulitis of small intestine with perforation and abscess with bleeding	Diagnosis	ICD-10-CM
K57.10	Diverticulosis of small intestine without perforation or abscess without bleeding	Diagnosis	ICD-10-CM
K57.11	Diverticulosis of small intestine without perforation or abscess with bleeding	Diagnosis	ICD-10-CM
K57.12	Diverticulitis of small intestine without perforation or abscess without bleeding	Diagnosis	ICD-10-CM
K57.13	Diverticulitis of small intestine without perforation or abscess with bleeding	Diagnosis	ICD-10-CM
K57.20	Diverticulitis of large intestine with perforation and abscess without bleeding	Diagnosis	ICD-10-CM
K57.21	Diverticulitis of large intestine with perforation and abscess with bleeding	Diagnosis	ICD-10-CM
K57.30	Diverticulosis of large intestine without perforation or abscess without bleeding	Diagnosis	ICD-10-CM
K57.31	Diverticulosis of large intestine without perforation or abscess with bleeding	Diagnosis	ICD-10-CM
K57.32	Diverticulitis of large intestine without perforation or abscess without bleeding	Diagnosis	ICD-10-CM
K57.33	Diverticulitis of large intestine without perforation or abscess with bleeding	Diagnosis	ICD-10-CM
K57.40	Diverticulitis of both small and large intestine with perforation and abscess without bleeding	Diagnosis	ICD-10-CM
K57.41	Diverticulitis of both small and large intestine with perforation and abscess with bleeding	Diagnosis	ICD-10-CM
K57.50	Diverticulosis of both small and large intestine without perforation or abscess without bleeding	Diagnosis	ICD-10-CM
K57.51	Diverticulosis of both small and large intestine without perforation or abscess with bleeding	Diagnosis	ICD-10-CM
K57.52	Diverticulitis of both small and large intestine without perforation or abscess without bleeding	Diagnosis	ICD-10-CM
K57.53	Diverticulitis of both small and large intestine without perforation or abscess with bleeding	Diagnosis	ICD-10-CM
K57.80	Diverticulitis of intestine, part unspecified, with perforation and abscess without bleeding	Diagnosis	ICD-10-CM
K57.81	Diverticulitis of intestine, part unspecified, with perforation and abscess with bleeding	Diagnosis	ICD-10-CM
K57.90	Diverticulosis of intestine, part unspecified, without perforation or abscess without bleeding	Diagnosis	ICD-10-CM
K57.91	Diverticulosis of intestine, part unspecified, without perforation or abscess with bleeding	Diagnosis	ICD-10-CM
K57.92	Diverticulitis of intestine, part unspecified, without perforation or abscess without bleeding	Diagnosis	ICD-10-CM
K57.93	Diverticulitis of intestine, part unspecified, without perforation or abscess with bleeding	Diagnosis	ICD-10-CM
K62.5	Hemorrhage of anus and rectum	Diagnosis	ICD-10-CM
K64.0	First degree hemorrhoids	Diagnosis	ICD-10-CM
K64.1	Second degree hemorrhoids	Diagnosis	ICD-10-CM
K64.2	Third degree hemorrhoids	Diagnosis	ICD-10-CM
K64.3	Fourth degree hemorrhoids	Diagnosis	ICD-10-CM
K64.4	Residual hemorrhoidal skin tags	Diagnosis	ICD-10-CM
K64.5	Perianal venous thrombosis	Diagnosis	ICD-10-CM
K64.8	Other hemorrhoids	Diagnosis	ICD-10-CM
K64.9	Unspecified hemorrhoids	Diagnosis	ICD-10-CM
K66.1	Hemoperitoneum	Diagnosis	ICD-10-CM
K92.0	Hematemesis	Diagnosis	ICD-10-CM
K92.1	Melena	Diagnosis	ICD-10-CM
K92.2	Gastrointestinal hemorrhage, unspecified	Diagnosis	ICD-10-CM

