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).

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Overview for Request: cder_mpl2p_wp051

Request ID: cder_mpl2p_wp051

Request Description: In this request, we assessed the risk of angioedema following initiation of treatment with angiotensin converting enzyme inhibitors (ACEi) or beta blockers (BB) using data from 2018-2022.

Sentinel Routine Querying Module: Type 2 Cohort Identification and Descriptive Analysis (CIDA) and Propensity Score Analysis (PSA) modules within Query Request Package version 12.1.2, with ad hoc programming.

Data Source: We distributed this request to a subset of the Sentinel Distributed Database including five Sentinel Data Partners on October 24, 2023. Data from fee-for-service Medicare beneficiaries with enrollment in medical and drug benefits are included. The study cohort included patients newly initiating ACEi or BB between January 1, 2018 through June 30, 2022. Please see Appendix A for a list of dates of available data for each Data Partner.

Study Design: We conducted an active comparator, new user cohort study identifying individuals newly initiating treatment with ACEi or BB with no history of use of other antihypertensive medications or angioedema and evaluated the occurrence of angioedema during the first qualifying (index) exposure episode. We used propensity score methods to control for confounding.

Cohort Eligibility Criteria: We required eligible individuals to be continuously enrolled in health plans with medical and drug coverage for at least 183 days prior to cohort entry (i.e., index date or date of first qualifying use of ACEi or BB). We allowed gaps of up to 45 days while evaluating continuous enrollment in health plans. Eligible individuals had male or female sex as defined in the Sentinel Common Data Model and were ages 18-44, 45-64, or ≥ 65 on the index date. To be selected into the study cohorts, eligible members were further required to have no evidence of use of other antihypertensives (aliskiren or angiotensin 2 receptor blockers) and no evidence of angioedema in the 183 days prior to cohort entry (baseline period). We defined eligibility using National Drug Codes (NDC) recorded in the outpatient dispensing files. Please see Appendix E for a list of non-proprietary names of

Exposure of Interest: New use of ACEi or BB was defined as no prior use of either study drug in the baseline period. We defined exposures of interest using NDCs. Please see Appendix B for a list of non-proprietary names of medical products used to define exposures of interest.

Baseline Characteristics: We measured demographic characteristics such as age, sex, race, ethnicity, year, and quarter-year of treatment initiation for all individuals who entered the study cohorts on the day of cohort entry. Additionally, we measured the following clinical characteristics at baseline: allergic reaction, diabetes, heart failure, ischemic heart disease, NSAID use, acquired hypothyroidism, acute myocardial infarction, Alzheimer's disease and related disorders or senile dementia, anemia, asthma, atrial fibrillation, benign prostatic hyperplasia, cataract, chronic kidney disease, chronic obstructive pulmonary disease and bronchiectasis, depression, glaucoma, hip or pelvic fracture, hyperlipidemia, hypertension, osteoporosis, rheumatoid arthritis or osteoarthritis, stroke or transient ischemic attack, breast cancer, colorectal cancer, prostate cancer, lung cancer, endometrial cancer, urologic cancer, and the Charlson-Elixhauser Combined Comorbidity Index. We defined NSAID use using NDCs. Please see Appendix F for a list of non-proprietary names of medical products and Appendix G for a list of ICD-10-CM diagnosis codes used to define baseline characteristics.

Outcome of Interest: We defined our outcome of interest, angioedema, as an angioedema diagnosis code recorded in any diagnostic position of an inpatient, emergency department, or outpatient encounter. Please see Appendix C for a list of ICD-10-CM diagnosis codes used to define the outcome of interest.

Follow-up Time: We followed individuals in an as-treated fashion up to a maximum of 90 days and therefore, the follow-up time was based on the length of the exposure episode. We created exposure episodes using days supply recorded in the outpatient pharmacy dispensing data. We bridged together dispensings less than 14 days apart in covered days and added 14 days at the end of each exposure episode to create continuous treatment episodes. Follow-up began on the day after treatment initiation and continued until the earliest of any of the following: 1) outcome occurrence; 2) treatment discontinuation or crossover; 3) initiation of treatment with aliskiren or ARBs; 4) disenrollment; 5) recorded death; or 5) 90 days since treatment initiation. Only the first valid exposure episode that occurred during the study period was included per patient.

Propensity Score Estimation: We estimated the probability of initiating treatment with ACEi using logistic regression models run at each data partner site. These models included the following characteristics: age, sex, history of diabetes, allergic reactions, heart failure, ischemic heart disease, NSAID use, Charlson-Elixhauser Combined Comorbidity Index, and health care utilization (number of inpatient hospital stays, non-acute institutional stays, emergency department visits, ambulatory visits, and other ambulatory visits) and drug utilization measures (number of dispensings, unique generics dispensed, and unique drug classes dispensed). We used propensity scores to perform matching and stratification separately in order to control for confounding.

Overview for Request: cder_mpl2p_wp051

Matching: We matched ACEi new users to BB new users at each data partner site on their estimated propensity scores. We conducted 1:1 nearest neighbor matching without replacement using a caliper of 0.025 on the propensity score scale.

Stratification: We created five strata based on quintiles of the overall propensity score distribution among ACEi and BB new users. The overall propensity score distribution was trimmed to exclude regions of non-overlap between ACEi and BB new users.

Statistical Analysis: We used a risk set-based approach (case centered logistic regression) to estimate the hazard ratio and 95% confidence intervals for the site-adjusted, unconditional (matched), and conditional analyses.

Subgroup analysis: We estimated the risk of angioedema following initiation of ACEi relative to BB in subgroups created by quarter-year of cohort entry. In the propensity score matched analysis, subgroups were created from the overall matched population, and individuals were re-matched within the subgroup based on their overall propensity score. In the propensity score stratified analysis, subgroups were created from the overall trimmed population.

Please see Appendices H and I for the specifications of parameters used in this request and a design diagram.

Limitations: 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/SETINEL/repos/sentinel-routine-querying-tool-documentation/browse).

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.

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.

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

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

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

> 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

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.

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

Table 1a. Aggregated Unadjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022

Patient Characteristics[1]	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
Unique patients	2,240,239	100.0%	2,479,076	100.0%	N/A	N/A
Demographic Characteristics						
Age (years)	60.9	11.9	60.7	14.6	0.217	0.016
Age						
18-44 years	363,277	16.2%	560,192	22.6%	-6.381	-0.162
45-64 years	792,963	35.4%	616,359	24.9%	10.534	0.231
≥ 65 years	1,083,999	48.4%	1,302,525	52.5%	-4.153	-0.083
Sex						
Female	1,087,096	48.5%	1,428,957	57.6%	-9.115	-0.183
Male	1,153,143	51.5%	1,050,119	42.4%	9.115	0.183
Race[3]						
American Indian or Alaska Native	9,133	0.4%	7,430	0.3%	0.108	0.018
Asian	26,781	1.2%	30,452	1.2%	-0.033	-0.003
Black or African American	119,028	5.3%	147,122	5.9%	-0.621	-0.027
Multi-racial	8,360	0.4%	9,532	0.4%	-0.011	-0.002
Native Hawaiian or Other Pacific Islander	3,084	0.1%	2,553	0.1%	0.035	0.010
Unknown	1,044,514	46.6%	1,013,978	40.9%	5.724	0.116
White	1,029,339	45.9%	1,268,009	51.1%	-5.201	-0.104
Hispanic origin						
Yes	50,053	2.2%	37,297	1.5%	0.730	0.054
No	1,075,163	48.0%	1,329,579	53.6%	-5.639	-0.113
Unknown	1,115,023	49.8%	1,112,200	44.9%	4.909	0.098
Year						
2018	546,872	24.4%	549,524	22.2%	2.245	0.053
2019	549,579	24.5%	551,380	22.2%	2.291	0.054
2020	463,437	20.7%	526,118	21.2%	-0.535	-0.013
2021	466,488	20.8%	569,365	23.0%	-2.144	-0.052
2022	213,863	9.5%	282,689	11.4%	-1.857	-0.061
Quarter-Year						
2018Q1	150,608	6.7%	143,350	5.8%	0.940	0.039
2018Q2	130,985	5.8%	132,526	5.3%	0.501	0.022
2018Q3	129,572	5.8%	133,641	5.4%	0.393	0.017
2018Q4	135,707	6.1%	140,007	5.6%	0.410	0.017
2019Q1	148,153	6.6%	142,348	5.7%	0.871	0.036

Table 1a. Aggregated Unadjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022

Patient Characteristics[1]	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
2019Q2	130,852	5.8%	129,969	5.2%	0.598	0.026
2019Q3	131,939	5.9%	137,653	5.6%	0.337	0.015
2019Q4	138,635	6.2%	141,410	5.7%	0.484	0.020
2020Q1	131,327	5.9%	139,423	5.6%	0.238	0.010
2020Q2	85,514	3.8%	104,463	4.2%	-0.397	-0.020
2020Q3	121,257	5.4%	138,564	5.6%	-0.177	-0.008
2020Q4	125,339	5.6%	143,668	5.8%	-0.200	-0.009
2021Q1	127,516	5.7%	146,342	5.9%	-0.211	-0.009
2021Q2	112,248	5.0%	136,177	5.5%	-0.483	-0.022
2021Q3	112,979	5.0%	142,310	5.7%	-0.697	-0.031
2021Q4	113,745	5.1%	144,536	5.8%	-0.753	-0.033
2022Q1	116,093	5.2%	148,742	6.0%	-0.818	-0.036
2022Q2	97,770	4.4%	133,947	5.4%	-1.039	-0.048
Health Characteristics						
Charlson/Elixhauser combined comorbidity score[4]	0.8	1.9	2.1	2.8	-1.349	-0.555
Allergic Reaction	233,137	10.4%	404,473	16.3%	-5.909	-0.174
Diabetes	479,231	21.4%	413,815	16.7%	4.700	0.120
Heart Failure	82,478	3.7%	310,259	12.5%	-8.833	-0.328
Ischemic Heart Disease	162,708	7.3%	541,175	21.8%	-14.567	-0.422
NSAID Use	347,172	15.5%	378,929	15.3%	0.212	0.006
Acquired Hypothyroidism[5]	266,744	11.9%	390,579	15.8%	-3.848	-0.112
Acute Myocardial Infarction[5]	26,105	1.2%	177,845	7.2%	-6.009	-0.304
Alzheimers Disease and Related Disorders[5]	66,923	3.0%	141,294	5.7%	-2.712	-0.133
Anemia[5]	202,767	9.1%	479,791	19.4%	-10.302	-0.298
Asthma[5]	114,474	5.1%	182,474	7.4%	-2.251	-0.093
Atrial Fibrillation[5]	68,451	3.1%	390,947	15.8%	-12.714	-0.446
Benign Prostatic Hyperplasia[5]	124,856	5.6%	192,221	7.8%	-2.180	-0.088
Cataract[5]	269,450	12.0%	323,812	13.1%	-1.034	-0.031
Chronic Kidney Disease[5]	309,989	13.8%	469,884	19.0%	-5.117	-0.139
Chronic Obstructive Pulmonary Disease and Bronchiectasis[5]	179,770	8.0%	340,534	13.7%	-5.712	-0.184
Depression[5]	304,284	13.6%	541,676	21.8%	-8.267	-0.218
Glaucoma[5]	134,956	6.0%	165,832	6.7%	-0.665	-0.027

Table 1a. Aggregated Unadjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022

| Patient Characteristics[1] | Medical Product | | | | Covariate Balance | |
| | ACE Inhibitors | | Beta Blockers | | | |
	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
Hip or Pelvic Fracture[5]	9,577	0.4%	25,481	1.0%	-0.600	-0.071
Hyperlipidemia[5]	854,959	38.2%	1,064,016	42.9%	-4.756	-0.097
Hypertension[5]	1,118,906	49.9%	1,195,166	48.2%	1.736	0.035
Osteoporosis[5]	99,699	4.5%	164,846	6.6%	-2.199	-0.096
Rheumatoid Arthritis or Osteoarthritis[5]	437,126	19.5%	610,077	24.6%	-5.097	-0.123
Stroke or Transient Ischemic Attack[5]	91,595	4.1%	142,981	5.8%	-1.679	-0.078
Breast Cancer[5]	48,936	2.2%	77,360	3.1%	-0.936	-0.058
Colorectal Cancer[5]	18,334	0.8%	30,555	1.2%	-0.414	-0.041
Prostate Cancer[5]	42,462	1.9%	62,485	2.5%	-0.625	-0.043
Lung Cancer[5]	11,223	0.5%	35,372	1.4%	-0.926	-0.095
Endometrial Cancer[5]	6,965	0.3%	9,994	0.4%	-0.092	-0.015
Urologic Cancer[5]	7,496	0.3%	14,893	0.6%	-0.266	-0.039
Health Service Utilization Intensity Metrics						
Mean number of ambulatory encounters	7.0	9.4	10.7	13.2	-3.766	-0.330
Mean number of emergency room encounters	0.3	1.0	0.5	1.4	-0.230	-0.191
Mean number of inpatient hospital encounters	0.1	0.4	0.4	0.7	-0.253	-0.428
Mean number of non-acute institutional encounters	0.0	0.3	0.1	0.4	-0.064	-0.177
Mean number of other ambulatory encounters	2.3	6.8	4.8	11.0	-2.479	-0.271
Mean number of filled prescriptions	8.9	12.0	11.6	14.0	-2.763	-0.212
Mean number of generics dispensed	3.9	3.8	5.1	4.5	-1.192	-0.284
Mean number of unique drug classes dispensed	3.7	3.5	4.8	4.2	-1.133	-0.294

[1]Covariates in blue show a standardized difference greater than 0.1.

[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.

[4]The Combined Comorbidity Score is calculated based on comorbidities observed during a requester-defined window around the exposure episode start date. (Gagne JJ, Glynn RJ, Avorn J, Levin R, Schneeweiss S. A Combined Comorbidity Score Predicted Mortality in Elderly Patients Better Than Existing Scores. J Clin Epidemiol. 2011;64(7):749-759; Sun JW, Rogers JR, Her Q, Welch EC, Panozzo CA, Toh S, Gagne JJ. Adaptation and Validation of the Combined Comorbidity Score for ICD-10-CM. Med Care. 2017;55(12):1046-1051)

[5]Covariate not included in the propensity score logistic regression model.

Table 1b. Aggregated Adjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.025 in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022

Patient Characteristics[1]	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
Unique patients	1,511,170	67.5%	1,511,170	61.0%	N/A	N/A
Demographic Characteristics						
Age (years)	61.1	12.3	61.5	13.9	-0.398	-0.030
Age						
18-44 years	271,494	18.0%	287,443	19.0%	-1.055	-0.027
45-64 years	474,474	31.4%	423,668	28.0%	3.362	0.074
≥ 65 years	765,202	50.6%	800,059	52.9%	-2.307	-0.046
Sex						
Female	844,203	55.9%	811,075	53.7%	2.192	0.044
Male	666,967	44.1%	700,095	46.3%	-2.192	-0.044
Race[3]						
American Indian or Alaska Native	6,315	0.4%	4,350	0.3%	0.130	0.022
Asian	17,300	1.1%	20,636	1.4%	-0.221	-0.020
Black or African American	82,830	5.5%	88,866	5.9%	-0.399	-0.017
Multi-racial	5,751	0.4%	5,328	0.4%	0.028	0.005
Native Hawaiian or Other Pacific Islander	1,855	0.1%	1,744	0.1%	0.007	0.002
Unknown	633,866	41.9%	626,544	41.5%	0.485	0.010
White	763,253	50.5%	763,702	50.5%	-0.030	-0.001
Hispanic origin						
Yes	32,604	2.2%	23,003	1.5%	0.635	0.047
No	799,926	52.9%	803,007	53.1%	-0.204	-0.004
Unknown	678,640	44.9%	685,160	45.3%	-0.431	-0.009
Year						
2018	369,367	24.4%	338,620	22.4%	2.035	0.048
2019	371,561	24.6%	337,468	22.3%	2.256	0.053
2020	311,534	20.6%	321,081	21.2%	-0.632	-0.016
2021	314,137	20.8%	343,395	22.7%	-1.936	-0.047
2022	144,571	9.6%	170,606	11.3%	-1.723	-0.056
Quarter-Year						
2018Q1	101,477	6.7%	89,394	5.9%	0.800	0.033
2018Q2	89,070	5.9%	81,416	5.4%	0.506	0.022
2018Q3	87,025	5.8%	81,755	5.4%	0.349	0.015
2018Q4	91,795	6.1%	86,055	5.7%	0.380	0.016

Table 1b. Aggregated Adjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.025 in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022

| Patient Characteristics[1] | Medical Product | | | | Covariate Balance | |
| | ACE Inhibitors | | Beta Blockers | | | |
	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
2019Q1	99,665	6.6%	88,957	5.9%	0.709	0.029
2019Q2	88,968	5.9%	79,016	5.2%	0.659	0.029
2019Q3	88,735	5.9%	83,512	5.5%	0.346	0.015
2019Q4	94,193	6.2%	85,983	5.7%	0.543	0.023
2020Q1	88,450	5.9%	84,983	5.6%	0.229	0.010
2020Q2	58,184	3.9%	62,766	4.2%	-0.303	-0.015
2020Q3	80,892	5.4%	85,425	5.7%	-0.300	-0.013
2020Q4	84,008	5.6%	87,907	5.8%	-0.258	-0.011
2021Q1	85,556	5.7%	89,949	6.0%	-0.291	-0.012
2021Q2	76,244	5.0%	81,650	5.4%	-0.358	-0.016
2021Q3	75,764	5.0%	85,329	5.6%	-0.633	-0.028
2021Q4	76,573	5.1%	86,467	5.7%	-0.655	-0.029
2022Q1	78,290	5.2%	90,636	6.0%	-0.817	-0.036
2022Q2	66,281	4.4%	79,970	5.3%	-0.906	-0.042
Health Characteristics						
Charlson/Elixhauser combined comorbidity score[4]	1.1	2.2	1.2	2.1	-0.057	-0.027
Allergic Reaction	193,710	12.8%	188,340	12.5%	0.355	0.011
Diabetes	251,322	16.6%	258,282	17.1%	-0.461	-0.012
Heart Failure	80,930	5.4%	92,151	6.1%	-0.743	-0.032
Ischemic Heart Disease	160,449	10.6%	166,706	11.0%	-0.414	-0.013
NSAID Use	235,501	15.6%	234,489	15.5%	0.067	0.002
Acquired Hypothyroidism[5]	206,264	13.6%	211,564	14.0%	-0.351	-0.010
Acute Myocardial Infarction[5]	25,874	1.7%	50,002	3.3%	-1.597	-0.102
Alzheimers Disease and Related Disorders[5]	62,847	4.2%	50,539	3.3%	0.814	0.043
Anemia[5]	177,746	11.8%	185,339	12.3%	-0.502	-0.015
Asthma[5]	99,149	6.6%	79,029	5.2%	1.331	0.057
Atrial Fibrillation[5]	62,702	4.1%	179,135	11.9%	-7.705	-0.287
Benign Prostatic Hyperplasia[5]	87,329	5.8%	103,742	6.9%	-1.086	-0.045
Cataract[5]	194,819	12.9%	197,078	13.0%	-0.149	-0.004
Chronic Kidney Disease[5]	225,262	14.9%	205,034	13.6%	1.339	0.038
Chronic Obstructive Pulmonary Disease and Bronchiectasis[5]	158,936	10.5%	137,158	9.1%	1.441	0.048

Table 1b. Aggregated Adjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.025 in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022

Patient Characteristics[1]	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
Depression[5]	264,125	17.5%	243,376	16.1%	1.373	0.037
Glaucoma[5]	98,106	6.5%	98,448	6.5%	-0.023	-0.001
Hip or Pelvic Fracture[5]	8,825	0.6%	9,770	0.6%	-0.063	-0.008
Hyperlipidemia[5]	591,122	39.1%	607,048	40.2%	-1.054	-0.022
Hypertension[5]	762,742	50.5%	689,337	45.6%	4.857	0.097
Osteoporosis[5]	83,510	5.5%	85,823	5.7%	-0.153	-0.007
Rheumatoid Arthritis or Osteoarthritis[5]	336,431	22.3%	329,869	21.8%	0.434	0.010
Stroke or Transient Ischemic Attack[5]	78,030	5.2%	64,049	4.2%	0.925	0.044
Breast Cancer[5]	43,025	2.8%	37,224	2.5%	0.384	0.024
Colorectal Cancer[5]	15,738	1.0%	12,474	0.8%	0.216	0.022
Prostate Cancer[5]	33,385	2.2%	30,897	2.0%	0.165	0.011
Lung Cancer[5]	10,620	0.7%	10,879	0.7%	-0.017	-0.002
Endometrial Cancer[5]	6,083	0.4%	4,406	0.3%	0.111	0.019
Urologic Cancer[5]	6,597	0.4%	5,980	0.4%	0.041	0.006
Health Service Utilization Intensity Metrics						
Mean number of ambulatory encounters	8.3	10.7	8.3	9.9	0.014	0.001
Mean number of emergency room	0.4	1.1	0.4	1.0	-0.012	-0.011
Mean number of inpatient hospital encounters	0.2	0.5	0.2	0.5	-0.017	-0.034
Mean number of non-acute institutional encounters	0.1	0.3	0.1	0.3	-0.005	-0.014
Mean number of other ambulatory encounters	3.0	7.9	3.1	8.3	-0.145	-0.018
Mean number of filled prescriptions	10.2	13.0	10.0	12.7	0.148	0.012
Mean number of generics dispensed	4.5	4.1	4.4	4.0	0.065	0.016
Mean number of unique drug classes dispensed	4.2	3.8	4.2	3.7	0.069	0.018

[1]Covariates in blue show a standardized difference greater than 0.1.

[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.

[4]The Combined Comorbidity Score is calculated based on comorbidities observed during a requester-defined window around the exposure episode start date. (Gagne JJ, Glynn RJ, Avorn J, Levin R, Schneeweiss S. A Combined Comorbidity Score Predicted Mortality in Elderly Patients Better Than Existing Scores. J Clin Epidemiol. 2011;64(7):749-759; Sun JW, Rogers JR, Her Q, Welch EC, Panozzo CA, Toh S, Gagne JJ. Adaptation and Validation of the Combined Comorbidity Score for ICD-10-CM. Med Care. 2017;55(12):1046-1051)

[5]Covariate not included in the propensity score logistic regression model.

Table 1c. Aggregated Unadjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2018Q1 (January to March)

| | Medical Product | | | | Covariate Balance | |
| | ACE Inhibitors | | Beta Blockers | | | |
Patient Characteristics[1]	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
Unique patients	101,477	100.0%	89,394	100.0%	N/A	N/A
Demographic Characteristics						
Age (years)	60.9	12.5	61.6	13.9	-0.674	-0.051
Age						
18-44 years	17,976	17.7%	16,218	18.1%	-0.428	-0.011
45-64 years	33,589	33.1%	26,701	29.9%	3.231	0.070
≥ 65 years	49,912	49.2%	46,475	52.0%	-2.803	-0.056
Sex						
Female	55,782	55.0%	47,222	52.8%	2.146	0.043
Male	45,695	45.0%	42,172	47.2%	-2.146	-0.043
Race[3]						
American Indian or Alaska Native	452	0.4%	292	0.3%	0.119	0.019
Asian	1,126	1.1%	1,280	1.4%	-0.322	-0.029
Black or African American	6,012	5.9%	5,559	6.2%	-0.294	-0.012
Multi-racial	326	0.3%	223	0.2%	0.072	0.013
Native Hawaiian or Other Pacific Islander	89	0.1%	85	0.1%	-0.007	-0.002
Unknown	41,830	41.2%	36,280	40.6%	0.637	0.013
White	51,642	50.9%	45,675	51.1%	-0.204	-0.004
Hispanic origin						
Yes	2,196	2.2%	1,431	1.6%	0.563	0.041
No	55,728	54.9%	49,855	55.8%	-0.853	-0.017
Unknown	43,553	42.9%	38,108	42.6%	0.290	0.006
Year						
2018	101,477	100.0%	89,394	100.0%	0.000	NaN
2019	0	0.0%	0	0.0%	NaN	NaN
2020	0	0.0%	0	0.0%	NaN	NaN
2021	0	0.0%	0	0.0%	NaN	NaN
2022	0	0.0%	0	0.0%	NaN	NaN
Quarter-Year						
2018Q1	101,477	100.0%	89,394	100.0%	0.000	NaN
2018Q2	0	0.0%	0	0.0%	NaN	NaN
2018Q3	0	0.0%	0	0.0%	NaN	NaN
2018Q4	0	0.0%	0	0.0%	NaN	NaN

| | Medical Product | | | | Covariate Balance | |
| | ACE Inhibitors | | Beta Blockers | | | |
Patient Characteristics[1]	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
2019Q1	0	0.0%	0	0.0%	NaN	NaN
2019Q2	0	0.0%	0	0.0%	NaN	NaN
2019Q3	0	0.0%	0	0.0%	NaN	NaN
2019Q4	0	0.0%	0	0.0%	NaN	NaN
2020Q1	0	0.0%	0	0.0%	NaN	NaN
2020Q2	0	0.0%	0	0.0%	NaN	NaN
2020Q3	0	0.0%	0	0.0%	NaN	NaN
2020Q4	0	0.0%	0	0.0%	NaN	NaN
2021Q1	0	0.0%	0	0.0%	NaN	NaN
2021Q2	0	0.0%	0	0.0%	NaN	NaN
2021Q3	0	0.0%	0	0.0%	NaN	NaN
2021Q4	0	0.0%	0	0.0%	NaN	NaN
2022Q1	0	0.0%	0	0.0%	NaN	NaN
2022Q2	0	0.0%	0	0.0%	NaN	NaN
Health Characteristics						
Charlson/Elixhauser combined comorbidity score[4]	1.1	2.2	1.1	2.1	-0.036	-0.017
Allergic Reaction	12,005	11.8%	10,236	11.5%	0.380	0.012
Diabetes	17,239	17.0%	15,678	17.5%	-0.550	-0.015
Heart Failure	5,880	5.8%	5,410	6.1%	-0.257	-0.011
Ischemic Heart Disease	11,084	10.9%	9,931	11.1%	-0.187	-0.006
NSAID Use	16,225	16.0%	14,320	16.0%	-0.030	-0.001
Acquired Hypothyroidism[5]	13,937	13.7%	12,386	13.9%	-0.121	-0.004
Acute Myocardial Infarction[5]	1,668	1.6%	2,753	3.1%	-1.436	-0.095
Alzheimers Disease and Related Disorders[5]	4,362	4.3%	3,259	3.6%	0.653	0.033
Anemia[5]	11,916	11.7%	11,037	12.3%	-0.604	-0.019
Asthma[5]	6,688	6.6%	4,729	5.3%	1.301	0.055
Atrial Fibrillation[5]	4,663	4.6%	10,644	11.9%	-7.312	-0.268
Benign Prostatic Hyperplasia[5]	5,794	5.7%	5,966	6.7%	-0.964	-0.040
Cataract[5]	13,231	13.0%	12,070	13.5%	-0.464	-0.014
Chronic Kidney Disease[5]	14,382	14.2%	11,872	13.3%	0.892	0.026
Chronic Obstructive Pulmonary Disease and Bronchiectasis[5]	12,082	11.9%	9,205	10.3%	1.609	0.051
Depression[5]	16,799	16.6%	13,252	14.8%	1.730	0.048

Table 1c. Aggregated Unadjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2018Q1 (January to March)

Patient Characteristics[1]	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
Glaucoma[5]	6,668	6.6%	6,114	6.8%	-0.268	-0.011
Hip or Pelvic Fracture[5]	597	0.6%	619	0.7%	-0.104	-0.013
Hyperlipidemia[5]	38,648	38.1%	34,813	38.9%	-0.858	-0.018
Hypertension[5]	51,978	51.2%	42,984	48.1%	3.138	0.063
Osteoporosis[5]	5,253	5.2%	4,780	5.3%	-0.171	-0.008
Rheumatoid Arthritis or Osteoarthritis[5]	22,621	22.3%	19,433	21.7%	0.553	0.013
Stroke or Transient Ischemic Attack[5]	5,092	5.0%	3,894	4.4%	0.662	0.031
Breast Cancer[5]	2,733	2.7%	2,117	2.4%	0.325	0.021
Colorectal Cancer[5]	1,024	1.0%	705	0.8%	0.220	0.023
Prostate Cancer[5]	2,232	2.2%	1,812	2.0%	0.173	0.012
Lung Cancer[5]	643	0.6%	648	0.7%	-0.091	-0.011
Endometrial Cancer[5]	372	0.4%	223	0.2%	0.117	0.021
Urologic Cancer[5]	434	0.4%	350	0.4%	0.036	0.006
Health Service Utilization Intensity Metrics						
Mean number of ambulatory encounters	8.3	10.7	8.2	9.9	0.127	0.012
Mean number of emergency room	0.4	1.1	0.4	1.0	-0.011	-0.010
Mean number of inpatient hospital encounters	0.2	0.5	0.2	0.5	-0.017	-0.032
Mean number of non-acute institutional encounters	0.1	0.3	0.1	0.4	-0.008	-0.023
Mean number of other ambulatory encounters	2.9	7.7	3.1	8.2	-0.175	-0.022
Mean number of filled prescriptions	10.9	13.8	10.6	13.9	0.231	0.017
Mean number of generics dispensed	4.6	4.2	4.5	4.2	0.107	0.025
Mean number of unique drug classes dispensed	4.3	3.9	4.2	3.8	0.109	0.028

[1]Covariates in blue show a standardized difference greater than 0.1.

[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.

[4]The Combined Comorbidity Score is calculated based on comorbidities observed during a requester-defined window around the exposure episode start date. (Gagne JJ, Glynn RJ, Avorn J, Levin R, Schneeweiss S. A Combined Comorbidity Score Predicted Mortality in Elderly Patients Better Than Existing Scores. J Clin Epidemiol. 2011;64(7):749-759; Sun JW, Rogers JR, Her Q, Welch EC, Panozzo CA, Toh S, Gagne JJ. Adaptation and Validation of the Combined Comorbidity Score for ICD-10-CM. Med Care. 2017;55(12):1046-1051)

[5]Covariate not included in the propensity score logistic regression model.

NaN: Not a number

Table 1d. Aggregated Adjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.025, in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2018Q1

Patient Characteristics[1]	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
Unique patients	89,379	88.1%	89,379	100.0%	N/A	N/A
Demographic Characteristics						
Age (years)	61.0	12.4	61.6	13.9	-0.586	-0.045
Age						
18-44 years	15,591	17.4%	16,214	18.1%	-0.697	-0.018
45-64 years	29,526	33.0%	26,693	29.9%	3.170	0.068
≥ 65 years	44,262	49.5%	46,472	52.0%	-2.473	-0.049
Sex						
Female	48,806	54.6%	47,215	52.8%	1.780	0.036
Male	40,573	45.4%	42,164	47.2%	-1.780	-0.036
Race[3]						
American Indian or Alaska Native	400	0.4%	292	0.3%	0.121	0.019
Asian	994	1.1%	1,280	1.4%	-0.320	-0.029
Black or African American	5,333	6.0%	5,559	6.2%	-0.253	-0.011
Multi-racial	270	0.3%	223	0.2%	0.053	0.010
Native Hawaiian or Other Pacific Islander	76	0.1%	85	0.1%	-0.010	-0.003
Unknown	36,649	41.0%	36,271	40.6%	0.423	0.009
White	45,657	51.1%	45,669	51.1%	-0.013	-0.000
Hispanic origin						
Yes	1,949	2.2%	1,431	1.6%	0.580	0.043
No	49,475	55.4%	49,850	55.8%	-0.420	-0.008
Unknown	37,955	42.5%	38,098	42.6%	-0.160	-0.003
Year						
2018	89,379	100.0%	89,379	100.0%	0.000	NaN
2019	0	0.0%	0	0.0%	NaN	NaN
2020	0	0.0%	0	0.0%	NaN	NaN
2021	0	0.0%	0	0.0%	NaN	NaN
2022	0	0.0%	0	0.0%	NaN	NaN
Quarter-Year						
2018Q1	89,379	100.0%	89,379	100.0%	0.000	NaN
2018Q2	0	0.0%	0	0.0%	NaN	NaN
2018Q3	0	0.0%	0	0.0%	NaN	NaN
2018Q4	0	0.0%	0	0.0%	NaN	NaN

| Patient Characteristics[1] | Medical Product | | | | Covariate Balance | |
| | ACE Inhibitors | | Beta Blockers | | | |
	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
2019Q1	0	0.0%	0	0.0%	NaN	NaN
2019Q2	0	0.0%	0	0.0%	NaN	NaN
2019Q3	0	0.0%	0	0.0%	NaN	NaN
2019Q4	0	0.0%	0	0.0%	NaN	NaN
2020Q1	0	0.0%	0	0.0%	NaN	NaN
2020Q2	0	0.0%	0	0.0%	NaN	NaN
2020Q3	0	0.0%	0	0.0%	NaN	NaN
2020Q4	0	0.0%	0	0.0%	NaN	NaN
2021Q1	0	0.0%	0	0.0%	NaN	NaN
2021Q2	0	0.0%	0	0.0%	NaN	NaN
2021Q3	0	0.0%	0	0.0%	NaN	NaN
2021Q4	0	0.0%	0	0.0%	NaN	NaN
2022Q1	0	0.0%	0	0.0%	NaN	NaN
2022Q2	0	0.0%	0	0.0%	NaN	NaN
Health Characteristics						
Charlson/Elixhauser combined comorbidity score[4]	1.1	2.1	1.1	2.1	-0.064	-0.030
Allergic Reaction	10,458	11.7%	10,235	11.5%	0.249	0.008
Diabetes	15,299	17.1%	15,668	17.5%	-0.413	-0.011
Heart Failure	5,036	5.6%	5,410	6.1%	-0.418	-0.018
Ischemic Heart Disease	9,525	10.7%	9,929	11.1%	-0.452	-0.015
NSAID Use	14,279	16.0%	14,316	16.0%	-0.041	-0.001
Acquired Hypothyroidism[5]	12,182	13.6%	12,385	13.9%	-0.227	-0.007
Acute Myocardial Infarction[5]	1,436	1.6%	2,752	3.1%	-1.472	-0.097
Alzheimers Disease and Related Disorders[5]	3,762	4.2%	3,259	3.6%	0.563	0.029
Anemia[5]	10,378	11.6%	11,037	12.3%	-0.737	-0.023
Asthma[5]	5,795	6.5%	4,725	5.3%	1.197	0.051
Atrial Fibrillation[5]	4,028	4.5%	10,643	11.9%	-7.401	-0.272
Benign Prostatic Hyperplasia[5]	5,080	5.7%	5,966	6.7%	-0.991	-0.041
Cataract[5]	11,679	13.1%	12,068	13.5%	-0.435	-0.013
Chronic Kidney Disease[5]	12,588	14.1%	11,868	13.3%	0.806	0.023
Chronic Obstructive Pulmonary Disease and Bronchiectasis[5]	10,472	11.7%	9,204	10.3%	1.419	0.045

Table 1d. Aggregated Adjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.025, in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2018Q1

Patient Characteristics[1]	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
Depression[5]	14,588	16.3%	13,246	14.8%	1.501	0.041
Glaucoma[5]	5,851	6.5%	6,114	6.8%	-0.294	-0.012
Hip or Pelvic Fracture[5]	518	0.6%	619	0.7%	-0.113	-0.014
Hyperlipidemia[5]	33,974	38.0%	34,807	38.9%	-0.932	-0.019
Hypertension[5]	45,672	51.1%	42,974	48.1%	3.019	0.060
Osteoporosis[5]	4,595	5.1%	4,780	5.3%	-0.207	-0.009
Rheumatoid Arthritis or Osteoarthritis[5]	19,814	22.2%	19,433	21.7%	0.426	0.010
Stroke or Transient Ischemic Attack[5]	4,402	4.9%	3,894	4.4%	0.568	0.027
Breast Cancer[5]	2,353	2.6%	2,117	2.4%	0.264	0.017
Colorectal Cancer[5]	891	1.0%	705	0.8%	0.208	0.022
Prostate Cancer[5]	1,988	2.2%	1,812	2.0%	0.197	0.014
Lung Cancer[5]	546	0.6%	648	0.7%	-0.114	-0.014
Endometrial Cancer[5]	313	0.4%	223	0.2%	0.101	0.018
Urologic Cancer[5]	378	0.4%	350	0.4%	0.031	0.005
Health Service Utilization Intensity Metrics						
Mean number of ambulatory encounters	8.3	10.8	8.2	9.9	0.054	0.005
Mean number of emergency room	0.4	1.1	0.4	1.0	-0.013	-0.013
Mean number of inpatient hospital encounters	0.2	0.5	0.2	0.5	-0.022	-0.043
Mean number of non-acute institutional encounters	0.1	0.3	0.1	0.4	-0.009	-0.027
Mean number of other ambulatory encounters	2.8	7.5	3.1	8.2	-0.234	-0.030
Mean number of filled prescriptions	10.7	13.6	10.6	13.9	0.110	0.008
Mean number of generics dispensed	4.6	4.2	4.5	4.2	0.063	0.015
Mean number of unique drug classes dispensed	4.3	3.9	4.2	3.8	0.068	0.018

[1]Covariates in blue show a standardized difference greater than 0.1.

[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.

[4]The Combined Comorbidity Score is calculated based on comorbidities observed during a requester-defined window around the exposure episode start date. (Gagne JJ, Glynn RJ, Avorn J, Levin R, Schneeweiss S. A Combined Comorbidity Score Predicted Mortality in Elderly Patients Better Than Existing Scores. J Clin Epidemiol. 2011;64(7):749-759; Sun JW, Rogers JR, Her Q, Welch EC, Panozzo CA, Toh S, Gagne JJ. Adaptation and Validation of the Combined Comorbidity Score for ICD-10-CM. Med Care. 2017;55(12):1046-1051)

[5]Covariate not included in the propensity score logistic regression model.

NaN: Not a number

Table 1e. Aggregated Unadjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2018Q2 (April to June)

| Patient Characteristics[1] | Medical Product | | | | Covariate Balance | |
| | ACE Inhibitors | | Beta Blockers | | | |
	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
Unique patients	89,070	100.0%	81,416	100.0%	N/A	N/A
Demographic Characteristics						
Age (years)	61.0	12.5	61.3	14.0	-0.347	-0.026
Age						
18-44 years	16,090	18.1%	15,522	19.1%	-1.001	-0.026
45-64 years	28,842	32.4%	24,007	29.5%	2.894	0.063
≥ 65 years	44,138	49.6%	41,887	51.4%	-1.894	-0.038
Sex						
Female	50,011	56.1%	43,900	53.9%	2.227	0.045
Male	39,059	43.9%	37,516	46.1%	-2.227	-0.045
Race[3]						
American Indian or Alaska Native	447	0.5%	282	0.3%	0.155	0.024
Asian	1,018	1.1%	1,159	1.4%	-0.281	-0.025
Black or African American	5,109	5.7%	4,873	6.0%	-0.249	-0.011
Multi-racial	292	0.3%	225	0.3%	0.051	0.009
Native Hawaiian or Other Pacific Islander	70	0.1%	54	0.1%	0.012	0.005
Unknown	36,518	41.0%	33,326	40.9%	0.066	0.001
White	45,616	51.2%	41,497	51.0%	0.245	0.005
Hispanic origin						
Yes	1,944	2.2%	1,363	1.7%	0.508	0.037
No	49,176	55.2%	45,134	55.4%	-0.226	-0.005
Unknown	37,950	42.6%	34,919	42.9%	-0.283	-0.006
Year						
2018	89,070	100.0%	81,416	100.0%	0.000	NaN
2019	0	0.0%	0	0.0%	NaN	NaN
2020	0	0.0%	0	0.0%	NaN	NaN
2021	0	0.0%	0	0.0%	NaN	NaN
2022	0	0.0%	0	0.0%	NaN	NaN
Quarter-Year						
2018Q1	0	0.0%	0	0.0%	NaN	NaN
2018Q2	89,070	100.0%	81,416	100.0%	0.000	NaN
2018Q3	0	0.0%	0	0.0%	NaN	NaN
2018Q4	0	0.0%	0	0.0%	NaN	NaN

Table 1e. Aggregated Unadjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2018Q2 (April to June)

| Patient Characteristics[1] | Medical Product | | | | Covariate Balance | |
| | ACE Inhibitors | | Beta Blockers | | | |
	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
2019Q1	0	0.0%	0	0.0%	NaN	NaN
2019Q2	0	0.0%	0	0.0%	NaN	NaN
2019Q3	0	0.0%	0	0.0%	NaN	NaN
2019Q4	0	0.0%	0	0.0%	NaN	NaN
2020Q1	0	0.0%	0	0.0%	NaN	NaN
2020Q2	0	0.0%	0	0.0%	NaN	NaN
2020Q3	0	0.0%	0	0.0%	NaN	NaN
2020Q4	0	0.0%	0	0.0%	NaN	NaN
2021Q1	0	0.0%	0	0.0%	NaN	NaN
2021Q2	0	0.0%	0	0.0%	NaN	NaN
2021Q3	0	0.0%	0	0.0%	NaN	NaN
2021Q4	0	0.0%	0	0.0%	NaN	NaN
2022Q1	0	0.0%	0	0.0%	NaN	NaN
2022Q2	0	0.0%	0	0.0%	NaN	NaN
Health Characteristics						
Charlson/Elixhauser combined comorbidity score[4]	1.1	2.2	1.2	2.1	-0.040	-0.019
Allergic Reaction	10,731	12.0%	9,620	11.8%	0.232	0.007
Diabetes	15,081	16.9%	14,028	17.2%	-0.298	-0.008
Heart Failure	5,204	5.8%	4,982	6.1%	-0.277	-0.012
Ischemic Heart Disease	9,531	10.7%	8,952	11.0%	-0.295	-0.009
NSAID Use	14,515	16.3%	13,327	16.4%	-0.073	-0.002
Acquired Hypothyroidism[5]	12,227	13.7%	11,712	14.4%	-0.658	-0.019
Acute Myocardial Infarction[5]	1,565	1.8%	2,651	3.3%	-1.499	-0.096
Alzheimers Disease and Related Disorders[5]	3,933	4.4%	2,882	3.5%	0.876	0.045
Anemia[5]	10,815	12.1%	10,219	12.6%	-0.409	-0.012
Asthma[5]	6,174	6.9%	4,497	5.5%	1.408	0.058
Atrial Fibrillation[5]	3,954	4.4%	9,631	11.8%	-7.390	-0.273
Benign Prostatic Hyperplasia[5]	5,034	5.7%	5,339	6.6%	-0.906	-0.038
Cataract[5]	11,476	12.9%	10,724	13.2%	-0.288	-0.009
Chronic Kidney Disease[5]	12,688	14.2%	10,644	13.1%	1.171	0.034
Chronic Obstructive Pulmonary Disease and Bronchiectasis[5]	10,922	12.3%	8,430	10.4%	1.908	0.060
Depression[5]	15,078	16.9%	12,826	15.8%	1.175	0.032

Table 1e. Aggregated Unadjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2018Q2 (April to June)

Patient Characteristics[1]	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
Glaucoma[5]	5,871	6.6%	5,508	6.8%	-0.174	-0.007
Hip or Pelvic Fracture[5]	530	0.6%	577	0.7%	-0.114	-0.014
Hyperlipidemia[5]	33,880	38.0%	31,738	39.0%	-0.945	-0.019
Hypertension[5]	45,780	51.4%	37,946	46.6%	4.790	0.096
Osteoporosis[5]	4,709	5.3%	4,418	5.4%	-0.140	-0.006
Rheumatoid Arthritis or Osteoarthritis[5]	19,841	22.3%	17,890	22.0%	0.302	0.007
Stroke or Transient Ischemic Attack[5]	4,725	5.3%	3,513	4.3%	0.990	0.046
Breast Cancer[5]	2,498	2.8%	2,044	2.5%	0.294	0.018
Colorectal Cancer[5]	975	1.1%	739	0.9%	0.187	0.019
Prostate Cancer[5]	1,925	2.2%	1,638	2.0%	0.149	0.010
Lung Cancer[5]	660	0.7%	624	0.8%	-0.025	-0.003
Endometrial Cancer[5]	329	0.4%	212	0.3%	0.109	0.019
Urologic Cancer[5]	392	0.4%	329	0.4%	0.036	0.006
Health Service Utilization Intensity Metrics						
Mean number of ambulatory encounters	8.3	10.8	8.2	9.9	0.019	0.002
Mean number of emergency room	0.4	1.2	0.4	1.0	-0.000	-0.000
Mean number of inpatient hospital encounters	0.2	0.5	0.2	0.5	-0.012	-0.023
Mean number of non-acute institutional encounters	0.1	0.3	0.1	0.4	-0.009	-0.025
Mean number of other ambulatory encounters	2.9	8.0	3.0	8.3	-0.134	-0.016
Mean number of filled prescriptions	11.0	13.8	11.0	13.7	0.042	0.003
Mean number of generics dispensed	4.7	4.3	4.7	4.2	0.071	0.017
Mean number of unique drug classes dispensed	4.5	3.9	4.4	3.8	0.071	0.018

[1]Covariates in blue show a standardized difference greater than 0.1.

[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.

[4]The Combined Comorbidity Score is calculated based on comorbidities observed during a requester-defined window around the exposure episode start date. (Gagne JJ, Glynn RJ, Avorn J, Levin R, Schneeweiss S. A Combined Comorbidity Score Predicted Mortality in Elderly Patients Better Than Existing Scores. J Clin Epidemiol. 2011;64(7):749-759; Sun JW, Rogers JR, Her Q, Welch EC, Panozzo CA, Toh S, Gagne JJ. Adaptation and Validation of the Combined Comorbidity Score for ICD-10-CM. Med Care. 2017;55(12):1046-1051)

[5]Covariate not included in the propensity score logistic regression model.

NaN: Not a number

Table 1f. Aggregated Adjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.025, in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2018Q2

| | Medical Product | | | | Covariate Balance | |
| | ACE Inhibitors | | Beta Blockers | | | |
Patient Characteristics[1]	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
Unique patients	81,331	91.3%	81,331	99.9%	N/A	N/A
Demographic Characteristics						
Age (years)	60.9	12.5	61.3	14.0	-0.388	-0.029
Age						
18-44 years	14,737	18.1%	15,501	19.1%	-0.939	-0.024
45-64 years	26,324	32.4%	23,962	29.5%	2.904	0.063
≥ 65 years	40,270	49.5%	41,868	51.5%	-1.965	-0.039
Sex						
Female	45,644	56.1%	43,864	53.9%	2.189	0.044
Male	35,687	43.9%	37,467	46.1%	-2.189	-0.044
Race[3]						
American Indian or Alaska Native	401	0.5%	282	0.3%	0.146	0.023
Asian	929	1.1%	1,158	1.4%	-0.282	-0.025
Black or African American	4,632	5.7%	4,871	6.0%	-0.294	-0.013
Multi-racial	262	0.3%	225	0.3%	0.045	0.008
Native Hawaiian or Other Pacific Islander	64	0.1%	54	0.1%	0.012	0.005
Unknown	33,509	41.2%	33,256	40.9%	0.311	0.006
White	41,534	51.1%	41,485	51.0%	0.060	0.001
Hispanic origin						
Yes	1,772	2.2%	1,363	1.7%	0.503	0.037
No	44,899	55.2%	45,122	55.5%	-0.274	-0.006
Unknown	34,660	42.6%	34,846	42.8%	-0.229	-0.005
Year						
2018	81,331	100.0%	81,331	100.0%	0.000	NaN
2019	0	0.0%	0	0.0%	NaN	NaN
2020	0	0.0%	0	0.0%	NaN	NaN
2021	0	0.0%	0	0.0%	NaN	NaN
2022	0	0.0%	0	0.0%	NaN	NaN
Quarter-Year						
2018Q1	0	0.0%	0	0.0%	NaN	NaN
2018Q2	81,331	100.0%	81,331	100.0%	0.000	NaN
2018Q3	0	0.0%	0	0.0%	NaN	NaN
2018Q4	0	0.0%	0	0.0%	NaN	NaN
2019Q1	0	0.0%	0	0.0%	NaN	NaN

Table 1f. Aggregated Adjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.025, in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2018Q2

Patient Characteristics[1]	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
2019Q2	0	0.0%	0	0.0%	NaN	NaN
2019Q3	0	0.0%	0	0.0%	NaN	NaN
2019Q4	0	0.0%	0	0.0%	NaN	NaN
2020Q1	0	0.0%	0	0.0%	NaN	NaN
2020Q2	0	0.0%	0	0.0%	NaN	NaN
2020Q3	0	0.0%	0	0.0%	NaN	NaN
2020Q4	0	0.0%	0	0.0%	NaN	NaN
2021Q1	0	0.0%	0	0.0%	NaN	NaN
2021Q2	0	0.0%	0	0.0%	NaN	NaN
2021Q3	0	0.0%	0	0.0%	NaN	NaN
2021Q4	0	0.0%	0	0.0%	NaN	NaN
2022Q1	0	0.0%	0	0.0%	NaN	NaN
2022Q2	0	0.0%	0	0.0%	NaN	NaN
Health Characteristics						
Charlson/Elixhauser combined comorbidity score[4]	1.1	2.2	1.2	2.1	-0.059	-0.027
Allergic Reaction	9,719	11.9%	9,614	11.8%	0.129	0.004
Diabetes	13,681	16.8%	14,005	17.2%	-0.398	-0.011
Heart Failure	4,633	5.7%	4,968	6.1%	-0.412	-0.017
Ischemic Heart Disease	8,579	10.5%	8,937	11.0%	-0.440	-0.014
NSAID Use	13,273	16.3%	13,312	16.4%	-0.048	-0.001
Acquired Hypothyroidism[5]	11,092	13.6%	11,704	14.4%	-0.752	-0.022
Acute Myocardial Infarction[5]	1,390	1.7%	2,643	3.2%	-1.541	-0.099
Alzheimers Disease and Related Disorders[5]	3,548	4.4%	2,878	3.5%	0.824	0.042
Anemia[5]	9,756	12.0%	10,206	12.5%	-0.553	-0.017
Asthma[5]	5,633	6.9%	4,489	5.5%	1.407	0.058
Atrial Fibrillation[5]	3,530	4.3%	9,619	11.8%	-7.487	-0.277
Benign Prostatic Hyperplasia[5]	4,564	5.6%	5,327	6.5%	-0.938	-0.039
Cataract[5]	10,446	12.8%	10,719	13.2%	-0.336	-0.010
Chronic Kidney Disease[5]	11,502	14.1%	10,628	13.1%	1.075	0.031
Chronic Obstructive Pulmonary Disease and Bronchiectasis[5]	9,807	12.1%	8,421	10.4%	1.704	0.054
Depression[5]	13,663	16.8%	12,807	15.7%	1.052	0.029
Glaucoma[5]	5,367	6.6%	5,502	6.8%	-0.166	-0.007

Table 1f. Aggregated Adjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.025, in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2018Q2

Patient Characteristics[1]	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
Hip or Pelvic Fracture[5]	483	0.6%	577	0.7%	-0.116	-0.014
Hyperlipidemia[5]	30,840	37.9%	31,702	39.0%	-1.060	-0.022
Hypertension[5]	41,690	51.3%	37,906	46.6%	4.653	0.093
Osteoporosis[5]	4,270	5.3%	4,416	5.4%	-0.180	-0.008
Rheumatoid Arthritis or Osteoarthritis[5]	17,989	22.1%	17,878	22.0%	0.136	0.003
Stroke or Transient Ischemic Attack[5]	4,244	5.2%	3,509	4.3%	0.904	0.042
Breast Cancer[5]	2,269	2.8%	2,043	2.5%	0.278	0.017
Colorectal Cancer[5]	890	1.1%	739	0.9%	0.186	0.019
Prostate Cancer[5]	1,747	2.1%	1,635	2.0%	0.138	0.010
Lung Cancer[5]	597	0.7%	624	0.8%	-0.033	-0.004
Endometrial Cancer[5]	301	0.4%	212	0.3%	0.109	0.020
Urologic Cancer[5]	357	0.4%	328	0.4%	0.036	0.006
Health Service Utilization Intensity Metrics						
Mean number of ambulatory encounters	8.2	10.7	8.2	9.9	-0.028	-0.003
Mean number of emergency room	0.4	1.1	0.4	1.0	-0.004	-0.004
Mean number of inpatient hospital encounters	0.2	0.5	0.2	0.5	-0.017	-0.031
Mean number of non-acute institutional encounters	0.1	0.3	0.1	0.4	-0.010	-0.030
Mean number of other ambulatory encounters	2.9	7.9	3.0	8.3	-0.180	-0.022
Mean number of filled prescriptions	11.0	13.7	11.0	13.7	0.000	0.000
Mean number of generics dispensed	4.7	4.3	4.7	4.2	0.051	0.012
Mean number of unique drug classes dispensed	4.4	3.9	4.4	3.8	0.052	0.013

[1]Covariates in blue show a standardized difference greater than 0.1.