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
M25.00	Hemarthrosis, unspecified joint	Diagnosis	ICD-10-CM
M25.011	Hemarthrosis, right shoulder	Diagnosis	ICD-10-CM
M25.012	Hemarthrosis, left shoulder	Diagnosis	ICD-10-CM
M25.019	Hemarthrosis, unspecified shoulder	Diagnosis	ICD-10-CM
M25.021	Hemarthrosis, right elbow	Diagnosis	ICD-10-CM
M25.022	Hemarthrosis, left elbow	Diagnosis	ICD-10-CM
M25.029	Hemarthrosis, unspecified elbow	Diagnosis	ICD-10-CM
M25.031	Hemarthrosis, right wrist	Diagnosis	ICD-10-CM
M25.032	Hemarthrosis, left wrist	Diagnosis	ICD-10-CM
M25.039	Hemarthrosis, unspecified wrist	Diagnosis	ICD-10-CM
M25.041	Hemarthrosis, right hand	Diagnosis	ICD-10-CM
M25.042	Hemarthrosis, left hand	Diagnosis	ICD-10-CM
M25.049	Hemarthrosis, unspecified hand	Diagnosis	ICD-10-CM
M25.051	Hemarthrosis, right hip	Diagnosis	ICD-10-CM
M25.052	Hemarthrosis, left hip	Diagnosis	ICD-10-CM
M25.059	Hemarthrosis, unspecified hip	Diagnosis	ICD-10-CM
M25.061	Hemarthrosis, right knee	Diagnosis	ICD-10-CM
M25.062	Hemarthrosis, left knee	Diagnosis	ICD-10-CM
M25.069	Hemarthrosis, unspecified knee	Diagnosis	ICD-10-CM
M25.071	Hemarthrosis, right ankle	Diagnosis	ICD-10-CM
M25.072	Hemarthrosis, left ankle	Diagnosis	ICD-10-CM
M25.073	Hemarthrosis, unspecified ankle	Diagnosis	ICD-10-CM
M25.074	Hemarthrosis, right foot	Diagnosis	ICD-10-CM
M25.075	Hemarthrosis, left foot	Diagnosis	ICD-10-CM
M25.076	Hemarthrosis, unspecified foot	Diagnosis	ICD-10-CM
M25.08	Hemarthrosis, other specified site	Diagnosis	ICD-10-CM
N28.0	Ischemia and infarction of kidney	Diagnosis	ICD-10-CM
N89.8	Other specified noninflammatory disorders of vagina	Diagnosis	ICD-10-CM
N92.0	Excessive and frequent menstruation with regular cycle	Diagnosis	ICD-10-CM
N92.1	Excessive and frequent menstruation with irregular cycle	Diagnosis	ICD-10-CM
R04.0	Epistaxis	Diagnosis	ICD-10-CM
R04.1	Hemorrhage from throat	Diagnosis	ICD-10-CM
R31.0	Gross hematuria	Diagnosis	ICD-10-CM
R31.1	Benign essential microscopic hematuria	Diagnosis	ICD-10-CM
R31.21	Asymptomatic microscopic hematuria	Diagnosis	ICD-10-CM
R31.29	Other microscopic hematuria	Diagnosis	ICD-10-CM
R31.9	Hematuria, unspecified	Diagnosis	ICD-10-CM
R58	Hemorrhage, not elsewhere classified	Diagnosis	ICD-10-CM
R79.1	Abnormal coagulation profile	Diagnosis	ICD-10-CM
S06.4X0A	Epidural hemorrhage without loss of consciousness, initial encounter	Diagnosis	ICD-10-CM
S06.4X1A	Epidural hemorrhage with loss of consciousness of 30 minutes or less, initial encounter	Diagnosis	ICD-10-CM
S06.4X2A	Epidural hemorrhage with loss of consciousness of 31 minutes to 59 minutes, initial encounter	Diagnosis	ICD-10-CM
S06.4X3A	Epidural hemorrhage with loss of consciousness of 1 hour to 5 hours 59 minutes, initial encounter	Diagnosis	ICD-10-CM
S06.4X4A	Epidural hemorrhage with loss of consciousness of 6 hours to 24 hours, initial encounter	Diagnosis	ICD-10-CM
S06.4X5A	Epidural hemorrhage with loss of consciousness greater than 24 hours with return to pre-existing conscious level, initial encounter	Diagnosis	ICD-10-CM

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes, International Classification of Diseases, Tenth Revision (ICD-10-PCS), Procedure Codes, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes, Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
S06.4X6A	Epidural hemorrhage with loss of consciousness greater than 24 hours without return to pre-existing conscious level with patient surviving, initial encounter	Diagnosis	ICD-10-CM
S06.4X7A	Epidural hemorrhage with loss of consciousness of any duration with death due to brain injury prior to regaining consciousness, initial encounter	Diagnosis	ICD-10-CM
S06.4X8A	Epidural hemorrhage with loss of consciousness of any duration with death due to other causes prior to regaining consciousness, initial encounter	Diagnosis	ICD-10-CM
S06.4X9A	Epidural hemorrhage with loss of consciousness of unspecified duration, initial encounter	Diagnosis	ICD-10-CM
S06.5X0A	Traumatic subdural hemorrhage without loss of consciousness, initial encounter	Diagnosis	ICD-10-CM
S06.5X1A	Traumatic subdural hemorrhage with loss of consciousness of 30 minutes or less, initial encounter	Diagnosis	ICD-10-CM
S06.5X2A	Traumatic subdural hemorrhage with loss of consciousness of 31 minutes to 59 minutes, initial encounter	Diagnosis	ICD-10-CM
S06.5X3A	Traumatic subdural hemorrhage with loss of consciousness of 1 hour to 5 hours 59 minutes, initial encounter	Diagnosis	ICD-10-CM
S06.5X4A	Traumatic subdural hemorrhage with loss of consciousness of 6 hours to 24 hours, initial encounter	Diagnosis	ICD-10-CM
S06.5X5A	Traumatic subdural hemorrhage with loss of consciousness greater than 24 hours with return to pre-existing conscious level, initial encounter	Diagnosis	ICD-10-CM
S06.5X6A	Traumatic subdural hemorrhage with loss of consciousness greater than 24 hours without return to pre-existing conscious level with patient surviving, initial encounter	Diagnosis	ICD-10-CM
S06.5X7A	Traumatic subdural hemorrhage with loss of consciousness of any duration with death due to brain injury before regaining consciousness, initial encounter	Diagnosis	ICD-10-CM
S06.5X8A	Traumatic subdural hemorrhage with loss of consciousness of any duration with death due to other cause before regaining consciousness, initial encounter	Diagnosis	ICD-10-CM
S06.5X9A	Traumatic subdural hemorrhage with loss of consciousness of unspecified duration, initial encounter	Diagnosis	ICD-10-CM
S06.6X0A	Traumatic subarachnoid hemorrhage without loss of consciousness, initial encounter	Diagnosis	ICD-10-CM
S06.6X1A	Traumatic subarachnoid hemorrhage with loss of consciousness of 30 minutes or less, initial encounter	Diagnosis	ICD-10-CM
S06.6X2A	Traumatic subarachnoid hemorrhage with loss of consciousness of 31 minutes to 59 minutes, initial encounter	Diagnosis	ICD-10-CM
S06.6X3A	Traumatic subarachnoid hemorrhage with loss of consciousness of 1 hour to 5 hours 59 minutes, initial encounter	Diagnosis	ICD-10-CM
S06.6X4A	Traumatic subarachnoid hemorrhage with loss of consciousness of 6 hours to 24 hours, initial encounter	Diagnosis	ICD-10-CM
S06.6X5A	Traumatic subarachnoid hemorrhage with loss of consciousness greater than 24 hours with return to pre-existing conscious level, initial encounter	Diagnosis	ICD-10-CM
S06.6X6A	Traumatic subarachnoid hemorrhage with loss of consciousness greater than 24 hours without return to pre-existing conscious level with patient surviving, initial encounter	Diagnosis	ICD-10-CM
S06.6X7A	Traumatic subarachnoid hemorrhage with loss of consciousness of any duration with death due to brain injury prior to regaining consciousness, initial encounter	Diagnosis	ICD-10-CM
S06.6X8A	Traumatic subarachnoid hemorrhage with loss of consciousness of any duration with death due to other cause prior to regaining consciousness, initial encounter	Diagnosis	ICD-10-CM
S06.6X9A	Traumatic subarachnoid hemorrhage with loss of consciousness of unspecified duration, initial encounter	Diagnosis	ICD-10-CM