[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.

[4]The Combined Comorbidity Score is calculated based on comorbidities observed during a requester-defined window around the exposure episode start date. (Gagne JJ, Glynn RJ, Avorn J, Levin R, Schneeweiss S. A Combined Comorbidity Score Predicted Mortality in Elderly Patients Better Than Existing Scores. J Clin Epidemiol. 2011;64(7):749-759; Sun JW, Rogers JR, Her Q, Welch EC, Panozzo CA, Toh S, Gagne JJ. Adaptation and Validation of the Combined Comorbidity Score for ICD-10-CM. Med Care. 2017;55(12):1046-1051)

[5]Covariate not included in the propensity score logistic regression model.

NaN: Not a number

Table 1g. Aggregated Unadjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2018Q3 (July to September)

| Patient Characteristics[1] | Medical Product | | | | Covariate Balance | |
| | ACE Inhibitors | | Beta Blockers | | | |
	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
Unique patients	87,025	100.0%	81,755	100.0%	N/A	N/A
Demographic Characteristics						
Age (years)	60.4	12.5	60.8	14.0	-0.397	-0.030
Age						
18-44 years	16,335	18.8%	16,232	19.9%	-1.084	-0.027
45-64 years	29,328	33.7%	24,661	30.2%	3.536	0.076
≥ 65 years	41,362	47.5%	40,862	50.0%	-2.452	-0.049
Sex						
Female	48,453	55.7%	43,731	53.5%	2.187	0.044
Male	38,572	44.3%	38,024	46.5%	-2.187	-0.044
Race[3]						
American Indian or Alaska Native	398	0.5%	233	0.3%	0.172	0.028
Asian	888	1.0%	1,099	1.3%	-0.324	-0.030
Black or African American	5,205	6.0%	4,869	6.0%	0.025	0.001
Multi-racial	289	0.3%	263	0.3%	0.010	0.002
Native Hawaiian or Other Pacific Islander	102	0.1%	87	0.1%	0.011	0.003
Unknown	37,737	43.4%	34,981	42.8%	0.576	0.012
White	42,406	48.7%	40,223	49.2%	-0.471	-0.009
Hispanic origin						
Yes	1,902	2.2%	1,293	1.6%	0.604	0.044
No	45,664	52.5%	43,280	52.9%	-0.466	-0.009
Unknown	39,459	45.3%	37,182	45.5%	-0.138	-0.003
Year						
2018	87,025	100.0%	81,755	100.0%	0.000	NaN
2019	0	0.0%	0	0.0%	NaN	NaN
2020	0	0.0%	0	0.0%	NaN	NaN
2021	0	0.0%	0	0.0%	NaN	NaN
2022	0	0.0%	0	0.0%	NaN	NaN
Quarter-Year						
2018Q1	0	0.0%	0	0.0%	NaN	NaN
2018Q2	0	0.0%	0	0.0%	NaN	NaN
2018Q3	87,025	100.0%	81,755	100.0%	0.000	NaN
2018Q4	0	0.0%	0	0.0%	NaN	NaN

Table 1g. Aggregated Unadjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2018Q3 (July to September)

| Patient Characteristics[1] | Medical Product | | | | Covariate Balance | |
| | ACE Inhibitors | | Beta Blockers | | | |
	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
2019Q1	0	0.0%	0	0.0%	NaN	NaN
2019Q2	0	0.0%	0	0.0%	NaN	NaN
2019Q3	0	0.0%	0	0.0%	NaN	NaN
2019Q4	0	0.0%	0	0.0%	NaN	NaN
2020Q1	0	0.0%	0	0.0%	NaN	NaN
2020Q2	0	0.0%	0	0.0%	NaN	NaN
2020Q3	0	0.0%	0	0.0%	NaN	NaN
2020Q4	0	0.0%	0	0.0%	NaN	NaN
2021Q1	0	0.0%	0	0.0%	NaN	NaN
2021Q2	0	0.0%	0	0.0%	NaN	NaN
2021Q3	0	0.0%	0	0.0%	NaN	NaN
2021Q4	0	0.0%	0	0.0%	NaN	NaN
2022Q1	0	0.0%	0	0.0%	NaN	NaN
2022Q2	0	0.0%	0	0.0%	NaN	NaN
Health Characteristics						
Charlson/Elixhauser combined comorbidity score[4]	1.1	2.2	1.2	2.1	-0.023	-0.010
Allergic Reaction	10,990	12.6%	9,779	12.0%	0.667	0.020
Diabetes	15,064	17.3%	14,191	17.4%	-0.048	-0.001
Heart Failure	5,015	5.8%	4,719	5.8%	-0.009	-0.000
Ischemic Heart Disease	9,645	11.1%	9,091	11.1%	-0.037	-0.001
NSAID Use	14,210	16.3%	13,162	16.1%	0.229	0.006
Acquired Hypothyroidism[5]	11,724	13.5%	11,594	14.2%	-0.709	-0.021
Acute Myocardial Infarction[5]	1,587	1.8%	2,537	3.1%	-1.280	-0.083
Alzheimers Disease and Related Disorders[5]	3,903	4.5%	2,772	3.4%	1.094	0.056
Anemia[5]	10,446	12.0%	10,191	12.5%	-0.462	-0.014
Asthma[5]	5,791	6.7%	4,187	5.1%	1.533	0.065
Atrial Fibrillation[5]	3,789	4.4%	9,566	11.7%	-7.347	-0.273
Benign Prostatic Hyperplasia[5]	4,834	5.6%	5,273	6.4%	-0.895	-0.038
Cataract[5]	11,015	12.7%	10,610	13.0%	-0.321	-0.010
Chronic Kidney Disease[5]	12,862	14.8%	10,912	13.3%	1.432	0.041
Chronic Obstructive Pulmonary Disease and Bronchiectasis[5]	9,585	11.0%	7,817	9.6%	1.453	0.048
Depression[5]	15,185	17.4%	12,969	15.9%	1.586	0.043

Table 1g. Aggregated Unadjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2018Q3 (July to September)

| | Medical Product | | | | Covariate Balance | |
| | ACE Inhibitors | | Beta Blockers | | | |
Patient Characteristics[1]	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
Glaucoma[5]	5,503	6.3%	5,355	6.6%	-0.227	-0.009
Hip or Pelvic Fracture[5]	506	0.6%	558	0.7%	-0.101	-0.013
Hyperlipidemia[5]	32,818	37.7%	31,796	38.9%	-1.181	-0.024
Hypertension[5]	45,055	51.8%	38,067	46.6%	5.210	0.104
Osteoporosis[5]	4,456	5.1%	4,285	5.2%	-0.121	-0.005
Rheumatoid Arthritis or Osteoarthritis[5]	19,359	22.2%	17,910	21.9%	0.338	0.008
Stroke or Transient Ischemic Attack[5]	4,679	5.4%	3,504	4.3%	1.091	0.051
Breast Cancer[5]	2,300	2.6%	1,957	2.4%	0.249	0.016
Colorectal Cancer[5]	899	1.0%	688	0.8%	0.191	0.020
Prostate Cancer[5]	1,741	2.0%	1,572	1.9%	0.078	0.006
Lung Cancer[5]	601	0.7%	588	0.7%	-0.029	-0.003
Endometrial Cancer[5]	338	0.4%	224	0.3%	0.114	0.020
Urologic Cancer[5]	380	0.4%	326	0.4%	0.038	0.006
Health Service Utilization Intensity Metrics						
Mean number of ambulatory encounters	8.2	10.9	8.2	10.1	-0.008	-0.001
Mean number of emergency room	0.4	1.1	0.4	1.0	-0.006	-0.006
Mean number of inpatient hospital encounters	0.2	0.5	0.2	0.5	-0.010	-0.019
Mean number of non-acute institutional encounters	0.1	0.3	0.1	0.4	-0.005	-0.014
Mean number of other ambulatory encounters	2.9	7.9	2.9	8.2	-0.040	-0.005
Mean number of filled prescriptions	10.7	13.6	10.6	13.2	0.072	0.005
Mean number of generics dispensed	4.5	4.2	4.5	4.1	0.045	0.011
Mean number of unique drug classes dispensed	4.3	3.9	4.2	3.7	0.051	0.013

[1]Covariates in blue show a standardized difference greater than 0.1.

[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.

[4]The Combined Comorbidity Score is calculated based on comorbidities observed during a requester-defined window around the exposure episode start date. (Gagne JJ, Glynn RJ, Avorn J, Levin R, Schneeweiss S. A Combined Comorbidity Score Predicted Mortality in Elderly Patients Better Than Existing Scores. J Clin Epidemiol. 2011;64(7):749-759; Sun JW, Rogers JR, Her Q, Welch EC, Panozzo CA, Toh S, Gagne JJ. Adaptation and Validation of the Combined Comorbidity Score for ICD-10-CM. Med Care. 2017;55(12):1046-1051)

[5]Covariate not included in the propensity score logistic regression model.

NaN: Not a number

Table 1h. Aggregated Adjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.025, in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2018Q3

| Patient Characteristics[1] | Medical Product | | | | Covariate Balance | |
| | ACE Inhibitors | | Beta Blockers | | | |
	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
Unique patients	81,539	93.7%	81,539	99.7%	N/A	N/A
Demographic Characteristics						
Age (years)	60.4	12.5	60.8	14.0	-0.363	-0.027
Age						
18-44 years	15,219	18.7%	16,154	19.8%	-1.147	-0.029
45-64 years	27,340	33.5%	24,591	30.2%	3.371	0.072
≥ 65 years	38,980	47.8%	40,794	50.0%	-2.225	-0.045
Sex						
Female	45,442	55.7%	43,621	53.5%	2.233	0.045
Male	36,097	44.3%	37,918	46.5%	-2.233	-0.045
Race[3]						
American Indian or Alaska Native	369	0.5%	233	0.3%	0.167	0.028
Asian	831	1.0%	1,097	1.3%	-0.326	-0.030
Black or African American	4,901	6.0%	4,852	6.0%	0.060	0.003
Multi-racial	258	0.3%	259	0.3%	-0.001	-0.000
Native Hawaiian or Other Pacific Islander	95	0.1%	87	0.1%	0.010	0.003
Unknown	35,148	43.1%	34,840	42.7%	0.378	0.008
White	39,937	49.0%	40,171	49.3%	-0.287	-0.006
Hispanic origin						
Yes	1,783	2.2%	1,292	1.6%	0.602	0.044
No	43,140	52.9%	43,222	53.0%	-0.101	-0.002
Unknown	36,616	44.9%	37,025	45.4%	-0.502	-0.010
Year						
2018	81,539	100.0%	81,539	100.0%	0.000	NaN
2019	0	0.0%	0	0.0%	NaN	NaN
2020	0	0.0%	0	0.0%	NaN	NaN
2021	0	0.0%	0	0.0%	NaN	NaN
2022	0	0.0%	0	0.0%	NaN	NaN
Quarter-Year						
2018Q1	0	0.0%	0	0.0%	NaN	NaN
2018Q2	0	0.0%	0	0.0%	NaN	NaN
2018Q3	81,539	100.0%	81,539	100.0%	0.000	NaN
2018Q4	0	0.0%	0	0.0%	NaN	NaN

Table 1h. Aggregated Adjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.025, in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2018Q3

Patient Characteristics[1]	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
2019Q1	0	0.0%	0	0.0%	NaN	NaN
2019Q2	0	0.0%	0	0.0%	NaN	NaN
2019Q3	0	0.0%	0	0.0%	NaN	NaN
2019Q4	0	0.0%	0	0.0%	NaN	NaN
2020Q1	0	0.0%	0	0.0%	NaN	NaN
2020Q2	0	0.0%	0	0.0%	NaN	NaN
2020Q3	0	0.0%	0	0.0%	NaN	NaN
2020Q4	0	0.0%	0	0.0%	NaN	NaN
2021Q1	0	0.0%	0	0.0%	NaN	NaN
2021Q2	0	0.0%	0	0.0%	NaN	NaN
2021Q3	0	0.0%	0	0.0%	NaN	NaN
2021Q4	0	0.0%	0	0.0%	NaN	NaN
2022Q1	0	0.0%	0	0.0%	NaN	NaN
2022Q2	0	0.0%	0	0.0%	NaN	NaN
Health Characteristics						
Charlson/Elixhauser combined comorbidity score[4]	1.1	2.2	1.2	2.1	-0.045	-0.021
Allergic Reaction	10,219	12.5%	9,755	12.0%	0.569	0.017
Diabetes	14,073	17.3%	14,138	17.3%	-0.080	-0.002
Heart Failure	4,556	5.6%	4,702	5.8%	-0.179	-0.008
Ischemic Heart Disease	8,810	10.8%	9,057	11.1%	-0.303	-0.010
NSAID Use	13,321	16.3%	13,116	16.1%	0.251	0.007
Acquired Hypothyroidism[5]	10,927	13.4%	11,573	14.2%	-0.792	-0.023
Acute Myocardial Infarction[5]	1,420	1.7%	2,527	3.1%	-1.358	-0.088
Alzheimers Disease and Related Disorders[5]	3,621	4.4%	2,769	3.4%	1.045	0.054
Anemia[5]	9,661	11.8%	10,159	12.5%	-0.611	-0.019
Asthma[5]	5,380	6.6%	4,174	5.1%	1.479	0.063
Atrial Fibrillation[5]	3,455	4.2%	9,545	11.7%	-7.469	-0.278
Benign Prostatic Hyperplasia[5]	4,501	5.5%	5,263	6.5%	-0.935	-0.039
Cataract[5]	10,359	12.7%	10,592	13.0%	-0.286	-0.009
Chronic Kidney Disease[5]	11,929	14.6%	10,876	13.3%	1.291	0.037
Chronic Obstructive Pulmonary Disease and Bronchiectasis[5]	8,892	10.9%	7,796	9.6%	1.344	0.044
Depression[5]	14,189	17.4%	12,930	15.9%	1.544	0.041

Table 1h. Aggregated Adjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.025, in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2018Q3

Patient Characteristics[1]	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
Glaucoma[5]	5,138	6.3%	5,349	6.6%	-0.259	-0.011
Hip or Pelvic Fracture[5]	467	0.6%	558	0.7%	-0.112	-0.014
Hyperlipidemia[5]	30,698	37.6%	31,717	38.9%	-1.250	-0.026
Hypertension[5]	42,216	51.8%	37,970	46.6%	5.207	0.104
Osteoporosis[5]	4,149	5.1%	4,278	5.2%	-0.158	-0.007
Rheumatoid Arthritis or Osteoarthritis[5]	18,084	22.2%	17,866	21.9%	0.267	0.006
Stroke or Transient Ischemic Attack[5]	4,345	5.3%	3,496	4.3%	1.041	0.049
Breast Cancer[5]	2,146	2.6%	1,950	2.4%	0.240	0.015
Colorectal Cancer[5]	819	1.0%	686	0.8%	0.163	0.017
Prostate Cancer[5]	1,625	2.0%	1,565	1.9%	0.074	0.005
Lung Cancer[5]	539	0.7%	587	0.7%	-0.059	-0.007
Endometrial Cancer[5]	316	0.4%	224	0.3%	0.113	0.020
Urologic Cancer[5]	336	0.4%	326	0.4%	0.012	0.002
Health Service Utilization Intensity Metrics						
Mean number of ambulatory encounters	8.2	10.8	8.2	10.1	-0.057	-0.005
Mean number of emergency room	0.4	1.1	0.4	1.0	-0.006	-0.006
Mean number of inpatient hospital encounters	0.2	0.5	0.2	0.5	-0.015	-0.028
Mean number of non-acute institutional encounters	0.1	0.3	0.1	0.4	-0.006	-0.017
Mean number of other ambulatory encounters	2.8	7.9	2.9	8.2	-0.085	-0.011
Mean number of filled prescriptions	10.6	13.6	10.6	13.2	0.034	0.003
Mean number of generics dispensed	4.5	4.2	4.5	4.1	0.027	0.006
Mean number of unique drug classes dispensed	4.2	3.8	4.2	3.7	0.035	0.009

[1]Covariates in blue show a standardized difference greater than 0.1.

[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.

[4]The Combined Comorbidity Score is calculated based on comorbidities observed during a requester-defined window around the exposure episode start date. (Gagne JJ, Glynn RJ, Avorn J, Levin R, Schneeweiss S. A Combined Comorbidity Score Predicted Mortality in Elderly Patients Better Than Existing Scores. J Clin Epidemiol. 2011;64(7):749-759; Sun JW, Rogers JR, Her Q, Welch EC, Panozzo CA, Toh S, Gagne JJ. Adaptation and Validation of the Combined Comorbidity Score for ICD-10-CM. Med Care. 2017;55(12):1046-1051)

[5]Covariate not included in the propensity score logistic regression model.

NaN: Not a number

Table 1i. Aggregated Unadjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2018Q4 (October to December)

Patient Characteristics[1]	ACE Inhibitors		Beta Blockers		Covariate Balance	
	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
Unique patients	91,795	100.0%	86,055	100.0%	N/A	N/A
Demographic Characteristics						
Age (years)	60.8	12.3	61.0	13.9	-0.126	-0.010
Age						
18-44 years	16,401	17.9%	16,672	19.4%	-1.507	-0.039
45-64 years	30,584	33.3%	25,978	30.2%	3.130	0.067
≥ 65 years	44,810	48.8%	43,405	50.4%	-1.623	-0.032
Sex						
Female	51,174	55.7%	45,652	53.0%	2.698	0.054
Male	40,621	44.3%	40,403	47.0%	-2.698	-0.054
Race[3]						
American Indian or Alaska Native	400	0.4%	237	0.3%	0.160	0.027
Asian	1,046	1.1%	1,177	1.4%	-0.228	-0.021
Black or African American	5,112	5.6%	4,965	5.8%	-0.201	-0.009
Multi-racial	343	0.4%	241	0.3%	0.094	0.016
Native Hawaiian or Other Pacific Islander	98	0.1%	88	0.1%	0.004	0.001
Unknown	38,918	42.4%	36,684	42.6%	-0.232	-0.005
White	45,878	50.0%	42,663	49.6%	0.402	0.008
Hispanic origin						
Yes	1,919	2.1%	1,293	1.5%	0.588	0.044
No	48,971	53.3%	45,831	53.3%	0.090	0.002
Unknown	40,905	44.6%	38,931	45.2%	-0.678	-0.014
Year						
2018	91,795	100.0%	86,055	100.0%	0.000	NaN
2019	0	0.0%	0	0.0%	NaN	NaN
2020	0	0.0%	0	0.0%	NaN	NaN
2021	0	0.0%	0	0.0%	NaN	NaN
2022	0	0.0%	0	0.0%	NaN	NaN
Quarter-Year						
2018Q1	0	0.0%	0	0.0%	NaN	NaN
2018Q2	0	0.0%	0	0.0%	NaN	NaN
2018Q3	0	0.0%	0	0.0%	NaN	NaN
2018Q4	91,795	100.0%	86,055	100.0%	0.000	NaN

Table 1i. Aggregated Unadjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2018Q4 (October to December)

| Patient Characteristics[1] | Medical Product | | | | Covariate Balance | |
| | ACE Inhibitors | | Beta Blockers | | | |
	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
2019Q1	0	0.0%	0	0.0%	NaN	NaN
2019Q2	0	0.0%	0	0.0%	NaN	NaN
2019Q3	0	0.0%	0	0.0%	NaN	NaN
2019Q4	0	0.0%	0	0.0%	NaN	NaN
2020Q1	0	0.0%	0	0.0%	NaN	NaN
2020Q2	0	0.0%	0	0.0%	NaN	NaN
2020Q3	0	0.0%	0	0.0%	NaN	NaN
2020Q4	0	0.0%	0	0.0%	NaN	NaN
2021Q1	0	0.0%	0	0.0%	NaN	NaN
2021Q2	0	0.0%	0	0.0%	NaN	NaN
2021Q3	0	0.0%	0	0.0%	NaN	NaN
2021Q4	0	0.0%	0	0.0%	NaN	NaN
2022Q1	0	0.0%	0	0.0%	NaN	NaN
2022Q2	0	0.0%	0	0.0%	NaN	NaN
Health Characteristics						
Charlson/Elixhauser combined comorbidity score[4]	1.1	2.2	1.1	2.1	-0.023	-0.011
Allergic Reaction	11,657	12.7%	10,528	12.2%	0.465	0.014
Diabetes	15,131	16.5%	14,323	16.6%	-0.161	-0.004
Heart Failure	5,133	5.6%	4,967	5.8%	-0.180	-0.008
Ischemic Heart Disease	9,795	10.7%	9,416	10.9%	-0.271	-0.009
NSAID Use	14,985	16.3%	14,091	16.4%	-0.050	-0.001
Acquired Hypothyroidism[5]	12,336	13.4%	12,109	14.1%	-0.633	-0.018
Acute Myocardial Infarction[5]	1,595	1.7%	2,846	3.3%	-1.570	-0.100
Alzheimers Disease and Related Disorders[5]	3,974	4.3%	2,824	3.3%	1.048	0.055
Anemia[5]	10,858	11.8%	10,541	12.2%	-0.421	-0.013
Asthma[5]	5,979	6.5%	4,387	5.1%	1.416	0.061
Atrial Fibrillation[5]	3,970	4.3%	9,846	11.4%	-7.117	-0.266
Benign Prostatic Hyperplasia[5]	5,209	5.7%	5,712	6.6%	-0.963	-0.040
Cataract[5]	12,165	13.3%	11,512	13.4%	-0.125	-0.004
Chronic Kidney Disease[5]	13,053	14.2%	10,981	12.8%	1.459	0.043
Chronic Obstructive Pulmonary Disease and Bronchiectasis[5]	9,745	10.6%	7,869	9.1%	1.472	0.049
Depression[5]	15,669	17.1%	13,700	15.9%	1.150	0.031

Table 1i. Aggregated Unadjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2018Q4 (October to December)

Patient Characteristics[1]	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
Glaucoma[5]	6,050	6.6%	5,776	6.7%	-0.121	-0.005
Hip or Pelvic Fracture[5]	569	0.6%	545	0.6%	-0.013	-0.002
Hyperlipidemia[5]	34,940	38.1%	33,473	38.9%	-0.834	-0.017
Hypertension[5]	46,415	50.6%	39,506	45.9%	4.656	0.093
Osteoporosis[5]	4,930	5.4%	4,738	5.5%	-0.135	-0.006
Rheumatoid Arthritis or Osteoarthritis[5]	20,584	22.4%	18,937	22.0%	0.418	0.010
Stroke or Transient Ischemic Attack[5]	4,827	5.3%	3,675	4.3%	0.988	0.046
Breast Cancer[5]	2,511	2.7%	2,002	2.3%	0.409	0.026
Colorectal Cancer[5]	979	1.1%	737	0.9%	0.210	0.022
Prostate Cancer[5]	1,954	2.1%	1,767	2.1%	0.075	0.005
Lung Cancer[5]	631	0.7%	593	0.7%	-0.002	-0.000
Endometrial Cancer[5]	338	0.4%	251	0.3%	0.077	0.013
Urologic Cancer[5]	383	0.4%	324	0.4%	0.041	0.006
Health Service Utilization Intensity Metrics						
Mean number of ambulatory encounters	8.4	10.7	8.3	9.9	0.048	0.005
Mean number of emergency room	0.4	1.1	0.4	1.2	-0.014	-0.012
Mean number of inpatient hospital encounters	0.2	0.5	0.2	0.5	-0.018	-0.035
Mean number of non-acute institutional encounters	0.1	0.3	0.1	0.4	-0.003	-0.008
Mean number of other ambulatory encounters	2.9	8.0	3.0	8.1	-0.031	-0.004
Mean number of filled prescriptions	10.6	13.4	10.4	13.4	0.172	0.013
Mean number of generics dispensed	4.5	4.1	4.4	4.0	0.093	0.023
Mean number of unique drug classes dispensed	4.3	3.8	4.2	3.7	0.096	0.026

[1]Covariates in blue show a standardized difference greater than 0.1.

[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.

[4]The Combined Comorbidity Score is calculated based on comorbidities observed during a requester-defined window around the exposure episode start date. (Gagne JJ, Glynn RJ, Avorn J, Levin R, Schneeweiss S. A Combined Comorbidity Score Predicted Mortality in Elderly Patients Better Than Existing Scores. J Clin Epidemiol. 2011;64(7):749-759; Sun JW, Rogers JR, Her Q, Welch EC, Panozzo CA, Toh S, Gagne JJ. Adaptation and Validation of the Combined Comorbidity Score for ICD-10-CM. Med Care. 2017;55(12):1046-1051)

[5]Covariate not included in the propensity score logistic regression model.

NaN: Not a number

Table 1j. Aggregated Adjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.025, in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2018Q4

Patient Characteristics[1]	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
Unique patients	85,671	93.3%	85,671	99.6%	N/A	N/A
Demographic Characteristics						
Age (years)	60.8	12.2	61.0	13.9	-0.236	-0.018
Age						
18-44 years	15,374	17.9%	16,481	19.2%	-1.292	-0.033
45-64 years	28,548	33.3%	25,824	30.1%	3.180	0.068
≥ 65 years	41,749	48.7%	43,366	50.6%	-1.887	-0.038
Sex						
Female	47,638	55.6%	45,424	53.0%	2.584	0.052
Male	38,033	44.4%	40,247	47.0%	-2.584	-0.052
Race[3]						
American Indian or Alaska Native	375	0.4%	236	0.3%	0.162	0.027
Asian	974	1.1%	1,175	1.4%	-0.235	-0.021
Black or African American	4,755	5.6%	4,961	5.8%	-0.240	-0.010
Multi-racial	308	0.4%	241	0.3%	0.078	0.014
Native Hawaiian or Other Pacific Islander	90	0.1%	88	0.1%	0.002	0.001
Unknown	36,505	42.6%	36,333	42.4%	0.201	0.004
White	42,664	49.8%	42,637	49.8%	0.032	0.001
Hispanic origin						
Yes	1,786	2.1%	1,293	1.5%	0.575	0.043
No	45,642	53.3%	45,814	53.5%	-0.201	-0.004
Unknown	38,243	44.6%	38,564	45.0%	-0.375	-0.008
Year						
2018	85,671	100.0%	85,671	100.0%	0.000	NaN
2019	0	0.0%	0	0.0%	NaN	NaN
2020	0	0.0%	0	0.0%	NaN	NaN
2021	0	0.0%	0	0.0%	NaN	NaN
2022	0	0.0%	0	0.0%	NaN	NaN
Quarter-Year						
2018Q1	0	0.0%	0	0.0%	NaN	NaN
2018Q2	0	0.0%	0	0.0%	NaN	NaN
2018Q3	0	0.0%	0	0.0%	NaN	NaN
2018Q4	85,671	100.0%	85,671	100.0%	0.000	NaN

Table 1j. Aggregated Adjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.025, in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2018Q4

| | Medical Product | | | | Covariate Balance | |
| | ACE Inhibitors | | Beta Blockers | | | |
Patient Characteristics[1]	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
2019Q1	0	0.0%	0	0.0%	NaN	NaN
2019Q2	0	0.0%	0	0.0%	NaN	NaN
2019Q3	0	0.0%	0	0.0%	NaN	NaN
2019Q4	0	0.0%	0	0.0%	NaN	NaN
2020Q1	0	0.0%	0	0.0%	NaN	NaN
2020Q2	0	0.0%	0	0.0%	NaN	NaN
2020Q3	0	0.0%	0	0.0%	NaN	NaN
2020Q4	0	0.0%	0	0.0%	NaN	NaN
2021Q1	0	0.0%	0	0.0%	NaN	NaN
2021Q2	0	0.0%	0	0.0%	NaN	NaN
2021Q3	0	0.0%	0	0.0%	NaN	NaN
2021Q4	0	0.0%	0	0.0%	NaN	NaN
2022Q1	0	0.0%	0	0.0%	NaN	NaN
2022Q2	0	0.0%	0	0.0%	NaN	NaN
Health Characteristics						
Charlson/Elixhauser combined comorbidity score[4]	1.1	2.1	1.1	2.1	-0.043	-0.020
Allergic Reaction	10,824	12.6%	10,485	12.2%	0.396	0.012
Diabetes	14,081	16.4%	14,276	16.7%	-0.228	-0.006
Heart Failure	4,667	5.4%	4,947	5.8%	-0.327	-0.014
Ischemic Heart Disease	8,964	10.5%	9,375	10.9%	-0.480	-0.016
NSAID Use	13,973	16.3%	14,033	16.4%	-0.070	-0.002
Acquired Hypothyroidism[5]	11,473	13.4%	12,067	14.1%	-0.693	-0.020
Acute Myocardial Infarction[5]	1,435	1.7%	2,836	3.3%	-1.635	-0.105
Alzheimers Disease and Related Disorders[5]	3,678	4.3%	2,822	3.3%	0.999	0.052
Anemia[5]	10,019	11.7%	10,509	12.3%	-0.572	-0.018
Asthma[5]	5,541	6.5%	4,362	5.1%	1.376	0.059
Atrial Fibrillation[5]	3,645	4.3%	9,829	11.5%	-7.218	-0.271
Benign Prostatic Hyperplasia[5]	4,853	5.7%	5,697	6.6%	-0.985	-0.041
Cataract[5]	11,344	13.2%	11,498	13.4%	-0.180	-0.005
Chronic Kidney Disease[5]	12,100	14.1%	10,947	12.8%	1.346	0.039
Chronic Obstructive Pulmonary Disease and Bronchiectasis[5]	8,957	10.5%	7,839	9.2%	1.305	0.044
Depression[5]	14,551	17.0%	13,626	15.9%	1.080	0.029

Table 1j. Aggregated Adjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.025, in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2018Q4

Patient Characteristics[1]	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
Glaucoma[5]	5,627	6.6%	5,768	6.7%	-0.165	-0.007
Hip or Pelvic Fracture[5]	527	0.6%	545	0.6%	-0.021	-0.003
Hyperlipidemia[5]	32,531	38.0%	33,379	39.0%	-0.990	-0.020
Hypertension[5]	43,245	50.5%	39,382	46.0%	4.509	0.090
Osteoporosis[5]	4,574	5.3%	4,732	5.5%	-0.184	-0.008
Rheumatoid Arthritis or Osteoarthritis[5]	19,168	22.4%	18,899	22.1%	0.314	0.008
Stroke or Transient Ischemic Attack[5]	4,453	5.2%	3,668	4.3%	0.916	0.043
Breast Cancer[5]	2,324	2.7%	1,998	2.3%	0.381	0.024
Colorectal Cancer[5]	893	1.0%	734	0.9%	0.186	0.019
Prostate Cancer[5]	1,821	2.1%	1,766	2.1%	0.064	0.004
Lung Cancer[5]	573	0.7%	590	0.7%	-0.020	-0.002
Endometrial Cancer[5]	310	0.4%	251	0.3%	0.069	0.012
Urologic Cancer[5]	347	0.4%	321	0.4%	0.030	0.005
Health Service Utilization Intensity Metrics						
Mean number of ambulatory encounters	8.3	10.7	8.3	9.9	-0.008	-0.001
Mean number of emergency room	0.4	1.1	0.4	1.2	-0.017	-0.015
Mean number of inpatient hospital encounters	0.2	0.5	0.2	0.5	-0.022	-0.042
Mean number of non-acute institutional encounters	0.1	0.3	0.1	0.4	-0.004	-0.011
Mean number of other ambulatory encounters	2.9	7.9	3.0	8.1	-0.072	-0.009
Mean number of filled prescriptions	10.6	13.3	10.4	13.3	0.115	0.009
Mean number of generics dispensed	4.5	4.1	4.4	4.0	0.068	0.017
Mean number of unique drug classes dispensed	4.2	3.8	4.2	3.7	0.073	0.020

[1]Covariates in blue show a standardized difference greater than 0.1.

[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.

[4]The Combined Comorbidity Score is calculated based on comorbidities observed during a requester-defined window around the exposure episode start date. (Gagne JJ, Glynn RJ, Avorn J, Levin R, Schneeweiss S. A Combined Comorbidity Score Predicted Mortality in Elderly Patients Better Than Existing Scores. J Clin Epidemiol. 2011;64(7):749-759; Sun JW, Rogers JR, Her Q, Welch EC, Panozzo CA, Toh S, Gagne JJ. Adaptation and Validation of the Combined Comorbidity Score for ICD-10-CM. Med Care. 2017;55(12):1046-1051)

[5]Covariate not included in the propensity score logistic regression model.

NaN: Not a number

Table 1k. Aggregated Unadjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2019Q1

| Patient Characteristics[1] | Medical Product | | | | Covariate Balance | |
| | ACE Inhibitors | | Beta Blockers | | | |
	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
Unique patients	99,665	100.0%	88,957	100.0%	N/A	N/A
Demographic Characteristics						
Age (years)	61.2	12.2	61.3	13.9	-0.082	-0.006
Age						
18-44 years	17,347	17.4%	16,850	18.9%	-1.536	-0.040
45-64 years	31,926	32.0%	26,155	29.4%	2.631	0.057
≥ 65 years	50,392	50.6%	45,952	51.7%	-1.095	-0.022
Sex						
Female	55,460	55.6%	47,146	53.0%	2.648	0.053
Male	44,205	44.4%	41,811	47.0%	-2.648	-0.053
Race[3]						
American Indian or Alaska Native	419	0.4%	270	0.3%	0.117	0.019
Asian	1,126	1.1%	1,208	1.4%	-0.228	-0.021
Black or African American	5,505	5.5%	5,346	6.0%	-0.486	-0.021
Multi-racial	329	0.3%	250	0.3%	0.049	0.009
Native Hawaiian or Other Pacific Islander	86	0.1%	86	0.1%	-0.010	-0.003
Unknown	41,403	41.5%	37,360	42.0%	-0.456	-0.009
White	50,797	51.0%	44,437	50.0%	1.014	0.020
Hispanic origin						
Yes	2,081	2.1%	1,378	1.5%	0.539	0.040
No	54,407	54.6%	48,216	54.2%	0.388	0.008
Unknown	43,177	43.3%	39,363	44.2%	-0.927	-0.019
Year						
2018	0	0.0%	0	0.0%	NaN	NaN
2019	99,665	100.0%	88,957	100.0%	0.000	NaN
2020	0	0.0%	0	0.0%	NaN	NaN
2021	0	0.0%	0	0.0%	NaN	NaN
2022	0	0.0%	0	0.0%	NaN	NaN
Quarter-Year						
2018Q1	0	0.0%	0	0.0%	NaN	NaN
2018Q2	0	0.0%	0	0.0%	NaN	NaN
2018Q3	0	0.0%	0	0.0%	NaN	NaN
2018Q4	0	0.0%	0	0.0%	NaN	NaN
2019Q1	99,665	100.0%	88,957	100.0%	0.000	NaN

Table 1k. Aggregated Unadjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2019Q1

| Patient Characteristics[1] | Medical Product | | | | Covariate Balance | |
| | ACE Inhibitors | | Beta Blockers | | | |
	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
2019Q2	0	0.0%	0	0.0%	NaN	NaN
2019Q3	0	0.0%	0	0.0%	NaN	NaN
2019Q4	0	0.0%	0	0.0%	NaN	NaN
2020Q1	0	0.0%	0	0.0%	NaN	NaN
2020Q2	0	0.0%	0	0.0%	NaN	NaN
2020Q3	0	0.0%	0	0.0%	NaN	NaN
2020Q4	0	0.0%	0	0.0%	NaN	NaN
2021Q1	0	0.0%	0	0.0%	NaN	NaN
2021Q2	0	0.0%	0	0.0%	NaN	NaN
2021Q3	0	0.0%	0	0.0%	NaN	NaN
2021Q4	0	0.0%	0	0.0%	NaN	NaN
2022Q1	0	0.0%	0	0.0%	NaN	NaN
2022Q2	0	0.0%	0	0.0%	NaN	NaN
Health Characteristics						
Charlson/Elixhauser combined comorbidity score[4]	1.1	2.1	1.1	2.1	-0.066	-0.031
Allergic Reaction	12,441	12.5%	10,772	12.1%	0.374	0.011
Diabetes	16,045	16.1%	15,051	16.9%	-0.820	-0.022
Heart Failure	5,298	5.3%	5,415	6.1%	-0.771	-0.033
Ischemic Heart Disease	10,492	10.5%	9,631	10.8%	-0.299	-0.010
NSAID Use	15,776	15.8%	13,968	15.7%	0.127	0.003
Acquired Hypothyroidism[5]	13,667	13.7%	12,408	13.9%	-0.235	-0.007
Acute Myocardial Infarction[5]	1,559	1.6%	2,852	3.2%	-1.642	-0.108
Alzheimers Disease and Related Disorders[5]	3,984	4.0%	3,049	3.4%	0.570	0.030
Anemia[5]	11,448	11.5%	10,925	12.3%	-0.795	-0.025
Asthma[5]	6,511	6.5%	4,548	5.1%	1.420	0.061
Atrial Fibrillation[5]	4,283	4.3%	10,428	11.7%	-7.425	-0.276
Benign Prostatic Hyperplasia[5]	5,734	5.8%	6,141	6.9%	-1.150	-0.047
Cataract[5]	13,066	13.1%	11,662	13.1%	0.000	0.000
Chronic Kidney Disease[5]	14,085	14.1%	11,641	13.1%	1.046	0.031
Chronic Obstructive Pulmonary Disease and Bronchiectasis[5]	10,993	11.0%	8,597	9.7%	1.366	0.045
Depression[5]	16,745	16.8%	14,005	15.7%	1.058	0.029
Glaucoma[5]	6,768	6.8%	5,926	6.7%	0.129	0.005

Table 1k. Aggregated Unadjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2019Q1

Patient Characteristics[1]	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
Hip or Pelvic Fracture[5]	563	0.6%	608	0.7%	-0.119	-0.015
Hyperlipidemia[5]	38,303	38.4%	34,979	39.3%	-0.889	-0.018
Hypertension[5]	50,744	50.9%	42,008	47.2%	3.692	0.074
Osteoporosis[5]	5,444	5.5%	4,928	5.5%	-0.077	-0.003
Rheumatoid Arthritis or Osteoarthritis[5]	22,472	22.5%	19,230	21.6%	0.930	0.022
Stroke or Transient Ischemic Attack[5]	4,872	4.9%	3,740	4.2%	0.684	0.033
Breast Cancer[5]	2,825	2.8%	2,142	2.4%	0.427	0.027
Colorectal Cancer[5]	1,087	1.1%	688	0.8%	0.317	0.033
Prostate Cancer[5]	2,310	2.3%	1,825	2.1%	0.266	0.018
Lung Cancer[5]	647	0.6%	637	0.7%	-0.067	-0.008
Endometrial Cancer[5]	362	0.4%	240	0.3%	0.093	0.017
Urologic Cancer[5]	423	0.4%	364	0.4%	0.015	0.002
Health Service Utilization Intensity Metrics						
Mean number of ambulatory encounters	8.3	10.7	8.2	9.7	0.134	0.013
Mean number of emergency room encounters	0.4	1.1	0.4	1.0	-0.023	-0.022
Mean number of inpatient hospital encounters	0.2	0.5	0.2	0.5	-0.022	-0.044
Mean number of non-acute institutional encounters	0.1	0.3	0.1	0.3	-0.010	-0.031
Mean number of other ambulatory encounters	2.8	7.4	3.0	8.1	-0.243	-0.031
Mean number of filled prescriptions	10.3	13.1	10.2	13.2	0.125	0.010
Mean number of generics dispensed	4.5	4.1	4.4	4.1	0.099	0.024
Mean number of unique drug classes dispensed	4.2	3.8	4.1	3.7	0.107	0.029

[1]Covariates in blue show a standardized difference greater than 0.1.

[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.

[4]The Combined Comorbidity Score is calculated based on comorbidities observed during a requester-defined window around the exposure episode start date. (Gagne JJ, Glynn RJ, Avorn J, Levin R, Schneeweiss S. A Combined Comorbidity Score Predicted Mortality in Elderly Patients Better Than Existing Scores. J Clin Epidemiol. 2011;64(7):749-759; Sun JW, Rogers JR, Her Q, Welch EC, Panozzo CA, Toh S, Gagne JJ. Adaptation and Validation of the Combined Comorbidity Score for ICD-10-CM. Med Care. 2017;55(12):1046-1051)

[5]Covariate not included in the propensity score logistic regression model.

NaN: Not a number

Table 1l. Aggregated Adjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.025, in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2019Q1

Patient Characteristics[1]	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
Unique patients	88,808	89.1%	88,808	99.8%	N/A	N/A
Demographic Characteristics						
Age (years)	61.1	12.2	61.3	13.9	-0.189	-0.014
Age						
18-44 years	15,569	17.5%	16,795	18.9%	-1.381	-0.036
45-64 years	28,643	32.3%	26,104	29.4%	2.859	0.062
≥ 65 years	44,596	50.2%	45,909	51.7%	-1.478	-0.030
Sex						
Female	49,172	55.4%	47,073	53.0%	2.364	0.047
Male	39,636	44.6%	41,735	47.0%	-2.364	-0.047
Race[3]						
American Indian or Alaska Native	384	0.4%	270	0.3%	0.128	0.021
Asian	961	1.1%	1,208	1.4%	-0.278	-0.025
Black or African American	4,888	5.5%	5,341	6.0%	-0.510	-0.022
Multi-racial	289	0.3%	248	0.3%	0.046	0.008
Native Hawaiian or Other Pacific Islander	81	0.1%	86	0.1%	-0.006	-0.002
Unknown	37,441	42.2%	37,251	41.9%	0.214	0.004
White	44,764	50.4%	44,404	50.0%	0.405	0.008
Hispanic origin						
Yes	1,849	2.1%	1,376	1.5%	0.533	0.040
No	48,035	54.1%	48,189	54.3%	-0.173	-0.003
Unknown	38,924	43.8%	39,243	44.2%	-0.359	-0.007
Year						
2018	0	0.0%	0	0.0%	NaN	NaN
2019	88,808	100.0%	88,808	100.0%	0.000	NaN
2020	0	0.0%	0	0.0%	NaN	NaN
2021	0	0.0%	0	0.0%	NaN	NaN
2022	0	0.0%	0	0.0%	NaN	NaN
Quarter-Year						
2018Q1	0	0.0%	0	0.0%	NaN	NaN
2018Q2	0	0.0%	0	0.0%	NaN	NaN
2018Q3	0	0.0%	0	0.0%	NaN	NaN
2018Q4	0	0.0%	0	0.0%	NaN	NaN

Table 1l. Aggregated Adjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.025, in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2019Q1

Patient Characteristics[1]	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
2019Q1	88,808	100.0%	88,808	100.0%	0.000	NaN
2019Q2	0	0.0%	0	0.0%	NaN	NaN
2019Q3	0	0.0%	0	0.0%	NaN	NaN
2019Q4	0	0.0%	0	0.0%	NaN	NaN
2020Q1	0	0.0%	0	0.0%	NaN	NaN
2020Q2	0	0.0%	0	0.0%	NaN	NaN
2020Q3	0	0.0%	0	0.0%	NaN	NaN
2020Q4	0	0.0%	0	0.0%	NaN	NaN
2021Q1	0	0.0%	0	0.0%	NaN	NaN
2021Q2	0	0.0%	0	0.0%	NaN	NaN
2021Q3	0	0.0%	0	0.0%	NaN	NaN
2021Q4	0	0.0%	0	0.0%	NaN	NaN
2022Q1	0	0.0%	0	0.0%	NaN	NaN
2022Q2	0	0.0%	0	0.0%	NaN	NaN
Health Characteristics						
Charlson/Elixhauser combined comorbidity score[4]	1.1	2.1	1.1	2.1	-0.075	-0.035
Allergic Reaction	11,029	12.4%	10,752	12.1%	0.312	0.010
Diabetes	14,332	16.1%	15,006	16.9%	-0.759	-0.020
Heart Failure	4,717	5.3%	5,398	6.1%	-0.767	-0.033
Ischemic Heart Disease	9,370	10.6%	9,607	10.8%	-0.267	-0.009
NSAID Use	14,092	15.9%	13,950	15.7%	0.160	0.004
Acquired Hypothyroidism[5]	12,060	13.6%	12,389	14.0%	-0.370	-0.011
Acute Myocardial Infarction[5]	1,374	1.5%	2,841	3.2%	-1.652	-0.109
Alzheimers Disease and Related Disorders[5]	3,498	3.9%	3,048	3.4%	0.507	0.027
Anemia[5]	10,126	11.4%	10,907	12.3%	-0.879	-0.027
Asthma[5]	5,795	6.5%	4,540	5.1%	1.413	0.060
Atrial Fibrillation[5]	3,774	4.2%	10,412	11.7%	-7.475	-0.278
Benign Prostatic Hyperplasia[5]	5,111	5.8%	6,132	6.9%	-1.150	-0.047
Cataract[5]	11,533	13.0%	11,655	13.1%	-0.137	-0.004
Chronic Kidney Disease[5]	12,504	14.1%	11,617	13.1%	0.999	0.029
Chronic Obstructive Pulmonary Disease and Bronchiectasis[5]	9,716	10.9%	8,586	9.7%	1.272	0.042

Table 1l. Aggregated Adjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.025, in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2019Q1

Patient Characteristics[1]	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
Depression[5]	14,769	16.6%	13,975	15.7%	0.894	0.024
Glaucoma[5]	5,943	6.7%	5,918	6.7%	0.028	0.001
Hip or Pelvic Fracture[5]	492	0.6%	608	0.7%	-0.131	-0.017
Hyperlipidemia[5]	33,931	38.2%	34,921	39.3%	-1.115	-0.023
Hypertension[5]	45,116	50.8%	41,936	47.2%	3.581	0.072
Osteoporosis[5]	4,797	5.4%	4,927	5.5%	-0.146	-0.006
Rheumatoid Arthritis or Osteoarthritis[5]	19,981	22.5%	19,213	21.6%	0.865	0.021
Stroke or Transient Ischemic Attack[5]	4,317	4.9%	3,731	4.2%	0.660	0.032
Breast Cancer[5]	2,467	2.8%	2,142	2.4%	0.366	0.023
Colorectal Cancer[5]	977	1.1%	685	0.8%	0.329	0.034
Prostate Cancer[5]	2,038	2.3%	1,824	2.1%	0.241	0.017
Lung Cancer[5]	575	0.6%	635	0.7%	-0.068	-0.008
Endometrial Cancer[5]	323	0.4%	239	0.3%	0.095	0.017
Urologic Cancer[5]	376	0.4%	362	0.4%	0.016	0.002
Health Service Utilization Intensity Metrics						
Mean number of ambulatory encounters	8.3	10.7	8.2	9.7	0.093	0.009
Mean number of emergency room encounters	0.4	1.0	0.4	1.0	-0.024	-0.023
Mean number of inpatient hospital encounters	0.2	0.5	0.2	0.5	-0.022	-0.045
Mean number of non-acute institutional encounters	0.1	0.3	0.1	0.3	-0.011	-0.034
Mean number of other ambulatory encounters	2.7	7.4	3.0	8.1	-0.263	-0.034
Mean number of filled prescriptions	10.2	13.0	10.1	13.2	0.060	0.005
Mean number of generics dispensed	4.5	4.1	4.4	4.1	0.077	0.019
Mean number of unique drug classes dispensed	4.2	3.8	4.1	3.7	0.085	0.023

[1]Covariates in blue show a standardized difference greater than 0.1.

[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.

[4]The Combined Comorbidity Score is calculated based on comorbidities observed during a requester-defined window around the exposure episode start date. (Gagne JJ, Glynn RJ, Avorn J, Levin R, Schneeweiss S. A Combined Comorbidity Score Predicted Mortality in Elderly Patients Better Than Existing Scores. J Clin Epidemiol. 2011;64(7):749-759; Sun JW, Rogers JR, Her Q, Welch EC, Panozzo CA, Toh S, Gagne JJ. Adaptation and Validation of the Combined Comorbidity Score for ICD-10-CM. Med Care. 2017;55(12):1046-1051)

[5]Covariate not included in the propensity score logistic regression model.