Sentinel

Appendix I. Evaluation Windows Used to Define Baseline Characteristics/Covariates in this Request

Characteristic/Covariate	Evaluation Window	Care Settings
KEY: Highlighted = Table 1, not in Propensity Score (PS)		
Age (continuous)	Index date	
Age-group		
21-49	Index date	
50-64	Index date	
Sex		
Female	Index date	
Male	Index date	
Other	Index date	
Race/ethnicity		
American Indian or Alaska Native	Index date	
Asian	Index date	
Black or African American	Index date	
Native Hawaiian or Other Pacific Islander	Index date	
White	Index date	
Unknown	Index date	
Year		
2010	Index date	
2011	Index date	
2012	Index date	
2013	Index date	
2014	Index date	
2015	Index date	
2016	Index date	
2017	Index date	
2018	Index date	
2019	Index date	
2020	Index date	
2021	Index date	
Medical comorbidities		Any
Diabetes	-183 to 0	Any
Hypercholesterolemia	-183 to 0	Any
Hypertension	-183 to 0	Any
Kidney failure - Chronic	-183 to 0	Any
Kidney failure - Acute	-183 to 0	Any
Obesity	-183 to 0	Any
Peptic ulcer disease	-183 to 0	Any
Nicotine dependency	-183 to 0	IPP or IPS
Hospitalized AMI (past 0-30 days)	-30 to 0	IPP or IPS
Hospitalized AMI (past 31-183 days)	-183 to -31	Any
Coronary revascularization	-183 to 0	IP* or ED*
Hospitalized heart failure	-183 to 0	AV* or OA*
Outpatient heart failure	-183 to 0	Any
Other ischemic heart disease	-183 to 0	IPP
Hospitalized stroke (past 0-30 days)	-30 to 0	IPP
Hospitalized stroke (past 31-183 days)	-183 to -31	Any
Transient ischemic attack	-183 to 0	Any
Other medical conditions (falls, fractures, syncope, walker use)	-183 to 0	Any
Cardioversion	-183 to 0	Any
Cardioablation	-183 to 0	IPP
Hospitalized for bleeding	-183 to 0	
Medication use		-
Estrogen replacement	-183 to 0	-
H2-antagonist	-183 to 0	-

Sentinel

Appendix I. Evaluation Windows Used to Define Baseline Characteristics/Covariates in this Request

Characteristic/Covariate	Evaluation Window	Care Settings
NSAIDs	-183 to 0	-
Proton pump inhibitors	-183 to 0	-
SSRI antidepressants	-183 to 0	-
Insulin	-183 to 0	-
Metformin (Biguanide)	-183 to 0	-
Sulfonylureas	-183 to 0	-
Other Diabetes Medications	-183 to 0	-
ACEI/ARB	-183 to 0	-
Antiarrhythmics	-183 to 0	-
Anti-coagulant (injectable)	-183 to 0	-
Anti-platelets	-183 to 0	-
Beta-blockers	-183 to 0	-
Calcium channel blockers	-183 to 0	-
Digoxin	-183 to 0	-
Diuretics - Loop	-183 to 0	-
Diuretics - Potassium sparing	-183 to 0	-
Diuretics - Thiazide	-183 to 0	-
Nitrates	-183 to 0	-
Statins	-183 to 0	-
Fibrates	-183 to 0	-
Amiodarone	-183 to 0	-
Dronedarone	-183 to 0	
CHA_2DS_2-VASc score (continuous)	-183 to 0	
CHA_2DS_2-VASc score (categorical)		-
0	-183 to 0	-
1	-183 to 0	-
2	-183 to 0	-
3	-183 to 0	-
4	-183 to 0	-
5+	-183 to 0	
HAS-BLED score (continuous)	-183 to 0	
HAS-BLED score (categorical)		-
0	-183 to 0	-
1	-183 to 0	-
2	-183 to 0	-
3+	-183 to 0	
Health care utilization		IP*
Number of inpatient hospital stays	-183 to 0	AV*
Number of ambulatory visits	-183 to 0	
Number of emergency room encounters		ED*
0 visit	-30 to 0	ED*
At least 1 visit	-30 to 0	ED*
2+ visits	-30 to 0	
Number of emergency room encounters		ED*
0 visit	-183 to -31	ED*
At least 1 visit	-183 to -31	ED*
2+ visits	-183 to -31	-
Number of unique generics dispensed	-183 to 0	

Sentinel

Appendix J. Specifications Defining Parameters in this Request

The Center for Drug Evaluation and Research has requested execution of the Cohort Identification and Descriptive Analysis (CIDA) tool with additional programming to compare risk of stroke and bleeding associated with use of dabigatran and rivaroxaban in those aged 64 years or younger in the Sentinel Distributed Database (SDD).

Query period: 10/19/2010 - Current data completeness
Coverage requirement: Medical and drug coverage
Pre-index enrollment requirement: 183 days
Post-Index Enrollment Requirement: None
Enrollment gap: 45 days
Age groups: 21-49, 50-64 years
Stratifications: None
Censor Output Categorization: None
Envelope macro: No reclassification
Freeze data: Yes
Additional programming needed: Risk scores, daily dose requirement, compatibility with QRP 11.2.4 or later, custom forest plots, custom weight distribution output
Output Denominator: No

	Comparison 1		Comparison 2		Comparison 3		Comparison 4	
	Overall		Overall		Overall		Overall	
Drug/Exposure								
Exposure/Comparator	Rivaroxaban, 20 mg	Dabigatran, 150 mg	Rivaroxaban, 20 mg	Dabigatran, 150 mg	Rivaroxaban, 20 mg	Dabigatran, 150 mg	Rivaroxaban, 20 mg	Dabigatran, 150 mg
Daily Dose Requirement	Once daily	Twice daily	Once daily	Twice daily	Once daily	Twice daily	Once daily	Twice daily
Request Package Group	riv_stroke	dab_stroke	riv_meb	dab_meb	riv_gi	dab_gi	riv_ich	dab_ich
Incident w/ Respect to:	Rivaroxaban 20 mg	Dabigatran 150 mg	Rivaroxaban 20 mg	Dabigatran 150 mg	Rivaroxaban 20 mg	Dabigatran 150 mg	Rivaroxaban 20 mg	Dabigatran 150 mg
Incidence Assessment	Dispensing date or days supply		Dispensing date or days supply		Dispensing date or days supply		Dispensing date or days supply	
Washout (days)	183		183		183		183	
Cohort Definition	First valid incident exposure		First valid incident exposure		First valid incident exposure		First valid incident exposure	
Stockpiling overlapping	33%		33%		33%		33%	
Episode Gap	3		3		3		3	
Episode Extension Period	3		3		3		3	
Minimum Episode Duration	1		1		1		1	
Maximum Episode Duration	None		None		None		None	
Minimum Days Supplied	1		1		1		1	