NaN: Not a number

Table 1m. Aggregated Unadjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2019Q2

| | Medical Product | | | | Covariate Balance | |
| | ACE Inhibitors | | Beta Blockers | | | |
Patient Characteristics[1]	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
Unique patients	88,968	100.0%	79,016	100.0%	N/A	N/A
Demographic Characteristics						
Age (years)	61.3	12.3	61.3	13.9	-0.038	-0.003
Age						
18-44 years	15,693	17.6%	15,189	19.2%	-1.584	-0.041
45-64 years	28,032	31.5%	22,847	28.9%	2.594	0.057
≥ 65 years	45,243	50.9%	40,980	51.9%	-1.010	-0.020
Sex						
Female	50,173	56.4%	42,635	54.0%	2.437	0.049
Male	38,795	43.6%	36,381	46.0%	-2.437	-0.049
Race[3]						
American Indian or Alaska Native	374	0.4%	256	0.3%	0.096	0.016
Asian	1,063	1.2%	1,089	1.4%	-0.183	-0.016
Black or African American	4,988	5.6%	4,705	6.0%	-0.348	-0.015
Multi-racial	331	0.4%	237	0.3%	0.072	0.012
Native Hawaiian or Other Pacific Islander	102	0.1%	72	0.1%	0.024	0.007
Unknown	36,217	40.7%	32,186	40.7%	-0.026	-0.001
White	45,893	51.6%	40,471	51.2%	0.365	0.007
Hispanic origin						
Yes	1,925	2.2%	1,265	1.6%	0.563	0.041
No	49,243	55.3%	43,649	55.2%	0.108	0.002
Unknown	37,800	42.5%	34,102	43.2%	-0.671	-0.014
Year						
2018	0	0.0%	0	0.0%	NaN	NaN
2019	88,968	100.0%	79,016	100.0%	0.000	NaN
2020	0	0.0%	0	0.0%	NaN	NaN
2021	0	0.0%	0	0.0%	NaN	NaN
2022	0	0.0%	0	0.0%	NaN	NaN
Quarter-Year						
2018Q1	0	0.0%	0	0.0%	NaN	NaN
2018Q2	0	0.0%	0	0.0%	NaN	NaN
2018Q3	0	0.0%	0	0.0%	NaN	NaN
2018Q4	0	0.0%	0	0.0%	NaN	NaN
2019Q1	0	0.0%	0	0.0%	NaN	NaN

Table 1m. Aggregated Unadjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2019Q2

| | Medical Product | | | | Covariate Balance | |
| | ACE Inhibitors | | Beta Blockers | | | |
Patient Characteristics[1]	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
2019Q2	88,968	100.0%	79,016	100.0%	0.000	NaN
2019Q3	0	0.0%	0	0.0%	NaN	NaN
2019Q4	0	0.0%	0	0.0%	NaN	NaN
2020Q1	0	0.0%	0	0.0%	NaN	NaN
2020Q2	0	0.0%	0	0.0%	NaN	NaN
2020Q3	0	0.0%	0	0.0%	NaN	NaN
2020Q4	0	0.0%	0	0.0%	NaN	NaN
2021Q1	0	0.0%	0	0.0%	NaN	NaN
2021Q2	0	0.0%	0	0.0%	NaN	NaN
2021Q3	0	0.0%	0	0.0%	NaN	NaN
2021Q4	0	0.0%	0	0.0%	NaN	NaN
2022Q1	0	0.0%	0	0.0%	NaN	NaN
2022Q2	0	0.0%	0	0.0%	NaN	NaN
Health Characteristics						
Charlson/Elixhauser combined comorbidity score[4]	1.1	2.2	1.2	2.2	-0.074	-0.034
Allergic Reaction	11,607	13.0%	9,969	12.6%	0.430	0.013
Diabetes	14,774	16.6%	13,527	17.1%	-0.513	-0.014
Heart Failure	5,034	5.7%	5,035	6.4%	-0.714	-0.030
Ischemic Heart Disease	9,692	10.9%	8,894	11.3%	-0.362	-0.012
NSAID Use	14,633	16.4%	12,916	16.3%	0.101	0.003
Acquired Hypothyroidism[5]	12,400	13.9%	11,221	14.2%	-0.263	-0.008
Acute Myocardial Infarction[5]	1,616	1.8%	2,718	3.4%	-1.623	-0.102
Alzheimers Disease and Related Disorders[5]	3,765	4.2%	2,895	3.7%	0.568	0.029
Anemia[5]	10,754	12.1%	9,992	12.6%	-0.558	-0.017
Asthma[5]	6,287	7.1%	4,359	5.5%	1.550	0.064
Atrial Fibrillation[5]	3,829	4.3%	9,421	11.9%	-7.619	-0.282
Benign Prostatic Hyperplasia[5]	5,172	5.8%	5,364	6.8%	-0.975	-0.040
Cataract[5]	11,980	13.5%	10,371	13.1%	0.340	0.010
Chronic Kidney Disease[5]	12,832	14.4%	10,371	13.1%	1.298	0.038
Chronic Obstructive Pulmonary Disease and Bronchiectasis[5]	10,640	12.0%	8,021	10.2%	1.808	0.058
Depression[5]	15,614	17.6%	13,165	16.7%	0.889	0.024
Glaucoma[5]	6,000	6.7%	5,317	6.7%	0.015	0.001

Table 1m. Aggregated Unadjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2019Q2

Patient Characteristics[1]	ACE Inhibitors Number/ Mean	ACE Inhibitors Percent/ Standard Deviation[2]	Beta Blockers Number/ Mean	Beta Blockers Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
Hip or Pelvic Fracture[5]	534	0.6%	557	0.7%	-0.105	-0.013
Hyperlipidemia[5]	34,801	39.1%	31,316	39.6%	-0.516	-0.011
Hypertension[5]	45,487	51.1%	36,672	46.4%	4.717	0.094
Osteoporosis[5]	5,003	5.6%	4,611	5.8%	-0.212	-0.009
Rheumatoid Arthritis or Osteoarthritis[5]	20,503	23.0%	17,771	22.5%	0.555	0.013
Stroke or Transient Ischemic Attack[5]	4,627	5.2%	3,538	4.5%	0.723	0.034
Breast Cancer[5]	2,543	2.9%	1,920	2.4%	0.428	0.027
Colorectal Cancer[5]	999	1.1%	659	0.8%	0.289	0.029
Prostate Cancer[5]	1,944	2.2%	1,570	2.0%	0.198	0.014
Lung Cancer[5]	631	0.7%	563	0.7%	-0.003	-0.000
Endometrial Cancer[5]	360	0.4%	241	0.3%	0.100	0.017
Urologic Cancer[5]	397	0.4%	299	0.4%	0.068	0.011
Health Service Utilization Intensity Metrics						
Mean number of ambulatory encounters	8.4	10.7	8.3	9.8	0.101	0.010
Mean number of emergency room encounters	0.4	1.0	0.4	1.0	-0.023	-0.023
Mean number of inpatient hospital encounters	0.2	0.5	0.2	0.5	-0.028	-0.054
Mean number of non-acute institutional encounters	0.1	0.3	0.1	0.4	-0.015	-0.044
Mean number of other ambulatory encounters	2.8	7.8	3.1	8.7	-0.286	-0.035
Mean number of filled prescriptions	10.6	13.2	10.5	13.3	0.121	0.009
Mean number of generics dispensed	4.7	4.2	4.5	4.1	0.121	0.029
Mean number of unique drug classes dispensed	4.4	3.9	4.3	3.8	0.124	0.033

[1]Covariates in blue show a standardized difference greater than 0.1.

[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.

[4]The Combined Comorbidity Score is calculated based on comorbidities observed during a requester-defined window around the exposure episode start date. (Gagne JJ, Glynn RJ, Avorn J, Levin R, Schneeweiss S. A Combined Comorbidity Score Predicted Mortality in Elderly Patients Better Than Existing Scores. J Clin Epidemiol. 2011;64(7):749-759; Sun JW, Rogers JR, Her Q, Welch EC, Panozzo CA, Toh S, Gagne JJ. Adaptation and Validation of the Combined Comorbidity Score for ICD-10-CM. Med Care. 2017;55(12):1046-1051)

[5]Covariate not included in the propensity score logistic regression model.

NaN: Not a number

Table 1n. Aggregated Adjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.025, in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2019Q2

	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
Patient Characteristics[1]	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
Unique patients	78,958	88.7%	78,958	99.9%	N/A	N/A
Demographic Characteristics						
Age (years)	61.2	12.2	61.3	13.9	-0.105	-0.008
Age						
18-44 years	14,064	17.8%	15,179	19.2%	-1.412	-0.036
45-64 years	24,913	31.6%	22,834	28.9%	2.633	0.057
≥ 65 years	39,981	50.6%	40,945	51.9%	-1.221	-0.024
Sex						
Female	44,564	56.4%	42,607	54.0%	2.479	0.050
Male	34,394	43.6%	36,351	46.0%	-2.479	-0.050
Race[3]						
American Indian or Alaska Native	320	0.4%	256	0.3%	0.081	0.013
Asian	927	1.2%	1,089	1.4%	-0.205	-0.018
Black or African American	4,419	5.6%	4,694	5.9%	-0.348	-0.015
Multi-racial	298	0.4%	236	0.3%	0.079	0.014
Native Hawaiian or Other Pacific Islander	95	0.1%	72	0.1%	0.029	0.009
Unknown	32,396	41.0%	32,165	40.7%	0.293	0.006
White	40,503	51.3%	40,446	51.2%	0.072	0.001
Hispanic origin						
Yes	1,682	2.1%	1,262	1.6%	0.532	0.039
No	43,507	55.1%	43,627	55.3%	-0.152	-0.003
Unknown	33,769	42.8%	34,069	43.1%	-0.380	-0.008
Year						
2018	0	0.0%	0	0.0%	NaN	NaN
2019	78,958	100.0%	78,958	100.0%	0.000	NaN
2020	0	0.0%	0	0.0%	NaN	NaN
2021	0	0.0%	0	0.0%	NaN	NaN
2022	0	0.0%	0	0.0%	NaN	NaN
Quarter-Year						
2018Q1	0	0.0%	0	0.0%	NaN	NaN
2018Q2	0	0.0%	0	0.0%	NaN	NaN
2018Q3	0	0.0%	0	0.0%	NaN	NaN
2018Q4	0	0.0%	0	0.0%	NaN	NaN

Table 1n. Aggregated Adjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.025, in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2019Q2

| Patient Characteristics[1] | Medical Product | | | | Covariate Balance | |
| | ACE Inhibitors | | Beta Blockers | | | |
	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
2019Q1	0	0.0%	0	0.0%	NaN	NaN
2019Q2	78,958	100.0%	78,958	100.0%	0.000	NaN
2019Q3	0	0.0%	0	0.0%	NaN	NaN
2019Q4	0	0.0%	0	0.0%	NaN	NaN
2020Q1	0	0.0%	0	0.0%	NaN	NaN
2020Q2	0	0.0%	0	0.0%	NaN	NaN
2020Q3	0	0.0%	0	0.0%	NaN	NaN
2020Q4	0	0.0%	0	0.0%	NaN	NaN
2021Q1	0	0.0%	0	0.0%	NaN	NaN
2021Q2	0	0.0%	0	0.0%	NaN	NaN
2021Q3	0	0.0%	0	0.0%	NaN	NaN
2021Q4	0	0.0%	0	0.0%	NaN	NaN
2022Q1	0	0.0%	0	0.0%	NaN	NaN
2022Q2	0	0.0%	0	0.0%	NaN	NaN
Health Characteristics						
Charlson/Elixhauser combined comorbidity score[4]	1.2	2.2	1.2	2.2	-0.063	-0.029
Allergic Reaction	10,327	13.1%	9,963	12.6%	0.461	0.014
Diabetes	13,145	16.6%	13,501	17.1%	-0.451	-0.012
Heart Failure	4,550	5.8%	5,026	6.4%	-0.603	-0.025
Ischemic Heart Disease	8,715	11.0%	8,878	11.2%	-0.206	-0.007
NSAID Use	12,953	16.4%	12,909	16.3%	0.056	0.002
Acquired Hypothyroidism[5]	11,044	14.0%	11,216	14.2%	-0.218	-0.006
Acute Myocardial Infarction[5]	1,482	1.9%	2,715	3.4%	-1.562	-0.097
Alzheimers Disease and Related Disorders[5]	3,364	4.3%	2,894	3.7%	0.595	0.031
Anemia[5]	9,573	12.1%	9,982	12.6%	-0.518	-0.016
Asthma[5]	5,581	7.1%	4,355	5.5%	1.553	0.064
Atrial Fibrillation[5]	3,447	4.4%	9,412	11.9%	-7.555	-0.279
Benign Prostatic Hyperplasia[5]	4,552	5.8%	5,358	6.8%	-1.021	-0.042
Cataract[5]	10,620	13.5%	10,366	13.1%	0.322	0.009
Chronic Kidney Disease[5]	11,468	14.5%	10,358	13.1%	1.406	0.041
Chronic Obstructive Pulmonary Disease and Bronchiectasis[5]	9,540	12.1%	8,012	10.1%	1.935	0.062
Depression[5]	13,894	17.6%	13,152	16.7%	0.940	0.025

Table 1n. Aggregated Adjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.025, in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2019Q2

| | Medical Product | | | | Covariate Balance | |
| | ACE Inhibitors | | Beta Blockers | | | |
Patient Characteristics[1]	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
Glaucoma[5]	5,307	6.7%	5,311	6.7%	-0.005	-0.000
Hip or Pelvic Fracture[5]	481	0.6%	557	0.7%	-0.096	-0.012
Hyperlipidemia[5]	30,905	39.1%	31,289	39.6%	-0.486	-0.010
Hypertension[5]	40,469	51.3%	36,637	46.4%	4.853	0.097
Osteoporosis[5]	4,451	5.6%	4,608	5.8%	-0.199	-0.009
Rheumatoid Arthritis or Osteoarthritis[5]	18,155	23.0%	17,758	22.5%	0.503	0.012
Stroke or Transient Ischemic Attack[5]	4,116	5.2%	3,536	4.5%	0.735	0.034
Breast Cancer[5]	2,295	2.9%	1,920	2.4%	0.475	0.029
Colorectal Cancer[5]	891	1.1%	656	0.8%	0.298	0.030
Prostate Cancer[5]	1,718	2.2%	1,567	2.0%	0.191	0.013
Lung Cancer[5]	570	0.7%	563	0.7%	0.009	0.001
Endometrial Cancer[5]	325	0.4%	240	0.3%	0.108	0.018
Urologic Cancer[5]	344	0.4%	299	0.4%	0.057	0.009
Health Service Utilization Intensity Metrics						
Mean number of ambulatory encounters	8.4	10.7	8.3	9.7	0.103	0.010
Mean number of emergency room encounters	0.4	1.0	0.4	1.0	-0.021	-0.021
Mean number of inpatient hospital encounters	0.2	0.5	0.2	0.5	-0.026	-0.050
Mean number of non-acute institutional encounters	0.1	0.3	0.1	0.4	-0.014	-0.040
Mean number of other ambulatory encounters	2.8	7.9	3.1	8.7	-0.254	-0.031
Mean number of filled prescriptions	10.6	13.1	10.5	13.3	0.129	0.010
Mean number of generics dispensed	4.7	4.2	4.5	4.1	0.130	0.031
Mean number of unique drug classes dispensed	4.4	3.9	4.3	3.8	0.132	0.034

[1] Covariates in blue show a standardized difference greater than 0.1.

[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.

[4] The Combined Comorbidity Score is calculated based on comorbidities observed during a requester-defined window around the exposure episode start date. (Gagne JJ, Glynn RJ, Avorn J, Levin R, Schneeweiss S. A Combined Comorbidity Score Predicted Mortality in Elderly Patients Better Than Existing Scores. J Clin Epidemiol. 2011;64(7):749-759; Sun JW, Rogers JR, Her Q, Welch EC, Panozzo CA, Toh S, Gagne JJ. Adaptation and Validation of the Combined Comorbidity Score for ICD-10-CM. Med Care. 2017;55(12):1046-1051)

[5] Covariate not included in the propensity score logistic regression model.

NaN: Not a number

Table 1o. Aggregated Unadjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2019Q3

Patient Characteristics[1]	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
Unique patients	88,735	100.0%	83,512	100.0%	N/A	N/A
Demographic Characteristics						
Age (years)	60.5	12.3	61.0	13.9	-0.474	-0.036
Age						
18-44 years	16,792	18.9%	16,585	19.9%	-0.936	-0.024
45-64 years	28,640	32.3%	24,135	28.9%	3.376	0.073
≥ 65 years	43,303	48.8%	42,792	51.2%	-2.440	-0.049
Sex						
Female	49,624	55.9%	44,629	53.4%	2.484	0.050
Male	39,111	44.1%	38,883	46.6%	-2.484	-0.050
Race[3]						
American Indian or Alaska Native	382	0.4%	260	0.3%	0.119	0.020
Asian	968	1.1%	1,034	1.2%	-0.147	-0.014
Black or African American	5,065	5.7%	4,970	6.0%	-0.243	-0.010
Multi-racial	317	0.4%	245	0.3%	0.064	0.011
Native Hawaiian or Other Pacific Islander	95	0.1%	97	0.1%	-0.009	-0.003
Unknown	38,493	43.4%	35,651	42.7%	0.690	0.014
White	43,415	48.9%	41,255	49.4%	-0.474	-0.009
Hispanic origin						
Yes	1,911	2.2%	1,224	1.5%	0.688	0.052
No	45,948	51.8%	43,587	52.2%	-0.411	-0.008
Unknown	40,876	46.1%	38,701	46.3%	-0.277	-0.006
Year						
2018	0	0.0%	0	0.0%	NaN	NaN
2019	88,735	100.0%	83,512	100.0%	0.000	NaN
2020	0	0.0%	0	0.0%	NaN	NaN
2021	0	0.0%	0	0.0%	NaN	NaN
2022	0	0.0%	0	0.0%	NaN	NaN
Quarter-Year						
2018Q1	0	0.0%	0	0.0%	NaN	NaN
2018Q2	0	0.0%	0	0.0%	NaN	NaN
2018Q3	0	0.0%	0	0.0%	NaN	NaN
2018Q4	0	0.0%	0	0.0%	NaN	NaN
2019Q1	0	0.0%	0	0.0%	NaN	NaN

Table 1o. Aggregated Unadjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2019Q3

| Patient Characteristics[1] | Medical Product | | | | Covariate Balance | |
| | ACE Inhibitors | | Beta Blockers | | | |
	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
2019Q2	0	0.0%	0	0.0%	NaN	NaN
2019Q3	88,735	100.0%	83,512	100.0%	0.000	NaN
2019Q4	0	0.0%	0	0.0%	NaN	NaN
2020Q1	0	0.0%	0	0.0%	NaN	NaN
2020Q2	0	0.0%	0	0.0%	NaN	NaN
2020Q3	0	0.0%	0	0.0%	NaN	NaN
2020Q4	0	0.0%	0	0.0%	NaN	NaN
2021Q1	0	0.0%	0	0.0%	NaN	NaN
2021Q2	0	0.0%	0	0.0%	NaN	NaN
2021Q3	0	0.0%	0	0.0%	NaN	NaN
2021Q4	0	0.0%	0	0.0%	NaN	NaN
2022Q1	0	0.0%	0	0.0%	NaN	NaN
2022Q2	0	0.0%	0	0.0%	NaN	NaN
Health Characteristics						
Charlson/Elixhauser combined comorbidity score[4]	1.1	2.2	1.2	2.1	-0.054	-0.025
Allergic Reaction	11,770	13.3%	10,829	13.0%	0.297	0.009
Diabetes	15,160	17.1%	14,474	17.3%	-0.247	-0.007
Heart Failure	5,045	5.7%	5,116	6.1%	-0.441	-0.019
Ischemic Heart Disease	9,732	11.0%	9,348	11.2%	-0.226	-0.007
NSAID Use	14,227	16.0%	13,479	16.1%	-0.107	-0.003
Acquired Hypothyroidism[5]	12,167	13.7%	11,914	14.3%	-0.555	-0.016
Acute Myocardial Infarction[5]	1,606	1.8%	2,713	3.2%	-1.439	-0.092
Alzheimers Disease and Related Disorders[5]	3,767	4.2%	2,936	3.5%	0.730	0.038
Anemia[5]	10,680	12.0%	10,361	12.4%	-0.371	-0.011
Asthma[5]	5,764	6.5%	4,333	5.2%	1.307	0.056
Atrial Fibrillation[5]	3,784	4.3%	10,081	12.1%	-7.807	-0.288
Benign Prostatic Hyperplasia[5]	4,955	5.6%	5,677	6.8%	-1.214	-0.050
Cataract[5]	11,617	13.1%	11,085	13.3%	-0.182	-0.005
Chronic Kidney Disease[5]	13,377	15.1%	11,248	13.5%	1.607	0.046
Chronic Obstructive Pulmonary Disease and Bronchiectasis[5]	9,743	11.0%	7,961	9.5%	1.447	0.048
Depression[5]	15,961	18.0%	13,998	16.8%	1.226	0.032
Glaucoma[5]	5,889	6.6%	5,471	6.6%	0.085	0.003

Table 1o. Aggregated Unadjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2019Q3

| Patient Characteristics[1] | Medical Product | | | | Covariate Balance | |
| | ACE Inhibitors | | Beta Blockers | | | |
	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
Hip or Pelvic Fracture[5]	512	0.6%	556	0.7%	-0.089	-0.011
Hyperlipidemia[5]	34,166	38.5%	32,971	39.5%	-0.977	-0.020
Hypertension[5]	46,004	51.8%	38,473	46.1%	5.775	0.116
Osteoporosis[5]	4,830	5.4%	4,573	5.5%	-0.033	-0.001
Rheumatoid Arthritis or Osteoarthritis[5]	20,009	22.5%	18,593	22.3%	0.285	0.007
Stroke or Transient Ischemic Attack[5]	4,770	5.4%	3,611	4.3%	1.052	0.049
Breast Cancer[5]	2,480	2.8%	2,002	2.4%	0.398	0.025
Colorectal Cancer[5]	957	1.1%	729	0.9%	0.206	0.021
Prostate Cancer[5]	1,846	2.1%	1,689	2.0%	0.058	0.004
Lung Cancer[5]	658	0.7%	670	0.8%	-0.061	-0.007
Endometrial Cancer[5]	356	0.4%	263	0.3%	0.086	0.014
Urologic Cancer[5]	394	0.4%	325	0.4%	0.055	0.009
Health Service Utilization Intensity Metrics						
Mean number of ambulatory encounters	8.3	10.8	8.4	10.0	-0.076	-0.007
Mean number of emergency room encounters	0.4	1.1	0.4	1.0	-0.004	-0.004
Mean number of inpatient hospital encounters	0.2	0.5	0.2	0.5	-0.012	-0.023
Mean number of non-acute institutional encounters	0.1	0.3	0.1	0.4	-0.007	-0.021
Mean number of other ambulatory encounters	2.7	7.9	2.9	8.3	-0.133	-0.016
Mean number of filled prescriptions	10.1	12.8	10.2	12.8	-0.101	-0.008
Mean number of generics dispensed	4.4	4.1	4.4	4.1	0.012	0.003
Mean number of unique drug classes dispensed	4.2	3.8	4.2	3.7	0.016	0.004

[1]Covariates in blue show a standardized difference greater than 0.1.

[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.

[4]The Combined Comorbidity Score is calculated based on comorbidities observed during a requester-defined window around the exposure episode start date. (Gagne JJ, Glynn RJ, Avorn J, Levin R, Schneeweiss S. A Combined Comorbidity Score Predicted Mortality in Elderly Patients Better Than Existing Scores. J Clin Epidemiol. 2011;64(7):749-759; Sun JW, Rogers JR, Her Q, Welch EC, Panozzo CA, Toh S, Gagne JJ. Adaptation and Validation of the Combined Comorbidity Score for ICD-10-CM. Med Care. 2017;55(12):1046-1051)

[5]Covariate not included in the propensity score logistic regression model.

NaN: Not a number

Table 1p. Aggregated Adjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.025, in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2019Q3

Patient Characteristics[1]	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
Unique patients	83,386	94.0%	83,386	99.8%	N/A	N/A
Demographic Characteristics						
Age (years)	60.5	12.3	61.0	13.9	-0.439	-0.033
Age						
18-44 years	15,732	18.9%	16,553	19.9%	-0.985	-0.025
45-64 years	26,809	32.2%	24,084	28.9%	3.268	0.071
≥ 65 years	40,845	49.0%	42,749	51.3%	-2.283	-0.046
Sex						
Female	46,679	56.0%	44,575	53.5%	2.523	0.051
Male	36,707	44.0%	38,811	46.5%	-2.523	-0.051
Race[3]						
American Indian or Alaska Native	358	0.4%	260	0.3%	0.118	0.019
Asian	911	1.1%	1,032	1.2%	-0.145	-0.014
Black or African American	4,771	5.7%	4,965	6.0%	-0.233	-0.010
Multi-racial	298	0.4%	245	0.3%	0.064	0.011
Native Hawaiian or Other Pacific Islander	90	0.1%	97	0.1%	-0.008	-0.003
Unknown	35,910	43.1%	35,553	42.6%	0.428	0.009
White	41,048	49.2%	41,234	49.4%	-0.223	-0.004
Hispanic origin						
Yes	1,787	2.1%	1,224	1.5%	0.675	0.051
No	43,463	52.1%	43,578	52.3%	-0.138	-0.003
Unknown	38,136	45.7%	38,584	46.3%	-0.537	-0.011
Year						
2018	0	0.0%	0	0.0%	NaN	NaN
2019	83,386	100.0%	83,386	100.0%	0.000	NaN
2020	0	0.0%	0	0.0%	NaN	NaN
2021	0	0.0%	0	0.0%	NaN	NaN
2022	0	0.0%	0	0.0%	NaN	NaN
Quarter-Year						
2018Q1	0	0.0%	0	0.0%	NaN	NaN
2018Q2	0	0.0%	0	0.0%	NaN	NaN
2018Q3	0	0.0%	0	0.0%	NaN	NaN
2018Q4	0	0.0%	0	0.0%	NaN	NaN

Table 1p. Aggregated Adjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.025, in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2019Q3

Patient Characteristics[1]	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
2019Q1	0	0.0%	0	0.0%	NaN	NaN
2019Q2	0	0.0%	0	0.0%	NaN	NaN
2019Q3	83,386	100.0%	83,386	100.0%	0.000	NaN
2019Q4	0	0.0%	0	0.0%	NaN	NaN
2020Q1	0	0.0%	0	0.0%	NaN	NaN
2020Q2	0	0.0%	0	0.0%	NaN	NaN
2020Q3	0	0.0%	0	0.0%	NaN	NaN
2020Q4	0	0.0%	0	0.0%	NaN	NaN
2021Q1	0	0.0%	0	0.0%	NaN	NaN
2021Q2	0	0.0%	0	0.0%	NaN	NaN
2021Q3	0	0.0%	0	0.0%	NaN	NaN
2021Q4	0	0.0%	0	0.0%	NaN	NaN
2022Q1	0	0.0%	0	0.0%	NaN	NaN
2022Q2	0	0.0%	0	0.0%	NaN	NaN
Health Characteristics						
Charlson/Elixhauser combined comorbidity score[4]	1.1	2.2	1.2	2.1	-0.062	-0.029
Allergic Reaction	11,086	13.3%	10,810	13.0%	0.331	0.010
Diabetes	14,170	17.0%	14,435	17.3%	-0.318	-0.008
Heart Failure	4,663	5.6%	5,103	6.1%	-0.528	-0.022
Ischemic Heart Disease	9,044	10.8%	9,327	11.2%	-0.339	-0.011
NSAID Use	13,378	16.0%	13,452	16.1%	-0.089	-0.002
Acquired Hypothyroidism[5]	11,498	13.8%	11,897	14.3%	-0.478	-0.014
Acute Myocardial Infarction[5]	1,474	1.8%	2,701	3.2%	-1.471	-0.094
Alzheimers Disease and Related Disorders[5]	3,545	4.3%	2,936	3.5%	0.730	0.038
Anemia[5]	10,002	12.0%	10,345	12.4%	-0.411	-0.013
Asthma[5]	5,437	6.5%	4,327	5.2%	1.331	0.057
Atrial Fibrillation[5]	3,536	4.2%	10,070	12.1%	-7.836	-0.289
Benign Prostatic Hyperplasia[5]	4,664	5.6%	5,666	6.8%	-1.202	-0.050
Cataract[5]	10,956	13.1%	11,077	13.3%	-0.145	-0.004
Chronic Kidney Disease[5]	12,529	15.0%	11,230	13.5%	1.558	0.045
Chronic Obstructive Pulmonary Disease and Bronchiectasis[5]	9,125	10.9%	7,950	9.5%	1.409	0.046
Depression[5]	15,026	18.0%	13,971	16.8%	1.265	0.033

Table 1p. Aggregated Adjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.025, in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2019Q3

Patient Characteristics[1]	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
Glaucoma[5]	5,551	6.7%	5,464	6.6%	0.104	0.004
Hip or Pelvic Fracture[5]	477	0.6%	556	0.7%	-0.095	-0.012
Hyperlipidemia[5]	32,077	38.5%	32,912	39.5%	-1.001	-0.021
Hypertension[5]	43,181	51.8%	38,405	46.1%	5.728	0.115
Osteoporosis[5]	4,565	5.5%	4,571	5.5%	-0.007	-0.000
Rheumatoid Arthritis or Osteoarthritis[5]	18,832	22.6%	18,569	22.3%	0.315	0.008
Stroke or Transient Ischemic Attack[5]	4,499	5.4%	3,610	4.3%	1.066	0.050
Breast Cancer[5]	2,324	2.8%	1,997	2.4%	0.392	0.025
Colorectal Cancer[5]	884	1.1%	728	0.9%	0.187	0.019
Prostate Cancer[5]	1,751	2.1%	1,685	2.0%	0.079	0.006
Lung Cancer[5]	623	0.7%	669	0.8%	-0.055	-0.006
Endometrial Cancer[5]	334	0.4%	263	0.3%	0.085	0.014
Urologic Cancer[5]	363	0.4%	324	0.4%	0.047	0.007
Health Service Utilization Intensity Metrics						
Mean number of ambulatory encounters	8.3	10.7	8.4	10.0	-0.088	-0.008
Mean number of emergency room encounters	0.4	1.1	0.4	1.0	-0.007	-0.006
Mean number of inpatient hospital encounters	0.2	0.5	0.2	0.5	-0.014	-0.026
Mean number of non-acute institutional encounters	0.1	0.3	0.1	0.4	-0.008	-0.022
Mean number of other ambulatory encounters	2.7	7.8	2.9	8.3	-0.152	-0.019
Mean number of filled prescriptions	10.1	12.8	10.2	12.8	-0.095	-0.007
Mean number of generics dispensed	4.4	4.1	4.4	4.1	0.013	0.003
Mean number of unique drug classes dispensed	4.2	3.8	4.2	3.7	0.017	0.005

[1]Covariates in blue show a standardized difference greater than 0.1.

[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.

[4]The Combined Comorbidity Score is calculated based on comorbidities observed during a requester-defined window around the exposure episode start date. (Gagne JJ, Glynn RJ, Avorn J, Levin R, Schneeweiss S. A Combined Comorbidity Score Predicted Mortality in Elderly Patients Better Than Existing Scores. J Clin Epidemiol. 2011;64(7):749-759; Sun JW, Rogers JR, Her Q, Welch EC, Panozzo CA, Toh S, Gagne JJ. Adaptation and Validation of the Combined Comorbidity Score for ICD-10-CM. Med Care. 2017;55(12):1046-1051)

[5]Covariate not included in the propensity score logistic regression model.

NaN: Not a number

| | Medical Product | | | | Covariate Balance | |
| | ACE Inhibitors | | Beta Blockers | | | |
Patient Characteristics[1]	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
Unique patients	94,193	100.0%	85,983	100.0%	N/A	N/A
Demographic Characteristics						
Age (years)	61.0	12.2	61.3	13.8	-0.256	-0.020
Age						
18-44 years	16,793	17.8%	16,453	19.1%	-1.307	-0.034
45-64 years	29,837	31.7%	24,494	28.5%	3.189	0.070
≥ 65 years	47,563	50.5%	45,036	52.4%	-1.883	-0.038
Sex						
Female	52,693	55.9%	45,508	52.9%	3.015	0.061
Male	41,500	44.1%	40,475	47.1%	-3.015	-0.061
Race[3]						
American Indian or Alaska Native	349	0.4%	242	0.3%	0.089	0.016
Asian	1,050	1.1%	1,164	1.4%	-0.239	-0.022
Black or African American	5,100	5.4%	4,954	5.8%	-0.347	-0.015
Multi-racial	355	0.4%	276	0.3%	0.056	0.009
Native Hawaiian or Other Pacific Islander	135	0.1%	96	0.1%	0.032	0.009
Unknown	39,495	41.9%	35,919	41.8%	0.155	0.003
White	47,709	50.7%	43,332	50.4%	0.254	0.005
Hispanic origin						
Yes	1,991	2.1%	1,257	1.5%	0.652	0.049
No	49,987	53.1%	45,669	53.1%	-0.045	-0.001
Unknown	42,215	44.8%	39,057	45.4%	-0.607	-0.012
Year						
2018	0	0.0%	0	0.0%	NaN	NaN
2019	94,193	100.0%	85,983	100.0%	0.000	NaN
2020	0	0.0%	0	0.0%	NaN	NaN
2021	0	0.0%	0	0.0%	NaN	NaN
2022	0	0.0%	0	0.0%	NaN	NaN
Quarter-Year						
2018Q1	0	0.0%	0	0.0%	NaN	NaN
2018Q2	0	0.0%	0	0.0%	NaN	NaN
2018Q3	0	0.0%	0	0.0%	NaN	NaN
2018Q4	0	0.0%	0	0.0%	NaN	NaN
2019Q1	0	0.0%	0	0.0%	NaN	NaN

Table 1q. Aggregated Unadjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2019Q4

Patient Characteristics[1]	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
2019Q2	0	0.0%	0	0.0%	NaN	NaN
2019Q3	0	0.0%	0	0.0%	NaN	NaN
2019Q4	94,193	100.0%	85,983	100.0%	0.000	NaN
2020Q1	0	0.0%	0	0.0%	NaN	NaN
2020Q2	0	0.0%	0	0.0%	NaN	NaN
2020Q3	0	0.0%	0	0.0%	NaN	NaN
2020Q4	0	0.0%	0	0.0%	NaN	NaN
2021Q1	0	0.0%	0	0.0%	NaN	NaN
2021Q2	0	0.0%	0	0.0%	NaN	NaN
2021Q3	0	0.0%	0	0.0%	NaN	NaN
2021Q4	0	0.0%	0	0.0%	NaN	NaN
2022Q1	0	0.0%	0	0.0%	NaN	NaN
2022Q2	0	0.0%	0	0.0%	NaN	NaN
Health Characteristics						
Charlson/Elixhauser combined comorbidity score[4]	1.1	2.2	1.2	2.1	-0.063	-0.029
Allergic Reaction	12,997	13.8%	11,376	13.2%	0.568	0.017
Diabetes	15,449	16.4%	14,601	17.0%	-0.580	-0.016
Heart Failure	5,052	5.4%	5,272	6.1%	-0.768	-0.033
Ischemic Heart Disease	10,131	10.8%	9,760	11.4%	-0.596	-0.019
NSAID Use	15,051	16.0%	13,848	16.1%	-0.127	-0.003
Acquired Hypothyroidism[5]	12,992	13.8%	12,058	14.0%	-0.231	-0.007
Acute Myocardial Infarction[5]	1,599	1.7%	3,028	3.5%	-1.824	-0.115
Alzheimers Disease and Related Disorders[5]	3,764	4.0%	2,952	3.4%	0.563	0.030
Anemia[5]	11,130	11.8%	10,707	12.5%	-0.636	-0.019
Asthma[5]	6,127	6.5%	4,385	5.1%	1.405	0.060
Atrial Fibrillation[5]	3,877	4.1%	10,183	11.8%	-7.727	-0.288
Benign Prostatic Hyperplasia[5]	5,520	5.9%	6,020	7.0%	-1.141	-0.047
Cataract[5]	12,926	13.7%	11,794	13.7%	0.006	0.000
Chronic Kidney Disease[5]	13,823	14.7%	11,500	13.4%	1.300	0.037
Chronic Obstructive Pulmonary Disease and Bronchiectasis[5]	9,931	10.5%	7,858	9.1%	1.404	0.047
Depression[5]	16,703	17.7%	14,328	16.7%	1.069	0.028
Glaucoma[5]	6,349	6.7%	5,901	6.9%	-0.123	-0.005

Table 1q. Aggregated Unadjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2019Q4

Patient Characteristics[1]	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
Hip or Pelvic Fracture[5]	520	0.6%	549	0.6%	-0.086	-0.011
Hyperlipidemia[5]	37,317	39.6%	34,467	40.1%	-0.468	-0.010
Hypertension[5]	47,433	50.4%	39,538	46.0%	4.374	0.088
Osteoporosis[5]	5,260	5.6%	4,862	5.7%	-0.070	-0.003
Rheumatoid Arthritis or Osteoarthritis[5]	21,485	22.8%	19,299	22.4%	0.364	0.009
Stroke or Transient Ischemic Attack[5]	4,814	5.1%	3,707	4.3%	0.799	0.038
Breast Cancer[5]	2,691	2.9%	2,100	2.4%	0.415	0.026
Colorectal Cancer[5]	998	1.1%	741	0.9%	0.198	0.020
Prostate Cancer[5]	2,122	2.3%	1,790	2.1%	0.171	0.012
Lung Cancer[5]	689	0.7%	602	0.7%	0.031	0.004
Endometrial Cancer[5]	378	0.4%	264	0.3%	0.094	0.016
Urologic Cancer[5]	418	0.4%	333	0.4%	0.056	0.009
Health Service Utilization Intensity Metrics						
Mean number of ambulatory encounters	8.6	11.1	8.5	10.0	0.049	0.005
Mean number of emergency room encounters	0.4	1.2	0.4	1.1	-0.019	-0.017
Mean number of inpatient hospital encounters	0.2	0.5	0.2	0.5	-0.025	-0.048
Mean number of non-acute institutional encounters	0.1	0.3	0.1	0.3	-0.006	-0.019
Mean number of other ambulatory encounters	2.8	7.7	2.9	8.1	-0.138	-0.018
Mean number of filled prescriptions	10.2	13.0	10.1	12.7	0.104	0.008
Mean number of generics dispensed	4.5	4.1	4.4	4.0	0.075	0.018
Mean number of unique drug classes dispensed	4.2	3.8	4.2	3.7	0.078	0.021

[1]Covariates in blue show a standardized difference greater than 0.1.

[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.

[4]The Combined Comorbidity Score is calculated based on comorbidities observed during a requester-defined window around the exposure episode start date. (Gagne JJ, Glynn RJ, Avorn J, Levin R, Schneeweiss S. A Combined Comorbidity Score Predicted Mortality in Elderly Patients Better Than Existing Scores. J Clin Epidemiol. 2011;64(7):749-759; Sun JW, Rogers JR, Her Q, Welch EC, Panozzo CA, Toh S, Gagne JJ. Adaptation and Validation of the Combined Comorbidity Score for ICD-10-CM. Med Care. 2017;55(12):1046-1051)

[5]Covariate not included in the propensity score logistic regression model.

NaN: Not a number

Table 1r. Aggregated Adjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.025, in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2019Q4

	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
Patient Characteristics[1]	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
Unique patients	85,917	91.2%	85,917	99.9%	N/A	N/A
Demographic Characteristics						
Age (years)	61.0	12.2	61.3	13.8	-0.303	-0.023
Age						
18-44 years	15,396	17.9%	16,424	19.1%	-1.197	-0.031
45-64 years	27,257	31.7%	24,472	28.5%	3.242	0.071
≥ 65 years	43,264	50.4%	45,021	52.4%	-2.045	-0.041
Sex						
Female	48,000	55.9%	45,473	52.9%	2.941	0.059
Male	37,917	44.1%	40,444	47.1%	-2.941	-0.059
Race[3]						
American Indian or Alaska Native	324	0.4%	242	0.3%	0.095	0.017
Asian	947	1.1%	1,164	1.4%	-0.253	-0.023
Black or African American	4,652	5.4%	4,952	5.8%	-0.349	-0.015
Multi-racial	319	0.4%	276	0.3%	0.050	0.009
Native Hawaiian or Other Pacific Islander	124	0.1%	96	0.1%	0.033	0.009
Unknown	36,222	42.2%	35,864	41.7%	0.417	0.008
White	43,329	50.4%	43,323	50.4%	0.007	0.000
Hispanic origin						
Yes	1,806	2.1%	1,256	1.5%	0.640	0.048
No	45,418	52.9%	45,665	53.2%	-0.287	-0.006
Unknown	38,693	45.0%	38,996	45.4%	-0.353	-0.007
Year						
2018	0	0.0%	0	0.0%	NaN	NaN
2019	85,917	100.0%	85,917	100.0%	0.000	NaN
2020	0	0.0%	0	0.0%	NaN	NaN
2021	0	0.0%	0	0.0%	NaN	NaN
2022	0	0.0%	0	0.0%	NaN	NaN
Quarter-Year						
2018Q1	0	0.0%	0	0.0%	NaN	NaN
2018Q2	0	0.0%	0	0.0%	NaN	NaN
2018Q3	0	0.0%	0	0.0%	NaN	NaN
2018Q4	0	0.0%	0	0.0%	NaN	NaN

Table 1r. Aggregated Adjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.025, in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2019Q4

| | Medical Product | | | | Covariate Balance | |
| | ACE Inhibitors | | Beta Blockers | | | |
Patient Characteristics[1]	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
2019Q1	0	0.0%	0	0.0%	NaN	NaN
2019Q2	0	0.0%	0	0.0%	NaN	NaN
2019Q3	0	0.0%	0	0.0%	NaN	NaN
2019Q4	85,917	100.0%	85,917	100.0%	0.000	NaN
2020Q1	0	0.0%	0	0.0%	NaN	NaN
2020Q2	0	0.0%	0	0.0%	NaN	NaN
2020Q3	0	0.0%	0	0.0%	NaN	NaN
2020Q4	0	0.0%	0	0.0%	NaN	NaN
2021Q1	0	0.0%	0	0.0%	NaN	NaN
2021Q2	0	0.0%	0	0.0%	NaN	NaN
2021Q3	0	0.0%	0	0.0%	NaN	NaN
2021Q4	0	0.0%	0	0.0%	NaN	NaN
2022Q1	0	0.0%	0	0.0%	NaN	NaN
2022Q2	0	0.0%	0	0.0%	NaN	NaN
Health Characteristics						
Charlson/Elixhauser combined comorbidity score[4]	1.1	2.2	1.2	2.1	-0.061	-0.028
Allergic Reaction	11,838	13.8%	11,364	13.2%	0.552	0.016
Diabetes	14,078	16.4%	14,577	17.0%	-0.581	-0.016
Heart Failure	4,626	5.4%	5,264	6.1%	-0.743	-0.032
Ischemic Heart Disease	9,299	10.8%	9,749	11.3%	-0.524	-0.017
NSAID Use	13,701	15.9%	13,835	16.1%	-0.156	-0.004
Acquired Hypothyroidism[5]	11,822	13.8%	12,055	14.0%	-0.271	-0.008
Acute Myocardial Infarction[5]	1,460	1.7%	3,022	3.5%	-1.818	-0.114
Alzheimers Disease and Related Disorders[5]	3,470	4.0%	2,951	3.4%	0.604	0.032
Anemia[5]	10,148	11.8%	10,699	12.5%	-0.641	-0.020
Asthma[5]	5,569	6.5%	4,382	5.1%	1.382	0.059
Atrial Fibrillation[5]	3,560	4.1%	10,179	11.8%	-7.704	-0.287
Benign Prostatic Hyperplasia[5]	5,031	5.9%	6,016	7.0%	-1.146	-0.047
Cataract[5]	11,792	13.7%	11,787	13.7%	0.006	0.000
Chronic Kidney Disease[5]	12,579	14.6%	11,487	13.4%	1.271	0.037
Chronic Obstructive Pulmonary Disease and Bronchiectasis[5]	9,028	10.5%	7,852	9.1%	1.369	0.046
Depression[5]	15,226	17.7%	14,309	16.7%	1.067	0.028

Table 1r. Aggregated Adjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.025, in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2019Q4

| Patient Characteristics[1] | Medical Product | | | | Covariate Balance | |
| | ACE Inhibitors | | Beta Blockers | | | |
	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
Glaucoma[5]	5,799	6.7%	5,897	6.9%	-0.114	-0.005
Hip or Pelvic Fracture[5]	467	0.5%	548	0.6%	-0.094	-0.012
Hyperlipidemia[5]	34,022	39.6%	34,446	40.1%	-0.493	-0.010
Hypertension[5]	43,283	50.4%	39,508	46.0%	4.394	0.088
Osteoporosis[5]	4,811	5.6%	4,862	5.7%	-0.059	-0.003
Rheumatoid Arthritis or Osteoarthritis[5]	19,542	22.7%	19,287	22.4%	0.297	0.007
Stroke or Transient Ischemic Attack[5]	4,421	5.1%	3,703	4.3%	0.836	0.039
Breast Cancer[5]	2,461	2.9%	2,097	2.4%	0.424	0.026
Colorectal Cancer[5]	914	1.1%	741	0.9%	0.201	0.021
Prostate Cancer[5]	1,939	2.3%	1,790	2.1%	0.173	0.012
Lung Cancer[5]	622	0.7%	601	0.7%	0.024	0.003
Endometrial Cancer[5]	344	0.4%	264	0.3%	0.093	0.016
Urologic Cancer[5]	371	0.4%	333	0.4%	0.044	0.007
Health Service Utilization Intensity Metrics						
Mean number of ambulatory encounters	8.6	11.1	8.5	10.0	0.039	0.004
Mean number of emergency room encounters	0.4	1.2	0.4	1.1	-0.019	-0.017
Mean number of inpatient hospital encounters	0.2	0.5	0.2	0.5	-0.024	-0.047
Mean number of non-acute institutional encounters	0.1	0.3	0.1	0.3	-0.006	-0.019
Mean number of other ambulatory encounters	2.8	7.7	2.9	8.1	-0.127	-0.016
Mean number of filled prescriptions	10.2	13.0	10.1	12.7	0.104	0.008
Mean number of generics dispensed	4.5	4.1	4.4	4.0	0.068	0.017
Mean number of unique drug classes dispensed	4.2	3.8	4.2	3.7	0.071	0.019

[1]Covariates in blue show a standardized difference greater than 0.1.

[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.

[4]The Combined Comorbidity Score is calculated based on comorbidities observed during a requester-defined window around the exposure episode start date. (Gagne JJ, Glynn RJ, Avorn J, Levin R, Schneeweiss S. A Combined Comorbidity Score Predicted Mortality in Elderly Patients Better Than Existing Scores. J Clin Epidemiol. 2011;64(7):749-759; Sun JW, Rogers JR, Her Q, Welch EC, Panozzo CA, Toh S, Gagne JJ. Adaptation and Validation of the Combined Comorbidity Score for ICD-10-CM. Med Care. 2017;55(12):1046-1051)

[5]Covariate not included in the propensity score logistic regression model.

NaN: Not a number

Table 1s. Aggregated Unadjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2020Q1

| Patient Characteristics[1] | Medical Product | | | | Covariate Balance | |
| | ACE Inhibitors | | Beta Blockers | | | |
	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
Unique patients	88,450	100.0%	84,983	100.0%	N/A	N/A
Demographic Characteristics						
Age (years)	60.9	12.2	61.2	13.8	-0.302	-0.023
Age						
18-44 years	16,111	18.2%	16,517	19.4%	-1.221	-0.031
45-64 years	27,979	31.6%	23,958	28.2%	3.441	0.075
≥ 65 years	44,360	50.2%	44,508	52.4%	-2.220	-0.044
Sex						
Female	48,564	54.9%	44,492	52.4%	2.552	0.051
Male	39,886	45.1%	40,491	47.6%	-2.552	-0.051
Race[3]						
American Indian or Alaska Native	389	0.4%	255	0.3%	0.140	0.023
Asian	1,010	1.1%	1,110	1.3%	-0.164	-0.015
Black or African American	4,796	5.4%	4,954	5.8%	-0.407	-0.018
Multi-racial	347	0.4%	280	0.3%	0.063	0.010
Native Hawaiian or Other Pacific Islander	113	0.1%	74	0.1%	0.041	0.012
Unknown	37,616	42.5%	35,674	42.0%	0.550	0.011
White	44,179	49.9%	42,636	50.2%	-0.222	-0.004
Hispanic origin						
Yes	1,840	2.1%	1,230	1.4%	0.633	0.048
No	46,958	53.1%	45,525	53.6%	-0.480	-0.010
Unknown	39,652	44.8%	38,228	45.0%	-0.153	-0.003
Year						
2018	0	0.0%	0	0.0%	NaN	NaN
2019	0	0.0%	0	0.0%	NaN	NaN
2020	88,450	100.0%	84,983	100.0%	0.000	NaN
2021	0	0.0%	0	0.0%	NaN	NaN
2022	0	0.0%	0	0.0%	NaN	NaN
Quarter-Year						
2018Q1	0	0.0%	0	0.0%	NaN	NaN
2018Q2	0	0.0%	0	0.0%	NaN	NaN
2018Q3	0	0.0%	0	0.0%	NaN	NaN
2018Q4	0	0.0%	0	0.0%	NaN	NaN
2019Q1	0	0.0%	0	0.0%	NaN	NaN

Table 1s. Aggregated Unadjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2020Q1

Patient Characteristics[1]	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
2019Q2	0	0.0%	0	0.0%	NaN	NaN
2019Q3	0	0.0%	0	0.0%	NaN	NaN
2019Q4	0	0.0%	0	0.0%	NaN	NaN
2020Q1	88,450	100.0%	84,983	100.0%	0.000	NaN
2020Q2	0	0.0%	0	0.0%	NaN	NaN
2020Q3	0	0.0%	0	0.0%	NaN	NaN
2020Q4	0	0.0%	0	0.0%	NaN	NaN
2021Q1	0	0.0%	0	0.0%	NaN	NaN
2021Q2	0	0.0%	0	0.0%	NaN	NaN
2021Q3	0	0.0%	0	0.0%	NaN	NaN
2021Q4	0	0.0%	0	0.0%	NaN	NaN
2022Q1	0	0.0%	0	0.0%	NaN	NaN
2022Q2	0	0.0%	0	0.0%	NaN	NaN
Health Characteristics						
Charlson/Elixhauser combined comorbidity score[4]	1.1	2.2	1.2	2.1	-0.056	-0.026
Allergic Reaction	11,391	12.9%	10,880	12.8%	0.076	0.002
Diabetes	14,490	16.4%	14,565	17.1%	-0.757	-0.020
Heart Failure	4,827	5.5%	5,242	6.2%	-0.711	-0.030
Ischemic Heart Disease	9,528	10.8%	9,286	10.9%	-0.155	-0.005
NSAID Use	13,643	15.4%	12,839	15.1%	0.317	0.009
Acquired Hypothyroidism[5]	12,034	13.6%	11,744	13.8%	-0.214	-0.006
Acute Myocardial Infarction[5]	1,544	1.7%	2,805	3.3%	-1.555	-0.099
Alzheimers Disease and Related Disorders[5]	3,730	4.2%	2,823	3.3%	0.895	0.047
Anemia[5]	10,464	11.8%	10,497	12.4%	-0.521	-0.016
Asthma[5]	5,835	6.6%	4,497	5.3%	1.305	0.055
Atrial Fibrillation[5]	3,702	4.2%	9,927	11.7%	-7.496	-0.280
Benign Prostatic Hyperplasia[5]	5,280	6.0%	5,867	6.9%	-0.934	-0.038
Cataract[5]	11,720	13.3%	11,325	13.3%	-0.076	-0.002
Chronic Kidney Disease[5]	13,050	14.8%	11,609	13.7%	1.094	0.031
Chronic Obstructive Pulmonary Disease and Bronchiectasis[5]	9,787	11.1%	8,199	9.6%	1.417	0.047
Depression[5]	15,690	17.7%	13,705	16.1%	1.612	0.043
Glaucoma[5]	5,808	6.6%	5,673	6.7%	-0.109	-0.004

Table 1s. Aggregated Unadjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2020Q1

Patient Characteristics[1]	ACE Inhibitors		Beta Blockers		Covariate Balance	
	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
Hip or Pelvic Fracture[5]	531	0.6%	553	0.7%	-0.050	-0.006
Hyperlipidemia[5]	34,686	39.2%	34,165	40.2%	-0.987	-0.020
Hypertension[5]	45,153	51.0%	39,396	46.4%	4.692	0.094
Osteoporosis[5]	4,959	5.6%	4,718	5.6%	0.055	0.002
Rheumatoid Arthritis or Osteoarthritis[5]	20,044	22.7%	18,647	21.9%	0.719	0.017
Stroke or Transient Ischemic Attack[5]	4,570	5.2%	3,580	4.2%	0.954	0.045
Breast Cancer[5]	2,571	2.9%	2,097	2.5%	0.439	0.027
Colorectal Cancer[5]	927	1.0%	727	0.9%	0.193	0.020
Prostate Cancer[5]	2,002	2.3%	1,759	2.1%	0.194	0.013
Lung Cancer[5]	647	0.7%	620	0.7%	0.002	0.000
Endometrial Cancer[5]	363	0.4%	252	0.3%	0.114	0.019
Urologic Cancer[5]	326	0.4%	363	0.4%	-0.059	-0.009
Health Service Utilization Intensity Metrics						
Mean number of ambulatory encounters	8.4	10.9	8.4	9.9	0.077	0.007
Mean number of emergency room encounters	0.4	1.1	0.4	1.0	-0.018	-0.018
Mean number of inpatient hospital encounters	0.2	0.5	0.2	0.5	-0.019	-0.037
Mean number of non-acute institutional encounters	0.1	0.3	0.1	0.3	-0.003	-0.011
Mean number of other ambulatory encounters	2.9	8.0	3.0	8.1	-0.075	-0.009
Mean number of filled prescriptions	9.9	12.6	9.8	12.6	0.118	0.009
Mean number of generics dispensed	4.4	4.1	4.4	4.0	0.080	0.020
Mean number of unique drug classes dispensed	4.2	3.8	4.1	3.7	0.081	0.022

[1]Covariates in blue show a standardized difference greater than 0.1.