Appendix J. Specifications Defining Parameters in this Request				
Censor Criteria	Death, DP end date, Disenrollment, Event, End of exposure episode, Comparator drug dispensing, Low-dose of current exposure, Warfarin dispensing, Edoxaban dispensing, Apixaban dispensing, Kidney transplant, Dialysis, IS encounter, Major extracranial bleeding, Gastrointestinal hemorrhage, Intracranial hemorrhage	Death, DP end date, Disenrollment, Event, End of exposure episode, Comparator drug dispensing, Low-dose of current exposure, Warfarin dispensing, Edoxaban dispensing, Apixaban dispensing, Kidney transplant, Dialysis, IS encounter, Thromboembolic stroke, Gastrointestinal hemorrhage, Intracranial hemorrhage	Death, DP end date, Disenrollment, Event, End of exposure episode, Comparator drug dispensing, Low-dose of current exposure, Warfarin dispensing, Edoxaban dispensing, Apixaban dispensing, Kidney transplant, Dialysis, IS encounter, Thromboembolic stroke, Major extracranial bleeding, Intracranial hemorrhage	Death, DP end date, Disenrollment, Event, End of exposure episode, Comparator drug dispensing, Low-dose of current exposure, Warfarin dispensing, Edoxaban dispensing, Apixaban dispensing, Kidney transplant, Dialysis, IS encounter, Thromboembolic stroke, Major extracranial bleeding, Gastrointestinal hemorrhage
Create Baseline Table?	Yes	Yes	Yes	Yes
Inclusion/Exclusion				
Pre-Existing Condition	Atrial fibrillation or flutter	Atrial fibrillation or flutter	Atrial fibrillation or flutter	Atrial fibrillation or flutter
Include/Exclude	Include	Include	Include	Include
Care Setting/PDX	Any	Any	Any	Any
Lookback Period	-183, 0	-183, 0	-183, 0	-183, 0
Number of instances the criteria should be found in evaluation period	≥ 1	≥ 1	≥ 1	≥ 1
Pre-Existing Condition	Low-dose rivaroxaban, dabigatran, apixaban, edoxaban, warfarin | Low-dose dabigatran, rivaroxaban, apixaban, edoxaban, warfarin	Low-dose rivaroxaban, dabigatran, apixaban, edoxaban, warfarin | Low-dose dabigatran, rivaroxaban, apixaban, edoxaban, warfarin	Low-dose rivaroxaban, dabigatran, apixaban, edoxaban, warfarin | Low-dose dabigatran, rivaroxaban, apixaban, edoxaban, warfarin	Low-dose rivaroxaban, dabigatran, apixaban, edoxaban, warfarin | Low-dose dabigatran, rivaroxaban, apixaban, edoxaban, warfarin
Include/Exclude	Exclude	Exclude	Exclude	Exclude
Lookback Period	-183, 0	-183, 0	-183, 0	-183, 0
Lookback period to define condition looks for evidence of a date or evidence of an interval	Dispensing date or days supply	Dispensing date or days supply	Dispensing date or days supply	Dispensing date or days supply
Number of instances the criteria should be found in evaluation period	≥ 1	≥ 1	≥ 1	≥ 1
Minimum Days Supplied	1	1	1	1
Pre-Existing Condition	Institutional stay encounter	Institutional stay encounter	Institutional stay encounter	Institutional stay encounter
Include/Exclude	Exclude	Exclude	Exclude	Exclude

Appendix J. Specifications Defining Parameters in this Request				
Lookback Period	0, 0	0, 0	0, 0	0, 0
Number of instances the criteria should be found in evaluation period	≥ 1	≥ 1	≥ 1	≥ 1
Pre-Existing Condition	Dialysis, Kidney replacement, Deep vein thrombosis, Pulmonary embolism, Joint replacement, Mitral valve disease, Valve replacement, Valve repair	Dialysis, Kidney replacement, Deep vein thrombosis, Pulmonary embolism, Joint replacement, Mitral valve disease, Valve replacement, Valve repair	Dialysis, Kidney replacement, Deep vein thrombosis, Pulmonary embolism, Joint replacement, Mitral valve disease, Valve replacement, Valve repair	Dialysis, Kidney replacement, Deep vein thrombosis, Pulmonary embolism, Joint replacement, Mitral valve disease, Valve replacement, Valve repair
Include/Exclude	Exclude	Exclude	Exclude	Exclude
Care Setting/PDX	Any, except AV/OA for dialysis	Any, except AV/OA for dialysis	Any, except AV/OA for dialysis	Any, except AV/OA for dialysis
Lookback Period	-183, 0	-183, 0	-183, 0	-183, 0
Number of instances the criteria should be found in evaluation period	≥ 1	≥ 1	≥ 1	≥ 1
Event/Outcome				
Event/Outcome	Thromboembolic stroke	Major Extracranial Bleeding[1]	Gastrointestinal hemorrhage[2]	Intracranial Hemorrhage
Care Setting/PDX	IPP	IPP	IPP	IPP
Washout (days)	0	0	0	0
Event de-duplication	De-duplicates occurrences of the same event group on the same day	De-duplicates occurrences of the same event group on the same day	De-duplicates occurrences of the same event group on the same day	De-duplicates occurrences of the same event group on the same day
Blackout Period	1	1	1	1

[1]The major extracranial bleed outcome is defined as **a)** one code from "Major Extracranial Bleeding - List 1" in the primary inpatient position AND no code from "Major Extracranial Bleeding - List 3" on the same day OR **b)** one code from "Major Extracranial Bleeding - List 2" in the primary inpatient position AND one code from "Major Extracranial Bleeding - List 1" in secondary or unspecified inpatient position on the same day AND no code from "Major Extracranial Bleeding - List 3" on the same day