[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.

[4]The Combined Comorbidity Score is calculated based on comorbidities observed during a requester-defined window around the exposure episode start date. (Gagne JJ, Glynn RJ, Avorn J, Levin R, Schneeweiss S. A Combined Comorbidity Score Predicted Mortality in Elderly Patients Better Than Existing Scores. J Clin Epidemiol. 2011;64(7):749-759; Sun JW, Rogers JR, Her Q, Welch EC, Panozzo CA, Toh S, Gagne JJ. Adaptation and Validation of the Combined Comorbidity Score for ICD-10-CM. Med Care. 2017;55(12):1046-1051)

[5]Covariate not included in the propensity score logistic regression model.

NaN: Not a number

Table 1t. Aggregated Adjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.025, in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2020Q1

| Patient Characteristics[1] | Medical Product | | | | Covariate Balance | |
| | ACE Inhibitors | | Beta Blockers | | | |
	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
Unique patients	84,751	95.8%	84,751	99.7%	N/A	N/A
Demographic Characteristics						
Age (years)	61.0	12.2	61.2	13.8	-0.212	-0.016
Age						
18-44 years	15,284	18.0%	16,472	19.4%	-1.402	-0.036
45-64 years	26,714	31.5%	23,889	28.2%	3.333	0.073
≥ 65 years	42,753	50.4%	44,390	52.4%	-1.932	-0.039
Sex						
Female	46,540	54.9%	44,400	52.4%	2.525	0.051
Male	38,211	45.1%	40,351	47.6%	-2.525	-0.051
Race[3]						
American Indian or Alaska Native	374	0.4%	255	0.3%	0.140	0.023
Asian	961	1.1%	1,107	1.3%	-0.172	-0.016
Black or African American	4,620	5.5%	4,939	5.8%	-0.376	-0.016
Multi-racial	329	0.4%	279	0.3%	0.059	0.010
Native Hawaiian or Other Pacific Islander	109	0.1%	73	0.1%	0.042	0.013
Unknown	35,771	42.2%	35,549	41.9%	0.262	0.005
White	42,587	50.2%	42,549	50.2%	0.045	0.001
Hispanic origin						
Yes	1,779	2.1%	1,228	1.4%	0.650	0.049
No	45,313	53.5%	45,434	53.6%	-0.143	-0.003
Unknown	37,659	44.4%	38,089	44.9%	-0.507	-0.010
Year						
2018	0	0.0%	0	0.0%	NaN	NaN
2019	0	0.0%	0	0.0%	NaN	NaN
2020	84,751	100.0%	84,751	100.0%	0.000	NaN
2021	0	0.0%	0	0.0%	NaN	NaN
2022	0	0.0%	0	0.0%	NaN	NaN
Quarter-Year						
2018Q1	0	0.0%	0	0.0%	NaN	NaN
2018Q2	0	0.0%	0	0.0%	NaN	NaN
2018Q3	0	0.0%	0	0.0%	NaN	NaN
2018Q4	0	0.0%	0	0.0%	NaN	NaN

Table 1t. Aggregated Adjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.025, in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2020Q1

Patient Characteristics[1]	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
2019Q1	0	0.0%	0	0.0%	NaN	NaN
2019Q2	0	0.0%	0	0.0%	NaN	NaN
2019Q3	0	0.0%	0	0.0%	NaN	NaN
2019Q4	0	0.0%	0	0.0%	NaN	NaN
2020Q1	84,751	100.0%	84,751	100.0%	0.000	NaN
2020Q2	0	0.0%	0	0.0%	NaN	NaN
2020Q3	0	0.0%	0	0.0%	NaN	NaN
2020Q4	0	0.0%	0	0.0%	NaN	NaN
2021Q1	0	0.0%	0	0.0%	NaN	NaN
2021Q2	0	0.0%	0	0.0%	NaN	NaN
2021Q3	0	0.0%	0	0.0%	NaN	NaN
2021Q4	0	0.0%	0	0.0%	NaN	NaN
2022Q1	0	0.0%	0	0.0%	NaN	NaN
2022Q2	0	0.0%	0	0.0%	NaN	NaN
Health Characteristics						
Charlson/Elixhauser combined comorbidity score[4]	1.1	2.2	1.2	2.1	-0.067	-0.031
Allergic Reaction	10,910	12.9%	10,849	12.8%	0.072	0.002
Diabetes	13,896	16.4%	14,470	17.1%	-0.677	-0.018
Heart Failure	4,569	5.4%	5,225	6.2%	-0.774	-0.033
Ischemic Heart Disease	9,047	10.7%	9,249	10.9%	-0.238	-0.008
NSAID Use	13,071	15.4%	12,806	15.1%	0.313	0.009
Acquired Hypothyroidism[5]	11,551	13.6%	11,712	13.8%	-0.190	-0.006
Acute Myocardial Infarction[5]	1,460	1.7%	2,790	3.3%	-1.569	-0.100
Alzheimers Disease and Related Disorders[5]	3,558	4.2%	2,816	3.3%	0.876	0.046
Anemia[5]	9,957	11.7%	10,456	12.3%	-0.589	-0.018
Asthma[5]	5,567	6.6%	4,480	5.3%	1.283	0.054
Atrial Fibrillation[5]	3,541	4.2%	9,905	11.7%	-7.509	-0.281
Benign Prostatic Hyperplasia[5]	5,069	6.0%	5,843	6.9%	-0.913	-0.037
Cataract[5]	11,269	13.3%	11,299	13.3%	-0.035	-0.001
Chronic Kidney Disease[5]	12,456	14.7%	11,565	13.6%	1.051	0.030
Chronic Obstructive Pulmonary Disease and Bronchiectasis[5]	9,321	11.0%	8,166	9.6%	1.363	0.045

Table 1t. Aggregated Adjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.025, in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2020Q1

Patient Characteristics[1]	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
Depression[5]	14,974	17.7%	13,671	16.1%	1.537	0.041
Glaucoma[5]	5,557	6.6%	5,655	6.7%	-0.116	-0.005
Hip or Pelvic Fracture[5]	502	0.6%	550	0.6%	-0.057	-0.007
Hyperlipidemia[5]	33,228	39.2%	34,060	40.2%	-0.982	-0.020
Hypertension[5]	43,305	51.1%	39,245	46.3%	4.791	0.096
Osteoporosis[5]	4,764	5.6%	4,709	5.6%	0.065	0.003
Rheumatoid Arthritis or Osteoarthritis[5]	19,267	22.7%	18,595	21.9%	0.793	0.019
Stroke or Transient Ischemic Attack[5]	4,376	5.2%	3,571	4.2%	0.950	0.045
Breast Cancer[5]	2,469	2.9%	2,097	2.5%	0.439	0.027
Colorectal Cancer[5]	879	1.0%	725	0.9%	0.182	0.019
Prostate Cancer[5]	1,937	2.3%	1,755	2.1%	0.215	0.015
Lung Cancer[5]	616	0.7%	619	0.7%	-0.004	-0.000
Endometrial Cancer[5]	351	0.4%	252	0.3%	0.117	0.020
Urologic Cancer[5]	311	0.4%	362	0.4%	-0.060	-0.010
Health Service Utilization Intensity Metrics						
Mean number of ambulatory encounters	8.4	10.8	8.4	9.9	0.046	0.004
Mean number of emergency room encounters	0.4	1.0	0.4	1.0	-0.021	-0.020
Mean number of inpatient hospital encounters	0.2	0.5	0.2	0.5	-0.021	-0.042
Mean number of non-acute institutional encounters	0.1	0.3	0.1	0.3	-0.004	-0.012
Mean number of other ambulatory encounters	2.9	7.9	3.0	8.1	-0.093	-0.012
Mean number of filled prescriptions	9.9	12.6	9.8	12.6	0.098	0.008
Mean number of generics dispensed	4.4	4.1	4.4	4.0	0.071	0.017
Mean number of unique drug classes dispensed	4.2	3.8	4.1	3.7	0.073	0.020

[1]Covariates in blue show a standardized difference greater than 0.1.

[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.

[4]The Combined Comorbidity Score is calculated based on comorbidities observed during a requester-defined window around the exposure episode start date. (Gagne JJ, Glynn RJ, Avorn J, Levin R, Schneeweiss S. A Combined Comorbidity Score Predicted Mortality in Elderly Patients Better Than Existing Scores. J Clin Epidemiol. 2011;64(7):749-759; Sun JW, Rogers JR, Her Q, Welch EC, Panozzo CA, Toh S, Gagne JJ. Adaptation and Validation of the Combined Comorbidity Score for ICD-10-CM. Med Care. 2017;55(12):1046-1051)

[5]Covariate not included in the propensity score logistic regression model.

NaN: Not a number

Table 1u. Aggregated Unadjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2020Q2

	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
Patient Characteristics[1]	Number Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
Unique patients	58,184	100.0%	62,766	100.0%	N/A	N/A
Demographic Characteristics						
Age (years)	61.2	12.4	61.1	13.9	0.086	0.007
Age						
18-44 years	10,684	18.4%	12,545	20.0%	-1.624	-0.041
45-64 years	17,669	30.4%	17,472	27.8%	2.531	0.056
≥ 65 years	29,831	51.3%	32,749	52.2%	-0.906	-0.018
Sex						
Female	32,354	55.6%	33,877	54.0%	1.633	0.033
Male	25,830	44.4%	28,889	46.0%	-1.633	-0.033
Race[3]						
American Indian or Alaska Native	246	0.4%	173	0.3%	0.147	0.025
Asian	661	1.1%	858	1.4%	-0.231	-0.021
Black or African American	3,234	5.6%	3,795	6.0%	-0.488	-0.021
Multi-racial	212	0.4%	229	0.4%	-0.000	-0.000
Native Hawaiian or Other Pacific Islander	73	0.1%	78	0.1%	0.001	0.000
Unknown	23,947	41.2%	26,218	41.8%	-0.614	-0.012
White	29,811	51.2%	31,415	50.1%	1.185	0.024
Hispanic origin						
Yes	1,222	2.1%	954	1.5%	0.580	0.044
No	31,760	54.6%	33,707	53.7%	0.883	0.018
Unknown	25,202	43.3%	28,105	44.8%	-1.463	-0.029
Year						
2018	0	0.0%	0	0.0%	NaN	NaN
2019	0	0.0%	0	0.0%	NaN	NaN
2020	58,184	100.0%	62,766	100.0%	0.000	NaN
2021	0	0.0%	0	0.0%	NaN	NaN
2022	0	0.0%	0	0.0%	NaN	NaN
Quarter-Year						
2018Q1	0	0.0%	0	0.0%	NaN	NaN
2018Q2	0	0.0%	0	0.0%	NaN	NaN
2018Q3	0	0.0%	0	0.0%	NaN	NaN
2018Q4	0	0.0%	0	0.0%	NaN	NaN

Table 1u. Aggregated Unadjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2020Q2

| | Medical Product | | | | Covariate Balance | |
| | ACE Inhibitors | | Beta Blockers | | | |
Patient Characteristics[1]	Number Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
2019Q1	0	0.0%	0	0.0%	NaN	NaN
2019Q2	0	0.0%	0	0.0%	NaN	NaN
2019Q3	0	0.0%	0	0.0%	NaN	NaN
2019Q4	0	0.0%	0	0.0%	NaN	NaN
2020Q1	0	0.0%	0	0.0%	NaN	NaN
2020Q2	58,184	100.0%	62,766	100.0%	0.000	NaN
2020Q3	0	0.0%	0	0.0%	NaN	NaN
2020Q4	0	0.0%	0	0.0%	NaN	NaN
2021Q1	0	0.0%	0	0.0%	NaN	NaN
2021Q2	0	0.0%	0	0.0%	NaN	NaN
2021Q3	0	0.0%	0	0.0%	NaN	NaN
2021Q4	0	0.0%	0	0.0%	NaN	NaN
2022Q1	0	0.0%	0	0.0%	NaN	NaN
2022Q2	0	0.0%	0	0.0%	NaN	NaN
Health Characteristics						
Charlson/Elixhauser combined comorbidity score[4]	1.2	2.3	1.2	2.2	0.006	0.003
Allergic Reaction	7,309	12.6%	7,322	11.7%	0.896	0.027
Diabetes	10,078	17.3%	10,711	17.1%	0.256	0.007
Heart Failure	3,465	6.0%	4,003	6.4%	-0.422	-0.018
Ischemic Heart Disease	6,529	11.2%	7,036	11.2%	0.011	0.000
NSAID Use	9,185	15.8%	9,864	15.7%	0.071	0.002
Acquired Hypothyroidism[5]	8,016	13.8%	8,602	13.7%	0.072	0.002
Acute Myocardial Infarction[5]	1,160	2.0%	2,354	3.8%	-1.757	-0.105
Alzheimers Disease and Related Disorders[5]	2,746	4.7%	2,305	3.7%	1.047	0.052
Anemia[5]	7,067	12.1%	7,729	12.3%	-0.168	-0.005
Asthma[5]	3,958	6.8%	3,364	5.4%	1.443	0.060
Atrial Fibrillation[5]	2,624	4.5%	7,336	11.7%	-7.178	-0.265
Benign Prostatic Hyperplasia[5]	3,407	5.9%	4,121	6.6%	-0.710	-0.029
Cataract[5]	6,046	10.4%	6,646	10.6%	-0.197	-0.006
Chronic Kidney Disease[5]	9,274	15.9%	8,832	14.1%	1.868	0.052
Chronic Obstructive Pulmonary Disease and Bronchiectasis[5]	6,756	11.6%	6,015	9.6%	2.028	0.066
Depression[5]	10,703	18.4%	10,476	16.7%	1.705	0.045

Table 1u. Aggregated Unadjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2020Q2

Patient Characteristics[1]	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
	Number Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
Glaucoma[5]	3,335	5.7%	3,424	5.5%	0.277	0.012
Hip or Pelvic Fracture[5]	366	0.6%	478	0.8%	-0.133	-0.016
Hyperlipidemia[5]	22,526	38.7%	24,048	38.3%	0.401	0.008
Hypertension[5]	29,924	51.4%	28,254	45.0%	6.415	0.129
Osteoporosis[5]	3,108	5.3%	3,339	5.3%	0.022	0.001
Rheumatoid Arthritis or Osteoarthritis[5]	12,791	22.0%	13,363	21.3%	0.694	0.017
Stroke or Transient Ischemic Attack[5]	3,371	5.8%	2,767	4.4%	1.385	0.063
Breast Cancer[5]	1,701	2.9%	1,466	2.3%	0.588	0.037
Colorectal Cancer[5]	614	1.1%	492	0.8%	0.271	0.028
Prostate Cancer[5]	1,281	2.2%	1,275	2.0%	0.170	0.012
Lung Cancer[5]	439	0.8%	486	0.8%	-0.020	-0.002
Endometrial Cancer[5]	247	0.4%	177	0.3%	0.143	0.024
Urologic Cancer[5]	275	0.5%	279	0.4%	0.028	0.004
Health Service Utilization Intensity Metrics						
Mean number of ambulatory encounters	8.0	11.1	7.8	9.8	0.225	0.021
Mean number of emergency room	0.4	1.1	0.4	1.0	-0.009	-0.008
Mean number of inpatient hospital encounters	0.2	0.5	0.2	0.5	-0.012	-0.022
Mean number of non-acute institutional encounters	0.1	0.3	0.1	0.3	0.001	0.002
Mean number of other ambulatory encounters	3.1	8.6	3.1	8.8	0.016	0.002
Mean number of filled prescriptions	10.7	13.5	10.3	13.1	0.376	0.028
Mean number of generics dispensed	4.7	4.3	4.5	4.1	0.142	0.034
Mean number of unique drug classes dispensed	4.4	3.9	4.3	3.8	0.138	0.036

[1]Covariates in blue show a standardized difference greater than 0.1.

[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.

[4]The Combined Comorbidity Score is calculated based on comorbidities observed during a requester-defined window around the exposure episode start date. (Gagne JJ, Glynn RJ, Avorn J, Levin R, Schneeweiss S. A Combined Comorbidity Score Predicted Mortality in Elderly Patients Better Than Existing Scores. J Clin Epidemiol. 2011;64(7):749-759; Sun JW, Rogers JR, Her Q, Welch EC, Panozzo CA, Toh S, Gagne JJ. Adaptation and Validation of the Combined Comorbidity Score for ICD-10-CM. Med Care. 2017;55(12):1046-1051)

[5]Covariate not included in the propensity score logistic regression model.

NaN: Not a number

Table 1v. Aggregated Adjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.025, in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2020Q2

| | Medical Product | | | | Covariate Balance | |
| | ACE Inhibitors | | Beta Blockers | | | |
Patient Characteristics[1]	Number Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
Unique patients	57,908	99.5%	57,908	92.3%	N/A	N/A
Demographic Characteristics						
Age (years)	61.2	12.3	61.3	13.9	-0.130	-0.010
Age						
18-44 years	10,653	18.4%	11,396	19.7%	-1.283	-0.033
45-64 years	17,571	30.3%	15,912	27.5%	2.865	0.063
≥ 65 years	29,684	51.3%	30,600	52.8%	-1.582	-0.032
Sex						
Female	32,227	55.7%	31,199	53.9%	1.775	0.036
Male	25,681	44.3%	26,709	46.1%	-1.775	-0.036
Race[3]						
American Indian or Alaska Native	245	0.4%	166	0.3%	0.136	0.023
Asian	659	1.1%	802	1.4%	-0.247	-0.022
Black or African American	3,206	5.5%	3,557	6.1%	-0.606	-0.026
Multi-racial	211	0.4%	217	0.4%	-0.010	-0.002
Native Hawaiian or Other Pacific Islander	71	0.1%	77	0.1%	-0.010	-0.003
Unknown	23,843	41.2%	23,698	40.9%	0.250	0.005
White	29,673	51.2%	29,391	50.8%	0.487	0.010
Hispanic origin						
Yes	1,220	2.1%	890	1.5%	0.570	0.043
No	31,619	54.6%	31,610	54.6%	0.016	0.000
Unknown	25,069	43.3%	25,408	43.9%	-0.585	-0.012
Year						
2018	0	0.0%	0	0.0%	NaN	NaN
2019	0	0.0%	0	0.0%	NaN	NaN
2020	57,908	100.0%	57,908	100.0%	0.000	NaN
2021	0	0.0%	0	0.0%	NaN	NaN
2022	0	0.0%	0	0.0%	NaN	NaN
Quarter-Year						
2018Q1	0	0.0%	0	0.0%	NaN	NaN
2018Q2	0	0.0%	0	0.0%	NaN	NaN
2018Q3	0	0.0%	0	0.0%	NaN	NaN
2018Q4	0	0.0%	0	0.0%	NaN	NaN

Table 1v. Aggregated Adjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.025, in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2020Q2

Patient Characteristics[1]	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
	Number Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
2019Q1	0	0.0%	0	0.0%	NaN	NaN
2019Q2	0	0.0%	0	0.0%	NaN	NaN
2019Q3	0	0.0%	0	0.0%	NaN	NaN
2019Q4	0	0.0%	0	0.0%	NaN	NaN
2020Q1	0	0.0%	0	0.0%	NaN	NaN
2020Q2	57,908	100.0%	57,908	100.0%	0.000	NaN
2020Q3	0	0.0%	0	0.0%	NaN	NaN
2020Q4	0	0.0%	0	0.0%	NaN	NaN
2021Q1	0	0.0%	0	0.0%	NaN	NaN
2021Q2	0	0.0%	0	0.0%	NaN	NaN
2021Q3	0	0.0%	0	0.0%	NaN	NaN
2021Q4	0	0.0%	0	0.0%	NaN	NaN
2022Q1	0	0.0%	0	0.0%	NaN	NaN
2022Q2	0	0.0%	0	0.0%	NaN	NaN
Health Characteristics						
Charlson/Elixhauser combined comorbidity score[4]	1.2	2.3	1.3	2.2	-0.030	-0.014
Allergic Reaction	7,259	12.5%	6,821	11.8%	0.756	0.023
Diabetes	9,976	17.2%	9,978	17.2%	-0.003	-0.000
Heart Failure	3,411	5.9%	3,807	6.6%	-0.684	-0.028
Ischemic Heart Disease	6,438	11.1%	6,682	11.5%	-0.421	-0.013
NSAID Use	9,140	15.8%	9,096	15.7%	0.076	0.002
Acquired Hypothyroidism[5]	7,970	13.8%	8,005	13.8%	-0.060	-0.002
Acute Myocardial Infarction[5]	1,146	2.0%	2,220	3.8%	-1.855	-0.111
Alzheimers Disease and Related Disorders[5]	2,727	4.7%	2,189	3.8%	0.929	0.046
Anemia[5]	7,003	12.1%	7,281	12.6%	-0.480	-0.015
Asthma[5]	3,934	6.8%	3,138	5.4%	1.375	0.057
Atrial Fibrillation[5]	2,600	4.5%	6,860	11.8%	-7.356	-0.271
Benign Prostatic Hyperplasia[5]	3,378	5.8%	3,872	6.7%	-0.853	-0.035
Cataract[5]	6,022	10.4%	6,191	10.7%	-0.292	-0.010
Chronic Kidney Disease[5]	9,185	15.9%	8,292	14.3%	1.542	0.043
Chronic Obstructive Pulmonary Disease and Bronchiectasis[5]	6,694	11.6%	5,652	9.8%	1.799	0.058
Depression[5]	10,624	18.3%	9,741	16.8%	1.525	0.040

Table 1v. Aggregated Adjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.025, in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2020Q2

Patient Characteristics[1]	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
	Number Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
Glaucoma[5]	3,321	5.7%	3,193	5.5%	0.221	0.010
Hip or Pelvic Fracture[5]	361	0.6%	448	0.8%	-0.150	-0.018
Hyperlipidemia[5]	22,373	38.6%	22,389	38.7%	-0.028	-0.001
Hypertension[5]	29,722	51.3%	26,286	45.4%	5.934	0.119
Osteoporosis[5]	3,090	5.3%	3,129	5.4%	-0.067	-0.003
Rheumatoid Arthritis or Osteoarthritis[5]	12,699	21.9%	12,462	21.5%	0.409	0.010
Stroke or Transient Ischemic Attack[5]	3,344	5.8%	2,582	4.5%	1.316	0.060
Breast Cancer[5]	1,691	2.9%	1,366	2.4%	0.561	0.035
Colorectal Cancer[5]	606	1.0%	475	0.8%	0.226	0.024
Prostate Cancer[5]	1,267	2.2%	1,200	2.1%	0.116	0.008
Lung Cancer[5]	433	0.7%	465	0.8%	-0.055	-0.006
Endometrial Cancer[5]	244	0.4%	164	0.3%	0.138	0.023
Urologic Cancer[5]	272	0.5%	263	0.5%	0.016	0.002
Health Service Utilization Intensity Metrics						
Mean number of ambulatory encounters	8.0	11.1	7.8	9.9	0.143	0.014
Mean number of emergency room	0.4	1.1	0.4	1.1	-0.019	-0.017
Mean number of inpatient hospital encounters	0.2	0.5	0.2	0.5	-0.018	-0.033
Mean number of non-acute institutional encounters	0.1	0.3	0.1	0.3	-0.001	-0.003
Mean number of other ambulatory encounters	3.1	8.6	3.2	8.8	-0.042	-0.005
Mean number of filled prescriptions	10.7	13.5	10.4	13.0	0.288	0.022
Mean number of generics dispensed	4.7	4.2	4.6	4.1	0.105	0.025
Mean number of unique drug classes dispensed	4.4	3.9	4.3	3.8	0.105	0.027

[1]Covariates in blue show a standardized difference greater than 0.1.

[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.

[4]The Combined Comorbidity Score is calculated based on comorbidities observed during a requester-defined window around the exposure episode start date. (Gagne JJ, Glynn RJ, Avorn J, Levin R, Schneeweiss S. A Combined Comorbidity Score Predicted Mortality in Elderly Patients Better Than Existing Scores. J Clin Epidemiol. 2011;64(7):749-759; Sun JW, Rogers JR, Her Q, Welch EC, Panozzo CA, Toh S, Gagne JJ. Adaptation and Validation of the Combined Comorbidity Score for ICD-10-CM. Med Care. 2017;55(12):1046-1051)

[5]Covariate not included in the propensity score logistic regression model.

NaN: Not a number

Table 1w. Aggregated Unadjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2020Q3

	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
Patient Characteristics[1]	Number Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
Unique patients	80,892	100.0%	85,425	100.0%	N/A	N/A
Demographic Characteristics						
Age (years)	60.9	12.5	61.6	14.1	-0.654	-0.049
Age						
18-44 years	14,809	18.3%	16,260	19.0%	-0.727	-0.019
45-64 years	25,147	31.1%	23,501	27.5%	3.576	0.079
≥ 65 years	40,936	50.6%	45,664	53.5%	-2.849	-0.057
Sex						
Female	45,345	56.1%	46,623	54.6%	1.479	0.030
Male	35,547	43.9%	38,802	45.4%	-1.479	-0.030
Race[3]						
American Indian or Alaska Native	341	0.4%	214	0.3%	0.171	0.030
Asian	891	1.1%	1,140	1.3%	-0.233	-0.021
Black or African American	4,669	5.8%	5,338	6.2%	-0.477	-0.020
Multi-racial	362	0.4%	303	0.4%	0.093	0.015
Native Hawaiian or Other Pacific Islander	117	0.1%	101	0.1%	0.026	0.007
Unknown	34,434	42.6%	35,566	41.6%	0.934	0.019
White	40,078	49.5%	42,763	50.1%	-0.514	-0.010
Hispanic origin						
Yes	1,759	2.2%	1,311	1.5%	0.640	0.047
No	40,702	50.3%	43,417	50.8%	-0.508	-0.010
Unknown	38,431	47.5%	40,697	47.6%	-0.132	-0.003
Year						
2018	0	0.0%	0	0.0%	NaN	NaN
2019	0	0.0%	0	0.0%	NaN	NaN
2020	80,892	100.0%	85,425	100.0%	0.000	NaN
2021	0	0.0%	0	0.0%	NaN	NaN
2022	0	0.0%	0	0.0%	NaN	NaN
Quarter-Year						
2018Q1	0	0.0%	0	0.0%	NaN	NaN
2018Q2	0	0.0%	0	0.0%	NaN	NaN
2018Q3	0	0.0%	0	0.0%	NaN	NaN
2018Q4	0	0.0%	0	0.0%	NaN	NaN

Table 1w. Aggregated Unadjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2020Q3

Patient Characteristics[1]	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
	Number Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
2019Q1	0	0.0%	0	0.0%	NaN	NaN
2019Q2	0	0.0%	0	0.0%	NaN	NaN
2019Q3	0	0.0%	0	0.0%	NaN	NaN
2019Q4	0	0.0%	0	0.0%	NaN	NaN
2020Q1	0	0.0%	0	0.0%	NaN	NaN
2020Q2	0	0.0%	0	0.0%	NaN	NaN
2020Q3	80,892	100.0%	85,425	100.0%	0.000	NaN
2020Q4	0	0.0%	0	0.0%	NaN	NaN
2021Q1	0	0.0%	0	0.0%	NaN	NaN
2021Q2	0	0.0%	0	0.0%	NaN	NaN
2021Q3	0	0.0%	0	0.0%	NaN	NaN
2021Q4	0	0.0%	0	0.0%	NaN	NaN
2022Q1	0	0.0%	0	0.0%	NaN	NaN
2022Q2	0	0.0%	0	0.0%	NaN	NaN
Health Characteristics						
Charlson/Elixhauser combined comorbidity score[4]	1.1	2.2	1.2	2.1	-0.045	-0.021
Allergic Reaction	9,529	11.8%	9,736	11.4%	0.383	0.012
Diabetes	13,954	17.3%	14,498	17.0%	0.279	0.007
Heart Failure	4,265	5.3%	5,042	5.9%	-0.630	-0.027
Ischemic Heart Disease	8,613	10.6%	9,438	11.0%	-0.401	-0.013
NSAID Use	12,019	14.9%	12,711	14.9%	-0.022	-0.001
Acquired Hypothyroidism[5]	10,558	13.1%	11,731	13.7%	-0.681	-0.020
Acute Myocardial Infarction[5]	1,451	1.8%	2,852	3.3%	-1.545	-0.098
Alzheimers Disease and Related Disorders[5]	3,300	4.1%	2,727	3.2%	0.887	0.047
Anemia[5]	9,137	11.3%	10,041	11.8%	-0.459	-0.014
Asthma[5]	5,132	6.3%	4,399	5.1%	1.195	0.051
Atrial Fibrillation[5]	3,244	4.0%	9,960	11.7%	-7.649	-0.288
Benign Prostatic Hyperplasia[5]	4,241	5.2%	5,530	6.5%	-1.231	-0.052
Cataract[5]	7,993	9.9%	8,768	10.3%	-0.383	-0.013
Chronic Kidney Disease[5]	12,552	15.5%	11,901	13.9%	1.585	0.045
Chronic Obstructive Pulmonary Disease and Bronchiectasis[5]	8,031	9.9%	7,473	8.7%	1.180	0.041
Depression[5]	14,127	17.5%	13,626	16.0%	1.513	0.041

Table 1w. Aggregated Unadjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2020Q3

Patient Characteristics[1]	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
	Number Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
Glaucoma[5]	4,438	5.5%	4,580	5.4%	0.125	0.006
Hip or Pelvic Fracture[5]	435	0.5%	523	0.6%	-0.074	-0.010
Hyperlipidemia[5]	30,948	38.3%	33,265	38.9%	-0.682	-0.014
Hypertension[5]	40,297	49.8%	38,004	44.5%	5.328	0.107
Osteoporosis[5]	4,152	5.1%	4,339	5.1%	0.053	0.002
Rheumatoid Arthritis or Osteoarthritis[5]	16,709	20.7%	17,494	20.5%	0.177	0.004
Stroke or Transient Ischemic Attack[5]	4,125	5.1%	3,476	4.1%	1.030	0.049
Breast Cancer[5]	2,202	2.7%	2,034	2.4%	0.341	0.022
Colorectal Cancer[5]	775	1.0%	704	0.8%	0.134	0.014
Prostate Cancer[5]	1,728	2.1%	1,641	1.9%	0.215	0.015
Lung Cancer[5]	567	0.7%	651	0.8%	-0.061	-0.007
Endometrial Cancer[5]	306	0.4%	209	0.2%	0.134	0.024
Urologic Cancer[5]	327	0.4%	336	0.4%	0.011	0.002
Health Service Utilization Intensity Metrics						
Mean number of ambulatory encounters	7.3	10.2	7.4	9.4	-0.046	-0.005
Mean number of emergency room	0.4	1.1	0.4	1.0	-0.001	-0.001
Mean number of inpatient hospital encounters	0.2	0.5	0.2	0.5	-0.013	-0.026
Mean number of non-acute institutional encounters	0.0	0.3	0.1	0.3	-0.005	-0.017
Mean number of other ambulatory encounters	2.7	7.9	2.8	8.2	-0.135	-0.017
Mean number of filled prescriptions	10.0	13.1	10.0	12.6	0.058	0.004
Mean number of generics dispensed	4.3	4.1	4.3	4.0	0.009	0.002
Mean number of unique drug classes dispensed	4.1	3.8	4.1	3.7	0.012	0.003

[1]Covariates in blue show a standardized difference greater than 0.1.

[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.

[4]The Combined Comorbidity Score is calculated based on comorbidities observed during a requester-defined window around the exposure episode start date. (Gagne JJ, Glynn RJ, Avorn J, Levin R, Schneeweiss S. A Combined Comorbidity Score Predicted Mortality in Elderly Patients Better Than Existing Scores. J Clin Epidemiol. 2011;64(7):749-759; Sun JW, Rogers JR, Her Q, Welch EC, Panozzo CA, Toh S, Gagne JJ. Adaptation and Validation of the Combined Comorbidity Score for ICD-10-CM. Med Care. 2017;55(12):1046-1051)

[5]Covariate not included in the propensity score logistic regression model.

NaN: Not a number

Table 1x. Aggregated Adjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.025, in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2020Q3

| | Medical Product | | | | Covariate Balance | |
| | ACE Inhibitors | | Beta Blockers | | | |
Patient Characteristics[1]	Number Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
Unique patients	80,318	99.3%	80,318	94.0%	N/A	N/A
Demographic Characteristics						
Age (years)	60.9	12.5	61.5	14.1	-0.548	-0.041
Age						
18-44 years	14,681	18.3%	15,381	19.2%	-0.872	-0.022
45-64 years	24,981	31.1%	22,199	27.6%	3.464	0.076
≥ 65 years	40,656	50.6%	42,738	53.2%	-2.592	-0.052
Sex						
Female	45,044	56.1%	43,806	54.5%	1.541	0.031
Male	35,274	43.9%	36,512	45.5%	-1.541	-0.031
Race[3]						
American Indian or Alaska Native	340	0.4%	203	0.3%	0.171	0.029
Asian	881	1.1%	1,072	1.3%	-0.238	-0.022
Black or African American	4,627	5.8%	4,991	6.2%	-0.453	-0.019
Multi-racial	359	0.4%	282	0.4%	0.096	0.015
Native Hawaiian or Other Pacific Islander	117	0.1%	95	0.1%	0.027	0.008
Unknown	34,174	42.5%	33,682	41.9%	0.613	0.012
White	39,820	49.6%	39,993	49.8%	-0.215	-0.004
Hispanic origin						
Yes	1,733	2.2%	1,227	1.5%	0.630	0.047
No	40,500	50.4%	40,690	50.7%	-0.237	-0.005
Unknown	38,085	47.4%	38,401	47.8%	-0.393	-0.008
Year						
2018	0	0.0%	0	0.0%	NaN	NaN
2019	0	0.0%	0	0.0%	NaN	NaN
2020	80,318	100.0%	80,318	100.0%	0.000	NaN
2021	0	0.0%	0	0.0%	NaN	NaN
2022	0	0.0%	0	0.0%	NaN	NaN
Quarter-Year						
2018Q1	0	0.0%	0	0.0%	NaN	NaN
2018Q2	0	0.0%	0	0.0%	NaN	NaN
2018Q3	0	0.0%	0	0.0%	NaN	NaN
2018Q4	0	0.0%	0	0.0%	NaN	NaN
2019Q1	0	0.0%	0	0.0%	NaN	NaN

Table 1x. Aggregated Adjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.025, in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2020Q3

Patient Characteristics[1]	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
2019Q2	0	0.0%	0	0.0%	NaN	NaN
2019Q3	0	0.0%	0	0.0%	NaN	NaN
2019Q4	0	0.0%	0	0.0%	NaN	NaN
2020Q1	0	0.0%	0	0.0%	NaN	NaN
2020Q2	0	0.0%	0	0.0%	NaN	NaN
2020Q3	80,318	100.0%	80,318	100.0%	0.000	NaN
2020Q4	0	0.0%	0	0.0%	NaN	NaN
2021Q1	0	0.0%	0	0.0%	NaN	NaN
2021Q2	0	0.0%	0	0.0%	NaN	NaN
2021Q3	0	0.0%	0	0.0%	NaN	NaN
2021Q4	0	0.0%	0	0.0%	NaN	NaN
2022Q1	0	0.0%	0	0.0%	NaN	NaN
2022Q2	0	0.0%	0	0.0%	NaN	NaN
Health Characteristics						
Charlson/Elixhauser combined comorbidity score[4]	1.1	2.2	1.2	2.1	-0.042	-0.020
Allergic Reaction	9,454	11.8%	9,070	11.3%	0.478	0.015
Diabetes	13,727	17.1%	13,719	17.1%	0.010	0.000
Heart Failure	4,195	5.2%	4,691	5.8%	-0.618	-0.027
Ischemic Heart Disease	8,465	10.5%	8,778	10.9%	-0.390	-0.013
NSAID Use	11,924	14.8%	11,975	14.9%	-0.063	-0.002
Acquired Hypothyroidism[5]	10,467	13.0%	10,986	13.7%	-0.646	-0.019
Acute Myocardial Infarction[5]	1,420	1.8%	2,647	3.3%	-1.528	-0.097
Alzheimers Disease and Related Disorders[5]	3,276	4.1%	2,532	3.2%	0.926	0.050
Anemia[5]	9,027	11.2%	9,325	11.6%	-0.371	-0.012
Asthma[5]	5,082	6.3%	4,108	5.1%	1.213	0.052
Atrial Fibrillation[5]	3,201	4.0%	9,269	11.5%	-7.555	-0.285
Benign Prostatic Hyperplasia[5]	4,209	5.2%	5,159	6.4%	-1.183	-0.050
Cataract[5]	7,941	9.9%	8,152	10.1%	-0.263	-0.009
Chronic Kidney Disease[5]	12,396	15.4%	11,146	13.9%	1.556	0.044
Chronic Obstructive Pulmonary Disease and Bronchiectasis[5]	7,939	9.9%	6,978	8.7%	1.196	0.041
Depression[5]	13,996	17.4%	12,800	15.9%	1.489	0.040
Glaucoma[5]	4,413	5.5%	4,237	5.3%	0.219	0.010

Table 1x. Aggregated Adjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.025, in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2020Q3

Patient Characteristics[1]	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
	Number Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
Hip or Pelvic Fracture[5]	430	0.5%	497	0.6%	-0.083	-0.011
Hyperlipidemia[5]	30,663	38.2%	31,190	38.8%	-0.656	-0.013
Hypertension[5]	39,921	49.7%	35,726	44.5%	5.223	0.105
Osteoporosis[5]	4,125	5.1%	4,073	5.1%	0.065	0.003
Rheumatoid Arthritis or Osteoarthritis[5]	16,571	20.6%	16,365	20.4%	0.256	0.006
Stroke or Transient Ischemic Attack[5]	4,087	5.1%	3,254	4.1%	1.037	0.050
Breast Cancer[5]	2,177	2.7%	1,879	2.3%	0.371	0.024
Colorectal Cancer[5]	763	0.9%	652	0.8%	0.138	0.015
Prostate Cancer[5]	1,714	2.1%	1,534	1.9%	0.224	0.016
Lung Cancer[5]	561	0.7%	610	0.8%	-0.061	-0.007
Endometrial Cancer[5]	302	0.4%	197	0.2%	0.131	0.023
Urologic Cancer[5]	324	0.4%	319	0.4%	0.006	0.001
Health Service Utilization Intensity Metrics						
Mean number of ambulatory encounters	7.3	10.2	7.3	9.3	-0.025	-0.003
Mean number of emergency room	0.4	1.1	0.4	1.1	-0.005	-0.005
Mean number of inpatient hospital encounters	0.2	0.5	0.2	0.5	-0.012	-0.024
Mean number of non-acute institutional encounters	0.0	0.3	0.1	0.3	-0.005	-0.015
Mean number of other ambulatory encounters	2.7	7.9	2.8	8.2	-0.096	-0.012
Mean number of filled prescriptions	10.0	13.1	10.0	12.6	0.060	0.005
Mean number of generics dispensed	4.3	4.0	4.3	4.0	0.011	0.003
Mean number of unique drug classes dispensed	4.1	3.8	4.1	3.7	0.016	0.004

[1]Covariates in blue show a standardized difference greater than 0.1.

[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.

[4]The Combined Comorbidity Score is calculated based on comorbidities observed during a requester-defined window around the exposure episode start date. (Gagne JJ, Glynn RJ, Avorn J, Levin R, Schneeweiss S. A Combined Comorbidity Score Predicted Mortality in Elderly Patients Better Than Existing Scores. J Clin Epidemiol. 2011;64(7):749-759; Sun JW, Rogers JR, Her Q, Welch EC, Panozzo CA, Toh S, Gagne JJ. Adaptation and Validation of the Combined Comorbidity Score for ICD-10-CM. Med Care. 2017;55(12):1046-1051)

[5]Covariate not included in the propensity score logistic regression model.

NaN: Not a number

Table 1y. Aggregated Unadjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2020Q4

| | Medical Product | | | | Covariate Balance | |
| | ACE Inhibitors | | Beta Blockers | | | |
Patient Characteristics[1]	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
Unique patients	84,008	100.0%	87,907	100.0%	N/A	N/A
Demographic Characteristics						
Age (years)	61.2	12.2	61.9	13.9	-0.654	-0.050
Age						
18-44 years	14,746	17.6%	16,167	18.4%	-0.838	-0.022
45-64 years	25,559	30.4%	23,603	26.8%	3.575	0.079
≥ 65 years	43,703	52.0%	48,137	54.8%	-2.737	-0.055
Sex						
Female	47,313	56.3%	47,723	54.3%	2.032	0.041
Male	36,695	43.7%	40,184	45.7%	-2.032	-0.041
Race[3]						
American Indian or Alaska Native	321	0.4%	244	0.3%	0.105	0.018
Asian	993	1.2%	1,241	1.4%	-0.230	-0.020
Black or African American	4,538	5.4%	5,286	6.0%	-0.611	-0.026
Multi-racial	303	0.4%	314	0.4%	0.003	0.001
Native Hawaiian or Other Pacific Islander	138	0.2%	123	0.1%	0.024	0.006
Unknown	35,077	41.8%	35,937	40.9%	0.874	0.018
White	42,638	50.8%	44,762	50.9%	-0.165	-0.003
Hispanic origin						
Yes	1,758	2.1%	1,279	1.5%	0.638	0.048
No	43,428	51.7%	45,689	52.0%	-0.279	-0.006
Unknown	38,822	46.2%	40,939	46.6%	-0.359	-0.007
Year						
2018	0	0.0%	0	0.0%	NaN	NaN
2019	0	0.0%	0	0.0%	NaN	NaN
2020	84,008	100.0%	87,907	100.0%	0.000	NaN
2021	0	0.0%	0	0.0%	NaN	NaN
2022	0	0.0%	0	0.0%	NaN	NaN
Quarter-Year						
2018Q1	0	0.0%	0	0.0%	NaN	NaN
2018Q2	0	0.0%	0	0.0%	NaN	NaN
2018Q3	0	0.0%	0	0.0%	NaN	NaN
2018Q4	0	0.0%	0	0.0%	NaN	NaN

Table 1y. Aggregated Unadjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2020Q4

| | Medical Product | | | | Covariate Balance | |
| | ACE Inhibitors | | Beta Blockers | | | |
Patient Characteristics[1]	Number Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
2019Q1	0	0.0%	0	0.0%	NaN	NaN
2019Q2	0	0.0%	0	0.0%	NaN	NaN
2019Q3	0	0.0%	0	0.0%	NaN	NaN
2019Q4	0	0.0%	0	0.0%	NaN	NaN
2020Q1	0	0.0%	0	0.0%	NaN	NaN
2020Q2	0	0.0%	0	0.0%	NaN	NaN
2020Q3	0	0.0%	0	0.0%	NaN	NaN
2020Q4	84,008	100.0%	87,907	100.0%	0.000	NaN
2021Q1	0	0.0%	0	0.0%	NaN	NaN
2021Q2	0	0.0%	0	0.0%	NaN	NaN
2021Q3	0	0.0%	0	0.0%	NaN	NaN
2021Q4	0	0.0%	0	0.0%	NaN	NaN
2022Q1	0	0.0%	0	0.0%	NaN	NaN
2022Q2	0	0.0%	0	0.0%	NaN	NaN
Health Characteristics						
Charlson/Elixhauser combined comorbidity score[4]	1.1	2.2	1.2	2.1	-0.057	-0.026
Allergic Reaction	10,842	12.9%	10,782	12.3%	0.641	0.019
Diabetes	13,725	16.3%	15,072	17.1%	-0.808	-0.022
Heart Failure	4,242	5.0%	5,199	5.9%	-0.865	-0.038
Ischemic Heart Disease	8,734	10.4%	9,700	11.0%	-0.638	-0.021
NSAID Use	12,604	15.0%	13,165	15.0%	0.027	0.001
Acquired Hypothyroidism[5]	11,568	13.8%	12,416	14.1%	-0.354	-0.010
Acute Myocardial Infarction[5]	1,392	1.7%	2,952	3.4%	-1.701	-0.109
Alzheimers Disease and Related Disorders[5]	3,329	4.0%	2,870	3.3%	0.698	0.037
Anemia[5]	9,793	11.7%	10,992	12.5%	-0.847	-0.026
Asthma[5]	5,494	6.5%	4,588	5.2%	1.321	0.056
Atrial Fibrillation[5]	3,325	4.0%	10,366	11.8%	-7.834	-0.294
Benign Prostatic Hyperplasia[5]	4,973	5.9%	6,196	7.0%	-1.129	-0.046
Cataract[5]	10,873	12.9%	11,475	13.1%	-0.111	-0.003
Chronic Kidney Disease[5]	12,583	15.0%	12,051	13.7%	1.270	0.036
Chronic Obstructive Pulmonary Disease and Bronchiectasis[5]	7,910	9.4%	7,268	8.3%	1.148	0.040
Depression[5]	15,005	17.9%	13,917	15.8%	2.030	0.054

Table 1y. Aggregated Unadjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2020Q4

Patient Characteristics[1]	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
	Number Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
Glaucoma[5]	5,376	6.4%	5,621	6.4%	0.005	0.000
Hip or Pelvic Fracture[5]	491	0.6%	547	0.6%	-0.038	-0.005
Hyperlipidemia[5]	33,775	40.2%	36,190	41.2%	-0.964	-0.020
Hypertension[5]	41,278	49.1%	39,574	45.0%	4.118	0.083
Osteoporosis[5]	4,614	5.5%	5,089	5.8%	-0.297	-0.013
Rheumatoid Arthritis or Osteoarthritis[5]	18,234	21.7%	18,688	21.3%	0.446	0.011
Stroke or Transient Ischemic Attack[5]	4,259	5.1%	3,743	4.3%	0.812	0.039
Breast Cancer[5]	2,555	3.0%	2,208	2.5%	0.530	0.032
Colorectal Cancer[5]	846	1.0%	756	0.9%	0.147	0.015
Prostate Cancer[5]	1,948	2.3%	1,851	2.1%	0.213	0.014
Lung Cancer[5]	627	0.7%	591	0.7%	0.074	0.009
Endometrial Cancer[5]	361	0.4%	271	0.3%	0.121	0.020
Urologic Cancer[5]	367	0.4%	361	0.4%	0.026	0.004
Health Service Utilization Intensity Metrics						
Mean number of ambulatory encounters	8.2	10.7	8.2	9.9	0.020	0.002
Mean number of emergency room	0.4	1.2	0.4	1.0	-0.012	-0.011
Mean number of inpatient hospital encounters	0.2	0.5	0.2	0.5	-0.018	-0.038
Mean number of non-acute institutional encounters	0.0	0.3	0.1	0.3	-0.003	-0.010
Mean number of other ambulatory encounters	2.9	7.6	3.1	8.3	-0.163	-0.021
Mean number of filled prescriptions	9.8	12.5	9.8	12.3	0.081	0.006
Mean number of generics dispensed	4.3	4.0	4.3	4.0	0.030	0.008
Mean number of unique drug classes dispensed	4.1	3.7	4.1	3.7	0.036	0.010

[1]Covariates in blue show a standardized difference greater than 0.1.

[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.

[4]The Combined Comorbidity Score is calculated based on comorbidities observed during a requester-defined window around the exposure episode start date. (Gagne JJ, Glynn RJ, Avorn J, Levin R, Schneeweiss S. A Combined Comorbidity Score Predicted Mortality in Elderly Patients Better Than Existing Scores. J Clin Epidemiol. 2011;64(7):749-759; Sun JW, Rogers JR, Her Q, Welch EC, Panozzo CA, Toh S, Gagne JJ. Adaptation and Validation of the Combined Comorbidity Score for ICD-10-CM. Med Care. 2017;55(12):1046-1051)

[5]Covariate not included in the propensity score logistic regression model.

NaN: Not a number

Table 1z. Aggregated Adjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.025, in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2020Q4

| Patient Characteristics[1] | Medical Product | | | | Covariate Balance | |
| | ACE Inhibitors | | Beta Blockers | | | |
	Number Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
Unique patients	83,494	99.4%	83,494	95.0%	N/A	N/A
Demographic Characteristics						
Age (years)	61.3	12.2	61.8	13.9	-0.492	-0.038
Age						
18-44 years	14,560	17.4%	15,500	18.6%	-1.126	-0.029
45-64 years	25,358	30.4%	22,549	27.0%	3.364	0.074
≥ 65 years	43,576	52.2%	45,445	54.4%	-2.238	-0.045
Sex						
Female	46,995	56.3%	45,366	54.3%	1.951	0.039
Male	36,499	43.7%	38,128	45.7%	-1.951	-0.039
Race[3]						
American Indian or Alaska Native	321	0.4%	227	0.3%	0.113	0.020
Asian	989	1.2%	1,178	1.4%	-0.226	-0.020
Black or African American	4,518	5.4%	5,026	6.0%	-0.608	-0.026
Multi-racial	301	0.4%	274	0.3%	0.032	0.006
Native Hawaiian or Other Pacific Islander	136	0.2%	119	0.1%	0.020	0.005
Unknown	34,714	41.6%	34,447	41.3%	0.320	0.006
White	42,515	50.9%	42,223	50.6%	0.350	0.007
Hispanic origin						
Yes	1,752	2.1%	1,188	1.4%	0.675	0.051
No	43,338	51.9%	43,313	51.9%	0.030	0.001
Unknown	38,404	46.0%	38,993	46.7%	-0.705	-0.014
Year						
2018	0	0.0%	0	0.0%	NaN	NaN
2019	0	0.0%	0	0.0%	NaN	NaN
2020	83,494	100.0%	83,494	100.0%	0.000	NaN
2021	0	0.0%	0	0.0%	NaN	NaN
2022	0	0.0%	0	0.0%	NaN	NaN
Quarter-Year						
2018Q1	0	0.0%	0	0.0%	NaN	NaN
2018Q2	0	0.0%	0	0.0%	NaN	NaN
2018Q3	0	0.0%	0	0.0%	NaN	NaN
2018Q4	0	0.0%	0	0.0%	NaN	NaN

Table 1z. Aggregated Adjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.025, in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2020Q4

	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
Patient Characteristics[1]	Number Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
2019Q1	0	0.0%	0	0.0%	NaN	NaN
2019Q2	0	0.0%	0	0.0%	NaN	NaN
2019Q3	0	0.0%	0	0.0%	NaN	NaN
2019Q4	0	0.0%	0	0.0%	NaN	NaN
2020Q1	0	0.0%	0	0.0%	NaN	NaN
2020Q2	0	0.0%	0	0.0%	NaN	NaN
2020Q3	0	0.0%	0	0.0%	NaN	NaN
2020Q4	83,494	100.0%	83,494	100.0%	0.000	NaN
2021Q1	0	0.0%	0	0.0%	NaN	NaN
2021Q2	0	0.0%	0	0.0%	NaN	NaN
2021Q3	0	0.0%	0	0.0%	NaN	NaN
2021Q4	0	0.0%	0	0.0%	NaN	NaN
2022Q1	0	0.0%	0	0.0%	NaN	NaN
2022Q2	0	0.0%	0	0.0%	NaN	NaN
Health Characteristics						
Charlson/Elixhauser combined comorbidity score[4]	1.1	2.2	1.2	2.1	-0.054	-0.025
Allergic Reaction	10,767	12.9%	10,201	12.2%	0.678	0.020
Diabetes	13,593	16.3%	14,240	17.1%	-0.775	-0.021
Heart Failure	4,195	5.0%	4,911	5.9%	-0.858	-0.038
Ischemic Heart Disease	8,623	10.3%	9,180	11.0%	-0.667	-0.022
NSAID Use	12,507	15.0%	12,486	15.0%	0.025	0.001
Acquired Hypothyroidism[5]	11,497	13.8%	11,746	14.1%	-0.298	-0.009
Acute Myocardial Infarction[5]	1,369	1.6%	2,791	3.3%	-1.703	-0.109
Alzheimers Disease and Related Disorders[5]	3,310	4.0%	2,700	3.2%	0.731	0.039
Anemia[5]	9,707	11.6%	10,389	12.4%	-0.817	-0.025
Asthma[5]	5,437	6.5%	4,349	5.2%	1.303	0.056
Atrial Fibrillation[5]	3,301	4.0%	9,801	11.7%	-7.785	-0.293
Benign Prostatic Hyperplasia[5]	4,945	5.9%	5,864	7.0%	-1.101	-0.045
Cataract[5]	10,839	13.0%	10,854	13.0%	-0.018	-0.001
Chronic Kidney Disease[5]	12,483	15.0%	11,380	13.6%	1.321	0.038
Chronic Obstructive Pulmonary Disease and Bronchiectasis[5]	7,854	9.4%	6,871	8.2%	1.177	0.042
Depression[5]	14,876	17.8%	13,226	15.8%	1.976	0.053

Table 1z. Aggregated Adjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.025, in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2020Q4

Patient Characteristics[1]	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
	Number Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
Glaucoma[5]	5,364	6.4%	5,302	6.4%	0.074	0.003
Hip or Pelvic Fracture[5]	485	0.6%	521	0.6%	-0.043	-0.006
Hyperlipidemia[5]	33,573	40.2%	34,259	41.0%	-0.822	-0.017
Hypertension[5]	41,027	49.1%	37,477	44.9%	4.252	0.085
Osteoporosis[5]	4,601	5.5%	4,817	5.8%	-0.259	-0.011
Rheumatoid Arthritis or Osteoarthritis[5]	18,120	21.7%	17,684	21.2%	0.522	0.013
Stroke or Transient Ischemic Attack[5]	4,229	5.1%	3,526	4.2%	0.842	0.040
Breast Cancer[5]	2,544	3.0%	2,076	2.5%	0.561	0.034
Colorectal Cancer[5]	840	1.0%	716	0.9%	0.149	0.015
Prostate Cancer[5]	1,937	2.3%	1,755	2.1%	0.218	0.015
Lung Cancer[5]	622	0.7%	550	0.7%	0.086	0.010
Endometrial Cancer[5]	358	0.4%	255	0.3%	0.123	0.020
Urologic Cancer[5]	364	0.4%	330	0.4%	0.041	0.006
Health Service Utilization Intensity Metrics						
Mean number of ambulatory encounters	8.2	10.7	8.2	9.8	0.032	0.003
Mean number of emergency room	0.4	1.1	0.4	1.0	-0.015	-0.014
Mean number of inpatient hospital encounters	0.2	0.5	0.2	0.5	-0.018	-0.037
Mean number of non-acute institutional encounters	0.0	0.3	0.0	0.3	-0.003	-0.009
Mean number of other ambulatory encounters	2.9	7.6	3.0	8.2	-0.133	-0.017
Mean number of filled prescriptions	9.8	12.5	9.7	12.3	0.085	0.007
Mean number of generics dispensed	4.3	4.0	4.3	4.0	0.030	0.007
Mean number of unique drug classes dispensed	4.1	3.7	4.1	3.7	0.036	0.010

[1]Covariates in blue show a standardized difference greater than 0.1.

[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.

[4]The Combined Comorbidity Score is calculated based on comorbidities observed during a requester-defined window around the exposure episode start date. (Gagne JJ, Glynn RJ, Avorn J, Levin R, Schneeweiss S. A Combined Comorbidity Score Predicted Mortality in Elderly Patients Better Than Existing Scores. J Clin Epidemiol. 2011;64(7):749-759; Sun JW, Rogers JR, Her Q, Welch EC, Panozzo CA, Toh S, Gagne JJ. Adaptation and Validation of the Combined Comorbidity Score for ICD-10-CM. Med Care. 2017;55(12):1046-1051)

[5]Covariate not included in the propensity score logistic regression model.

NaN: Not a number

Table 1aa. Aggregated Unadjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2021Q1

| | Medical Product | | | | Covariate Balance | |
| Patient Characteristics[1] | ACE Inhibitors | | Beta Blockers | | | |
	Number Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
Unique patients	85,556	100.0%	89,949	100.0%	N/A	N/A
Demographic Characteristics						
Age (years)	61.2	12.1	61.8	13.7	-0.596	-0.046
Age						
18-44 years	15,204	17.8%	16,452	18.3%	-0.520	-0.014
45-64 years	26,120	30.5%	24,658	27.4%	3.116	0.069
≥ 65 years	44,232	51.7%	48,839	54.3%	-2.597	-0.052
Sex						
Female	47,702	55.8%	48,541	54.0%	1.790	0.036
Male	37,854	44.2%	41,408	46.0%	-1.790	-0.036
Race[3]						
American Indian or Alaska Native	331	0.4%	268	0.3%	0.089	0.015
Asian	1,011	1.2%	1,265	1.4%	-0.225	-0.020
Black or African American	4,349	5.1%	5,202	5.8%	-0.700	-0.031
Multi-racial	336	0.4%	361	0.4%	-0.009	-0.001
Native Hawaiian or Other Pacific Islander	112	0.1%	112	0.1%	0.006	0.002
Unknown	36,118	42.2%	37,049	41.2%	1.027	0.021
White	43,299	50.6%	45,692	50.8%	-0.189	-0.004
Hispanic origin						
Yes	1,800	2.1%	1,343	1.5%	0.611	0.046
No	44,087	51.5%	46,769	52.0%	-0.465	-0.009
Unknown	39,669	46.4%	41,837	46.5%	-0.146	-0.003
Year						
2018	0	0.0%	0	0.0%	NaN	NaN
2019	0	0.0%	0	0.0%	NaN	NaN
2020	0	0.0%	0	0.0%	NaN	NaN
2021	85,556	100.0%	89,949	100.0%	0.000	NaN
2022	0	0.0%	0	0.0%	NaN	NaN
Quarter-Year						
2018Q1	0	0.0%	0	0.0%	NaN	NaN
2018Q2	0	0.0%	0	0.0%	NaN	NaN
2018Q3	0	0.0%	0	0.0%	NaN	NaN
2018Q4	0	0.0%	0	0.0%	NaN	NaN

Table 1aa. Aggregated Unadjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2021Q1

| | Medical Product | | | | Covariate Balance | |
| | ACE Inhibitors | | Beta Blockers | | | |
Patient Characteristics[1]	Number Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
2019Q1	0	0.0%	0	0.0%	NaN	NaN
2019Q2	0	0.0%	0	0.0%	NaN	NaN
2019Q3	0	0.0%	0	0.0%	NaN	NaN
2019Q4	0	0.0%	0	0.0%	NaN	NaN
2020Q1	0	0.0%	0	0.0%	NaN	NaN
2020Q2	0	0.0%	0	0.0%	NaN	NaN
2020Q3	0	0.0%	0	0.0%	NaN	NaN
2020Q4	0	0.0%	0	0.0%	NaN	NaN
2021Q1	85,556	100.0%	89,949	100.0%	0.000	NaN
2021Q2	0	0.0%	0	0.0%	NaN	NaN
2021Q3	0	0.0%	0	0.0%	NaN	NaN
2021Q4	0	0.0%	0	0.0%	NaN	NaN
2022Q1	0	0.0%	0	0.0%	NaN	NaN
2022Q2	0	0.0%	0	0.0%	NaN	NaN
Health Characteristics						
Charlson/Elixhauser combined comorbidity score[4]	1.1	2.1	1.1	2.1	-0.050	-0.024
Allergic Reaction	10,600	12.4%	11,012	12.2%	0.147	0.004
Diabetes	13,979	16.3%	15,358	17.1%	-0.735	-0.020
Heart Failure	4,067	4.8%	5,318	5.9%	-1.159	-0.052
Ischemic Heart Disease	8,710	10.2%	9,669	10.7%	-0.569	-0.019
NSAID Use	12,757	14.9%	13,313	14.8%	0.110	0.003
Acquired Hypothyroidism[5]	11,657	13.6%	12,581	14.0%	-0.362	-0.010
Acute Myocardial Infarction[5]	1,303	1.5%	2,747	3.1%	-1.531	-0.103
Alzheimers Disease and Related Disorders[5]	3,320	3.9%	2,706	3.0%	0.872	0.048
Anemia[5]	9,668	11.3%	10,614	11.8%	-0.500	-0.016
Asthma[5]	5,588	6.5%	4,607	5.1%	1.410	0.060
Atrial Fibrillation[5]	3,324	3.9%	10,244	11.4%	-7.504	-0.285
Benign Prostatic Hyperplasia[5]	5,078	5.9%	6,468	7.2%	-1.255	-0.051
Cataract[5]	11,112	13.0%	11,645	12.9%	0.042	0.001
Chronic Kidney Disease[5]	12,834	15.0%	12,197	13.6%	1.441	0.041
Chronic Obstructive Pulmonary Disease and Bronchiectasis[5]	7,738	9.0%	7,234	8.0%	1.002	0.036
Depression[5]	14,762	17.3%	14,035	15.6%	1.651	0.045

Table 1aa. Aggregated Unadjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2021Q1

	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
Patient Characteristics[1]	Number Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
Glaucoma[5]	5,544	6.5%	5,762	6.4%	0.074	0.003
Hip or Pelvic Fracture[5]	478	0.6%	520	0.6%	-0.019	-0.003
Hyperlipidemia[5]	34,219	40.0%	37,180	41.3%	-1.339	-0.027
Hypertension[5]	42,318	49.5%	40,840	45.4%	4.059	0.081
Osteoporosis[5]	4,768	5.6%	5,414	6.0%	-0.446	-0.019
Rheumatoid Arthritis or Osteoarthritis[5]	18,548	21.7%	19,046	21.2%	0.505	0.012
Stroke or Transient Ischemic Attack[5]	4,233	4.9%	3,563	4.0%	0.987	0.048
Breast Cancer[5]	2,523	2.9%	2,201	2.4%	0.502	0.031
Colorectal Cancer[5]	867	1.0%	718	0.8%	0.215	0.023
Prostate Cancer[5]	1,987	2.3%	1,909	2.1%	0.200	0.014
Lung Cancer[5]	600	0.7%	597	0.7%	0.038	0.005
Endometrial Cancer[5]	355	0.4%	304	0.3%	0.077	0.013
Urologic Cancer[5]	402	0.5%	361	0.4%	0.069	0.010
Health Service Utilization Intensity Metrics						
Mean number of ambulatory encounters	8.4	10.5	8.4	9.8	0.059	0.006
Mean number of emergency room	0.3	1.1	0.4	1.0	-0.013	-0.012
Mean number of inpatient hospital encounters	0.2	0.5	0.2	0.5	-0.016	-0.033
Mean number of non-acute institutional encounters	0.0	0.3	0.1	0.3	-0.004	-0.012
Mean number of other ambulatory encounters	3.1	8.0	3.3	8.5	-0.148	-0.018
Mean number of filled prescriptions	9.5	12.3	9.4	12.1	0.111	0.009
Mean number of generics dispensed	4.3	4.0	4.2	3.9	0.051	0.013
Mean number of unique drug classes dispensed	4.0	3.7	4.0	3.6	0.056	0.015

[1]Covariates in blue show a standardized difference greater than 0.1.

[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.

[4]The Combined Comorbidity Score is calculated based on comorbidities observed during a requester-defined window around the exposure episode start date. (Gagne JJ, Glynn RJ, Avorn J, Levin R, Schneeweiss S. A Combined Comorbidity Score Predicted Mortality in Elderly Patients Better Than Existing Scores. J Clin Epidemiol. 2011;64(7):749-759; Sun JW, Rogers JR, Her Q, Welch EC, Panozzo CA, Toh S, Gagne JJ. Adaptation and Validation of the Combined Comorbidity Score for ICD-10-CM. Med Care. 2017;55(12):1046-1051)

[5]Covariate not included in the propensity score logistic regression model.

NaN: Not a number

Table 1ab. Aggregated Adjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.025, in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2021Q1

Patient Characteristics[1]	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
	Number Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
Unique patients	85,005	99.4%	85,005	94.5%	N/A	N/A
Demographic Characteristics						
Age (years)	61.3	12.1	61.7	13.7	-0.452	-0.035
Age						
18-44 years	14,997	17.6%	15,677	18.4%	-0.800	-0.021
45-64 years	25,924	30.5%	23,465	27.6%	2.893	0.064
≥ 65 years	44,084	51.9%	45,863	54.0%	-2.093	-0.042
Sex						
Female	47,360	55.7%	45,955	54.1%	1.653	0.033
Male	37,645	44.3%	39,050	45.9%	-1.653	-0.033
Race[3]						
American Indian or Alaska Native	331	0.4%	248	0.3%	0.098	0.017
Asian	1,010	1.2%	1,175	1.4%	-0.194	-0.017
Black or African American	4,326	5.1%	4,866	5.7%	-0.635	-0.028
Multi-racial	336	0.4%	332	0.4%	0.005	0.001
Native Hawaiian or Other Pacific Islander	110	0.1%	104	0.1%	0.007	0.002
Unknown	35,712	42.0%	35,377	41.6%	0.394	0.008
White	43,180	50.8%	42,903	50.5%	0.326	0.007
Hispanic origin						
Yes	1,794	2.1%	1,255	1.5%	0.634	0.048
No	43,979	51.7%	44,039	51.8%	-0.071	-0.001
Unknown	39,232	46.2%	39,711	46.7%	-0.563	-0.011
Year						
2018	0	0.0%	0	0.0%	NaN	NaN
2019	0	0.0%	0	0.0%	NaN	NaN
2020	0	0.0%	0	0.0%	NaN	NaN
2021	85,005	100.0%	85,005	100.0%	0.000	NaN
2022	0	0.0%	0	0.0%	NaN	NaN
Quarter-Year						
2018Q1	0	0.0%	0	0.0%	NaN	NaN
2018Q2	0	0.0%	0	0.0%	NaN	NaN
2018Q3	0	0.0%	0	0.0%	NaN	NaN
2018Q4	0	0.0%	0	0.0%	NaN	NaN

Table 1ab. Aggregated Adjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.025, in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2021Q1

| Patient Characteristics[1] | Medical Product | | | | Covariate Balance | |
| | ACE Inhibitors | | Beta Blockers | | | |
	Number Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
2019Q1	0	0.0%	0	0.0%	NaN	NaN
2019Q2	0	0.0%	0	0.0%	NaN	NaN
2019Q3	0	0.0%	0	0.0%	NaN	NaN
2019Q4	0	0.0%	0	0.0%	NaN	NaN
2020Q1	0	0.0%	0	0.0%	NaN	NaN
2020Q2	0	0.0%	0	0.0%	NaN	NaN
2020Q3	0	0.0%	0	0.0%	NaN	NaN
2020Q4	0	0.0%	0	0.0%	NaN	NaN
2021Q1	85,005	100.0%	85,005	100.0%	0.000	NaN
2021Q2	0	0.0%	0	0.0%	NaN	NaN
2021Q3	0	0.0%	0	0.0%	NaN	NaN
2021Q4	0	0.0%	0	0.0%	NaN	NaN
2022Q1	0	0.0%	0	0.0%	NaN	NaN
2022Q2	0	0.0%	0	0.0%	NaN	NaN
Health Characteristics						
Charlson/Elixhauser combined comorbidity score[4]	1.1	2.1	1.1	2.1	-0.049	-0.023
Allergic Reaction	10,528	12.4%	10,405	12.2%	0.145	0.004
Diabetes	13,889	16.3%	14,308	16.8%	-0.493	-0.013
Heart Failure	4,019	4.7%	4,976	5.9%	-1.126	-0.050
Ischemic Heart Disease	8,588	10.1%	9,083	10.7%	-0.582	-0.019
NSAID Use	12,665	14.9%	12,568	14.8%	0.114	0.003
Acquired Hypothyroidism[5]	11,580	13.6%	11,857	13.9%	-0.326	-0.009
Acute Myocardial Infarction[5]	1,289	1.5%	2,562	3.0%	-1.498	-0.101
Alzheimers Disease and Related Disorders[5]	3,299	3.9%	2,516	3.0%	0.921	0.051
Anemia[5]	9,573	11.3%	9,976	11.7%	-0.474	-0.015
Asthma[5]	5,535	6.5%	4,351	5.1%	1.393	0.060
Atrial Fibrillation[5]	3,293	3.9%	9,622	11.3%	-7.445	-0.284
Benign Prostatic Hyperplasia[5]	5,048	5.9%	6,077	7.1%	-1.211	-0.049
Cataract[5]	11,072	13.0%	10,958	12.9%	0.134	0.004
Chronic Kidney Disease[5]	12,716	15.0%	11,462	13.5%	1.475	0.042
Chronic Obstructive Pulmonary Disease and Bronchiectasis[5]	7,681	9.0%	6,815	8.0%	1.019	0.036
Depression[5]	14,606	17.2%	13,323	15.7%	1.509	0.041

Table 1ab. Aggregated Adjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.025, in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2021Q1

Patient Characteristics[1]	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
	Number Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
Glaucoma[5]	5,509	6.5%	5,432	6.4%	0.091	0.004
Hip or Pelvic Fracture[5]	473	0.6%	493	0.6%	-0.024	-0.003
Hyperlipidemia[5]	34,013	40.0%	34,999	41.2%	-1.160	-0.024
Hypertension[5]	42,049	49.5%	38,434	45.2%	4.253	0.085
Osteoporosis[5]	4,748	5.6%	5,120	6.0%	-0.438	-0.019
Rheumatoid Arthritis or Osteoarthritis[5]	18,424	21.7%	17,993	21.2%	0.507	0.012
Stroke or Transient Ischemic Attack[5]	4,202	4.9%	3,341	3.9%	1.013	0.049
Breast Cancer[5]	2,507	2.9%	2,087	2.5%	0.494	0.030
Colorectal Cancer[5]	858	1.0%	679	0.8%	0.211	0.022
Prostate Cancer[5]	1,976	2.3%	1,789	2.1%	0.220	0.015
Lung Cancer[5]	593	0.7%	556	0.7%	0.044	0.005
Endometrial Cancer[5]	352	0.4%	286	0.3%	0.078	0.013
Urologic Cancer[5]	398	0.5%	341	0.4%	0.067	0.010
Health Service Utilization Intensity Metrics						
Mean number of ambulatory encounters	8.4	10.5	8.3	9.7	0.054	0.005
Mean number of emergency room	0.3	1.1	0.4	1.0	-0.015	-0.015
Mean number of inpatient hospital encounters	0.2	0.5	0.2	0.5	-0.015	-0.031
Mean number of non-acute institutional encounters	0.0	0.3	0.1	0.3	-0.003	-0.010
Mean number of other ambulatory encounters	3.1	7.9	3.2	8.4	-0.113	-0.014
Mean number of filled prescriptions	9.5	12.3	9.4	12.1	0.089	0.007
Mean number of generics dispensed	4.3	4.0	4.2	3.9	0.043	0.011
Mean number of unique drug classes dispensed	4.0	3.7	4.0	3.6	0.048	0.013

[1]Covariates in blue show a standardized difference greater than 0.1.

[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.

[4]The Combined Comorbidity Score is calculated based on comorbidities observed during a requester-defined window around the exposure episode start date. (Gagne JJ, Glynn RJ, Avorn J, Levin R, Schneeweiss S. A Combined Comorbidity Score Predicted Mortality in Elderly Patients Better Than Existing Scores. J Clin Epidemiol. 2011;64(7):749-759; Sun JW, Rogers JR, Her Q, Welch EC, Panozzo CA, Toh S, Gagne JJ. Adaptation and Validation of the Combined Comorbidity Score for ICD-10-CM. Med Care. 2017;55(12):1046-1051)

[5]Covariate not included in the propensity score logistic regression model.

NaN: Not a number

Table 1ac. Aggregated Unadjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2021Q2

| Patient Characteristics[1] | Medical Product | | | | Covariate Balance | |
| | ACE Inhibitors | | Beta Blockers | | | |
	Number Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
Unique patients	76,244	100.0%	81,650	100.0%	N/A	N/A
Demographic Characteristics						
Age (years)	61.3	12.3	61.9	13.8	-0.657	-0.050
Age						
18-44 years	13,867	18.2%	15,075	18.5%	-0.275	-0.007
45-64 years	22,524	29.5%	21,568	26.4%	3.127	0.070
≥ 65 years	39,853	52.3%	45,007	55.1%	-2.852	-0.057
Sex						
Female	43,191	56.6%	44,731	54.8%	1.865	0.038
Male	33,053	43.4%	36,919	45.2%	-1.865	-0.038
Race[3]						
American Indian or Alaska Native	327	0.4%	224	0.3%	0.155	0.026
Asian	948	1.2%	1,135	1.4%	-0.147	-0.013
Black or African American	3,889	5.1%	4,747	5.8%	-0.713	-0.031
Multi-racial	297	0.4%	313	0.4%	0.006	0.001
Native Hawaiian or Other Pacific Islander	110	0.1%	111	0.1%	0.008	0.002
Unknown	31,486	41.3%	33,012	40.4%	0.865	0.018
White	39,187	51.4%	42,108	51.6%	-0.175	-0.003
Hispanic origin						
Yes	1,690	2.2%	1,262	1.5%	0.671	0.049
No	40,022	52.5%	43,259	53.0%	-0.489	-0.010
Unknown	34,532	45.3%	37,129	45.5%	-0.182	-0.004
Year						
2018	0	0.0%	0	0.0%	NaN	NaN
2019	0	0.0%	0	0.0%	NaN	NaN
2020	0	0.0%	0	0.0%	NaN	NaN
2021	76,244	100.0%	81,650	100.0%	0.000	NaN
2022	0	0.0%	0	0.0%	NaN	NaN
Quarter-Year						
2018Q1	0	0.0%	0	0.0%	NaN	NaN
2018Q2	0	0.0%	0	0.0%	NaN	NaN
2018Q3	0	0.0%	0	0.0%	NaN	NaN
2018Q4	0	0.0%	0	0.0%	NaN	NaN

Table 1ac. Aggregated Unadjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2021Q2

| | Medical Product | | | | Covariate Balance | |
| | ACE Inhibitors | | Beta Blockers | | | |
Patient Characteristics[1]	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
2019Q1	0	0.0%	0	0.0%	NaN	NaN
2019Q2	0	0.0%	0	0.0%	NaN	NaN
2019Q3	0	0.0%	0	0.0%	NaN	NaN
2019Q4	0	0.0%	0	0.0%	NaN	NaN
2020Q1	0	0.0%	0	0.0%	NaN	NaN
2020Q2	0	0.0%	0	0.0%	NaN	NaN
2020Q3	0	0.0%	0	0.0%	NaN	NaN
2020Q4	0	0.0%	0	0.0%	NaN	NaN
2021Q1	0	0.0%	0	0.0%	NaN	NaN
2021Q2	76,244	100.0%	81,650	100.0%	0.000	NaN
2021Q3	0	0.0%	0	0.0%	NaN	NaN
2021Q4	0	0.0%	0	0.0%	NaN	NaN
2022Q1	0	0.0%	0	0.0%	NaN	NaN
2022Q2	0	0.0%	0	0.0%	NaN	NaN
Health Characteristics						
Charlson/Elixhauser combined comorbidity score[4]	1.2	2.2	1.2	2.2	-0.087	-0.040
Allergic Reaction	9,915	13.0%	10,415	12.8%	0.249	0.007
Diabetes	12,592	16.5%	14,150	17.3%	-0.815	-0.022
Heart Failure	3,910	5.1%	5,092	6.2%	-1.108	-0.048
Ischemic Heart Disease	7,850	10.3%	9,087	11.1%	-0.833	-0.027
NSAID Use	11,423	15.0%	12,388	15.2%	-0.190	-0.005
Acquired Hypothyroidism[5]	10,581	13.9%	11,667	14.3%	-0.411	-0.012
Acute Myocardial Infarction[5]	1,318	1.7%	2,787	3.4%	-1.685	-0.107
Alzheimers Disease and Related Disorders[5]	3,138	4.1%	2,751	3.4%	0.746	0.039
Anemia[5]	8,847	11.6%	10,158	12.4%	-0.837	-0.026
Asthma[5]	4,971	6.5%	4,356	5.3%	1.185	0.050
Atrial Fibrillation[5]	3,022	4.0%	9,887	12.1%	-8.145	-0.303
Benign Prostatic Hyperplasia[5]	4,372	5.7%	5,654	6.9%	-1.190	-0.049
Cataract[5]	9,848	12.9%	10,805	13.2%	-0.317	-0.009
Chronic Kidney Disease[5]	11,890	15.6%	11,474	14.1%	1.542	0.043
Chronic Obstructive Pulmonary Disease and Bronchiectasis[5]	7,268	9.5%	6,909	8.5%	1.071	0.037
Depression[5]	13,645	17.9%	13,542	16.6%	1.311	0.035

Table 1ac. Aggregated Unadjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2021Q2

Patient Characteristics[1]	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
	Number Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
Glaucoma[5]	4,788	6.3%	5,359	6.6%	-0.284	-0.012
Hip or Pelvic Fracture[5]	384	0.5%	510	0.6%	-0.121	-0.016
Hyperlipidemia[5]	30,347	39.8%	33,983	41.6%	-1.818	-0.037
Hypertension[5]	37,712	49.5%	36,534	44.7%	4.718	0.095
Osteoporosis[5]	4,511	5.9%	5,013	6.1%	-0.223	-0.009
Rheumatoid Arthritis or Osteoarthritis[5]	16,689	21.9%	18,023	22.1%	-0.185	-0.004
Stroke or Transient Ischemic Attack[5]	3,976	5.2%	3,442	4.2%	0.999	0.047
Breast Cancer[5]	2,146	2.8%	2,173	2.7%	0.153	0.009
Colorectal Cancer[5]	766	1.0%	716	0.9%	0.128	0.013
Prostate Cancer[5]	1,665	2.2%	1,680	2.1%	0.126	0.009
Lung Cancer[5]	528	0.7%	576	0.7%	-0.013	-0.002
Endometrial Cancer[5]	331	0.4%	267	0.3%	0.107	0.017
Urologic Cancer[5]	345	0.5%	324	0.4%	0.056	0.009
Health Service Utilization Intensity Metrics						
Mean number of ambulatory encounters	8.4	10.7	8.5	9.5	-0.035	-0.003
Mean number of emergency room	0.4	1.0	0.4	1.0	-0.021	-0.020
Mean number of inpatient hospital encounters	0.2	0.5	0.2	0.5	-0.021	-0.042
Mean number of non-acute institutional encounters	0.1	0.3	0.1	0.3	-0.003	-0.011
Mean number of other ambulatory encounters	3.3	8.0	3.5	8.4	-0.189	-0.023
Mean number of filled prescriptions	9.9	12.7	9.7	12.3	0.126	0.010
Mean number of generics dispensed	4.3	4.0	4.3	3.9	0.015	0.004
Mean number of unique drug classes dispensed	4.1	3.7	4.1	3.6	0.022	0.006

[1] Covariates in blue show a standardized difference greater than 0.1.

[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.

[4] The Combined Comorbidity Score is calculated based on comorbidities observed during a requester-defined window around the exposure episode start date. (Gagne JJ, Glynn RJ, Avorn J, Levin R, Schneeweiss S. A Combined Comorbidity Score Predicted Mortality in Elderly Patients Better Than Existing Scores. J Clin Epidemiol. 2011;64(7):749-759; Sun JW, Rogers JR, Her Q, Welch EC, Panozzo CA, Toh S, Gagne JJ. Adaptation and Validation of the Combined Comorbidity Score for ICD-10-CM. Med Care. 2017;55(12):1046-1051)

[5] Covariate not included in the propensity score logistic regression model.

NaN: Not a number

Table 1ad. Aggregated Adjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.025, in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2021Q2

| | Medical Product | | | | Covariate Balance | |
| | ACE Inhibitors | | Beta Blockers | | | |
Patient Characteristics[1]	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
Unique patients	76,001	99.7%	76,001	93.1%	N/A	N/A
Demographic Characteristics						
Age (years)	61.3	12.3	61.8	13.8	-0.500	-0.038
Age						
18-44 years	13,764	18.1%	14,189	18.7%	-0.559	-0.014
45-64 years	22,428	29.5%	20,131	26.5%	3.022	0.067
≥ 65 years	39,809	52.4%	41,681	54.8%	-2.463	-0.049
Sex						
Female	43,038	56.6%	41,664	54.8%	1.808	0.036
Male	32,963	43.4%	34,337	45.2%	-1.808	-0.036
Race[3]						
American Indian or Alaska Native	327	0.4%	204	0.3%	0.162	0.027
Asian	947	1.2%	1,056	1.4%	-0.143	-0.013
Black or African American	3,883	5.1%	4,436	5.8%	-0.728	-0.032
Multi-racial	296	0.4%	285	0.4%	0.014	0.002
Native Hawaiian or Other Pacific Islander	109	0.1%	103	0.1%	0.008	0.002
Unknown	31,283	41.2%	30,955	40.7%	0.432	0.009
White	39,156	51.5%	38,962	51.3%	0.255	0.005
Hispanic origin						
Yes	1,688	2.2%	1,161	1.5%	0.693	0.051
No	39,997	52.6%	40,118	52.8%	-0.159	-0.003
Unknown	34,316	45.2%	34,722	45.7%	-0.534	-0.011
Year						
2018	0	0.0%	0	0.0%	NaN	NaN
2019	0	0.0%	0	0.0%	NaN	NaN
2020	0	0.0%	0	0.0%	NaN	NaN
2021	76,001	100.0%	76,001	100.0%	0.000	NaN
2022	0	0.0%	0	0.0%	NaN	NaN
Quarter-Year						
2018Q1	0	0.0%	0	0.0%	NaN	NaN
2018Q2	0	0.0%	0	0.0%	NaN	NaN
2018Q3	0	0.0%	0	0.0%	NaN	NaN
2018Q4	0	0.0%	0	0.0%	NaN	NaN

Table 1ad. Aggregated Adjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.025, in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2021Q2

| Patient Characteristics[1] | Medical Product | | | | Covariate Balance | |
| | ACE Inhibitors | | Beta Blockers | | | |
	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
2019Q1	0	0.0%	0	0.0%	NaN	NaN
2019Q2	0	0.0%	0	0.0%	NaN	NaN
2019Q3	0	0.0%	0	0.0%	NaN	NaN
2019Q4	0	0.0%	0	0.0%	NaN	NaN
2020Q1	0	0.0%	0	0.0%	NaN	NaN
2020Q2	0	0.0%	0	0.0%	NaN	NaN
2020Q3	0	0.0%	0	0.0%	NaN	NaN
2020Q4	0	0.0%	0	0.0%	NaN	NaN
2021Q1	0	0.0%	0	0.0%	NaN	NaN
2021Q2	76,001	100.0%	76,001	100.0%	0.000	NaN
2021Q3	0	0.0%	0	0.0%	NaN	NaN
2021Q4	0	0.0%	0	0.0%	NaN	NaN
2022Q1	0	0.0%	0	0.0%	NaN	NaN
2022Q2	0	0.0%	0	0.0%	NaN	NaN
Health Characteristics						
Charlson/Elixhauser combined comorbidity score[4]	1.2	2.2	1.2	2.1	-0.059	-0.027
Allergic Reaction	9,882	13.0%	9,533	12.5%	0.459	0.014
Diabetes	12,534	16.5%	13,176	17.3%	-0.845	-0.023
Heart Failure	3,893	5.1%	4,623	6.1%	-0.961	-0.042
Ischemic Heart Disease	7,811	10.3%	8,254	10.9%	-0.583	-0.019
NSAID Use	11,380	15.0%	11,542	15.2%	-0.213	-0.006
Acquired Hypothyroidism[5]	10,549	13.9%	10,780	14.2%	-0.304	-0.009
Acute Myocardial Infarction[5]	1,310	1.7%	2,514	3.3%	-1.584	-0.101
Alzheimers Disease and Related Disorders[5]	3,129	4.1%	2,507	3.3%	0.818	0.043
Anemia[5]	8,805	11.6%	9,259	12.2%	-0.597	-0.018
Asthma[5]	4,948	6.5%	3,989	5.2%	1.262	0.054
Atrial Fibrillation[5]	3,010	4.0%	9,080	11.9%	-7.987	-0.298
Benign Prostatic Hyperplasia[5]	4,363	5.7%	5,222	6.9%	-1.130	-0.047
Cataract[5]	9,833	12.9%	9,943	13.1%	-0.145	-0.004
Chronic Kidney Disease[5]	11,838	15.6%	10,503	13.8%	1.757	0.050
Chronic Obstructive Pulmonary Disease and Bronchiectasis[5]	7,240	9.5%	6,285	8.3%	1.257	0.044
Depression[5]	13,575	17.9%	12,444	16.4%	1.488	0.040

Table 1ad. Aggregated Adjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.025, in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2021Q2

Patient Characteristics[1]	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
Glaucoma[5]	4,778	6.3%	4,942	6.5%	-0.216	-0.009
Hip or Pelvic Fracture[5]	384	0.5%	461	0.6%	-0.101	-0.014
Hyperlipidemia[5]	30,264	39.8%	31,425	41.3%	-1.528	-0.031
Hypertension[5]	37,600	49.5%	33,846	44.5%	4.939	0.099
Osteoporosis[5]	4,497	5.9%	4,622	6.1%	-0.164	-0.007
Rheumatoid Arthritis or Osteoarthritis[5]	16,650	21.9%	16,651	21.9%	-0.001	-0.000
Stroke or Transient Ischemic Attack[5]	3,967	5.2%	3,118	4.1%	1.117	0.053
Breast Cancer[5]	2,141	2.8%	1,996	2.6%	0.191	0.012
Colorectal Cancer[5]	764	1.0%	646	0.8%	0.155	0.016
Prostate Cancer[5]	1,662	2.2%	1,543	2.0%	0.157	0.011
Lung Cancer[5]	523	0.7%	526	0.7%	-0.004	-0.000
Endometrial Cancer[5]	330	0.4%	239	0.3%	0.120	0.020
Urologic Cancer[5]	343	0.5%	294	0.4%	0.064	0.010
Health Service Utilization Intensity Metrics						
Mean number of ambulatory encounters	8.4	10.6	8.4	9.4	0.041	0.004
Mean number of emergency room	0.4	1.0	0.4	1.0	-0.022	-0.022
Mean number of inpatient hospital encounters	0.2	0.5	0.2	0.5	-0.015	-0.031
Mean number of non-acute institutional encounters	0.1	0.3	0.1	0.3	-0.002	-0.005
Mean number of other ambulatory encounters	3.3	8.0	3.4	8.2	-0.093	-0.011
Mean number of filled prescriptions	9.8	12.7	9.7	12.3	0.186	0.015
Mean number of generics dispensed	4.3	4.0	4.3	3.9	0.037	0.009
Mean number of unique drug classes dispensed	4.1	3.7	4.1	3.6	0.044	0.012

[1]Covariates in blue show a standardized difference greater than 0.1.

[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.

[4]The Combined Comorbidity Score is calculated based on comorbidities observed during a requester-defined window around the exposure episode start date. (Gagne JJ, Glynn RJ, Avorn J, Levin R, Schneeweiss S. A Combined Comorbidity Score Predicted Mortality in Elderly Patients Better Than Existing Scores. J Clin Epidemiol. 2011;64(7):749-759; Sun JW, Rogers JR, Her Q, Welch EC, Panozzo CA, Toh S, Gagne JJ. Adaptation and Validation of the Combined Comorbidity Score for ICD-10-CM. Med Care. 2017;55(12):1046-1051)

[5]Covariate not included in the propensity score logistic regression model.

NaN: Not a number

Patient Characteristics[1]	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
Unique patients	75,764	100.0%	85,329	100.0%	N/A	N/A
Demographic Characteristics						
Age (years)	60.9	12.3	61.7	13.9	-0.785	-0.060
Age						
18-44 years	14,127	18.6%	16,238	19.0%	-0.384	-0.010
45-64 years	23,254	30.7%	22,689	26.6%	4.103	0.091
≥ 65 years	38,383	50.7%	46,402	54.4%	-3.719	-0.075
Sex						
Female	42,409	56.0%	45,867	53.8%	2.222	0.045
Male	33,355	44.0%	39,462	46.2%	-2.222	-0.045
Race[3]						
American Indian or Alaska Native	276	0.4%	231	0.3%	0.094	0.017
Asian	907	1.2%	1,136	1.3%	-0.134	-0.012
Black or African American	4,115	5.4%	5,066	5.9%	-0.506	-0.022
Multi-racial	337	0.4%	376	0.4%	0.004	0.001
Native Hawaiian or Other Pacific Islander	118	0.2%	130	0.2%	0.003	0.001
Unknown	32,810	43.3%	35,679	41.8%	1.492	0.030
White	37,201	49.1%	42,711	50.1%	-0.953	-0.019
Hispanic origin						
Yes	1,721	2.3%	1,288	1.5%	0.762	0.056
No	37,580	49.6%	43,316	50.8%	-1.162	-0.023
Unknown	36,463	48.1%	40,725	47.7%	0.400	0.008
Year						
2018	0	0.0%	0	0.0%	NaN	NaN
2019	0	0.0%	0	0.0%	NaN	NaN
2020	0	0.0%	0	0.0%	NaN	NaN
2021	75,764	100.0%	85,329	100.0%	0.000	NaN
2022	0	0.0%	0	0.0%	NaN	NaN
Quarter-Year						
2018Q1	0	0.0%	0	0.0%	NaN	NaN
2018Q2	0	0.0%	0	0.0%	NaN	NaN
2018Q3	0	0.0%	0	0.0%	NaN	NaN
2018Q4	0	0.0%	0	0.0%	NaN	NaN

Table 1ae. Aggregated Unadjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2021Q3

Patient Characteristics[1]	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
2019Q1	0	0.0%	0	0.0%	NaN	NaN
2019Q2	0	0.0%	0	0.0%	NaN	NaN
2019Q3	0	0.0%	0	0.0%	NaN	NaN
2019Q4	0	0.0%	0	0.0%	NaN	NaN
2020Q1	0	0.0%	0	0.0%	NaN	NaN
2020Q2	0	0.0%	0	0.0%	NaN	NaN
2020Q3	0	0.0%	0	0.0%	NaN	NaN
2020Q4	0	0.0%	0	0.0%	NaN	NaN
2021Q1	0	0.0%	0	0.0%	NaN	NaN
2021Q2	0	0.0%	0	0.0%	NaN	NaN
2021Q3	75,764	100.0%	85,329	100.0%	0.000	NaN
2021Q4	0	0.0%	0	0.0%	NaN	NaN
2022Q1	0	0.0%	0	0.0%	NaN	NaN
2022Q2	0	0.0%	0	0.0%	NaN	NaN
Health Characteristics						
Charlson/Elixhauser combined comorbidity score[4]	1.1	2.2	1.2	2.1	-0.077	-0.036
Allergic Reaction	10,046	13.3%	11,301	13.2%	0.016	0.000
Diabetes	12,806	16.9%	14,687	17.2%	-0.310	-0.008
Heart Failure	3,824	5.0%	5,314	6.2%	-1.180	-0.051
Ischemic Heart Disease	7,979	10.5%	9,483	11.1%	-0.582	-0.019
NSAID Use	11,314	14.9%	12,828	15.0%	-0.100	-0.003
Acquired Hypothyroidism[5]	10,151	13.4%	11,986	14.0%	-0.649	-0.019
Acute Myocardial Infarction[5]	1,342	1.8%	2,772	3.2%	-1.477	-0.095
Alzheimers Disease and Related Disorders[5]	3,037	4.0%	2,770	3.2%	0.762	0.041
Anemia[5]	8,963	11.8%	10,359	12.1%	-0.310	-0.010
Asthma[5]	4,891	6.5%	4,406	5.2%	1.292	0.055
Atrial Fibrillation[5]	2,926	3.9%	10,489	12.3%	-8.430	-0.313
Benign Prostatic Hyperplasia[5]	4,278	5.6%	5,974	7.0%	-1.355	-0.056
Cataract[5]	9,640	12.7%	11,293	13.2%	-0.511	-0.015
Chronic Kidney Disease[5]	11,929	15.7%	11,929	14.0%	1.765	0.050
Chronic Obstructive Pulmonary Disease and Bronchiectasis[5]	7,094	9.4%	6,984	8.2%	1.178	0.042

Table 1ae. Aggregated Unadjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2021Q3

Patient Characteristics[1]	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
Depression[5]	13,520	17.8%	13,963	16.4%	1.481	0.039
Glaucoma[5]	4,821	6.4%	5,574	6.5%	-0.169	-0.007
Hip or Pelvic Fracture[5]	490	0.6%	511	0.6%	0.048	0.006
Hyperlipidemia[5]	29,906	39.5%	35,384	41.5%	-1.995	-0.041
Hypertension[5]	37,937	50.1%	38,151	44.7%	5.362	0.108
Osteoporosis[5]	4,202	5.5%	4,972	5.8%	-0.281	-0.012
Rheumatoid Arthritis or Osteoarthritis[5]	16,816	22.2%	18,928	22.2%	0.013	0.000
Stroke or Transient Ischemic Attack[5]	3,992	5.3%	3,565	4.2%	1.091	0.051
Breast Cancer[5]	2,159	2.8%	2,187	2.6%	0.287	0.018
Colorectal Cancer[5]	752	1.0%	693	0.8%	0.180	0.019
Prostate Cancer[5]	1,629	2.2%	1,780	2.1%	0.064	0.004
Lung Cancer[5]	569	0.8%	625	0.7%	0.019	0.002
Endometrial Cancer[5]	309	0.4%	276	0.3%	0.084	0.014
Urologic Cancer[5]	330	0.4%	297	0.3%	0.087	0.014
Health Service Utilization Intensity Metrics						
Mean number of ambulatory encounters	8.4	10.7	8.6	10.1	-0.166	-0.016
Mean number of emergency room	0.4	1.3	0.4	1.1	-0.008	-0.007
Mean number of inpatient hospital encounters	0.2	0.5	0.2	0.5	-0.018	-0.038
Mean number of non-acute institutional encounters	0.0	0.3	0.0	0.3	-0.001	-0.003
Mean number of other ambulatory encounters	3.1	7.9	3.2	8.1	-0.092	-0.012
Mean number of filled prescriptions	9.6	12.2	9.6	12.0	0.020	0.002
Mean number of generics dispensed	4.3	4.0	4.3	3.9	0.006	0.001
Mean number of unique drug classes dispensed	4.1	3.7	4.1	3.6	0.009	0.002

[1]Covariates in blue show a standardized difference greater than 0.1.

[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.

[4]The Combined Comorbidity Score is calculated based on comorbidities observed during a requester-defined window around the exposure episode start date. (Gagne JJ, Glynn RJ, Avorn J, Levin R, Schneeweiss S. A Combined Comorbidity Score Predicted Mortality in Elderly Patients Better Than Existing Scores. J Clin Epidemiol. 2011;64(7):749-759; Sun JW, Rogers JR, Her Q, Welch EC, Panozzo CA, Toh S, Gagne JJ. Adaptation and Validation of the Combined Comorbidity Score for ICD-10-CM. Med Care. 2017;55(12):1046-1051)

[5]Covariate not included in the propensity score logistic regression model.

NaN: Not a number

| Patient Characteristics[1] | Medical Product | | | | Covariate Balance | |
| | ACE Inhibitors | | Beta Blockers | | | |
	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
Unique patients	75,623	99.8%	75,623	88.6%	N/A	N/A
Demographic Characteristics						
Age (years)	60.9	12.3	61.4	13.8	-0.539	-0.041
Age						
18-44 years	14,073	18.6%	14,646	19.4%	-0.758	-0.019
45-64 years	23,211	30.7%	20,452	27.0%	3.648	0.081
≥ 65 years	38,339	50.7%	40,525	53.6%	-2.891	-0.058
Sex						
Female	42,328	56.0%	40,518	53.6%	2.393	0.048
Male	33,295	44.0%	35,105	46.4%	-2.393	-0.048
Race[3]						
American Indian or Alaska Native	276	0.4%	198	0.3%	0.103	0.018
Asian	907	1.2%	984	1.3%	-0.102	-0.009
Black or African American	4,108	5.4%	4,459	5.9%	-0.464	-0.020
Multi-racial	337	0.4%	334	0.4%	0.004	0.001
Native Hawaiian or Other Pacific Islander	118	0.2%	118	0.2%	0.000	0.000
Unknown	32,707	43.3%	32,386	42.8%	0.424	0.009
White	37,170	49.2%	37,144	49.1%	0.034	0.001
Hispanic origin						
Yes	1,718	2.3%	1,140	1.5%	0.764	0.056
No	37,562	49.7%	37,739	49.9%	-0.234	-0.005
Unknown	36,343	48.1%	36,744	48.6%	-0.530	-0.011
Year						
2018	0	0.0%	0	0.0%	NaN	NaN
2019	0	0.0%	0	0.0%	NaN	NaN
2020	0	0.0%	0	0.0%	NaN	NaN
2021	75,623	100.0%	75,623	100.0%	0.000	NaN
2022	0	0.0%	0	0.0%	NaN	NaN
Quarter-Year						
2018Q1	0	0.0%	0	0.0%	NaN	NaN
2018Q2	0	0.0%	0	0.0%	NaN	NaN
2018Q3	0	0.0%	0	0.0%	NaN	NaN
2018Q4	0	0.0%	0	0.0%	NaN	NaN

Table 1af. Aggregated Adjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.025, in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2021Q3

| Patient Characteristics[1] | Medical Product | | | | Covariate Balance | |
| | ACE Inhibitors | | Beta Blockers | | | |
	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
2019Q1	0	0.0%	0	0.0%	NaN	NaN
2019Q2	0	0.0%	0	0.0%	NaN	NaN
2019Q3	0	0.0%	0	0.0%	NaN	NaN
2019Q4	0	0.0%	0	0.0%	NaN	NaN
2020Q1	0	0.0%	0	0.0%	NaN	NaN
2020Q2	0	0.0%	0	0.0%	NaN	NaN
2020Q3	0	0.0%	0	0.0%	NaN	NaN
2020Q4	0	0.0%	0	0.0%	NaN	NaN
2021Q1	0	0.0%	0	0.0%	NaN	NaN
2021Q2	0	0.0%	0	0.0%	NaN	NaN
2021Q3	75,623	100.0%	75,623	100.0%	0.000	NaN
2021Q4	0	0.0%	0	0.0%	NaN	NaN
2022Q1	0	0.0%	0	0.0%	NaN	NaN
2022Q2	0	0.0%	0	0.0%	NaN	NaN
Health Characteristics						
Charlson/Elixhauser combined comorbidity score[4]	1.1	2.2	1.2	2.1	-0.049	-0.023
Allergic Reaction	10,024	13.3%	9,877	13.1%	0.194	0.006
Diabetes	12,766	16.9%	12,948	17.1%	-0.241	-0.006
Heart Failure	3,804	5.0%	4,619	6.1%	-1.078	-0.047
Ischemic Heart Disease	7,937	10.5%	8,173	10.8%	-0.312	-0.010
NSAID Use	11,290	14.9%	11,376	15.0%	-0.114	-0.003
Acquired Hypothyroidism[5]	10,135	13.4%	10,474	13.9%	-0.448	-0.013
Acute Myocardial Infarction[5]	1,331	1.8%	2,399	3.2%	-1.412	-0.091
Alzheimers Disease and Related Disorders[5]	3,025	4.0%	2,393	3.2%	0.836	0.045
Anemia[5]	8,932	11.8%	9,033	11.9%	-0.134	-0.004
Asthma[5]	4,871	6.4%	3,848	5.1%	1.353	0.058
Atrial Fibrillation[5]	2,916	3.9%	9,112	12.0%	-8.193	-0.306
Benign Prostatic Hyperplasia[5]	4,273	5.7%	5,224	6.9%	-1.258	-0.052
Cataract[5]	9,627	12.7%	9,876	13.1%	-0.329	-0.010
Chronic Kidney Disease[5]	11,891	15.7%	10,421	13.8%	1.944	0.055
Chronic Obstructive Pulmonary Disease and Bronchiectasis[5]	7,077	9.4%	6,058	8.0%	1.347	0.048

Table 1af. Aggregated Adjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.025, in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2021Q3

Patient Characteristics[1]	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
Depression[5]	13,484	17.8%	12,238	16.2%	1.648	0.044
Glaucoma[5]	4,810	6.4%	4,864	6.4%	-0.071	-0.003
Hip or Pelvic Fracture[5]	489	0.6%	442	0.6%	0.062	0.008
Hyperlipidemia[5]	29,847	39.5%	31,140	41.2%	-1.710	-0.035
Hypertension[5]	37,849	50.0%	33,637	44.5%	5.570	0.112
Osteoporosis[5]	4,197	5.5%	4,297	5.7%	-0.132	-0.006
Rheumatoid Arthritis or Osteoarthritis[5]	16,787	22.2%	16,616	22.0%	0.226	0.005
Stroke or Transient Ischemic Attack[5]	3,987	5.3%	3,103	4.1%	1.169	0.055
Breast Cancer[5]	2,155	2.8%	1,897	2.5%	0.341	0.021
Colorectal Cancer[5]	747	1.0%	598	0.8%	0.197	0.021
Prostate Cancer[5]	1,626	2.2%	1,529	2.0%	0.128	0.009
Lung Cancer[5]	568	0.8%	547	0.7%	0.028	0.003
Endometrial Cancer[5]	308	0.4%	243	0.3%	0.086	0.014
Urologic Cancer[5]	329	0.4%	256	0.3%	0.097	0.016
Health Service Utilization Intensity Metrics						
Mean number of ambulatory encounters	8.4	10.7	8.5	10.0	-0.072	-0.007
Mean number of emergency room	0.4	1.3	0.4	1.1	-0.008	-0.007
Mean number of inpatient hospital encounters	0.2	0.5	0.2	0.5	-0.014	-0.031
Mean number of non-acute institutional encounters	0.0	0.3	0.0	0.3	0.000	0.001
Mean number of other ambulatory encounters	3.1	7.8	3.2	8.0	-0.023	-0.003
Mean number of filled prescriptions	9.6	12.2	9.5	12.0	0.081	0.007
Mean number of generics dispensed	4.3	4.0	4.3	3.9	0.033	0.008
Mean number of unique drug classes dispensed	4.1	3.7	4.0	3.6	0.036	0.010

[1]Covariates in blue show a standardized difference greater than 0.1.