[2]The gastrointestinal hemorrhage outcome is defined as **a)** one code from "Gastrointestinal Bleeding - List 1" in the primary inpatient position OR **b)** one code from "Gastrointestinal Bleeding - List 2" in the primary inpatient position AND one code from "Gastrointestinal Bleeding - List 1" in secondary or unspecified inpatient position on the same day

ICD-9, ICD-10, HCPCS, and CPT codes are provided by Optum360. NDC codes are checked against First Data Bank's “National Drug Data File (NDDF®) Plus.”

Appendix K. Specifications for Propensity Score (PS) Models

The Center for Drug Evaluation and Research has requested execution of the Cohort Identification and Descriptive Analysis (CIDA) tool with additional programming to compare risk of stroke and bleeding associated with use of dabigatran and rivaroxaban in those aged 64 years or younger in the Sentinel Distributed Database (SDD).

	PS Models	Comparison				
	Model	**Comparison**	**EOI**	**REF**	**PS Model Label**	**PS Model Label (Plus Programming)**
1	Overall	Rivaroxaban vs. Dabigatran, Stroke	riv_stroke	dab_stroke	riv_dab_stroke	riv_dab
2	Overall	Rivaroxaban vs. Dabigatran, Major Extracranial	riv_meb	dab_meb	riv_dab_meb	riv_dab
3	Overall	Rivaroxaban vs. Dabigatran, Gastrointestinal	riv_gi	dab_gi	riv_dab_gi	riv_dab
4	Overall	Rivaroxaban vs. Dabigatran, Intracranial	riv_ich	dab_ich	riv_dab_ich	riv_dab

	PS Models	Analyses						
	Model	**Analysis Name 1**	**Analysis Name 2**	**Analysis Name 3**	**Analysis Name 4**	**Analysis Name 5**	**Analysis Name 6**	**Analysis Name 7**
1	Overall	riv_dab_stroke_0	riv_dab_stroke_1	riv_dab_stroke_2.5	riv_dab_stroke_0_att	riv_dab_stroke_1_att	riv_dab_stroke_2.5_att	riv_dab_stroke_psm
2	Overall	riv_dab_meb_0	riv_dab_meb_1	riv_dab_meb_2.5	riv_dab_meb_0_att	riv_dab_meb_1_att	riv_dab_meb_2.5_att	riv_dab_meb_psm
3	Overall	riv_dab_gi_0	riv_dab_gi_1	riv_dab_gi_2.5	riv_dab_gi_0_att	riv_dab_gi_1_att	riv_dab_gi_2.5_att	riv_dab_gi_psm
4	Overall	riv_dab_ich_0	riv_dab_ich_1	riv_dab_ich_2.5	riv_dab_ich_0_att	riv_dab_ich_1_att	riv_dab_ich_2.5_att	riv_dab_ich_psm

Appendix K. Specifications for Propensity Score (PS) Models

Propensity Score Estimation Parameters

	Parameter
Covariates	See Appendix J
Firth Logistic Intercept Corrected Method	No
High-Dimensional Propensity Score	No

Propensity Score Analysis

IPTW

	Analysis Group	
Analysis Name	Analysis names 1-3	Analysis names 4-6
IP Weight	ATE Stabilized	ATT
Weight Truncation?	-2.5 percentile truncation	- No truncation - 1st percentile truncation - 2.5 percentile truncation

PS Matching

	Analysis Group
Analysis Name	Analysis name 7
Matching Ratio	1:1
Caliper	0.05
Analysis Type	Conditional and unconditional

Subgroups

	Analysis Group			
Analysis Name	All listed above			
Subgroups	Sex	Age Group (Years)	CHA2DS2-VASc	HAS-BLED
Sugroup Categories	Females, Males	21-49, 50-64	0, 1, 2, 3, 4, 5+	0, 1, 2, 3+
Subgroup Rematching	Re-matching should be done with the matched cohort			
Firth Logistic Intercept Corrected	No	No	No	No
Re-Estimate Propensity Score	Yes: the propensity score will be re-estimated			