[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.

[4]The Combined Comorbidity Score is calculated based on comorbidities observed during a requester-defined window around the exposure episode start date. (Gagne JJ, Glynn RJ, Avorn J, Levin R, Schneeweiss S. A Combined Comorbidity Score Predicted Mortality in Elderly Patients Better Than Existing Scores. J Clin Epidemiol. 2011;64(7):749-759; Sun JW, Rogers JR, Her Q, Welch EC, Panozzo CA, Toh S, Gagne JJ. Adaptation and Validation of the Combined Comorbidity Score for ICD-10-CM. Med Care. 2017;55(12):1046-1051)

[5]Covariate not included in the propensity score logistic regression model.

NaN: Not a number

Table 1ag. Aggregated Unadjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2021Q4

Patient Characteristics[1]	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
Unique patients	76,573	100.0%	86,467	100.0%	N/A	N/A
Demographic Characteristics						
Age (years)	61.6	12.0	61.9	13.7	-0.311	-0.024
Age						
18-44 years	13,114	17.1%	15,883	18.4%	-1.243	-0.033
45-64 years	22,700	29.6%	22,903	26.5%	3.157	0.070
≥ 65 years	40,759	53.2%	47,681	55.1%	-1.915	-0.038
Sex						
Female	42,885	56.0%	46,318	53.6%	2.438	0.049
Male	33,688	44.0%	40,149	46.4%	-2.438	-0.049
Race[3]						
American Indian or Alaska Native	270	0.4%	231	0.3%	0.085	0.015
Asian	889	1.2%	1,211	1.4%	-0.240	-0.021
Black or African American	4,025	5.3%	5,027	5.8%	-0.557	-0.024
Multi-racial	329	0.4%	420	0.5%	-0.056	-0.008
Native Hawaiian or Other Pacific Islander	117	0.2%	114	0.1%	0.021	0.006
Unknown	31,739	41.4%	35,361	40.9%	0.554	0.011
White	39,204	51.2%	44,103	51.0%	0.193	0.004
Hispanic origin						
Yes	1,666	2.2%	1,264	1.5%	0.714	0.053
No	39,656	51.8%	44,801	51.8%	-0.024	-0.000
Unknown	35,251	46.0%	40,402	46.7%	-0.690	-0.014
Year						
2018	0	0.0%	0	0.0%	NaN	NaN
2019	0	0.0%	0	0.0%	NaN	NaN
2020	0	0.0%	0	0.0%	NaN	NaN
2021	76,573	100.0%	86,467	100.0%	0.000	NaN
2022	0	0.0%	0	0.0%	NaN	NaN
Quarter-Year						
2018Q1	0	0.0%	0	0.0%	NaN	NaN
2018Q2	0	0.0%	0	0.0%	NaN	NaN
2018Q3	0	0.0%	0	0.0%	NaN	NaN
2018Q4	0	0.0%	0	0.0%	NaN	NaN

Table 1ag. Aggregated Unadjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2021Q4

Patient Characteristics[1]	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
2019Q1	0	0.0%	0	0.0%	NaN	NaN
2019Q2	0	0.0%	0	0.0%	NaN	NaN
2019Q3	0	0.0%	0	0.0%	NaN	NaN
2019Q4	0	0.0%	0	0.0%	NaN	NaN
2020Q1	0	0.0%	0	0.0%	NaN	NaN
2020Q2	0	0.0%	0	0.0%	NaN	NaN
2020Q3	0	0.0%	0	0.0%	NaN	NaN
2020Q4	0	0.0%	0	0.0%	NaN	NaN
2021Q1	0	0.0%	0	0.0%	NaN	NaN
2021Q2	0	0.0%	0	0.0%	NaN	NaN
2021Q3	0	0.0%	0	0.0%	NaN	NaN
2021Q4	76,573	100.0%	86,467	100.0%	0.000	NaN
2022Q1	0	0.0%	0	0.0%	NaN	NaN
2022Q2	0	0.0%	0	0.0%	NaN	NaN
Health Characteristics						
Charlson/Elixhauser combined comorbidity score[4]	1.1	2.2	1.2	2.1	-0.081	-0.038
Allergic Reaction	10,767	14.1%	11,859	13.7%	0.346	0.010
Diabetes	12,378	16.2%	14,788	17.1%	-0.938	-0.025
Heart Failure	3,732	4.9%	5,442	6.3%	-1.420	-0.062
Ischemic Heart Disease	7,819	10.2%	9,628	11.1%	-0.924	-0.030
NSAID Use	11,743	15.3%	13,103	15.2%	0.182	0.005
Acquired Hypothyroidism[5]	10,658	13.9%	11,971	13.8%	0.074	0.002
Acute Myocardial Infarction[5]	1,306	1.7%	3,036	3.5%	-1.806	-0.113
Alzheimers Disease and Related Disorders[5]	3,058	4.0%	2,695	3.1%	0.877	0.047
Anemia[5]	9,042	11.8%	10,616	12.3%	-0.469	-0.014
Asthma[5]	4,790	6.3%	4,478	5.2%	1.077	0.046
Atrial Fibrillation[5]	2,864	3.7%	10,592	12.2%	-8.510	-0.318
Benign Prostatic Hyperplasia[5]	4,678	6.1%	6,275	7.3%	-1.148	-0.046
Cataract[5]	10,643	13.9%	12,100	14.0%	-0.095	-0.003
Chronic Kidney Disease[5]	11,773	15.4%	12,329	14.3%	1.116	0.031
Chronic Obstructive Pulmonary Disease and Bronchiectasis[5]	7,244	9.5%	7,229	8.4%	1.100	0.039

| Patient Characteristics[1] | Medical Product | | | | Covariate Balance | |
| | ACE Inhibitors | | Beta Blockers | | | |
	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
Depression[5]	13,615	17.8%	14,086	16.3%	1.490	0.040
Glaucoma[5]	5,265	6.9%	5,893	6.8%	0.060	0.002
Hip or Pelvic Fracture[5]	465	0.6%	508	0.6%	0.020	0.003
Hyperlipidemia[5]	31,302	40.9%	36,379	42.1%	-1.194	-0.024
Hypertension[5]	37,905	49.5%	38,522	44.6%	4.951	0.099
Osteoporosis[5]	4,656	6.1%	5,314	6.1%	-0.065	-0.003
Rheumatoid Arthritis or Osteoarthritis[5]	17,397	22.7%	19,366	22.4%	0.323	0.008
Stroke or Transient Ischemic Attack[5]	3,874	5.1%	3,696	4.3%	0.785	0.037
Breast Cancer[5]	2,328	3.0%	2,184	2.5%	0.514	0.031
Colorectal Cancer[5]	773	1.0%	642	0.7%	0.267	0.029
Prostate Cancer[5]	1,793	2.3%	1,765	2.0%	0.300	0.021
Lung Cancer[5]	534	0.7%	586	0.7%	0.020	0.002
Endometrial Cancer[5]	350	0.5%	251	0.3%	0.167	0.027
Urologic Cancer[5]	365	0.5%	335	0.4%	0.089	0.014
Health Service Utilization Intensity Metrics						
Mean number of ambulatory encounters	8.6	10.8	8.7	10.0	-0.081	-0.008
Mean number of emergency room	0.4	1.1	0.4	1.1	-0.023	-0.020
Mean number of inpatient hospital encounters	0.2	0.5	0.2	0.5	-0.022	-0.046
Mean number of non-acute institutional encounters	0.0	0.3	0.1	0.3	-0.003	-0.009
Mean number of other ambulatory encounters	3.2	8.0	3.3	8.0	-0.080	-0.010
Mean number of filled prescriptions	9.7	12.4	9.6	11.9	0.128	0.011
Mean number of generics dispensed	4.4	4.0	4.4	4.0	0.024	0.006
Mean number of unique drug classes dispensed	4.2	3.7	4.2	3.7	0.034	0.009

[1]Covariates in blue show a standardized difference greater than 0.1.

[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.

[4]The Combined Comorbidity Score is calculated based on comorbidities observed during a requester-defined window around the exposure episode start date. (Gagne JJ, Glynn RJ, Avorn J, Levin R, Schneeweiss S. A Combined Comorbidity Score Predicted Mortality in Elderly Patients Better Than Existing Scores. J Clin Epidemiol. 2011;64(7):749-759; Sun JW, Rogers JR, Her Q, Welch EC, Panozzo CA, Toh S, Gagne JJ. Adaptation and Validation of the Combined Comorbidity Score for ICD-10-CM. Med Care. 2017;55(12):1046-1051)

[5]Covariate not included in the propensity score logistic regression model.

NaN: Not a number

Table 1ah. Aggregated Adjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.025, in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2021Q4

| Patient Characteristics[1] | Medical Product | | | | Covariate Balance | |
| | ACE Inhibitors | | Beta Blockers | | | |
	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
Unique patients	76,537	100.0%	76,537	88.5%	N/A	N/A
Demographic Characteristics						
Age (years)	61.6	12.0	61.9	13.7	-0.290	-0.022
Age						
18-44 years	13,114	17.1%	14,022	18.3%	-1.186	-0.031
45-64 years	22,694	29.7%	20,372	26.6%	3.034	0.068
≥ 65 years	40,729	53.2%	42,143	55.1%	-1.847	-0.037
Sex						
Female	42,878	56.0%	40,887	53.4%	2.601	0.052
Male	33,659	44.0%	35,650	46.6%	-2.601	-0.052
Race[3]						
American Indian or Alaska Native	270	0.4%	201	0.3%	0.090	0.016
Asian	889	1.2%	1,097	1.4%	-0.272	-0.024
Black or African American	4,013	5.2%	4,436	5.8%	-0.553	-0.024
Multi-racial	329	0.4%	347	0.5%	-0.024	-0.004
Native Hawaiian or Other Pacific Islander	116	0.2%	98	0.1%	0.024	0.006
Unknown	31,739	41.5%	31,348	41.0%	0.511	0.010
White	39,181	51.2%	39,010	51.0%	0.223	0.004
Hispanic origin						
Yes	1,666	2.2%	1,108	1.4%	0.729	0.055
No	39,620	51.8%	39,809	52.0%	-0.247	-0.005
Unknown	35,251	46.1%	35,620	46.5%	-0.482	-0.010
Year						
2018	0	0.0%	0	0.0%	NaN	NaN
2019	0	0.0%	0	0.0%	NaN	NaN
2020	0	0.0%	0	0.0%	NaN	NaN
2021	76,537	100.0%	76,537	100.0%	0.000	NaN
2022	0	0.0%	0	0.0%	NaN	NaN
Quarter-Year						
2018Q1	0	0.0%	0	0.0%	NaN	NaN
2018Q2	0	0.0%	0	0.0%	NaN	NaN
2018Q3	0	0.0%	0	0.0%	NaN	NaN
2018Q4	0	0.0%	0	0.0%	NaN	NaN

Table 1ah. Aggregated Adjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.025, in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2021Q4

| Patient Characteristics[1] | Medical Product | | | | Covariate Balance | |
| | ACE Inhibitors | | Beta Blockers | | | |
	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
2019Q1	0	0.0%	0	0.0%	NaN	NaN
2019Q2	0	0.0%	0	0.0%	NaN	NaN
2019Q3	0	0.0%	0	0.0%	NaN	NaN
2019Q4	0	0.0%	0	0.0%	NaN	NaN
2020Q1	0	0.0%	0	0.0%	NaN	NaN
2020Q2	0	0.0%	0	0.0%	NaN	NaN
2020Q3	0	0.0%	0	0.0%	NaN	NaN
2020Q4	0	0.0%	0	0.0%	NaN	NaN
2021Q1	0	0.0%	0	0.0%	NaN	NaN
2021Q2	0	0.0%	0	0.0%	NaN	NaN
2021Q3	0	0.0%	0	0.0%	NaN	NaN
2021Q4	76,537	100.0%	76,537	100.0%	0.000	NaN
2022Q1	0	0.0%	0	0.0%	NaN	NaN
2022Q2	0	0.0%	0	0.0%	NaN	NaN
Health Characteristics						
Charlson/Elixhauser combined comorbidity score[4]	1.1	2.2	1.2	2.1	-0.049	-0.023
Allergic Reaction	10,765	14.1%	10,404	13.6%	0.472	0.014
Diabetes	12,358	16.1%	13,123	17.1%	-1.000	-0.027
Heart Failure	3,732	4.9%	4,692	6.1%	-1.254	-0.055
Ischemic Heart Disease	7,819	10.2%	8,318	10.9%	-0.652	-0.021
NSAID Use	11,740	15.3%	11,622	15.2%	0.154	0.004
Acquired Hypothyroidism[5]	10,651	13.9%	10,515	13.7%	0.178	0.005
Acute Myocardial Infarction[5]	1,306	1.7%	2,607	3.4%	-1.700	-0.108
Alzheimers Disease and Related Disorders[5]	3,058	4.0%	2,297	3.0%	0.994	0.054
Anemia[5]	9,039	11.8%	9,200	12.0%	-0.210	-0.006
Asthma[5]	4,790	6.3%	3,939	5.1%	1.112	0.048
Atrial Fibrillation[5]	2,863	3.7%	9,215	12.0%	-8.299	-0.312
Benign Prostatic Hyperplasia[5]	4,674	6.1%	5,509	7.2%	-1.091	-0.044
Cataract[5]	10,639	13.9%	10,703	14.0%	-0.084	-0.002
Chronic Kidney Disease[5]	11,767	15.4%	10,757	14.1%	1.320	0.037
Chronic Obstructive Pulmonary Disease and Bronchiectasis[5]	7,243	9.5%	6,312	8.2%	1.216	0.043
Depression[5]	13,611	17.8%	12,375	16.2%	1.615	0.043

Table 1ah. Aggregated Adjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.025, in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2021Q4

Patient Characteristics[1]	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
Glaucoma[5]	5,263	6.9%	5,230	6.8%	0.043	0.002
Hip or Pelvic Fracture[5]	465	0.6%	441	0.6%	0.031	0.004
Hyperlipidemia[5]	31,278	40.9%	32,098	41.9%	-1.071	-0.022
Hypertension[5]	37,877	49.5%	34,072	44.5%	4.971	0.100
Osteoporosis[5]	4,655	6.1%	4,621	6.0%	0.044	0.002
Rheumatoid Arthritis or Osteoarthritis[5]	17,392	22.7%	17,044	22.3%	0.455	0.011
Stroke or Transient Ischemic Attack[5]	3,873	5.1%	3,233	4.2%	0.836	0.040
Breast Cancer[5]	2,328	3.0%	1,941	2.5%	0.506	0.031
Colorectal Cancer[5]	773	1.0%	563	0.7%	0.274	0.030
Prostate Cancer[5]	1,793	2.3%	1,527	2.0%	0.348	0.024
Lung Cancer[5]	534	0.7%	498	0.7%	0.047	0.006
Endometrial Cancer[5]	350	0.5%	214	0.3%	0.178	0.029
Urologic Cancer[5]	365	0.5%	281	0.4%	0.110	0.017
Health Service Utilization Intensity Metrics						
Mean number of ambulatory encounters	8.6	10.8	8.6	9.8	0.004	0.000
Mean number of emergency room	0.4	1.1	0.4	1.1	-0.018	-0.016
Mean number of inpatient hospital encounters	0.2	0.5	0.2	0.5	-0.016	-0.034
Mean number of non-acute institutional encounters	0.0	0.3	0.1	0.3	-0.001	-0.004
Mean number of other ambulatory encounters	3.2	8.0	3.2	7.9	-0.024	-0.003
Mean number of filled prescriptions	9.7	12.3	9.5	11.8	0.183	0.015
Mean number of generics dispensed	4.4	4.0	4.4	4.0	0.048	0.012
Mean number of unique drug classes dispensed	4.2	3.7	4.1	3.6	0.056	0.015

[1]Covariates in blue show a standardized difference greater than 0.1.

[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.

[4]The Combined Comorbidity Score is calculated based on comorbidities observed during a requester-defined window around the exposure episode start date. (Gagne JJ, Glynn RJ, Avorn J, Levin R, Schneeweiss S. A Combined Comorbidity Score Predicted Mortality in Elderly Patients Better Than Existing Scores. J Clin Epidemiol. 2011;64(7):749-759; Sun JW, Rogers JR, Her Q, Welch EC, Panozzo CA, Toh S, Gagne JJ. Adaptation and Validation of the Combined Comorbidity Score for ICD-10-CM. Med Care. 2017;55(12):1046-1051)

[5]Covariate not included in the propensity score logistic regression model.

NaN: Not a number

Table 1ai. Aggregated Unadjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2022Q1

	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
Patient Characteristics[1]	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
Unique patients	78,290	100.0%	90,636	100.0%	N/A	N/A
Demographic Characteristics						
Age (years)	61.6	11.9	62.0	13.6	-0.431	-0.034
Age						
18-44 years	13,652	17.4%	16,817	18.6%	-1.117	-0.029
45-64 years	23,205	29.6%	23,746	26.2%	3.440	0.077
≥ 65 years	41,433	52.9%	50,073	55.2%	-2.324	-0.047
Sex						
Female	43,580	55.7%	48,840	53.9%	1.779	0.036
Male	34,710	44.3%	41,796	46.1%	-1.779	-0.036
Race[3]						
American Indian or Alaska Native	319	0.4%	240	0.3%	0.143	0.025
Asian	943	1.2%	1,236	1.4%	-0.159	-0.014
Black or African American	3,849	4.9%	4,964	5.5%	-0.561	-0.025
Multi-racial	374	0.5%	384	0.4%	0.054	0.008
Native Hawaiian or Other Pacific Islander	91	0.1%	121	0.1%	-0.017	-0.005
Unknown	32,498	41.5%	36,682	40.5%	1.038	0.021
White	40,216	51.4%	47,009	51.9%	-0.498	-0.010
Hispanic origin						
Yes	1,735	2.2%	1,341	1.5%	0.737	0.055
No	41,409	52.9%	48,746	53.8%	-0.890	-0.018
Unknown	35,146	44.9%	40,549	44.7%	0.154	0.003
Year						
2018	0	0.0%	0	0.0%	NaN	NaN
2019	0	0.0%	0	0.0%	NaN	NaN
2020	0	0.0%	0	0.0%	NaN	NaN
2021	0	0.0%	0	0.0%	NaN	NaN
2022	78,290	100.0%	90,636	100.0%	0.000	NaN
Quarter-Year						
2018Q1	0	0.0%	0	0.0%	NaN	NaN
2018Q2	0	0.0%	0	0.0%	NaN	NaN
2018Q3	0	0.0%	0	0.0%	NaN	NaN
2018Q4	0	0.0%	0	0.0%	NaN	NaN

Table 1ai. Aggregated Unadjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2022Q1

Patient Characteristics[1]	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
2019Q1	0	0.0%	0	0.0%	NaN	NaN
2019Q2	0	0.0%	0	0.0%	NaN	NaN
2019Q3	0	0.0%	0	0.0%	NaN	NaN
2019Q4	0	0.0%	0	0.0%	NaN	NaN
2020Q1	0	0.0%	0	0.0%	NaN	NaN
2020Q2	0	0.0%	0	0.0%	NaN	NaN
2020Q3	0	0.0%	0	0.0%	NaN	NaN
2020Q4	0	0.0%	0	0.0%	NaN	NaN
2021Q1	0	0.0%	0	0.0%	NaN	NaN
2021Q2	0	0.0%	0	0.0%	NaN	NaN
2021Q3	0	0.0%	0	0.0%	NaN	NaN
2021Q4	0	0.0%	0	0.0%	NaN	NaN
2022Q1	78,290	100.0%	90,636	100.0%	0.000	NaN
2022Q2	0	0.0%	0	0.0%	NaN	NaN
Health Characteristics						
Charlson/Elixhauser combined comorbidity score[4]	1.1	2.1	1.2	2.1	-0.087	-0.042
Allergic Reaction	10,492	13.4%	11,466	12.7%	0.751	0.022
Diabetes	12,627	16.1%	15,420	17.0%	-0.885	-0.024
Heart Failure	3,720	4.8%	5,603	6.2%	-1.430	-0.063
Ischemic Heart Disease	7,902	10.1%	9,736	10.7%	-0.649	-0.021
NSAID Use	11,335	14.5%	12,942	14.3%	0.199	0.006
Acquired Hypothyroidism[5]	10,647	13.6%	12,383	13.7%	-0.063	-0.002
Acute Myocardial Infarction[5]	1,180	1.5%	2,862	3.2%	-1.650	-0.110
Alzheimers Disease and Related Disorders[5]	2,987	3.8%	2,812	3.1%	0.713	0.039
Anemia[5]	8,964	11.4%	10,676	11.8%	-0.329	-0.010
Asthma[5]	4,956	6.3%	4,681	5.2%	1.166	0.050
Atrial Fibrillation[5]	3,038	3.9%	10,941	12.1%	-8.191	-0.306
Benign Prostatic Hyperplasia[5]	4,751	6.1%	6,592	7.3%	-1.205	-0.048
Cataract[5]	10,704	13.7%	12,637	13.9%	-0.270	-0.008
Chronic Kidney Disease[5]	11,956	15.3%	12,658	14.0%	1.306	0.037
Chronic Obstructive Pulmonary Disease and Bronchiectasis[5]	7,190	9.2%	7,408	8.2%	1.010	0.036
Depression[5]	13,398	17.1%	14,499	16.0%	1.116	0.030

Table 1ai. Aggregated Unadjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2022Q1

Patient Characteristics[1]	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
Glaucoma[5]	5,258	6.7%	6,101	6.7%	-0.015	-0.001
Hip or Pelvic Fracture[5]	423	0.5%	560	0.6%	-0.078	-0.010
Hyperlipidemia[5]	31,717	40.5%	37,944	41.9%	-1.352	-0.027
Hypertension[5]	38,808	49.6%	40,574	44.8%	4.804	0.096
Osteoporosis[5]	4,637	5.9%	5,605	6.2%	-0.261	-0.011
Rheumatoid Arthritis or Osteoarthritis[5]	17,491	22.3%	19,681	21.7%	0.627	0.015
Stroke or Transient Ischemic Attack[5]	3,797	4.8%	3,657	4.0%	0.815	0.040
Breast Cancer[5]	2,338	3.0%	2,287	2.5%	0.463	0.028
Colorectal Cancer[5]	813	1.0%	716	0.8%	0.248	0.026
Prostate Cancer[5]	1,795	2.3%	1,919	2.1%	0.175	0.012
Lung Cancer[5]	478	0.6%	650	0.7%	-0.107	-0.013
Endometrial Cancer[5]	308	0.4%	264	0.3%	0.102	0.017
Urologic Cancer[5]	337	0.4%	337	0.4%	0.059	0.009
Health Service Utilization Intensity Metrics						
Mean number of ambulatory encounters	8.5	10.4	8.5	9.9	-0.061	-0.006
Mean number of emergency room	0.4	1.1	0.4	1.1	-0.009	-0.008
Mean number of inpatient hospital encounters	0.1	0.5	0.2	0.5	-0.022	-0.048
Mean number of non-acute institutional encounters	0.0	0.3	0.0	0.3	-0.004	-0.014
Mean number of other ambulatory encounters	3.2	7.8	3.4	8.0	-0.162	-0.020
Mean number of filled prescriptions	9.3	12.2	9.2	11.8	0.129	0.011
Mean number of generics dispensed	4.4	4.0	4.3	4.0	0.039	0.010
Mean number of unique drug classes dispensed	4.1	3.7	4.1	3.6	0.050	0.014

[1]Covariates in blue show a standardized difference greater than 0.1.

[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.

[4]The Combined Comorbidity Score is calculated based on comorbidities observed during a requester-defined window around the exposure episode start date. (Gagne JJ, Glynn RJ, Avorn J, Levin R, Schneeweiss S. A Combined Comorbidity Score Predicted Mortality in Elderly Patients Better Than Existing Scores. J Clin Epidemiol. 2011;64(7):749-759; Sun JW, Rogers JR, Her Q, Welch EC, Panozzo CA, Toh S, Gagne JJ. Adaptation and Validation of the Combined Comorbidity Score for ICD-10-CM. Med Care. 2017;55(12):1046-1051)

[5]Covariate not included in the propensity score logistic regression model.

NaN: Not a number

Table 1aj. Aggregated Adjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.025, in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2022Q1

| | Medical Product | | | | Covariate Balance | |
| | ACE Inhibitors | | Beta Blockers | | | |
Patient Characteristics[1]	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
Unique patients	78,279	100.0%	78,279	86.4%	N/A	N/A
Demographic Characteristics						
Age (years)	61.6	11.9	61.9	13.6	-0.339	-0.027
Age						
18-44 years	13,652	17.4%	14,589	18.6%	-1.197	-0.031
45-64 years	23,196	29.6%	20,705	26.5%	3.182	0.071
≥ 65 years	41,431	52.9%	42,985	54.9%	-1.985	-0.040
Sex						
Female	43,577	55.7%	42,028	53.7%	1.979	0.040
Male	34,702	44.3%	36,251	46.3%	-1.979	-0.040
Race[3]						
American Indian or Alaska Native	319	0.4%	211	0.3%	0.138	0.024
Asian	943	1.2%	1,073	1.4%	-0.166	-0.015
Black or African American	3,848	4.9%	4,229	5.4%	-0.487	-0.022
Multi-racial	374	0.5%	331	0.4%	0.055	0.008
Native Hawaiian or Other Pacific Islander	91	0.1%	103	0.1%	-0.015	-0.004
Unknown	32,489	41.5%	32,108	41.0%	0.487	0.010
White	40,215	51.4%	40,224	51.4%	-0.011	-0.000
Hispanic origin						
Yes	1,735	2.2%	1,146	1.5%	0.752	0.056
No	41,407	52.9%	41,666	53.2%	-0.331	-0.007
Unknown	35,137	44.9%	35,467	45.3%	-0.422	-0.008
Year						
2018	0	0.0%	0	0.0%	NaN	NaN
2019	0	0.0%	0	0.0%	NaN	NaN
2020	0	0.0%	0	0.0%	NaN	NaN
2021	0	0.0%	0	0.0%	NaN	NaN
2022	78,279	100.0%	78,279	100.0%	0.000	NaN
Quarter-Year						
2018Q1	0	0.0%	0	0.0%	NaN	NaN
2018Q2	0	0.0%	0	0.0%	NaN	NaN
2018Q3	0	0.0%	0	0.0%	NaN	NaN
2018Q4	0	0.0%	0	0.0%	NaN	NaN

Table 1aj. Aggregated Adjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.025, in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2022Q1

| Patient Characteristics[1] | Medical Product | | | | Covariate Balance | |
| | ACE Inhibitors | | Beta Blockers | | | |
	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
2019Q1	0	0.0%	0	0.0%	NaN	NaN
2019Q2	0	0.0%	0	0.0%	NaN	NaN
2019Q3	0	0.0%	0	0.0%	NaN	NaN
2019Q4	0	0.0%	0	0.0%	NaN	NaN
2020Q1	0	0.0%	0	0.0%	NaN	NaN
2020Q2	0	0.0%	0	0.0%	NaN	NaN
2020Q3	0	0.0%	0	0.0%	NaN	NaN
2020Q4	0	0.0%	0	0.0%	NaN	NaN
2021Q1	0	0.0%	0	0.0%	NaN	NaN
2021Q2	0	0.0%	0	0.0%	NaN	NaN
2021Q3	0	0.0%	0	0.0%	NaN	NaN
2021Q4	0	0.0%	0	0.0%	NaN	NaN
2022Q1	78,279	100.0%	78,279	100.0%	0.000	NaN
2022Q2	0	0.0%	0	0.0%	NaN	NaN
Health Characteristics						
Charlson/Elixhauser combined comorbidity score[4]	1.1	2.1	1.2	2.1	-0.059	-0.028
Allergic Reaction	10,491	13.4%	9,754	12.5%	0.942	0.028
Diabetes	12,616	16.1%	13,320	17.0%	-0.899	-0.024
Heart Failure	3,720	4.8%	4,689	6.0%	-1.238	-0.055
Ischemic Heart Disease	7,901	10.1%	8,204	10.5%	-0.387	-0.013
NSAID Use	11,335	14.5%	11,186	14.3%	0.190	0.005
Acquired Hypothyroidism[5]	10,646	13.6%	10,578	13.5%	0.087	0.003
Acute Myocardial Infarction[5]	1,180	1.5%	2,387	3.0%	-1.542	-0.103
Alzheimers Disease and Related Disorders[5]	2,986	3.8%	2,374	3.0%	0.782	0.043
Anemia[5]	8,962	11.4%	9,021	11.5%	-0.075	-0.002
Asthma[5]	4,956	6.3%	3,945	5.0%	1.292	0.056
Atrial Fibrillation[5]	3,038	3.9%	9,354	11.9%	-8.069	-0.302
Benign Prostatic Hyperplasia[5]	4,750	6.1%	5,671	7.2%	-1.177	-0.047
Cataract[5]	10,703	13.7%	10,864	13.9%	-0.206	-0.006
Chronic Kidney Disease[5]	11,950	15.3%	10,769	13.8%	1.509	0.043
Chronic Obstructive Pulmonary Disease and Bronchiectasis[5]	7,190	9.2%	6,277	8.0%	1.166	0.042

Table 1aj. Aggregated Adjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.025, in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2022Q1

| Patient Characteristics[1] | Medical Product | | | | Covariate Balance | |
| | ACE Inhibitors | | Beta Blockers | | | |
	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
Depression[5]	13,397	17.1%	12,434	15.9%	1.230	0.033
Glaucoma[5]	5,257	6.7%	5,238	6.7%	0.024	0.001
Hip or Pelvic Fracture[5]	423	0.5%	474	0.6%	-0.065	-0.009
Hyperlipidemia[5]	31,709	40.5%	32,668	41.7%	-1.225	-0.025
Hypertension[5]	38,800	49.6%	34,891	44.6%	4.994	0.100
Osteoporosis[5]	4,637	5.9%	4,775	6.1%	-0.176	-0.007
Rheumatoid Arthritis or Osteoarthritis[5]	17,490	22.3%	16,890	21.6%	0.766	0.019
Stroke or Transient Ischemic Attack[5]	3,796	4.8%	3,132	4.0%	0.848	0.041
Breast Cancer[5]	2,338	3.0%	1,976	2.5%	0.462	0.028
Colorectal Cancer[5]	813	1.0%	612	0.8%	0.257	0.027
Prostate Cancer[5]	1,795	2.3%	1,642	2.1%	0.195	0.013
Lung Cancer[5]	478	0.6%	548	0.7%	-0.089	-0.011
Endometrial Cancer[5]	308	0.4%	231	0.3%	0.098	0.017
Urologic Cancer[5]	337	0.4%	296	0.4%	0.052	0.008
Health Service Utilization Intensity Metrics						
Mean number of ambulatory encounters	8.5	10.4	8.4	9.8	0.011	0.001
Mean number of emergency room	0.4	1.1	0.4	1.0	0.001	0.001
Mean number of inpatient hospital encounters	0.1	0.5	0.2	0.4	-0.017	-0.038
Mean number of non-acute institutional encounters	0.0	0.3	0.0	0.3	-0.003	-0.011
Mean number of other ambulatory encounters	3.2	7.8	3.3	7.9	-0.117	-0.015
Mean number of filled prescriptions	9.3	12.2	9.1	11.7	0.174	0.015
Mean number of generics dispensed	4.4	4.0	4.3	3.9	0.062	0.016
Mean number of unique drug classes dispensed	4.1	3.7	4.1	3.6	0.072	0.019

[1]Covariates in blue show a standardized difference greater than 0.1.

[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.

[4]The Combined Comorbidity Score is calculated based on comorbidities observed during a requester-defined window around the exposure episode start date. (Gagne JJ, Glynn RJ, Avorn J, Levin R, Schneeweiss S. A Combined Comorbidity Score Predicted Mortality in Elderly Patients Better Than Existing Scores. J Clin Epidemiol. 2011;64(7):749-759; Sun JW, Rogers JR, Her Q, Welch EC, Panozzo CA, Toh S, Gagne JJ. Adaptation and Validation of the Combined Comorbidity Score for ICD-10-CM. Med Care. 2017;55(12):1046-1051)

[5]Covariate not included in the propensity score logistic regression model.

NaN: Not a number

Table 1ak. Aggregated Unadjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2022Q2

Patient Characteristics[1]	ACE Inhibitors		Beta Blockers		Covariate Balance	
	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
Unique patients	66,281	100.0%	79,970	100.0%	N/A	N/A
Demographic Characteristics						
Age (years)	61.5	12.1	61.5	13.6	0.017	0.001
Age						
18-44 years	11,753	17.7%	15,768	19.7%	-1.985	-0.051
45-64 years	19,539	29.5%	20,592	25.7%	3.729	0.083
≥ 65 years	34,989	52.8%	43,610	54.5%	-1.744	-0.035
Sex						
Female	37,490	56.6%	43,640	54.6%	1.992	0.040
Male	28,791	43.4%	36,330	45.4%	-1.992	-0.040
Race[3]						
American Indian or Alaska Native	274	0.4%	198	0.2%	0.166	0.029
Asian	762	1.1%	1,094	1.4%	-0.218	-0.020
Black or African American	3,270	4.9%	4,246	5.3%	-0.376	-0.017
Multi-racial	272	0.4%	388	0.5%	-0.075	-0.011
Native Hawaiian or Other Pacific Islander	89	0.1%	115	0.1%	-0.010	-0.003
Unknown	27,530	41.5%	32,979	41.2%	0.296	0.006
White	34,084	51.4%	40,950	51.2%	0.217	0.004
Hispanic origin						
Yes	1,544	2.3%	1,227	1.5%	0.795	0.058
No	35,200	53.1%	42,557	53.2%	-0.109	-0.002
Unknown	29,537	44.6%	36,186	45.2%	-0.686	-0.014
Year						
2018	0	0.0%	0	0.0%	NaN	NaN
2019	0	0.0%	0	0.0%	NaN	NaN
2020	0	0.0%	0	0.0%	NaN	NaN
2021	0	0.0%	0	0.0%	NaN	NaN
2022	66,281	100.0%	79,970	100.0%	0.000	NaN
Quarter-Year						
2018Q1	0	0.0%	0	0.0%	NaN	NaN
2018Q2	0	0.0%	0	0.0%	NaN	NaN
2018Q3	0	0.0%	0	0.0%	NaN	NaN
2018Q4	0	0.0%	0	0.0%	NaN	NaN

Table 1ak. Aggregated Unadjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2022Q2

| Patient Characteristics[1] | Medical Product | | | | Covariate Balance | |
| | ACE Inhibitors | | Beta Blockers | | | |
	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
2019Q1	0	0.0%	0	0.0%	NaN	NaN
2019Q2	0	0.0%	0	0.0%	NaN	NaN
2019Q3	0	0.0%	0	0.0%	NaN	NaN
2019Q4	0	0.0%	0	0.0%	NaN	NaN
2020Q1	0	0.0%	0	0.0%	NaN	NaN
2020Q2	0	0.0%	0	0.0%	NaN	NaN
2020Q3	0	0.0%	0	0.0%	NaN	NaN
2020Q4	0	0.0%	0	0.0%	NaN	NaN
2021Q1	0	0.0%	0	0.0%	NaN	NaN
2021Q2	0	0.0%	0	0.0%	NaN	NaN
2021Q3	0	0.0%	0	0.0%	NaN	NaN
2021Q4	0	0.0%	0	0.0%	NaN	NaN
2022Q1	0	0.0%	0	0.0%	NaN	NaN
2022Q2	66,281	100.0%	79,970	100.0%	0.000	NaN
Health Characteristics						
Charlson/Elixhauser combined comorbidity score[4]	1.1	2.2	1.2	2.1	-0.082	-0.038
Allergic Reaction	8,621	13.0%	10,458	13.1%	-0.071	-0.002
Diabetes	10,750	16.2%	13,160	16.5%	-0.237	-0.006
Heart Failure	3,217	4.9%	4,980	6.2%	-1.374	-0.060
Ischemic Heart Disease	6,683	10.1%	8,620	10.8%	-0.696	-0.023
NSAID Use	9,856	14.9%	12,225	15.3%	-0.417	-0.012
Acquired Hypothyroidism[5]	8,944	13.5%	11,081	13.9%	-0.362	-0.011
Acute Myocardial Infarction[5]	1,083	1.6%	2,737	3.4%	-1.789	-0.114
Alzheimers Disease and Related Disorders[5]	2,750	4.1%	2,511	3.1%	1.009	0.054
Anemia[5]	7,754	11.7%	9,684	12.1%	-0.411	-0.013
Asthma[5]	4,213	6.4%	4,228	5.3%	1.069	0.046
Atrial Fibrillation[5]	2,484	3.7%	9,593	12.0%	-8.248	-0.310
Benign Prostatic Hyperplasia[5]	4,019	6.1%	5,573	7.0%	-0.905	-0.037
Cataract[5]	8,764	13.2%	10,556	13.2%	0.023	0.001
Chronic Kidney Disease[5]	10,319	15.6%	10,885	13.6%	1.957	0.055
Chronic Obstructive Pulmonary Disease and Bronchiectasis[5]	6,277	9.5%	6,681	8.4%	1.116	0.039

Table 1ak. Aggregated Unadjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2022Q2

Patient Characteristics[1]	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
Depression[5]	11,906	18.0%	13,284	16.6%	1.352	0.036
Glaucoma[5]	4,375	6.6%	5,093	6.4%	0.232	0.009
Hip or Pelvic Fracture[5]	431	0.7%	491	0.6%	0.036	0.005
Hyperlipidemia[5]	26,823	40.5%	32,957	41.2%	-0.743	-0.015
Hypertension[5]	32,514	49.1%	34,294	42.9%	6.171	0.124
Osteoporosis[5]	4,018	6.1%	4,825	6.0%	0.029	0.001
Rheumatoid Arthritis or Osteoarthritis[5]	14,838	22.4%	17,570	22.0%	0.416	0.010
Stroke or Transient Ischemic Attack[5]	3,427	5.2%	3,378	4.2%	0.946	0.045
Breast Cancer[5]	1,921	2.9%	2,103	2.6%	0.269	0.016
Colorectal Cancer[5]	687	1.0%	624	0.8%	0.256	0.027
Prostate Cancer[5]	1,483	2.2%	1,655	2.1%	0.168	0.012
Lung Cancer[5]	471	0.7%	572	0.7%	-0.005	-0.001
Endometrial Cancer[5]	320	0.5%	217	0.3%	0.211	0.035
Urologic Cancer[5]	302	0.5%	337	0.4%	0.034	0.005
Health Service Utilization Intensity Metrics						
Mean number of ambulatory encounters	8.3	10.4	8.4	9.8	-0.133	-0.013
Mean number of emergency room	0.4	1.0	0.4	1.0	-0.010	-0.011
Mean number of inpatient hospital encounters	0.2	0.5	0.2	0.5	-0.020	-0.043
Mean number of non-acute institutional encounters	0.1	0.3	0.1	0.3	-0.001	-0.003
Mean number of other ambulatory encounters	3.2	8.2	3.3	8.5	-0.123	-0.015
Mean number of filled prescriptions	9.7	12.3	9.6	12.1	0.142	0.012
Mean number of generics dispensed	4.5	4.1	4.4	4.0	0.052	0.013
Mean number of unique drug classes dispensed	4.2	3.8	4.2	3.7	0.054	0.015

[1]Covariates in blue show a standardized difference greater than 0.1.

[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.

[4]The Combined Comorbidity Score is calculated based on comorbidities observed during a requester-defined window around the exposure episode start date. (Gagne JJ, Glynn RJ, Avorn J, Levin R, Schneeweiss S. A Combined Comorbidity Score Predicted Mortality in Elderly Patients Better Than Existing Scores. J Clin Epidemiol. 2011;64(7):749-759; Sun JW, Rogers JR, Her Q, Welch EC, Panozzo CA, Toh S, Gagne JJ. Adaptation and Validation of the Combined Comorbidity Score for ICD-10-CM. Med Care. 2017;55(12):1046-1051)

[5]Covariate not included in the propensity score logistic regression model.

NaN: Not a number

Table 1al. Aggregated Adjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.025, in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2022Q2

Patient Characteristics[1]	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
Unique patients	66,264	100.0%	66,264	82.9%	N/A	N/A
Demographic Characteristics						
Age (years)	61.5	12.1	61.6	13.6	-0.134	-0.010
Age						
18-44 years	11,753	17.7%	12,816	19.3%	-1.604	-0.041
45-64 years	19,531	29.5%	17,124	25.8%	3.632	0.081
≥ 65 years	34,980	52.8%	36,324	54.8%	-2.028	-0.041
Sex						
Female	37,489	56.6%	35,828	54.1%	2.507	0.050
Male	28,775	43.4%	30,436	45.9%	-2.507	-0.050
Race[3]						
American Indian or Alaska Native	274	0.4%	172	0.3%	0.154	0.027
Asian	762	1.1%	902	1.4%	-0.211	-0.019
Black or African American	3,269	4.9%	3,556	5.4%	-0.433	-0.020
Multi-racial	272	0.4%	317	0.5%	-0.068	-0.010
Native Hawaiian or Other Pacific Islander	89	0.1%	105	0.2%	-0.024	-0.006
Unknown	27,519	41.5%	27,197	41.0%	0.486	0.010
White	34,079	51.4%	34,015	51.3%	0.097	0.002
Hispanic origin						
Yes	1,542	2.3%	978	1.5%	0.851	0.062
No	35,196	53.1%	35,316	53.3%	-0.181	-0.004
Unknown	29,526	44.6%	29,970	45.2%	-0.670	-0.013
Year						
2018	0	0.0%	0	0.0%	NaN	NaN
2019	0	0.0%	0	0.0%	NaN	NaN
2020	0	0.0%	0	0.0%	NaN	NaN
2021	0	0.0%	0	0.0%	NaN	NaN
2022	66,264	100.0%	66,264	100.0%	0.000	NaN
Quarter-Year						
2018Q1	0	0.0%	0	0.0%	NaN	NaN
2018Q2	0	0.0%	0	0.0%	NaN	NaN
2018Q3	0	0.0%	0	0.0%	NaN	NaN
2018Q4	0	0.0%	0	0.0%	NaN	NaN

Table 1al. Aggregated Adjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.025, in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2022Q2

Patient Characteristics[1]	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
2019Q1	0	0.0%	0	0.0%	NaN	NaN
2019Q2	0	0.0%	0	0.0%	NaN	NaN
2019Q3	0	0.0%	0	0.0%	NaN	NaN
2019Q4	0	0.0%	0	0.0%	NaN	NaN
2020Q1	0	0.0%	0	0.0%	NaN	NaN
2020Q2	0	0.0%	0	0.0%	NaN	NaN
2020Q3	0	0.0%	0	0.0%	NaN	NaN
2020Q4	0	0.0%	0	0.0%	NaN	NaN
2021Q1	0	0.0%	0	0.0%	NaN	NaN
2021Q2	0	0.0%	0	0.0%	NaN	NaN
2021Q3	0	0.0%	0	0.0%	NaN	NaN
2021Q4	0	0.0%	0	0.0%	NaN	NaN
2022Q1	0	0.0%	0	0.0%	NaN	NaN
2022Q2	66,264	100.0%	66,264	100.0%	0.000	NaN
Health Characteristics						
Charlson/Elixhauser combined comorbidity score[4]	1.1	2.2	1.2	2.1	-0.039	-0.018
Allergic Reaction	8,621	13.0%	8,532	12.9%	0.134	0.004
Diabetes	10,733	16.2%	10,977	16.6%	-0.368	-0.010
Heart Failure	3,217	4.9%	3,914	5.9%	-1.052	-0.047
Ischemic Heart Disease	6,683	10.1%	6,836	10.3%	-0.231	-0.008
NSAID Use	9,852	14.9%	10,142	15.3%	-0.438	-0.012
Acquired Hypothyroidism[5]	8,944	13.5%	9,067	13.7%	-0.186	-0.005
Acute Myocardial Infarction[5]	1,083	1.6%	2,165	3.3%	-1.633	-0.106
Alzheimers Disease and Related Disorders[5]	2,750	4.2%	2,006	3.0%	1.123	0.060
Anemia[5]	7,754	11.7%	7,809	11.8%	-0.083	-0.003
Asthma[5]	4,213	6.4%	3,431	5.2%	1.180	0.051
Atrial Fibrillation[5]	2,484	3.7%	7,871	11.9%	-8.130	-0.306
Benign Prostatic Hyperplasia[5]	4,019	6.1%	4,673	7.1%	-0.987	-0.040
Cataract[5]	8,761	13.2%	8,720	13.2%	0.062	0.002
Chronic Kidney Disease[5]	10,315	15.6%	8,908	13.4%	2.123	0.060
Chronic Obstructive Pulmonary Disease and Bronchiectasis[5]	6,277	9.5%	5,405	8.2%	1.316	0.046
Depression[5]	11,906	18.0%	10,851	16.4%	1.592	0.042

Table 1al. Aggregated Adjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matched, Fixed Ratio 1:1, Caliper: 0.025, in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2022Q2

| Patient Characteristics[1] | Medical Product | | | | Covariate Balance | |
| | ACE Inhibitors | | Beta Blockers | | | |
	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
Glaucoma[5]	4,375	6.6%	4,203	6.3%	0.260	0.011
Hip or Pelvic Fracture[5]	431	0.7%	378	0.6%	0.080	0.010
Hyperlipidemia[5]	26,810	40.5%	27,353	41.3%	-0.819	-0.017
Hypertension[5]	32,501	49.0%	28,444	42.9%	6.122	0.123
Osteoporosis[5]	4,018	6.1%	3,936	5.9%	0.124	0.005
Rheumatoid Arthritis or Osteoarthritis[5]	14,835	22.4%	14,516	21.9%	0.481	0.012
Stroke or Transient Ischemic Attack[5]	3,427	5.2%	2,775	4.2%	0.984	0.047
Breast Cancer[5]	1,921	2.9%	1,673	2.5%	0.374	0.023
Colorectal Cancer[5]	687	1.0%	514	0.8%	0.261	0.028
Prostate Cancer[5]	1,482	2.2%	1,379	2.1%	0.155	0.011
Lung Cancer[5]	471	0.7%	454	0.7%	0.026	0.003
Endometrial Cancer[5]	320	0.5%	174	0.3%	0.220	0.036
Urologic Cancer[5]	302	0.5%	278	0.4%	0.036	0.005
Health Service Utilization Intensity Metrics						
Mean number of ambulatory encounters	8.3	10.4	8.3	9.6	-0.005	-0.001
Mean number of emergency room	0.4	1.0	0.4	1.0	-0.007	-0.007
Mean number of inpatient hospital encounters	0.2	0.5	0.2	0.5	-0.011	-0.025
Mean number of non-acute institutional encounters	0.1	0.3	0.0	0.3	0.001	0.004
Mean number of other ambulatory encounters	3.2	8.2	3.2	8.4	-0.033	-0.004
Mean number of filled prescriptions	9.7	12.2	9.5	11.9	0.224	0.019
Mean number of generics dispensed	4.5	4.1	4.4	3.9	0.084	0.021
Mean number of unique drug classes dispensed	4.2	3.8	4.2	3.6	0.083	0.023

[1]Covariates in blue show a standardized difference greater than 0.1.

[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.

[4]The Combined Comorbidity Score is calculated based on comorbidities observed during a requester-defined window around the exposure episode start date. (Gagne JJ, Glynn RJ, Avorn J, Levin R, Schneeweiss S. A Combined Comorbidity Score Predicted Mortality in Elderly Patients Better Than Existing Scores. J Clin Epidemiol. 2011;64(7):749-759; Sun JW, Rogers JR, Her Q, Welch EC, Panozzo CA, Toh S, Gagne JJ. Adaptation and Validation of the Combined Comorbidity Score for ICD-10-CM. Med Care. 2017;55(12):1046-1051)

[5]Covariate not included in the propensity score logistic regression model.

NaN: Not a number

| | Medical Product | | | | Covariate Balance | |
| | ACE Inhibitors | | Beta Blockers | | | |
Patient Characteristics[1,2]	Number/ Mean	Percent/ Standard Deviation[3]	Number/ Mean	Percent/ Standard Deviation[3]	Absolute Difference	Standardized Difference
Unique patients	2,240,221	100.0%	2,479,056	100.0%	N/A	N/A
Demographic Characteristics						
Age (years)	60.6	12.6	61.8	14.1	-1.150	-0.086
Age						
18-44 years	416,870	18.6%	465,869	18.8%	-0.184	-0.005
45-64 years	744,256	33.2%	677,898	27.3%	5.877	0.138
≥ 65 years	1,079,094	48.2%	1,335,288	53.9%	-5.694	-0.150
Sex						
Female	1,205,796	53.8%	1,312,587	52.9%	0.878	0.018
Male	1,034,425	46.2%	1,166,469	47.1%	-0.878	-0.018
Race[4]						
American Indian or Alaska Native	8,801	0.4%	7,355	0.3%	0.096	0.016
Asian	24,187	1.1%	33,591	1.4%	-0.275	-0.025
Black or African American	119,874	5.4%	150,494	6.1%	-0.720	-0.032
Multi-racial	8,408	0.4%	8,849	0.4%	0.018	0.003
Native Hawaiian or Other Pacific Islander	2,857	0.1%	2,764	0.1%	0.016	0.005
Unknown	1,031,154	46.0%	1,017,994	41.1%	4.965	0.193
White	1,044,940	46.6%	1,258,010	50.7%	-4.101	-0.123
Hispanic origin						
Yes	45,972	2.1%	38,314	1.5%	0.507	0.038
No	1,086,371	48.5%	1,323,531	53.4%	-4.895	-0.246
Unknown	1,107,878	49.5%	1,117,211	45.1%	4.388	0.245
Year						
2018	543,788	24.3%	555,243	22.4%	1.877	0.044
2019	548,765	24.5%	552,534	22.3%	2.208	0.052
2020	464,193	20.7%	526,739	21.2%	-0.527	-0.013
2021	469,106	20.9%	564,946	22.8%	-1.849	-0.045
2022	214,369	9.6%	279,595	11.3%	-1.709	-0.056
Quarter-Year						
2018Q1	148,788	6.6%	146,444	5.9%	0.734	0.030
2018Q2	130,609	5.8%	133,408	5.4%	0.449	0.020
2018Q3	129,368	5.8%	134,347	5.4%	0.356	0.015
2018Q4	135,023	6.0%	141,043	5.7%	0.338	0.014
2019Q1	145,858	6.5%	144,853	5.8%	0.668	0.028

Table 1am. Aggregated Weighted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratified, Percentiles: 5, in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022

Patient Characteristics[1,2]	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
	Number/ Mean	Percent/ Standard Deviation[3]	Number/ Mean	Percent/ Standard Deviation[3]	Absolute Difference	Standardized Difference
2019Q2	131,021	5.8%	129,446	5.2%	0.627	0.027
2019Q3	132,774	5.9%	137,107	5.5%	0.396	0.017
2019Q4	139,112	6.2%	141,128	5.7%	0.517	0.022
2020Q1	131,359	5.9%	139,744	5.6%	0.227	0.010
2020Q2	86,800	3.9%	103,447	4.2%	-0.298	-0.015
2020Q3	120,534	5.4%	139,792	5.6%	-0.258	-0.011
2020Q4	125,500	5.6%	143,755	5.8%	-0.197	-0.008
2021Q1	127,348	5.7%	147,363	5.9%	-0.260	-0.011
2021Q2	113,321	5.1%	134,605	5.4%	-0.371	-0.017
2021Q3	113,993	5.1%	140,420	5.7%	-0.576	-0.026
2021Q4	114,444	5.1%	142,557	5.8%	-0.642	-0.028
2022Q1	115,917	5.2%	148,275	6.0%	-0.807	-0.035
2022Q2	98,451	4.4%	131,320	5.3%	-0.902	-0.042
Health Characteristics						
Charlson/Elixhauser combined comorbidity score[5]	1.4	2.5	1.6	2.6	-0.184	-0.073
Allergic Reaction	300,897	13.4%	342,526	13.8%	-0.385	-0.011
Diabetes	427,477	19.1%	464,380	18.7%	0.350	0.009
Heart Failure	162,240	7.2%	223,146	9.0%	-1.759	-0.065
Ischemic Heart Disease	314,203	14.0%	388,561	15.7%	-1.648	-0.047
NSAID Use	351,060	15.7%	383,015	15.5%	0.221	0.006
Acquired Hypothyroidism[6]	309,628	13.8%	361,874	14.6%	-0.776	-0.022
Acute Myocardial Infarction[6]	56,435	2.5%	124,476	5.0%	-2.502	-0.132
Alzheimers Disease and Related Disorders[6]	106,868	4.8%	108,966	4.4%	0.375	0.018
Anemia[6]	303,169	13.5%	380,707	15.4%	-1.824	-0.053
Asthma[6]	157,714	7.0%	147,955	6.0%	1.072	0.044
Atrial Fibrillation[6]	111,320	5.0%	331,951	13.4%	-8.421	-0.299
Benign Prostatic Hyperplasia[6]	135,996	6.1%	186,038	7.5%	-1.434	-0.058
Cataract[6]	274,824	12.3%	325,623	13.1%	-0.867	-0.027
Chronic Kidney Disease[6]	378,782	16.9%	403,897	16.3%	0.616	0.017
Chronic Obstructive Pulmonary Disease and Bronchiectasis[6]	259,714	11.6%	272,192	11.0%	0.614	0.020
Depression[6]	417,445	18.6%	443,379	17.9%	0.749	0.019
Glaucoma[6]	140,041	6.3%	164,874	6.7%	-0.399	-0.016

Table 1am. Aggregated Weighted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratified, Percentiles: 5, in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022

Patient Characteristics[1,2]	ACE Inhibitors Number/ Mean	ACE Inhibitors Percent/ Standard Deviation[3]	Beta Blockers Number/ Mean	Beta Blockers Percent/ Standard Deviation[3]	Absolute Difference	Standardized Difference
Hip or Pelvic Fracture[6]	15,182	0.7%	20,093	0.8%	-0.133	-0.015
Hyperlipidemia[6]	903,946	40.4%	1,041,528	42.0%	-1.662	-0.035
Hypertension[6]	1,178,433	52.6%	1,196,599	48.3%	4.335	0.089
Osteoporosis[6]	120,973	5.4%	147,894	6.0%	-0.566	-0.025
Rheumatoid Arthritis or Osteoarthritis[6]	503,936	22.5%	568,931	22.9%	-0.455	-0.011
Stroke or Transient Ischemic Attack[6]	127,348	5.7%	121,667	4.9%	0.777	0.035
Breast Cancer[6]	65,336	2.9%	65,952	2.7%	0.256	0.016
Colorectal Cancer[6]	26,904	1.2%	24,994	1.0%	0.193	0.018
Prostate Cancer[6]	50,137	2.2%	56,293	2.3%	-0.033	-0.002
Lung Cancer[6]	20,014	0.9%	25,939	1.0%	-0.153	-0.016
Endometrial Cancer[6]	9,804	0.4%	8,314	0.3%	0.102	0.016
Urologic Cancer[6]	11,360	0.5%	12,093	0.5%	0.019	0.003
Health Service Utilization Intensity Metrics						
Mean number of ambulatory encounters	8.9	12.0	9.2	11.6	-0.295	-0.025
Mean number of emergency room	0.4	1.2	0.4	1.2	-0.015	-0.012
Mean number of inpatient hospital encounters	0.2	0.6	0.3	0.6	-0.050	-0.083
Mean number of non-acute institutional encounters	0.1	0.3	0.1	0.4	-0.014	-0.040
Mean number of other ambulatory encounters	3.3	8.6	3.9	9.8	-0.557	-0.060
Mean number of filled prescriptions	10.6	13.5	10.6	13.3	0.022	0.002
Mean number of generics dispensed	4.6	4.3	4.6	4.3	0.001	0.000
Mean number of unique drug classes dispensed	4.4	4.0	4.4	3.9	0.002	0.001

[1]Covariates in blue show a standardized difference greater than 0.1.

[2]Weighted patient characteristics tables facilitate the assessment of covariate balance after propensity score (PS) stratification and should not be interpreted as a description of the unweighted population. Treated/control patients are weighted by the proportion of the total patient population included in their PS stratum divided by the proportion of the total treated/control patient population included in their PS stratum.

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

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

[5]The Combined Comorbidity Score is calculated based on comorbidities observed during a requester-defined window around the exposure episode start date. (Gagne JJ, Glynn RJ, Avorn J, Levin R, Schneeweiss S. A Combined Comorbidity Score Predicted Mortality in Elderly Patients Better Than Existing Scores. J Clin Epidemiol. 2011;64(7):749-759; Sun JW, Rogers JR, Her Q, Welch EC, Panozzo CA, Toh S, Gagne JJ. Adaptation and Validation of the Combined Comorbidity Score for ICD-10-CM. Med Care. 2017;55(12):1046-1051)

[6]Covariate not included in the propensity score logistic regression model.

Table 1an. Aggregated Unadjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratification (PSS) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2018Q1

	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
Patient Characteristics[1]	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
Unique patients	150,608	100.0%	143,350	100.0%	N/A	N/A
Demographic Characteristics						
Age (years)	60.7	12.0	61.4	14.5	-0.734	-0.055
Age						
18-44 years	24,142	16.0%	29,661	20.7%	-4.662	-0.121
45-64 years	56,141	37.3%	37,949	26.5%	10.803	0.233
≥ 65 years	70,325	46.7%	75,740	52.8%	-6.142	-0.123
Sex						
Female	71,877	47.7%	80,679	56.3%	-8.557	-0.172
Male	78,731	52.3%	62,671	43.7%	8.557	0.172
Race[3]						
American Indian or Alaska Native	648	0.4%	492	0.3%	0.087	0.014
Asian	1,735	1.2%	1,865	1.3%	-0.149	-0.014
Black or African American	8,573	5.7%	9,022	6.3%	-0.601	-0.025
Multi-racial	495	0.3%	364	0.3%	0.075	0.014
Native Hawaiian or Other Pacific Islander	150	0.1%	112	0.1%	0.021	0.007
Unknown	69,521	46.2%	56,058	39.1%	7.055	0.143
White	69,486	46.1%	75,437	52.6%	-6.487	-0.130
Hispanic origin						
Yes	3,281	2.2%	2,217	1.5%	0.632	0.047
No	75,009	49.8%	82,098	57.3%	-7.467	-0.150
Unknown	72,318	48.0%	59,035	41.2%	6.835	0.138
Year						
2018	150,608	100.0%	143,350	100.0%	0.000	NaN
2019	0	0.0%	0	0.0%	NaN	NaN
2020	0	0.0%	0	0.0%	NaN	NaN
2021	0	0.0%	0	0.0%	NaN	NaN
2022	0	0.0%	0	0.0%	NaN	NaN
Quarter-Year						
2018Q1	150,608	100.0%	143,350	100.0%	0.000	NaN
2018Q2	0	0.0%	0	0.0%	NaN	NaN
2018Q3	0	0.0%	0	0.0%	NaN	NaN
2018Q4	0	0.0%	0	0.0%	NaN	NaN

Table 1an. Aggregated Unadjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratification (PSS) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2018Q1

| Patient Characteristics[1] | Medical Product | | | | Covariate Balance | |
| | ACE Inhibitors | | Beta Blockers | | | |
	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
2019Q1	0	0.0%	0	0.0%	NaN	NaN
2019Q2	0	0.0%	0	0.0%	NaN	NaN
2019Q3	0	0.0%	0	0.0%	NaN	NaN
2019Q4	0	0.0%	0	0.0%	NaN	NaN
2020Q1	0	0.0%	0	0.0%	NaN	NaN
2020Q2	0	0.0%	0	0.0%	NaN	NaN
2020Q3	0	0.0%	0	0.0%	NaN	NaN
2020Q4	0	0.0%	0	0.0%	NaN	NaN
2021Q1	0	0.0%	0	0.0%	NaN	NaN
2021Q2	0	0.0%	0	0.0%	NaN	NaN
2021Q3	0	0.0%	0	0.0%	NaN	NaN
2021Q4	0	0.0%	0	0.0%	NaN	NaN
2022Q1	0	0.0%	0	0.0%	NaN	NaN
2022Q2	0	0.0%	0	0.0%	NaN	NaN
Health Characteristics						
Charlson/Elixhauser combined comorbidity score[4]	0.7	1.9	2.1	2.9	-1.359	-0.559
Allergic Reaction	14,277	9.5%	21,841	15.2%	-5.757	-0.176
Diabetes	32,675	21.7%	25,078	17.5%	4.201	0.106
Heart Failure	5,987	4.0%	18,190	12.7%	-8.714	-0.319
Ischemic Heart Disease	11,239	7.5%	31,921	22.3%	-14.805	-0.425
NSAID Use	23,967	15.9%	22,517	15.7%	0.206	0.006
Acquired Hypothyroidism[5]	18,054	12.0%	22,597	15.8%	-3.776	-0.109
Acute Myocardial Infarction[5]	1,682	1.1%	9,958	6.9%	-5.830	-0.300
Alzheimers Disease and Related Disorders[5]	4,609	3.1%	9,005	6.3%	-3.222	-0.153
Anemia[5]	13,440	8.9%	28,306	19.7%	-10.822	-0.313
Asthma[5]	7,741	5.1%	10,502	7.3%	-2.186	-0.091
Atrial Fibrillation[5]	5,069	3.4%	23,507	16.4%	-13.033	-0.448
Benign Prostatic Hyperplasia[5]	8,286	5.5%	11,100	7.7%	-2.242	-0.090
Cataract[5]	18,334	12.2%	19,609	13.7%	-1.506	-0.045
Chronic Kidney Disease[5]	19,742	13.1%	27,160	18.9%	-5.838	-0.160
Chronic Obstructive Pulmonary Disease and Bronchiectasis[5]	13,649	9.1%	22,404	15.6%	-6.566	-0.201
Depression[5]	19,328	12.8%	28,699	20.0%	-7.187	-0.195

Table 1an. Aggregated Unadjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratification (PSS) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2018Q1

Patient Characteristics[1]	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
Glaucoma[5]	9,246	6.1%	10,219	7.1%	-0.990	-0.040
Hip or Pelvic Fracture[5]	638	0.4%	1,582	1.1%	-0.680	-0.078
Hyperlipidemia[5]	56,009	37.2%	60,510	42.2%	-5.023	-0.103
Hypertension[5]	76,359	50.7%	73,180	51.0%	-0.349	-0.007
Osteoporosis[5]	6,285	4.2%	9,247	6.5%	-2.278	-0.102
Rheumatoid Arthritis or Osteoarthritis[5]	29,299	19.5%	35,589	24.8%	-5.373	-0.130
Stroke or Transient Ischemic Attack[5]	5,951	4.0%	8,581	6.0%	-2.035	-0.094
Breast Cancer[5]	3,133	2.1%	4,255	3.0%	-0.888	-0.057
Colorectal Cancer[5]	1,198	0.8%	1,786	1.2%	-0.450	-0.045
Prostate Cancer[5]	2,871	1.9%	3,659	2.6%	-0.646	-0.044
Lung Cancer[5]	688	0.5%	2,051	1.4%	-0.974	-0.101
Endometrial Cancer[5]	424	0.3%	531	0.4%	-0.089	-0.016
Urologic Cancer[5]	498	0.3%	834	0.6%	-0.251	-0.037
Health Service Utilization Intensity Metrics						
Mean number of ambulatory encounters	7.0	9.4	10.6	13.3	-3.619	-0.315
Mean number of emergency room	0.3	0.9	0.5	1.3	-0.216	-0.191
Mean number of inpatient hospital encounters	0.1	0.4	0.4	0.7	-0.271	-0.441
Mean number of non-acute institutional encounters	0.0	0.3	0.1	0.5	-0.078	-0.200
Mean number of other ambulatory encounters	2.3	6.6	5.0	11.2	-2.722	-0.295
Mean number of filled prescriptions	9.5	12.8	12.4	15.2	-2.932	-0.209
Mean number of generics dispensed	4.0	4.0	5.3	4.7	-1.213	-0.280
Mean number of unique drug classes dispensed	3.8	3.6	4.9	4.3	-1.145	-0.290

[1] Covariates in blue show a standardized difference greater than 0.1.

[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.

[4] The Combined Comorbidity Score is calculated based on comorbidities observed during a requester-defined window around the exposure episode start date. (Gagne JJ, Glynn RJ, Avorn J, Levin R, Schneeweiss S. A Combined Comorbidity Score Predicted Mortality in Elderly Patients Better Than Existing Scores. J Clin Epidemiol. 2011;64(7):749-759; Sun JW, Rogers JR, Her Q, Welch EC, Panozzo CA, Toh S, Gagne JJ. Adaptation and Validation of the Combined Comorbidity Score for ICD-10-CM. Med Care. 2017;55(12):1046-1051)

[5] Covariate not included in the propensity score logistic regression model.

NaN: Not a number

Table 1ao. Aggregated Weighted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratified, Percentiles: 5, in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2018Q1

	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
Patient Characteristics[1,2]	Number/ Mean	Percent/ Standard Deviation[3]	Number/ Mean	Percent/ Standard Deviation[3]	Absolute Difference	Standardized Difference
Unique patients	150,587	100.0%	143,326	100.0%	N/A	N/A
Demographic Characteristics						
Age (years)	60.5	12.6	62.3	14.0	-1.774	-0.133
Age						
18-44 years	27,158	18.0%	24,659	17.2%	0.830	0.023
45-64 years	53,298	35.4%	41,576	29.0%	6.386	0.148
≥ 65 years	70,130	46.6%	77,091	53.8%	-7.216	-0.187
Sex						
Female	78,948	52.4%	74,100	51.7%	0.727	0.015
Male	71,639	47.6%	69,226	48.3%	-0.727	-0.015
Race[4]						
American Indian or Alaska Native	632	0.4%	483	0.3%	0.083	0.013
Asian	1,600	1.1%	2,098	1.5%	-0.401	-0.036
Black or African American	8,576	5.7%	9,227	6.4%	-0.743	-0.032
Multi-racial	485	0.3%	340	0.2%	0.085	0.016
Native Hawaiian or Other Pacific Islander	137	0.1%	117	0.1%	0.009	0.003
Unknown	68,728	45.6%	56,348	39.3%	6.326	0.250
White	70,430	46.8%	74,712	52.1%	-5.357	-0.160
Hispanic origin						
Yes	3,040	2.0%	2,317	1.6%	0.402	0.030
No	75,696	50.3%	81,702	57.0%	-6.737	-0.335
Unknown	71,852	47.7%	59,307	41.4%	6.335	0.359
Year						
2018	150,587	100.0%	143,326	100.0%	0.000	NaN
2019	0	0.0%	0	0.0%	NaN	NaN
2020	0	0.0%	0	0.0%	NaN	NaN
2021	0	0.0%	0	0.0%	NaN	NaN
2022	0	0.0%	0	0.0%	NaN	NaN
Quarter-Year						
2018Q1	150,587	100.0%	143,326	100.0%	0.000	NaN
2018Q2	0	0.0%	0	0.0%	NaN	NaN
2018Q3	0	0.0%	0	0.0%	NaN	NaN
2018Q4	0	0.0%	0	0.0%	NaN	NaN
2019Q1	0	0.0%	0	0.0%	NaN	NaN
2019Q2	0	0.0%	0	0.0%	NaN	NaN

Table 1ao. Aggregated Weighted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratified, Percentiles: 5, in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2018Q1

| Patient Characteristics[1,2] | Medical Product | | | | Covariate Balance | |
| | ACE Inhibitors | | Beta Blockers | | | |
	Number/ Mean	Percent/ Standard Deviation[3]	Number/ Mean	Percent/ Standard Deviation[3]	Absolute Difference	Standardized Difference
2019Q3	0	0.0%	0	0.0%	NaN	NaN
2019Q4	0	0.0%	0	0.0%	NaN	NaN
2020Q1	0	0.0%	0	0.0%	NaN	NaN
2020Q2	0	0.0%	0	0.0%	NaN	NaN
2020Q3	0	0.0%	0	0.0%	NaN	NaN
2020Q4	0	0.0%	0	0.0%	NaN	NaN
2021Q1	0	0.0%	0	0.0%	NaN	NaN
2021Q2	0	0.0%	0	0.0%	NaN	NaN
2021Q3	0	0.0%	0	0.0%	NaN	NaN
2021Q4	0	0.0%	0	0.0%	NaN	NaN
2022Q1	0	0.0%	0	0.0%	NaN	NaN
2022Q2	0	0.0%	0	0.0%	NaN	NaN
Health Characteristics						
Charlson/Elixhauser combined comorbidity score[5]	1.3	2.4	1.5	2.6	-0.237	-0.096
Allergic Reaction	18,187	12.1%	18,266	12.7%	-0.667	-0.020
Diabetes	29,339	19.5%	27,960	19.5%	-0.025	-0.001
Heart Failure	11,129	7.4%	12,821	8.9%	-1.555	-0.058
Ischemic Heart Disease	20,415	13.6%	22,460	15.7%	-2.114	-0.061
NSAID Use	23,986	15.9%	22,795	15.9%	0.024	0.001
Acquired Hypothyroidism[6]	20,558	13.7%	20,769	14.5%	-0.839	-0.024
Acute Myocardial Infarction[6]	3,406	2.3%	6,781	4.7%	-2.469	-0.135
Alzheimers Disease and Related Disorders[6]	7,066	4.7%	6,838	4.8%	-0.078	-0.004
Anemia[6]	19,441	12.9%	22,085	15.4%	-2.499	-0.073
Asthma[6]	10,256	6.8%	8,511	5.9%	0.872	0.036
Atrial Fibrillation[6]	7,983	5.3%	19,495	13.6%	-8.300	-0.291
Benign Prostatic Hyperplasia[6]	8,875	5.9%	10,671	7.4%	-1.551	-0.063
Cataract[6]	18,589	12.3%	19,649	13.7%	-1.365	-0.042
Chronic Kidney Disease[6]	23,585	15.7%	22,937	16.0%	-0.341	-0.009
Chronic Obstructive Pulmonary Disease and Bronchiectasis[6]	19,100	12.7%	17,748	12.4%	0.301	0.009
Depression[6]	25,472	16.9%	23,355	16.3%	0.620	0.017
Glaucoma[6]	9,460	6.3%	10,105	7.1%	-0.768	-0.031
Hip or Pelvic Fracture[6]	967	0.6%	1,237	0.9%	-0.221	-0.026
Hyperlipidemia[6]	58,710	39.0%	58,970	41.1%	-2.156	-0.045

Table 1ao. Aggregated Weighted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratified, Percentiles: 5, in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2018Q1

Patient Characteristics[1,2]	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
	Number/ Mean	Percent/ Standard Deviation[3]	Number/ Mean	Percent/ Standard Deviation[3]	Absolute Difference	Standardized Difference
Hypertension[6]	79,743	53.0%	73,046	51.0%	1.990	0.041
Osteoporosis[6]	7,575	5.0%	8,200	5.7%	-0.691	-0.031
Rheumatoid Arthritis or Osteoarthritis[6]	33,224	22.1%	32,999	23.0%	-0.960	-0.024
Stroke or Transient Ischemic Attack[6]	8,011	5.3%	7,196	5.0%	0.299	0.014
Breast Cancer[6]	4,056	2.7%	3,598	2.5%	0.183	0.012
Colorectal Cancer[6]	1,733	1.2%	1,429	1.0%	0.154	0.015
Prostate Cancer[6]	3,293	2.2%	3,285	2.3%	-0.105	-0.007
Lung Cancer[6]	1,156	0.8%	1,482	1.0%	-0.266	-0.028
Endometrial Cancer[6]	565	0.4%	428	0.3%	0.076	0.013
Urologic Cancer[6]	696	0.5%	672	0.5%	-0.006	-0.001
Health Service Utilization Intensity Metrics						
Mean number of ambulatory encounters	8.7	11.7	9.1	11.6	-0.401	-0.034
Mean number of emergency room encounters	0.4	1.1	0.4	1.1	-0.022	-0.019
Mean number of inpatient hospital encounters	0.2	0.6	0.3	0.6	-0.062	-0.102
Mean number of non-acute institutional encounters	0.1	0.4	0.1	0.4	-0.023	-0.059
Mean number of other ambulatory encounters	3.2	8.2	3.9	9.9	-0.758	-0.083
Mean number of filled prescriptions	11.0	14.0	11.2	14.5	-0.172	-0.012
Mean number of generics dispensed	4.7	4.4	4.7	4.4	-0.049	-0.011
Mean number of unique drug classes dispensed	4.4	4.0	4.5	4.0	-0.044	-0.011

[1]Covariates in blue show a standardized difference greater than 0.1.

[2]Weighted patient characteristics tables facilitate the assessment of covariate balance after propensity score (PS) stratification and should not be interpreted as a description of the unweighted population. Treated/control patients are weighted by the proportion of the total patient population included in their PS stratum divided by the proportion of the total treated/control patient population included in their PS stratum.

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

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

[5]The Combined Comorbidity Score is calculated based on comorbidities observed during a requester-defined window around the exposure episode start date. (Gagne JJ, Glynn RJ, Avorn J, Levin R, Schneeweiss S. A Combined Comorbidity Score Predicted Mortality in Elderly Patients Better Than Existing Scores. J Clin Epidemiol. 2011;64(7):749-759; Sun JW, Rogers JR, Her Q, Welch EC, Panozzo CA, Toh S, Gagne JJ. Adaptation and Validation of the Combined Comorbidity Score for ICD-10-CM. Med Care. 2017;55(12):1046-1051)

[6]Covariate not included in the propensity score logistic regression model.

NaN: Not a number

Table 1ap. Aggregated Unadjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratification (PSS) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2018Q2

Patient Characteristics[1]	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
Unique patients	130,985	100.0%	132,526	100.0%	N/A	N/A
Demographic Characteristics						
Age (years)	60.7	12.1	61.1	14.6	-0.367	-0.027
Age						
18-44 years	21,537	16.4%	28,718	21.7%	-5.227	-0.133
45-64 years	47,847	36.5%	34,658	26.2%	10.377	0.225
≥ 65 years	61,601	47.0%	69,150	52.2%	-5.149	-0.103
Sex						
Female	64,109	48.9%	75,917	57.3%	-8.341	-0.168
Male	66,876	51.1%	56,609	42.7%	8.341	0.168
Race[3]						
American Indian or Alaska Native	628	0.5%	460	0.3%	0.132	0.021
Asian	1,558	1.2%	1,689	1.3%	-0.085	-0.008
Black or African American	7,279	5.6%	8,167	6.2%	-0.605	-0.026
Multi-racial	432	0.3%	368	0.3%	0.052	0.009
Native Hawaiian or Other Pacific Islander	113	0.1%	88	0.1%	0.020	0.007
Unknown	60,226	46.0%	52,407	39.5%	6.435	0.130
White	60,749	46.4%	69,347	52.3%	-5.948	-0.119
Hispanic origin						
Yes	2,981	2.3%	2,119	1.6%	0.677	0.049
No	65,603	50.1%	75,303	56.8%	-6.737	-0.135
Unknown	62,401	47.6%	55,104	41.6%	6.060	0.122
Year						
2018	130,985	100.0%	132,526	100.0%	0.000	NaN
2019	0	0.0%	0	0.0%	NaN	NaN
2020	0	0.0%	0	0.0%	NaN	NaN
2021	0	0.0%	0	0.0%	NaN	NaN
2022	0	0.0%	0	0.0%	NaN	NaN
Quarter-Year						
2018Q1	0	0.0%	0	0.0%	NaN	NaN
2018Q2	130,985	100.0%	132,526	100.0%	0.000	NaN
2018Q3	0	0.0%	0	0.0%	NaN	NaN
2018Q4	0	0.0%	0	0.0%	NaN	NaN

Table 1ap. Aggregated Unadjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratification (PSS) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2018Q2

| | Medical Product | | | | Covariate Balance | |
| | ACE Inhibitors | | Beta Blockers | | | |
Patient Characteristics[1]	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
2019Q1	0	0.0%	0	0.0%	NaN	NaN
2019Q2	0	0.0%	0	0.0%	NaN	NaN
2019Q3	0	0.0%	0	0.0%	NaN	NaN
2019Q4	0	0.0%	0	0.0%	NaN	NaN
2020Q1	0	0.0%	0	0.0%	NaN	NaN
2020Q2	0	0.0%	0	0.0%	NaN	NaN
2020Q3	0	0.0%	0	0.0%	NaN	NaN
2020Q4	0	0.0%	0	0.0%	NaN	NaN
2021Q1	0	0.0%	0	0.0%	NaN	NaN
2021Q2	0	0.0%	0	0.0%	NaN	NaN
2021Q3	0	0.0%	0	0.0%	NaN	NaN
2021Q4	0	0.0%	0	0.0%	NaN	NaN
2022Q1	0	0.0%	0	0.0%	NaN	NaN
2022Q2	0	0.0%	0	0.0%	NaN	NaN
Health Characteristics						
Charlson/Elixhauser combined comorbidity score[4]	0.8	2.0	2.1	2.9	-1.359	-0.555
Allergic Reaction	12,855	9.8%	20,660	15.6%	-5.775	-0.174
Diabetes	28,571	21.8%	22,689	17.1%	4.692	0.119
Heart Failure	5,286	4.0%	16,819	12.7%	-8.656	-0.317
Ischemic Heart Disease	9,661	7.4%	29,420	22.2%	-14.824	-0.427
NSAID Use	21,398	16.3%	21,246	16.0%	0.305	0.008
Acquired Hypothyroidism[5]	15,740	12.0%	21,432	16.2%	-4.155	-0.120
Acute Myocardial Infarction[5]	1,578	1.2%	9,413	7.1%	-5.898	-0.299
Alzheimers Disease and Related Disorders[5]	4,171	3.2%	8,263	6.2%	-3.051	-0.144
Anemia[5]	12,244	9.3%	26,468	20.0%	-10.624	-0.304
Asthma[5]	7,082	5.4%	10,015	7.6%	-2.150	-0.087
Atrial Fibrillation[5]	4,269	3.3%	21,369	16.1%	-12.865	-0.446
Benign Prostatic Hyperplasia[5]	7,095	5.4%	10,104	7.6%	-2.208	-0.090
Cataract[5]	15,776	12.0%	17,692	13.3%	-1.306	-0.039
Chronic Kidney Disease[5]	17,338	13.2%	24,778	18.7%	-5.460	-0.149
Chronic Obstructive Pulmonary Disease and Bronchiectasis[5]	12,314	9.4%	20,883	15.8%	-6.357	-0.193
Depression[5]	17,361	13.3%	27,973	21.1%	-7.853	-0.209

Table 1ap. Aggregated Unadjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratification (PSS) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2018Q2

Patient Characteristics[1]	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
Glaucoma[5]	8,041	6.1%	9,258	7.0%	-0.847	-0.034
Hip or Pelvic Fracture[5]	577	0.4%	1,549	1.2%	-0.728	-0.082
Hyperlipidemia[5]	48,919	37.3%	56,014	42.3%	-4.919	-0.101
Hypertension[5]	66,390	50.7%	66,095	49.9%	0.812	0.016
Osteoporosis[5]	5,584	4.3%	8,764	6.6%	-2.350	-0.104
Rheumatoid Arthritis or Osteoarthritis[5]	25,638	19.6%	33,375	25.2%	-5.611	-0.135
Stroke or Transient Ischemic Attack[5]	5,537	4.2%	8,039	6.1%	-1.839	-0.083
Breast Cancer[5]	2,821	2.2%	4,123	3.1%	-0.957	-0.060
Colorectal Cancer[5]	1,130	0.9%	1,740	1.3%	-0.450	-0.043
Prostate Cancer[5]	2,414	1.8%	3,384	2.6%	-0.711	-0.048
Lung Cancer[5]	692	0.5%	1,970	1.5%	-0.958	-0.096
Endometrial Cancer[5]	378	0.3%	520	0.4%	-0.104	-0.018
Urologic Cancer[5]	434	0.3%	821	0.6%	-0.288	-0.042
Health Service Utilization Intensity Metrics						
Mean number of ambulatory encounters	6.9	9.4	10.7	13.3	-3.743	-0.325
Mean number of emergency room encounters	0.3	1.0	0.5	1.4	-0.219	-0.182
Mean number of inpatient hospital encounters	0.1	0.5	0.4	0.8	-0.271	-0.432
Mean number of non-acute institutional encounters	0.0	0.3	0.1	0.5	-0.082	-0.203
Mean number of other ambulatory encounters	2.3	6.9	5.0	11.4	-2.703	-0.287
Mean number of filled prescriptions	9.7	12.8	12.7	15.0	-2.944	-0.211
Mean number of generics dispensed	4.2	4.0	5.4	4.7	-1.223	-0.280
Mean number of unique drug classes dispensed	3.9	3.7	5.1	4.3	-1.162	-0.292

[1]Covariates in blue show a standardized difference greater than 0.1.

[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.

[4]The Combined Comorbidity Score is calculated based on comorbidities observed during a requester-defined window around the exposure episode start date. (Gagne JJ, Glynn RJ, Avorn J, Levin R, Schneeweiss S. A Combined Comorbidity Score Predicted Mortality in Elderly Patients Better Than Existing Scores. J Clin Epidemiol. 2011;64(7):749-759; Sun JW, Rogers JR, Her Q, Welch EC, Panozzo CA, Toh S, Gagne JJ. Adaptation and Validation of the Combined Comorbidity Score for ICD-10-CM. Med Care. 2017;55(12):1046-1051)

[5]Covariate not included in the propensity score logistic regression model.

NaN: Not a number

Table 1aq. Aggregated Weighted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratified, Percentiles: 5, in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2018Q2

Patient Characteristics[1,2]	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
	Number/ Mean	Percent/ Standard Deviation[3]	Number/ Mean	Percent/ Standard Deviation[3]	Absolute Difference	Standardized Difference
Unique patients	130,960	100.0%	132,485	100.0%	N/A	N/A
Demographic Characteristics						
Age (years)	60.5	12.7	62.0	14.2	-1.506	-0.112
Age						
18-44 years	24,441	18.7%	23,966	18.1%	0.573	0.016
45-64 years	45,048	34.4%	38,098	28.8%	5.641	0.131
≥ 65 years	61,471	46.9%	70,421	53.2%	-6.215	-0.162
Sex						
Female	70,247	53.6%	69,808	52.7%	0.949	0.019
Male	60,713	46.4%	62,677	47.3%	-0.949	-0.019
Race[4]						
American Indian or Alaska Native	606	0.5%	464	0.3%	0.113	0.018
Asian	1,415	1.1%	1,874	1.4%	-0.334	-0.030
Black or African American	7,245	5.5%	8,290	6.3%	-0.726	-0.031
Multi-racial	430	0.3%	362	0.3%	0.055	0.010
Native Hawaiian or Other Pacific Islander	104	0.1%	97	0.1%	0.006	0.002
Unknown	59,532	45.5%	52,701	39.8%	5.679	0.225
White	61,629	47.1%	68,696	51.9%	-4.793	-0.144
Hispanic origin						
Yes	2,716	2.1%	2,256	1.7%	0.371	0.027
No	66,270	50.6%	74,872	56.5%	-5.911	-0.293
Unknown	61,975	47.3%	55,357	41.8%	5.540	0.314
Year						
2018	130,960	100.0%	132,485	100.0%	0.000	NaN
2019	0	0.0%	0	0.0%	NaN	NaN
2020	0	0.0%	0	0.0%	NaN	NaN
2021	0	0.0%	0	0.0%	NaN	NaN
2022	0	0.0%	0	0.0%	NaN	NaN
Quarter-Year						
2018Q1	0	0.0%	0	0.0%	NaN	NaN
2018Q2	130,960	100.0%	132,485	100.0%	0.000	NaN
2018Q3	0	0.0%	0	0.0%	NaN	NaN
2018Q4	0	0.0%	0	0.0%	NaN	NaN
2019Q1	0	0.0%	0	0.0%	NaN	NaN

Table 1aq. Aggregated Weighted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratified, Percentiles: 5, in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2018Q2

Patient Characteristics[1,2]	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
	Number/ Mean	Percent/ Standard Deviation[3]	Number/ Mean	Percent/ Standard Deviation[3]	Absolute Difference	Standardized Difference
2019Q2	0	0.0%	0	0.0%	NaN	NaN
2019Q3	0	0.0%	0	0.0%	NaN	NaN
2019Q4	0	0.0%	0	0.0%	NaN	NaN
2020Q1	0	0.0%	0	0.0%	NaN	NaN
2020Q2	0	0.0%	0	0.0%	NaN	NaN
2020Q3	0	0.0%	0	0.0%	NaN	NaN
2020Q4	0	0.0%	0	0.0%	NaN	NaN
2021Q1	0	0.0%	0	0.0%	NaN	NaN
2021Q2	0	0.0%	0	0.0%	NaN	NaN
2021Q3	0	0.0%	0	0.0%	NaN	NaN
2021Q4	0	0.0%	0	0.0%	NaN	NaN
2022Q1	0	0.0%	0	0.0%	NaN	NaN
2022Q2	0	0.0%	0	0.0%	NaN	NaN
Health Characteristics						
Charlson/Elixhauser combined comorbidity score[5]	1.4	2.5	1.6	2.6	-0.203	-0.081
Allergic Reaction	16,456	12.6%	17,358	13.1%	-0.536	-0.016
Diabetes	25,558	19.5%	25,428	19.2%	0.323	0.008
Heart Failure	9,939	7.6%	11,957	9.0%	-1.436	-0.053
Ischemic Heart Disease	17,971	13.7%	20,856	15.7%	-2.019	-0.058
NSAID Use	21,468	16.4%	21,534	16.3%	0.139	0.004
Acquired Hypothyroidism[6]	18,087	13.8%	19,845	15.0%	-1.168	-0.034
Acute Myocardial Infarction[6]	3,265	2.5%	6,498	4.9%	-2.411	-0.128
Alzheimers Disease and Related Disorders[6]	6,449	4.9%	6,298	4.8%	0.170	0.008
Anemia[6]	17,958	13.7%	20,816	15.7%	-1.999	-0.057
Asthma[6]	9,506	7.3%	8,109	6.1%	1.138	0.046
Atrial Fibrillation[6]	6,883	5.3%	17,884	13.5%	-8.243	-0.289
Benign Prostatic Hyperplasia[6]	7,724	5.9%	9,638	7.3%	-1.376	-0.056
Cataract[6]	16,014	12.2%	17,808	13.4%	-1.214	-0.037
Chronic Kidney Disease[6]	21,070	16.1%	21,065	15.9%	0.189	0.005
Chronic Obstructive Pulmonary Disease and Bronchiectasis[6]	17,201	13.1%	16,674	12.6%	0.549	0.017
Depression[6]	23,084	17.6%	22,963	17.3%	0.294	0.008
Glaucoma[6]	8,278	6.3%	9,211	7.0%	-0.631	-0.026
Hip or Pelvic Fracture[6]	880	0.7%	1,210	0.9%	-0.242	-0.027

Table 1aq. Aggregated Weighted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratified, Percentiles: 5, in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2018Q2

Patient Characteristics[1,2]	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
	Number/ Mean	Percent/ Standard Deviation[3]	Number/ Mean	Percent/ Standard Deviation[3]	Absolute Difference	Standardized Difference
Hyperlipidemia[6]	51,439	39.3%	54,639	41.2%	-1.963	-0.041
Hypertension[6]	69,616	53.2%	65,906	49.7%	3.413	0.070
Osteoporosis[6]	6,799	5.2%	7,742	5.8%	-0.652	-0.029
Rheumatoid Arthritis or Osteoarthritis[6]	29,270	22.4%	30,885	23.3%	-0.962	-0.024
Stroke or Transient Ischemic Attack[6]	7,507	5.7%	6,777	5.1%	0.617	0.027
Breast Cancer[6]	3,682	2.8%	3,519	2.7%	0.155	0.010
Colorectal Cancer[6]	1,618	1.2%	1,413	1.1%	0.168	0.016
Prostate Cancer[6]	2,847	2.2%	3,024	2.3%	-0.109	-0.007
Lung Cancer[6]	1,167	0.9%	1,432	1.1%	-0.190	-0.019
Endometrial Cancer[6]	490	0.4%	425	0.3%	0.053	0.009
Urologic Cancer[6]	655	0.5%	666	0.5%	-0.003	-0.000
Health Service Utilization Intensity Metrics						
Mean number of ambulatory encounters	8.7	11.9	9.1	11.7	-0.423	-0.036
Mean number of emergency room encounters	0.4	1.3	0.5	1.2	-0.010	-0.008
Mean number of inpatient hospital encounters	0.2	0.6	0.3	0.7	-0.052	-0.082
Mean number of non-acute institutional encounters	0.1	0.4	0.1	0.4	-0.024	-0.059
Mean number of other ambulatory encounters	3.3	8.8	3.9	10.1	-0.648	-0.069
Mean number of filled prescriptions	11.4	14.2	11.5	14.3	-0.179	-0.013
Mean number of generics dispensed	4.9	4.5	4.9	4.4	-0.034	-0.008
Mean number of unique drug classes dispensed	4.6	4.1	4.6	4.0	-0.034	-0.008

[1]Covariates in blue show a standardized difference greater than 0.1.

[2]Weighted patient characteristics tables facilitate the assessment of covariate balance after propensity score (PS) stratification and should not be interpreted as a description of the unweighted population. Treated/control patients are weighted by the proportion of the total patient population included in their PS stratum divided by the proportion of the total treated/control patient population included in their PS stratum.

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

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

[5]The Combined Comorbidity Score is calculated based on comorbidities observed during a requester-defined window around the exposure episode start date. (Gagne JJ, Glynn RJ, Avorn J, Levin R, Schneeweiss S. A Combined Comorbidity Score Predicted Mortality in Elderly Patients Better Than Existing Scores. J Clin Epidemiol. 2011;64(7):749-759; Sun JW, Rogers JR, Her Q, Welch EC, Panozzo CA, Toh S, Gagne JJ. Adaptation and Validation of the Combined Comorbidity Score for ICD-10-CM. Med Care. 2017;55(12):1046-1051)

[6]Covariate not included in the propensity score logistic regression model.

NaN: Not a number

Table 1ar. Aggregated Unadjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratification (PSS) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2018Q3

Patient Characteristics[1]	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
Unique patients	129,572	100.0%	133,641	100.0%	N/A	N/A
Demographic Characteristics						
Age (years)	60.2	12.1	60.3	14.6	-0.127	-0.009
Age						
18-44 years	22,122	17.1%	30,696	23.0%	-5.896	-0.148
45-64 years	49,063	37.9%	35,702	26.7%	11.151	0.240
≥ 65 years	58,387	45.1%	67,243	50.3%	-5.255	-0.105
Sex						
Female	62,689	48.4%	76,830	57.5%	-9.108	-0.183
Male	66,883	51.6%	56,811	42.5%	9.108	0.183
Race[3]						
American Indian or Alaska Native	561	0.4%	415	0.3%	0.122	0.020
Asian	1,401	1.1%	1,591	1.2%	-0.109	-0.010
Black or African American	7,365	5.7%	8,169	6.1%	-0.429	-0.018
Multi-racial	417	0.3%	428	0.3%	0.002	0.000
Native Hawaiian or Other Pacific Islander	168	0.1%	126	0.1%	0.035	0.011
Unknown	62,777	48.4%	55,555	41.6%	6.879	0.139
White	56,883	43.9%	67,357	50.4%	-6.501	-0.131
Hispanic origin						
Yes	2,923	2.3%	2,055	1.5%	0.718	0.053
No	61,090	47.1%	72,462	54.2%	-7.074	-0.142
Unknown	65,559	50.6%	59,124	44.2%	6.356	0.128
Year						
2018	129,572	100.0%	133,641	100.0%	0.000	NaN
2019	0	0.0%	0	0.0%	NaN	NaN
2020	0	0.0%	0	0.0%	NaN	NaN
2021	0	0.0%	0	0.0%	NaN	NaN
2022	0	0.0%	0	0.0%	NaN	NaN
Quarter-Year						
2018Q1	0	0.0%	0	0.0%	NaN	NaN
2018Q2	0	0.0%	0	0.0%	NaN	NaN
2018Q3	129,572	100.0%	133,641	100.0%	0.000	NaN
2018Q4	0	0.0%	0	0.0%	NaN	NaN

Table 1ar. Aggregated Unadjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratification (PSS) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2018Q3

| | Medical Product | | | | Covariate Balance | |
| | ACE Inhibitors | | Beta Blockers | | | |
Patient Characteristics[1]	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
2019Q1	0	0.0%	0	0.0%	NaN	NaN
2019Q2	0	0.0%	0	0.0%	NaN	NaN
2019Q3	0	0.0%	0	0.0%	NaN	NaN
2019Q4	0	0.0%	0	0.0%	NaN	NaN
2020Q1	0	0.0%	0	0.0%	NaN	NaN
2020Q2	0	0.0%	0	0.0%	NaN	NaN
2020Q3	0	0.0%	0	0.0%	NaN	NaN
2020Q4	0	0.0%	0	0.0%	NaN	NaN
2021Q1	0	0.0%	0	0.0%	NaN	NaN
2021Q2	0	0.0%	0	0.0%	NaN	NaN
2021Q3	0	0.0%	0	0.0%	NaN	NaN
2021Q4	0	0.0%	0	0.0%	NaN	NaN
2022Q1	0	0.0%	0	0.0%	NaN	NaN
2022Q2	0	0.0%	0	0.0%	NaN	NaN
Health Characteristics						
Charlson/Elixhauser combined comorbidity score[4]	0.8	1.9	2.1	2.8	-1.334	-0.549
Allergic Reaction	13,268	10.2%	21,291	15.9%	-5.692	-0.169
Diabetes	28,934	22.3%	22,638	16.9%	5.391	0.136
Heart Failure	5,113	3.9%	16,099	12.0%	-8.100	-0.302
Ischemic Heart Disease	9,784	7.6%	29,380	22.0%	-14.433	-0.416
NSAID Use	20,955	16.2%	21,305	15.9%	0.231	0.006
Acquired Hypothyroidism[5]	15,310	11.8%	21,559	16.1%	-4.316	-0.125
Acute Myocardial Infarction[5]	1,600	1.2%	9,203	6.9%	-5.652	-0.289
Alzheimers Disease and Related Disorders[5]	4,129	3.2%	7,941	5.9%	-2.755	-0.132
Anemia[5]	11,910	9.2%	26,475	19.8%	-10.619	-0.305
Asthma[5]	6,713	5.2%	9,782	7.3%	-2.139	-0.088
Atrial Fibrillation[5]	4,126	3.2%	20,899	15.6%	-12.454	-0.437
Benign Prostatic Hyperplasia[5]	6,850	5.3%	9,862	7.4%	-2.093	-0.086
Cataract[5]	15,122	11.7%	17,774	13.3%	-1.629	-0.049
Chronic Kidney Disease[5]	17,838	13.8%	24,942	18.7%	-4.897	-0.133
Chronic Obstructive Pulmonary Disease and Bronchiectasis[5]	10,829	8.4%	19,403	14.5%	-6.161	-0.194
Depression[5]	17,490	13.5%	28,790	21.5%	-8.045	-0.213

Table 1ar. Aggregated Unadjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratification (PSS) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2018Q3

| Patient Characteristics[1] | Medical Product | | | | Covariate Balance | |
| | ACE Inhibitors | | Beta Blockers | | | |
	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
Glaucoma[5]	7,553	5.8%	9,101	6.8%	-0.981	-0.040
Hip or Pelvic Fracture[5]	555	0.4%	1,448	1.1%	-0.655	-0.076
Hyperlipidemia[5]	47,953	37.0%	55,823	41.8%	-4.762	-0.098
Hypertension[5]	66,115	51.0%	65,760	49.2%	1.819	0.036
Osteoporosis[5]	5,348	4.1%	8,483	6.3%	-2.220	-0.100
Rheumatoid Arthritis or Osteoarthritis[5]	25,233	19.5%	33,154	24.8%	-5.334	-0.129
Stroke or Transient Ischemic Attack[5]	5,484	4.2%	7,908	5.9%	-1.685	-0.077
Breast Cancer[5]	2,611	2.0%	4,124	3.1%	-1.071	-0.068
Colorectal Cancer[5]	1,040	0.8%	1,695	1.3%	-0.466	-0.046
Prostate Cancer[5]	2,217	1.7%	3,203	2.4%	-0.686	-0.048
Lung Cancer[5]	636	0.5%	1,958	1.5%	-0.974	-0.099
Endometrial Cancer[5]	394	0.3%	521	0.4%	-0.086	-0.015
Urologic Cancer[5]	427	0.3%	818	0.6%	-0.283	-0.041
Health Service Utilization Intensity Metrics						
Mean number of ambulatory encounters	6.8	9.4	10.7	13.2	-3.836	-0.334
Mean number of emergency room encounters	0.3	1.0	0.6	1.3	-0.222	-0.190
Mean number of inpatient hospital encounters	0.1	0.5	0.4	0.7	-0.263	-0.426
Mean number of non-acute institutional encounters	0.0	0.3	0.1	0.5	-0.075	-0.187
Mean number of other ambulatory encounters	2.2	6.8	4.8	11.2	-2.552	-0.275
Mean number of filled prescriptions	9.3	12.6	12.3	14.6	-3.009	-0.221
Mean number of generics dispensed	4.0	3.9	5.2	4.6	-1.253	-0.294
Mean number of unique drug classes dispensed	3.7	3.6	4.9	4.2	-1.188	-0.305

[1]Covariates in blue show a standardized difference greater than 0.1.

[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.

[4]The Combined Comorbidity Score is calculated based on comorbidities observed during a requester-defined window around the exposure episode start date. (Gagne JJ, Glynn RJ, Avorn J, Levin R, Schneeweiss S. A Combined Comorbidity Score Predicted Mortality in Elderly Patients Better Than Existing Scores. J Clin Epidemiol. 2011;64(7):749-759; Sun JW, Rogers JR, Her Q, Welch EC, Panozzo CA, Toh S, Gagne JJ. Adaptation and Validation of the Combined Comorbidity Score for ICD-10-CM. Med Care. 2017;55(12):1046-1051)

[5]Covariate not included in the propensity score logistic regression model.

NaN: Not a number

Table 1as. Aggregated Weighted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratified, Percentiles: 5, in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2018Q3

| Patient Characteristics[1,2] | Medical Product | | | | Covariate Balance | |
| | ACE Inhibitors | | Beta Blockers | | | |
	Number/ Mean	Percent/ Standard Deviation[3]	Number/ Mean	Percent/ Standard Deviation[3]	Absolute Difference	Standardized Difference
Unique patients	129,547	100.0%	133,610	100.0%	N/A	N/A
Demographic Characteristics						
Age (years)	60.0	12.7	61.4	14.2	-1.396	-0.104
Age						
18-44 years	24,929	19.2%	25,512	19.1%	0.149	0.004
45-64 years	46,287	35.7%	39,256	29.4%	6.349	0.146
≥ 65 years	58,331	45.0%	68,841	51.5%	-6.497	-0.170
Sex						
Female	69,151	53.4%	70,312	52.6%	0.755	0.015
Male	60,396	46.6%	63,298	47.4%	-0.755	-0.015
Race[4]						
American Indian or Alaska Native	550	0.4%	414	0.3%	0.115	0.019
Asian	1,272	1.0%	1,806	1.4%	-0.370	-0.035
Black or African American	7,422	5.7%	8,394	6.3%	-0.553	-0.024
Multi-racial	423	0.3%	410	0.3%	0.019	0.004
Native Hawaiian or Other Pacific Islander	165	0.1%	134	0.1%	0.027	0.008
Unknown	61,975	47.8%	55,765	41.7%	6.103	0.239
White	57,740	44.6%	66,687	49.9%	-5.341	-0.161
Hispanic origin						
Yes	2,661	2.1%	2,131	1.6%	0.459	0.034
No	61,793	47.7%	72,083	54.0%	-6.251	-0.313
Unknown	65,093	50.2%	59,396	44.5%	5.792	0.328
Year						
2018	129,547	100.0%	133,610	100.0%	0.000	NaN
2019	0	0.0%	0	0.0%	NaN	NaN
2020	0	0.0%	0	0.0%	NaN	NaN
2021	0	0.0%	0	0.0%	NaN	NaN
2022	0	0.0%	0	0.0%	NaN	NaN
Quarter-Year						
2018Q1	0	0.0%	0	0.0%	NaN	NaN
2018Q2	0	0.0%	0	0.0%	NaN	NaN
2018Q3	129,547	100.0%	133,610	100.0%	0.000	NaN
2018Q4	0	0.0%	0	0.0%	NaN	NaN
2019Q1	0	0.0%	0	0.0%	NaN	NaN

Patient Characteristics[1,2]	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
	Number/ Mean	Percent/ Standard Deviation[3]	Number/ Mean	Percent/ Standard Deviation[3]	Absolute Difference	Standardized Difference
2019Q2	0	0.0%	0	0.0%	NaN	NaN
2019Q3	0	0.0%	0	0.0%	NaN	NaN
2019Q4	0	0.0%	0	0.0%	NaN	NaN
2020Q1	0	0.0%	0	0.0%	NaN	NaN
2020Q2	0	0.0%	0	0.0%	NaN	NaN
2020Q3	0	0.0%	0	0.0%	NaN	NaN
2020Q4	0	0.0%	0	0.0%	NaN	NaN
2021Q1	0	0.0%	0	0.0%	NaN	NaN
2021Q2	0	0.0%	0	0.0%	NaN	NaN
2021Q3	0	0.0%	0	0.0%	NaN	NaN
2021Q4	0	0.0%	0	0.0%	NaN	NaN
2022Q1	0	0.0%	0	0.0%	NaN	NaN
2022Q2	0	0.0%	0	0.0%	NaN	NaN
Health Characteristics						
Charlson/Elixhauser combined comorbidity score[5]	1.3	2.4	1.5	2.6	-0.197	-0.079
Allergic Reaction	16,850	13.0%	18,004	13.5%	-0.468	-0.014
Diabetes	25,815	19.9%	25,576	19.1%	0.785	0.020
Heart Failure	9,632	7.4%	11,505	8.6%	-1.176	-0.044
Ischemic Heart Disease	18,232	14.1%	21,024	15.7%	-1.662	-0.048
NSAID Use	21,242	16.4%	21,426	16.0%	0.361	0.010
Acquired Hypothyroidism[6]	17,676	13.6%	19,974	14.9%	-1.306	-0.038
Acute Myocardial Infarction[6]	3,314	2.6%	6,398	4.8%	-2.231	-0.119
Alzheimers Disease and Related Disorders[6]	6,443	5.0%	6,113	4.6%	0.398	0.019
Anemia[6]	17,444	13.5%	20,938	15.7%	-2.205	-0.064
Asthma[6]	9,065	7.0%	7,903	5.9%	1.083	0.044
Atrial Fibrillation[6]	6,639	5.1%	17,661	13.2%	-8.093	-0.287
Benign Prostatic Hyperplasia[6]	7,498	5.8%	9,553	7.1%	-1.361	-0.056
Cataract[6]	15,505	12.0%	17,779	13.3%	-1.338	-0.041
Chronic Kidney Disease[6]	21,502	16.6%	21,453	16.1%	0.542	0.015
Chronic Obstructive Pulmonary Disease and Bronchiectasis[6]	15,311	11.8%	15,421	11.5%	0.277	0.009
Depression[6]	23,570	18.2%	23,605	17.7%	0.527	0.014
Glaucoma[6]	7,834	6.0%	9,022	6.8%	-0.705	-0.029
Hip or Pelvic Fracture[6]	833	0.6%	1,147	0.9%	-0.215	-0.025

Table 1as. Aggregated Weighted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratified, Percentiles: 5, in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2018Q3

Patient Characteristics[1,2]	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
	Number/ Mean	Percent/ Standard Deviation[3]	Number/ Mean	Percent/ Standard Deviation[3]	Absolute Difference	Standardized Difference
Hyperlipidemia[6]	50,518	39.0%	54,769	41.0%	-1.996	-0.042
Hypertension[6]	69,529	53.7%	66,071	49.5%	4.220	0.087
Osteoporosis[6]	6,477	5.0%	7,528	5.6%	-0.635	-0.029
Rheumatoid Arthritis or Osteoarthritis[6]	28,882	22.3%	30,962	23.2%	-0.879	-0.022
Stroke or Transient Ischemic Attack[6]	7,534	5.8%	6,691	5.0%	0.808	0.036
Breast Cancer[6]	3,493	2.7%	3,494	2.6%	0.081	0.005
Colorectal Cancer[6]	1,505	1.2%	1,381	1.0%	0.128	0.012
Prostate Cancer[6]	2,600	2.0%	2,897	2.2%	-0.162	-0.011
Lung Cancer[6]	1,098	0.8%	1,422	1.1%	-0.217	-0.022
Endometrial Cancer[6]	552	0.4%	433	0.3%	0.102	0.017
Urologic Cancer[6]	637	0.5%	655	0.5%	0.002	0.000
Health Service Utilization Intensity Metrics						
Mean number of ambulatory encounters	8.7	11.9	9.1	11.7	-0.460	-0.039
Mean number of emergency room encounters	0.4	1.2	0.5	1.1	-0.011	-0.010
Mean number of inpatient hospital encounters	0.2	0.6	0.3	0.6	-0.049	-0.079
Mean number of non-acute institutional encounters	0.1	0.4	0.1	0.4	-0.019	-0.049
Mean number of other ambulatory encounters	3.2	8.6	3.8	9.9	-0.605	-0.065
Mean number of filled prescriptions	10.9	14.0	11.2	13.9	-0.234	-0.017
Mean number of generics dispensed	4.6	4.4	4.7	4.3	-0.083	-0.019
Mean number of unique drug classes dispensed	4.4	4.0	4.4	4.0	-0.077	-0.019

[1]Covariates in blue show a standardized difference greater than 0.1.

[2]Weighted patient characteristics tables facilitate the assessment of covariate balance after propensity score (PS) stratification and should not be interpreted as a description of the unweighted population. Treated/control patients are weighted by the proportion of the total patient population included in their PS stratum divided by the proportion of the total treated/control patient population included in their PS stratum.

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

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

[5]The Combined Comorbidity Score is calculated based on comorbidities observed during a requester-defined window around the exposure episode start date. (Gagne JJ, Glynn RJ, Avorn J, Levin R, Schneeweiss S. A Combined Comorbidity Score Predicted Mortality in Elderly Patients Better Than Existing Scores. J Clin Epidemiol. 2011;64(7):749-759; Sun JW, Rogers JR, Her Q, Welch EC, Panozzo CA, Toh S, Gagne JJ. Adaptation and Validation of the Combined Comorbidity Score for ICD-10-CM. Med Care. 2017;55(12):1046-1051)

[6]Covariate not included in the propensity score logistic regression model.

NaN: Not a number

Table 1at. Aggregated Unadjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratification (PSS) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2018Q4

| | Medical Product | | | | Covariate Balance | |
| | ACE Inhibitors | | Beta Blockers | | | |
Patient Characteristics[1]	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
Unique patients	135,707	100.0%	140,007	100.0%	N/A	N/A
Demographic Characteristics						
Age (years)	60.5	11.9	60.4	14.5	0.104	0.008
Age						
18-44 years	22,233	16.4%	31,628	22.6%	-6.207	-0.157
45-64 years	50,735	37.4%	37,370	26.7%	10.694	0.231
≥ 65 years	62,739	46.2%	71,009	50.7%	-4.487	-0.090
Sex						
Female	65,792	48.5%	80,165	57.3%	-8.777	-0.177
Male	69,915	51.5%	59,842	42.7%	8.777	0.177
Race[3]						
American Indian or Alaska Native	562	0.4%	369	0.3%	0.151	0.026
Asian	1,606	1.2%	1,717	1.2%	-0.043	-0.004
Black or African American	7,273	5.4%	8,210	5.9%	-0.505	-0.022
Multi-racial	506	0.4%	421	0.3%	0.072	0.012
Native Hawaiian or Other Pacific Islander	161	0.1%	127	0.1%	0.028	0.009
Unknown	64,419	47.5%	58,137	41.5%	5.945	0.120
White	61,180	45.1%	71,026	50.7%	-5.648	-0.113
Hispanic origin						
Yes	2,901	2.1%	2,077	1.5%	0.654	0.049
No	65,267	48.1%	75,993	54.3%	-6.184	-0.124
Unknown	67,539	49.8%	61,937	44.2%	5.530	0.111
Year						
2018	135,707	100.0%	140,007	100.0%	0.000	NaN
2019	0	0.0%	0	0.0%	NaN	NaN
2020	0	0.0%	0	0.0%	NaN	NaN
2021	0	0.0%	0	0.0%	NaN	NaN
2022	0	0.0%	0	0.0%	NaN	NaN
Quarter-Year						
2018Q1	0	0.0%	0	0.0%	NaN	NaN
2018Q2	0	0.0%	0	0.0%	NaN	NaN
2018Q3	0	0.0%	0	0.0%	NaN	NaN
2018Q4	135,707	100.0%	140,007	100.0%	0.000	NaN
2019Q1	0	0.0%	0	0.0%	NaN	NaN

Table 1at. Aggregated Unadjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratification (PSS) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2018Q4

| | Medical Product | | | | Covariate Balance | |
| | ACE Inhibitors | | Beta Blockers | | | |
Patient Characteristics[1]	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
2019Q2	0	0.0%	0	0.0%	NaN	NaN
2019Q3	0	0.0%	0	0.0%	NaN	NaN
2019Q4	0	0.0%	0	0.0%	NaN	NaN
2020Q1	0	0.0%	0	0.0%	NaN	NaN
2020Q2	0	0.0%	0	0.0%	NaN	NaN
2020Q3	0	0.0%	0	0.0%	NaN	NaN
2020Q4	0	0.0%	0	0.0%	NaN	NaN
2021Q1	0	0.0%	0	0.0%	NaN	NaN
2021Q2	0	0.0%	0	0.0%	NaN	NaN
2021Q3	0	0.0%	0	0.0%	NaN	NaN
2021Q4	0	0.0%	0	0.0%	NaN	NaN
2022Q1	0	0.0%	0	0.0%	NaN	NaN
2022Q2	0	0.0%	0	0.0%	NaN	NaN
Health Characteristics						
Charlson/Elixhauser combined comorbidity score[4]	0.7	1.9	2.1	2.8	-1.313	-0.546
Allergic Reaction	14,025	10.3%	22,485	16.1%	-5.725	-0.170
Diabetes	28,590	21.1%	23,108	16.5%	4.563	0.117
Heart Failure	5,227	3.9%	16,858	12.0%	-8.189	-0.306
Ischemic Heart Disease	9,903	7.3%	30,279	21.6%	-14.329	-0.416
NSAID Use	21,958	16.2%	22,527	16.1%	0.091	0.002
Acquired Hypothyroidism[5]	15,933	11.7%	22,247	15.9%	-4.149	-0.120
Acute Myocardial Infarction[5]	1,603	1.2%	9,824	7.0%	-5.836	-0.298
Alzheimers Disease and Related Disorders[5]	4,224	3.1%	8,070	5.8%	-2.651	-0.129
Anemia[5]	12,337	9.1%	27,294	19.5%	-10.404	-0.301
Asthma[5]	6,820	5.0%	10,131	7.2%	-2.211	-0.092
Atrial Fibrillation[5]	4,313	3.2%	21,678	15.5%	-12.305	-0.433
Benign Prostatic Hyperplasia[5]	7,406	5.5%	10,479	7.5%	-2.027	-0.082
Cataract[5]	16,609	12.2%	18,946	13.5%	-1.293	-0.039
Chronic Kidney Disease[5]	17,830	13.1%	25,480	18.2%	-5.060	-0.140
Chronic Obstructive Pulmonary Disease and Bronchiectasis[5]	10,949	8.1%	19,462	13.9%	-5.833	-0.187
Depression[5]	17,988	13.3%	29,938	21.4%	-8.128	-0.216
Glaucoma[5]	8,201	6.0%	9,696	6.9%	-0.882	-0.036

Table 1at. Aggregated Unadjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratification (PSS) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2018Q4

| Patient Characteristics[1] | Medical Product | | | | Covariate Balance | |
| | ACE Inhibitors | | Beta Blockers | | | |
	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
Hip or Pelvic Fracture[5]	607	0.4%	1,515	1.1%	-0.635	-0.073
Hyperlipidemia[5]	50,547	37.2%	58,550	41.8%	-4.572	-0.094
Hypertension[5]	67,689	49.9%	68,160	48.7%	1.196	0.024
Osteoporosis[5]	5,830	4.3%	9,187	6.6%	-2.266	-0.100
Rheumatoid Arthritis or Osteoarthritis[5]	26,639	19.6%	34,917	24.9%	-5.310	-0.128
Stroke or Transient Ischemic Attack[5]	5,593	4.1%	8,195	5.9%	-1.732	-0.080
Breast Cancer[5]	2,882	2.1%	4,145	3.0%	-0.837	-0.053
Colorectal Cancer[5]	1,111	0.8%	1,746	1.2%	-0.428	-0.042
Prostate Cancer[5]	2,501	1.8%	3,554	2.5%	-0.696	-0.048
Lung Cancer[5]	654	0.5%	2,008	1.4%	-0.952	-0.098
Endometrial Cancer[5]	388	0.3%	547	0.4%	-0.105	-0.018
Urologic Cancer[5]	426	0.3%	826	0.6%	-0.276	-0.041
Health Service Utilization Intensity Metrics						
Mean number of ambulatory encounters	7.0	9.4	10.8	13.3	-3.834	-0.333
Mean number of emergency room encounters	0.3	0.9	0.5	1.4	-0.227	-0.192
Mean number of inpatient hospital encounters	0.1	0.4	0.4	0.7	-0.264	-0.432
Mean number of non-acute institutional encounters	0.0	0.3	0.1	0.5	-0.069	-0.180
Mean number of other ambulatory encounters	2.3	6.8	4.7	10.9	-2.454	-0.270
Mean number of filled prescriptions	9.3	12.3	12.1	14.5	-2.874	-0.213
Mean number of generics dispensed	4.0	3.9	5.2	4.5	-1.198	-0.285
Mean number of unique drug classes dispensed	3.7	3.5	4.9	4.1	-1.136	-0.295

[1]Covariates in blue show a standardized difference greater than 0.1.

[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.

[4]The Combined Comorbidity Score is calculated based on comorbidities observed during a requester-defined window around the exposure episode start date. (Gagne JJ, Glynn RJ, Avorn J, Levin R, Schneeweiss S. A Combined Comorbidity Score Predicted Mortality in Elderly Patients Better Than Existing Scores. J Clin Epidemiol. 2011;64(7):749-759; Sun JW, Rogers JR, Her Q, Welch EC, Panozzo CA, Toh S, Gagne JJ. Adaptation and Validation of the Combined Comorbidity Score for ICD-10-CM. Med Care. 2017;55(12):1046-1051)

[5]Covariate not included in the propensity score logistic regression model.

NaN: Not a number

Table 1au. Aggregated Weighted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratified, Percentiles: 5, in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2018Q4

Patient Characteristics[1,2]	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
	Number/ Mean	Percent/ Standard Deviation[3]	Number/ Mean	Percent/ Standard Deviation[3]	Absolute Difference	Standardized Difference
Unique patients	135,692	100.0%	139,951	100.0%	N/A	N/A
Demographic Characteristics						
Age (years)	60.3	12.5	61.5	14.1	-1.180	-0.089
Age						
18-44 years	25,332	18.7%	26,239	18.7%	-0.080	-0.002
45-64 years	47,788	35.2%	41,076	29.4%	5.868	0.136
≥ 65 years	62,572	46.1%	72,636	51.9%	-5.788	-0.152
Sex						
Female	72,578	53.5%	73,195	52.3%	1.187	0.024
Male	63,114	46.5%	66,756	47.7%	-1.187	-0.024
Race[4]						
American Indian or Alaska Native	549	0.4%	369	0.3%	0.141	0.024
Asian	1,461	1.1%	1,900	1.4%	-0.281	-0.026
Black or African American	7,319	5.4%	8,406	6.0%	-0.612	-0.027
Multi-racial	518	0.4%	398	0.3%	0.097	0.017
Native Hawaiian or Other Pacific Islander	155	0.1%	140	0.1%	0.014	0.004
Unknown	63,687	46.9%	58,382	41.7%	5.219	0.205
White	62,003	45.7%	70,356	50.3%	-4.577	-0.139
Hispanic origin						
Yes	2,720	2.0%	2,147	1.5%	0.471	0.036
No	65,885	48.6%	75,598	54.0%	-5.462	-0.275
Unknown	67,087	49.4%	62,206	44.4%	4.992	0.282
Year						
2018	135,692	100.0%	139,951	100.0%	0.000	NaN
2019	0	0.0%	0	0.0%	NaN	NaN
2020	0	0.0%	0	0.0%	NaN	NaN
2021	0	0.0%	0	0.0%	NaN	NaN
2022	0	0.0%	0	0.0%	NaN	NaN
Quarter-Year						
2018Q1	0	0.0%	0	0.0%	NaN	NaN
2018Q2	0	0.0%	0	0.0%	NaN	NaN
2018Q3	0	0.0%	0	0.0%	NaN	NaN
2018Q4	135,692	100.0%	139,951	100.0%	0.000	NaN
2019Q1	0	0.0%	0	0.0%	NaN	NaN

Table 1au. Aggregated Weighted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratified, Percentiles: 5, in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2018Q4

| | Medical Product | | | | Covariate Balance | |
| | ACE Inhibitors | | Beta Blockers | | | |
Patient Characteristics[1,2]	Number/ Mean	Percent/ Standard Deviation[3]	Number/ Mean	Percent/ Standard Deviation[3]	Absolute Difference	Standardized Difference
2019Q2	0	0.0%	0	0.0%	NaN	NaN
2019Q3	0	0.0%	0	0.0%	NaN	NaN
2019Q4	0	0.0%	0	0.0%	NaN	NaN
2020Q1	0	0.0%	0	0.0%	NaN	NaN
2020Q2	0	0.0%	0	0.0%	NaN	NaN
2020Q3	0	0.0%	0	0.0%	NaN	NaN
2020Q4	0	0.0%	0	0.0%	NaN	NaN
2021Q1	0	0.0%	0	0.0%	NaN	NaN
2021Q2	0	0.0%	0	0.0%	NaN	NaN
2021Q3	0	0.0%	0	0.0%	NaN	NaN
2021Q4	0	0.0%	0	0.0%	NaN	NaN
2022Q1	0	0.0%	0	0.0%	NaN	NaN
2022Q2	0	0.0%	0	0.0%	NaN	NaN
Health Characteristics						
Charlson/Elixhauser combined comorbidity score[5]	1.3	2.4	1.5	2.5	-0.180	-0.073
Allergic Reaction	17,737	13.1%	19,019	13.6%	-0.518	-0.015
Diabetes	25,695	18.9%	25,797	18.4%	0.504	0.013
Heart Failure	9,904	7.3%	11,994	8.6%	-1.271	-0.048
Ischemic Heart Disease	18,580	13.7%	21,520	15.4%	-1.684	-0.049
NSAID Use	22,105	16.3%	22,772	16.3%	0.019	0.001
Acquired Hypothyroidism[6]	18,307	13.5%	20,510	14.7%	-1.164	-0.034
Acute Myocardial Infarction[6]	3,381	2.5%	6,781	4.8%	-2.354	-0.126
Alzheimers Disease and Related Disorders[6]	6,547	4.8%	6,172	4.4%	0.415	0.020
Anemia[6]	18,193	13.4%	21,506	15.4%	-1.959	-0.057
Asthma[6]	9,302	6.9%	8,139	5.8%	1.039	0.043
Atrial Fibrillation[6]	6,848	5.0%	18,223	13.0%	-7.974	-0.285
Benign Prostatic Hyperplasia[6]	7,953	5.9%	10,167	7.3%	-1.403	-0.057
Cataract[6]	17,008	12.5%	19,006	13.6%	-1.046	-0.032
Chronic Kidney Disease[6]	21,764	16.0%	21,655	15.5%	0.566	0.016
Chronic Obstructive Pulmonary Disease and Bronchiectasis[6]	15,542	11.5%	15,460	11.0%	0.407	0.013
Depression[6]	24,327	17.9%	24,414	17.4%	0.483	0.013
Glaucoma[6]	8,600	6.3%	9,597	6.9%	-0.520	-0.021
Hip or Pelvic Fracture[6]	955	0.7%	1,164	0.8%	-0.128	-0.015

Table 1au. Aggregated Weighted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratified, Percentiles: 5, in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2018Q4

| Patient Characteristics[1,2] | Medical Product | | | | Covariate Balance | |
| | ACE Inhibitors | | Beta Blockers | | | |
	Number/ Mean	Percent/ Standard Deviation[3]	Number/ Mean	Percent/ Standard Deviation[3]	Absolute Difference	Standardized Difference
Hyperlipidemia[6]	53,142	39.2%	57,293	40.9%	-1.774	-0.037
Hypertension[6]	71,121	52.4%	68,190	48.7%	3.689	0.076
Osteoporosis[6]	7,065	5.2%	8,197	5.9%	-0.651	-0.029
Rheumatoid Arthritis or Osteoarthritis[6]	30,459	22.4%	32,647	23.3%	-0.880	-0.022
Stroke or Transient Ischemic Attack[6]	7,665	5.6%	6,953	5.0%	0.681	0.031
Breast Cancer[6]	3,775	2.8%	3,513	2.5%	0.272	0.017
Colorectal Cancer[6]	1,601	1.2%	1,436	1.0%	0.153	0.015
Prostate Cancer[6]	2,903	2.1%	3,189	2.3%	-0.140	-0.010
Lung Cancer[6]	1,136	0.8%	1,459	1.0%	-0.205	-0.021
Endometrial Cancer[6]	540	0.4%	458	0.3%	0.071	0.012
Urologic Cancer[6]	620	0.5%	654	0.5%	-0.010	-0.002
Health Service Utilization Intensity Metrics						
Mean number of ambulatory encounters	8.9	11.9	9.3	11.7	-0.409	-0.035
Mean number of emergency room encounters	0.4	1.2	0.4	1.2	-0.019	-0.016
Mean number of inpatient hospital encounters	0.2	0.6	0.3	0.6	-0.054	-0.088
Mean number of non-acute institutional encounters	0.1	0.4	0.1	0.4	-0.015	-0.040
Mean number of other ambulatory encounters	3.3	8.6	3.8	9.6	-0.524	-0.057
Mean number of filled prescriptions	10.9	13.8	11.0	13.9	-0.082	-0.006
Mean number of generics dispensed	4.6	4.3	4.7	4.3	-0.034	-0.008
Mean number of unique drug classes dispensed	4.4	4.0	4.4	3.9	-0.029	-0.007

[1]Covariates in blue show a standardized difference greater than 0.1.

[2]Weighted patient characteristics tables facilitate the assessment of covariate balance after propensity score (PS) stratification and should not be interpreted as a description of the unweighted population. Treated/control patients are weighted by the proportion of the total patient population included in their PS stratum divided by the proportion of the total treated/control patient population included in their PS stratum.

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

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

[5]The Combined Comorbidity Score is calculated based on comorbidities observed during a requester-defined window around the exposure episode start date. (Gagne JJ, Glynn RJ, Avorn J, Levin R, Schneeweiss S. A Combined Comorbidity Score Predicted Mortality in Elderly Patients Better Than Existing Scores. J Clin Epidemiol. 2011;64(7):749-759; Sun JW, Rogers JR, Her Q, Welch EC, Panozzo CA, Toh S, Gagne JJ. Adaptation and Validation of the Combined Comorbidity Score for ICD-10-CM. Med Care. 2017;55(12):1046-1051)

[6]Covariate not included in the propensity score logistic regression model.

NaN: Not a number

Table 1av. Aggregated Unadjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratification (PSS) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2019Q1

Patient Characteristics[1]	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
Unique patients	148,153	100.0%	142,348	100.0%	N/A	N/A
Demographic Characteristics						
Age (years)	60.9	11.8	60.9	14.5	0.051	0.004
Age						
18-44 years	23,500	15.9%	31,056	21.8%	-5.955	-0.153
45-64 years	53,523	36.1%	37,069	26.0%	10.086	0.219
≥ 65 years	71,130	48.0%	74,223	52.1%	-4.131	-0.083
Sex						
Female	71,163	48.0%	80,839	56.8%	-8.756	-0.176
Male	76,990	52.0%	61,509	43.2%	8.756	0.176
Race[3]						
American Indian or Alaska Native	624	0.4%	481	0.3%	0.083	0.014
Asian	1,703	1.1%	1,744	1.2%	-0.076	-0.007
Black or African American	7,809	5.3%	8,641	6.1%	-0.799	-0.035
Multi-racial	465	0.3%	445	0.3%	0.001	0.000
Native Hawaiian or Other Pacific Islander	148	0.1%	131	0.1%	0.008	0.003
Unknown	69,034	46.6%	57,685	40.5%	6.072	0.123
White	68,370	46.1%	73,221	51.4%	-5.290	-0.106
Hispanic origin						
Yes	3,110	2.1%	2,199	1.5%	0.554	0.041
No	73,136	49.4%	79,200	55.6%	-6.273	-0.126
Unknown	71,907	48.5%	60,949	42.8%	5.719	0.115
Year						
2018	0	0.0%	0	0.0%	NaN	NaN
2019	148,153	100.0%	142,348	100.0%	0.000	NaN
2020	0	0.0%	0	0.0%	NaN	NaN
2021	0	0.0%	0	0.0%	NaN	NaN
2022	0	0.0%	0	0.0%	NaN	NaN
Quarter-Year						
2018Q1	0	0.0%	0	0.0%	NaN	NaN
2018Q2	0	0.0%	0	0.0%	NaN	NaN
2018Q3	0	0.0%	0	0.0%	NaN	NaN
2018Q4	0	0.0%	0	0.0%	NaN	NaN
2019Q1	148,153	100.0%	142,348	100.0%	0.000	NaN

Table 1av. Aggregated Unadjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratification (PSS) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2019Q1

| | Medical Product | | | | Covariate Balance | |
| | ACE Inhibitors | | Beta Blockers | | | |
Patient Characteristics[1]	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
2019Q2	0	0.0%	0	0.0%	NaN	NaN
2019Q3	0	0.0%	0	0.0%	NaN	NaN
2019Q4	0	0.0%	0	0.0%	NaN	NaN
2020Q1	0	0.0%	0	0.0%	NaN	NaN
2020Q2	0	0.0%	0	0.0%	NaN	NaN
2020Q3	0	0.0%	0	0.0%	NaN	NaN
2020Q4	0	0.0%	0	0.0%	NaN	NaN
2021Q1	0	0.0%	0	0.0%	NaN	NaN
2021Q2	0	0.0%	0	0.0%	NaN	NaN
2021Q3	0	0.0%	0	0.0%	NaN	NaN
2021Q4	0	0.0%	0	0.0%	NaN	NaN
2022Q1	0	0.0%	0	0.0%	NaN	NaN
2022Q2	0	0.0%	0	0.0%	NaN	NaN
Health Characteristics						
Charlson/Elixhauser combined comorbidity score[4]	0.7	1.9	2.1	2.8	-1.345	-0.562
Allergic Reaction	15,064	10.2%	22,919	16.1%	-5.933	-0.176
Diabetes	30,699	20.7%	23,658	16.6%	4.101	0.105
Heart Failure	5,386	3.6%	17,664	12.4%	-8.774	-0.327
Ischemic Heart Disease	10,635	7.2%	30,488	21.4%	-14.240	-0.415
NSAID Use	23,284	15.7%	22,056	15.5%	0.222	0.006
Acquired Hypothyroidism[5]	17,617	11.9%	22,530	15.8%	-3.936	-0.114
Acute Myocardial Infarction[5]	1,573	1.1%	9,946	7.0%	-5.925	-0.305
Alzheimers Disease and Related Disorders[5]	4,227	2.9%	8,398	5.9%	-3.046	-0.149
Anemia[5]	13,054	8.8%	27,375	19.2%	-10.420	-0.304
Asthma[5]	7,523	5.1%	10,306	7.2%	-2.162	-0.090
Atrial Fibrillation[5]	4,671	3.2%	22,374	15.7%	-12.565	-0.440
Benign Prostatic Hyperplasia[5]	8,308	5.6%	11,169	7.8%	-2.239	-0.089
Cataract[5]	18,105	12.2%	19,049	13.4%	-1.162	-0.035
Chronic Kidney Disease[5]	19,292	13.0%	26,332	18.5%	-5.477	-0.151
Chronic Obstructive Pulmonary Disease and Bronchiectasis[5]	12,435	8.4%	20,940	14.7%	-6.317	-0.199
Depression[5]	19,231	13.0%	30,199	21.2%	-8.234	-0.220
Glaucoma[5]	9,288	6.3%	9,849	6.9%	-0.650	-0.026

Table 1av. Aggregated Unadjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratification (PSS) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2019Q1

| | Medical Product | | | | Covariate Balance | |
| | ACE Inhibitors | | Beta Blockers | | | |
Patient Characteristics[1]	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
Hip or Pelvic Fracture[5]	604	0.4%	1,510	1.1%	-0.653	-0.077
Hyperlipidemia[5]	55,382	37.4%	60,096	42.2%	-4.836	-0.099
Hypertension[5]	74,608	50.4%	70,908	49.8%	0.546	0.011
Osteoporosis[5]	6,466	4.4%	9,333	6.6%	-2.192	-0.097
Rheumatoid Arthritis or Osteoarthritis[5]	29,154	19.7%	35,248	24.8%	-5.084	-0.123
Stroke or Transient Ischemic Attack[5]	5,707	3.9%	8,215	5.8%	-1.919	-0.090
Breast Cancer[5]	3,205	2.2%	4,339	3.0%	-0.885	-0.056
Colorectal Cancer[5]	1,261	0.9%	1,747	1.2%	-0.376	-0.037
Prostate Cancer[5]	2,904	2.0%	3,618	2.5%	-0.582	-0.039
Lung Cancer[5]	681	0.5%	1,968	1.4%	-0.923	-0.097
Endometrial Cancer[5]	411	0.3%	549	0.4%	-0.108	-0.019
Urologic Cancer[5]	480	0.3%	836	0.6%	-0.263	-0.039
Health Service Utilization Intensity Metrics						
Mean number of ambulatory encounters	6.9	9.3	10.5	12.9	-3.567	-0.318
Mean number of emergency room encounters	0.3	0.9	0.5	1.2	-0.228	-0.210
Mean number of inpatient hospital encounters	0.1	0.4	0.4	0.7	-0.263	-0.442
Mean number of non-acute institutional encounters	0.0	0.3	0.1	0.5	-0.073	-0.198
Mean number of other ambulatory encounters	2.2	6.3	4.7	10.8	-2.576	-0.291
Mean number of filled prescriptions	8.9	12.1	11.9	14.6	-2.924	-0.219
Mean number of generics dispensed	3.9	3.8	5.1	4.6	-1.198	-0.284
Mean number of unique drug classes dispensed	3.7	3.5	4.8	4.2	-1.131	-0.292

[1]Covariates in blue show a standardized difference greater than 0.1.

[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.

[4]The Combined Comorbidity Score is calculated based on comorbidities observed during a requester-defined window around the exposure episode start date. (Gagne JJ, Glynn RJ, Avorn J, Levin R, Schneeweiss S. A Combined Comorbidity Score Predicted Mortality in Elderly Patients Better Than Existing Scores. J Clin Epidemiol. 2011;64(7):749-759; Sun JW, Rogers JR, Her Q, Welch EC, Panozzo CA, Toh S, Gagne JJ. Adaptation and Validation of the Combined Comorbidity Score for ICD-10-CM. Med Care. 2017;55(12):1046-1051)

[5]Covariate not included in the propensity score logistic regression model.

NaN: Not a number

Table 1aw. Aggregated Weighted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratified, Percentiles: 5, in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2019Q1

Patient Characteristics[1,2]	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
	Number/ Mean	Percent/ Standard Deviation[3]	Number/ Mean	Percent/ Standard Deviation[3]	Absolute Difference	Standardized Difference
Unique patients	148,132	100.0%	142,315	100.0%	N/A	N/A
Demographic Characteristics						
Age (years)	60.7	12.4	61.9	14.1	-1.223	-0.092
Age						
18-44 years	26,682	18.0%	25,655	18.0%	-0.015	-0.000
45-64 years	50,683	34.2%	40,718	28.6%	5.603	0.131
≥ 65 years	70,768	47.8%	75,942	53.4%	-5.588	-0.148
Sex						
Female	78,279	52.8%	74,154	52.1%	0.739	0.015
Male	69,853	47.2%	68,161	47.9%	-0.739	-0.015
Race[4]						
American Indian or Alaska Native	591	0.4%	478	0.3%	0.063	0.010
Asian	1,542	1.0%	1,911	1.3%	-0.302	-0.028
Black or African American	7,897	5.3%	8,877	6.2%	-0.907	-0.040
Multi-racial	466	0.3%	412	0.3%	0.025	0.005
Native Hawaiian or Other Pacific Islander	133	0.1%	135	0.1%	-0.005	-0.002
Unknown	68,242	46.1%	57,992	40.7%	5.319	0.213
White	69,262	46.8%	72,511	51.0%	-4.194	-0.127
Hispanic origin						
Yes	2,908	2.0%	2,262	1.6%	0.374	0.029
No	73,834	49.8%	78,801	55.4%	-5.528	-0.276
Unknown	71,390	48.2%	61,253	43.0%	5.153	0.290
Year						
2018	0	0.0%	0	0.0%	NaN	NaN
2019	148,132	100.0%	142,315	100.0%	0.000	NaN
2020	0	0.0%	0	0.0%	NaN	NaN
2021	0	0.0%	0	0.0%	NaN	NaN
2022	0	0.0%	0	0.0%	NaN	NaN
Quarter-Year						
2018Q1	0	0.0%	0	0.0%	NaN	NaN
2018Q2	0	0.0%	0	0.0%	NaN	NaN
2018Q3	0	0.0%	0	0.0%	NaN	NaN
2018Q4	0	0.0%	0	0.0%	NaN	NaN
2019Q1	148,132	100.0%	142,315	100.0%	0.000	NaN

Table 1aw. Aggregated Weighted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratified, Percentiles: 5, in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2019Q1

Patient Characteristics[1,2]	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
	Number/ Mean	Percent/ Standard Deviation[3]	Number/ Mean	Percent/ Standard Deviation[3]	Absolute Difference	Standardized Difference
2019Q2	0	0.0%	0	0.0%	NaN	NaN
2019Q3	0	0.0%	0	0.0%	NaN	NaN
2019Q4	0	0.0%	0	0.0%	NaN	NaN
2020Q1	0	0.0%	0	0.0%	NaN	NaN
2020Q2	0	0.0%	0	0.0%	NaN	NaN
2020Q3	0	0.0%	0	0.0%	NaN	NaN
2020Q4	0	0.0%	0	0.0%	NaN	NaN
2021Q1	0	0.0%	0	0.0%	NaN	NaN
2021Q2	0	0.0%	0	0.0%	NaN	NaN
2021Q3	0	0.0%	0	0.0%	NaN	NaN
2021Q4	0	0.0%	0	0.0%	NaN	NaN
2022Q1	0	0.0%	0	0.0%	NaN	NaN
2022Q2	0	0.0%	0	0.0%	NaN	NaN
Health Characteristics						
Charlson/Elixhauser combined comorbidity score[5]	1.3	2.4	1.5	2.5	-0.227	-0.093
Allergic Reaction	19,204	13.0%	19,114	13.4%	-0.467	-0.014
Diabetes	27,650	18.7%	26,550	18.7%	0.010	0.000
Heart Failure	10,183	6.9%	12,353	8.7%	-1.805	-0.068
Ischemic Heart Disease	19,752	13.3%	21,268	14.9%	-1.610	-0.047
NSAID Use	23,461	15.8%	22,232	15.6%	0.217	0.006
Acquired Hypothyroidism[6]	20,125	13.6%	20,808	14.6%	-1.035	-0.030
Acute Myocardial Infarction[6]	3,275	2.2%	6,718	4.7%	-2.510	-0.138
Alzheimers Disease and Related Disorders[6]	6,528	4.4%	6,341	4.5%	-0.049	-0.002
Anemia[6]	18,938	12.8%	21,446	15.1%	-2.285	-0.067
Asthma[6]	10,064	6.8%	8,264	5.8%	0.987	0.041
Atrial Fibrillation[6]	7,340	5.0%	18,652	13.1%	-8.152	-0.291
Benign Prostatic Hyperplasia[6]	8,932	6.0%	10,741	7.5%	-1.518	-0.061
Cataract[6]	18,478	12.5%	19,055	13.4%	-0.915	-0.028
Chronic Kidney Disease[6]	23,365	15.8%	22,261	15.6%	0.131	0.004
Chronic Obstructive Pulmonary Disease and Bronchiectasis[6]	17,448	11.8%	16,421	11.5%	0.240	0.008
Depression[6]	25,681	17.3%	24,546	17.2%	0.090	0.002
Glaucoma[6]	9,742	6.6%	9,729	6.8%	-0.260	-0.010
Hip or Pelvic Fracture[6]	917	0.6%	1,171	0.8%	-0.204	-0.024

Table 1aw. Aggregated Weighted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratified, Percentiles: 5, in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2019Q1

| Patient Characteristics[1,2] | Medical Product | | | | Covariate Balance | |
| | ACE Inhibitors | | Beta Blockers | | | |
	Number/ Mean	Percent/ Standard Deviation[3]	Number/ Mean	Percent/ Standard Deviation[3]	Absolute Difference	Standardized Difference
Hyperlipidemia[6]	58,147	39.3%	58,771	41.3%	-2.043	-0.043
Hypertension[6]	78,036	52.7%	71,044	49.9%	2.760	0.057
Osteoporosis[6]	7,676	5.2%	8,354	5.9%	-0.688	-0.030
Rheumatoid Arthritis or Osteoarthritis[6]	33,192	22.4%	32,533	22.9%	-0.453	-0.011
Stroke or Transient Ischemic Attack[6]	7,745	5.2%	6,929	4.9%	0.360	0.017
Breast Cancer[6]	4,189	2.8%	3,684	2.6%	0.239	0.015
Colorectal Cancer[6]	1,785	1.2%	1,392	1.0%	0.227	0.022
Prostate Cancer[6]	3,454	2.3%	3,222	2.3%	0.067	0.005
Lung Cancer[6]	1,129	0.8%	1,400	1.0%	-0.221	-0.024
Endometrial Cancer[6]	575	0.4%	445	0.3%	0.076	0.013
Urologic Cancer[6]	721	0.5%	677	0.5%	0.011	0.002
Health Service Utilization Intensity Metrics						
Mean number of ambulatory encounters	8.7	11.7	9.0	11.3	-0.279	-0.024
Mean number of emergency room encounters	0.4	1.2	0.4	1.1	-0.035	-0.032
Mean number of inpatient hospital encounters	0.2	0.6	0.3	0.6	-0.060	-0.102
Mean number of non-acute institutional encounters	0.1	0.3	0.1	0.4	-0.022	-0.061
Mean number of other ambulatory encounters	3.1	8.0	3.8	9.5	-0.691	-0.078
Mean number of filled prescriptions	10.5	13.5	10.7	13.8	-0.180	-0.013
Mean number of generics dispensed	4.6	4.3	4.6	4.3	-0.031	-0.007
Mean number of unique drug classes dispensed	4.3	3.9	4.3	3.9	-0.021	-0.005

[1]Covariates in blue show a standardized difference greater than 0.1.

[2]Weighted patient characteristics tables facilitate the assessment of covariate balance after propensity score (PS) stratification and should not be interpreted as a description of the unweighted population. Treated/control patients are weighted by the proportion of the total patient population included in their PS stratum divided by the proportion of the total treated/control patient population included in their PS stratum.

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

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

[5]The Combined Comorbidity Score is calculated based on comorbidities observed during a requester-defined window around the exposure episode start date. (Gagne JJ, Glynn RJ, Avorn J, Levin R, Schneeweiss S. A Combined Comorbidity Score Predicted Mortality in Elderly Patients Better Than Existing Scores. J Clin Epidemiol. 2011;64(7):749-759; Sun JW, Rogers JR, Her Q, Welch EC, Panozzo CA, Toh S, Gagne JJ. Adaptation and Validation of the Combined Comorbidity Score for ICD-10-CM. Med Care. 2017;55(12):1046-1051)

[6]Covariate not included in the propensity score logistic regression model.

NaN: Not a number

Table 1ax. Aggregated Unadjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratification (PSS) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2019Q2

Patient Characteristics[1]	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
Unique patients	130,852	100.0%	129,969	100.0%	N/A	N/A
Demographic Characteristics						
Age (years)	61.0	11.9	60.9	14.4	0.081	0.006
Age						
18-44 years	21,250	16.2%	28,802	22.2%	-5.921	-0.151
45-64 years	46,454	35.5%	33,299	25.6%	9.880	0.216
≥ 65 years	63,148	48.3%	67,868	52.2%	-3.960	-0.079
Sex						
Female	64,263	49.1%	75,043	57.7%	-8.628	-0.174
Male	66,589	50.9%	54,926	42.3%	8.628	0.174
Race[3]						
American Indian or Alaska Native	539	0.4%	430	0.3%	0.081	0.013
Asian	1,618	1.2%	1,579	1.2%	0.022	0.002
Black or African American	7,080	5.4%	7,727	5.9%	-0.535	-0.023
Multi-racial	458	0.4%	440	0.3%	0.011	0.002
Native Hawaiian or Other Pacific Islander	169	0.1%	102	0.1%	0.051	0.016
Unknown	59,939	45.8%	51,716	39.8%	6.016	0.122
White	61,049	46.7%	67,975	52.3%	-5.646	-0.113
Hispanic origin						
Yes	2,936	2.2%	2,012	1.5%	0.696	0.051
No	65,514	50.1%	72,989	56.2%	-6.092	-0.122
Unknown	62,402	47.7%	54,968	42.3%	5.396	0.109
Year						
2018	0	0.0%	0	0.0%	NaN	NaN
2019	130,852	100.0%	129,969	100.0%	0.000	NaN
2020	0	0.0%	0	0.0%	NaN	NaN
2021	0	0.0%	0	0.0%	NaN	NaN
2022	0	0.0%	0	0.0%	NaN	NaN
Quarter-Year						
2018Q1	0	0.0%	0	0.0%	NaN	NaN
2018Q2	0	0.0%	0	0.0%	NaN	NaN
2018Q3	0	0.0%	0	0.0%	NaN	NaN
2018Q4	0	0.0%	0	0.0%	NaN	NaN

Table 1ax. Aggregated Unadjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratification (PSS) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2019Q2

| | Medical Product | | | | Covariate Balance | |
| | ACE Inhibitors | | Beta Blockers | | | |
Patient Characteristics[1]	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
2019Q1	0	0.0%	0	0.0%	NaN	NaN
2019Q2	130,852	100.0%	129,969	100.0%	0.000	NaN
2019Q3	0	0.0%	0	0.0%	NaN	NaN
2019Q4	0	0.0%	0	0.0%	NaN	NaN
2020Q1	0	0.0%	0	0.0%	NaN	NaN
2020Q2	0	0.0%	0	0.0%	NaN	NaN
2020Q3	0	0.0%	0	0.0%	NaN	NaN
2020Q4	0	0.0%	0	0.0%	NaN	NaN
2021Q1	0	0.0%	0	0.0%	NaN	NaN
2021Q2	0	0.0%	0	0.0%	NaN	NaN
2021Q3	0	0.0%	0	0.0%	NaN	NaN
2021Q4	0	0.0%	0	0.0%	NaN	NaN
2022Q1	0	0.0%	0	0.0%	NaN	NaN
2022Q2	0	0.0%	0	0.0%	NaN	NaN
Health Characteristics						
Charlson/Elixhauser combined comorbidity score[4]	0.8	1.9	2.2	2.9	-1.388	-0.564
Allergic Reaction	13,805	10.6%	21,897	16.8%	-6.298	-0.184
Diabetes	27,770	21.2%	21,992	16.9%	4.301	0.110
Heart Failure	5,122	3.9%	16,840	13.0%	-9.043	-0.330
Ischemic Heart Disease	9,807	7.5%	28,932	22.3%	-14.766	-0.424
NSAID Use	21,331	16.3%	20,810	16.0%	0.290	0.008
Acquired Hypothyroidism[5]	15,865	12.1%	21,113	16.2%	-4.120	-0.118
Acute Myocardial Infarction[5]	1,625	1.2%	9,613	7.4%	-6.155	-0.306
Alzheimers Disease and Related Disorders[5]	3,992	3.1%	8,042	6.2%	-3.137	-0.150
Anemia[5]	12,203	9.3%	25,745	19.8%	-10.483	-0.300
Asthma[5]	7,173	5.5%	9,864	7.6%	-2.108	-0.085
Atrial Fibrillation[5]	4,125	3.2%	20,830	16.0%	-12.874	-0.448
Benign Prostatic Hyperplasia[5]	7,247	5.5%	10,191	7.8%	-2.303	-0.092
Cataract[5]	16,422	12.6%	17,373	13.4%	-0.817	-0.024
Chronic Kidney Disease[5]	17,494	13.4%	24,453	18.8%	-5.445	-0.149
Chronic Obstructive Pulmonary Disease and Bronchiectasis[5]	11,950	9.1%	19,994	15.4%	-6.251	-0.191
Depression[5]	17,896	13.7%	29,051	22.4%	-8.676	-0.227

Patient Characteristics[1]	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
Glaucoma[5]	8,151	6.2%	9,061	7.0%	-0.742	-0.030
Hip or Pelvic Fracture[5]	583	0.4%	1,413	1.1%	-0.642	-0.074
Hyperlipidemia[5]	49,787	38.0%	55,576	42.8%	-4.713	-0.096
Hypertension[5]	65,982	50.4%	63,927	49.2%	1.239	0.025
Osteoporosis[5]	5,960	4.6%	8,905	6.9%	-2.297	-0.099
Rheumatoid Arthritis or Osteoarthritis[5]	26,339	20.1%	33,176	25.5%	-5.397	-0.129
Stroke or Transient Ischemic Attack[5]	5,432	4.2%	7,791	6.0%	-1.843	-0.084
Breast Cancer[5]	2,896	2.2%	4,034	3.1%	-0.891	-0.055
Colorectal Cancer[5]	1,147	0.9%	1,659	1.3%	-0.400	-0.039
Prostate Cancer[5]	2,461	1.9%	3,204	2.5%	-0.584	-0.040
Lung Cancer[5]	670	0.5%	1,897	1.5%	-0.948	-0.096
Endometrial Cancer[5]	409	0.3%	551	0.4%	-0.111	-0.018
Urologic Cancer[5]	444	0.3%	763	0.6%	-0.248	-0.036
Health Service Utilization Intensity Metrics						
Mean number of ambulatory encounters	7.0	9.4	10.7	13.0	-3.696	-0.326
Mean number of emergency room encounters	0.3	0.9	0.5	1.3	-0.231	-0.208
Mean number of inpatient hospital encounters	0.1	0.4	0.4	0.8	-0.278	-0.451
Mean number of non-acute institutional encounters	0.0	0.3	0.1	0.5	-0.081	-0.204
Mean number of other ambulatory encounters	2.2	6.8	4.9	11.5	-2.733	-0.290
Mean number of filled prescriptions	9.3	12.2	12.2	14.6	-2.937	-0.219
Mean number of generics dispensed	4.1	3.9	5.3	4.6	-1.215	-0.283
Mean number of unique drug classes dispensed	3.9	3.6	5.0	4.2	-1.147	-0.292

[1]Covariates in blue show a standardized difference greater than 0.1.

[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.

[4]The Combined Comorbidity Score is calculated based on comorbidities observed during a requester-defined window around the exposure episode start date. (Gagne JJ, Glynn RJ, Avorn J, Levin R, Schneeweiss S. A Combined Comorbidity Score Predicted Mortality in Elderly Patients Better Than Existing Scores. J Clin Epidemiol. 2011;64(7):749-759; Sun JW, Rogers JR, Her Q, Welch EC, Panozzo CA, Toh S, Gagne JJ. Adaptation and Validation of the Combined Comorbidity Score for ICD-10-CM. Med Care. 2017;55(12):1046-1051)

[5]Covariate not included in the propensity score logistic regression model.

NaN: Not a number

Table 1ay. Aggregated Weighted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratified, Percentiles: 5, in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2019Q2

Patient Characteristics[1,2]	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
	Number/ Mean	Percent/ Standard Deviation[3]	Number/ Mean	Percent/ Standard Deviation[3]	Absolute Difference	Standardized Difference
Unique patients	130,806	100.0%	129,944	100.0%	N/A	N/A
Demographic Characteristics						
Age (years)	60.7	12.5	61.8	14.0	-1.087	-0.082
Age						
18-44 years	24,001	18.3%	23,926	18.4%	-0.065	-0.002
45-64 years	43,872	33.5%	36,912	28.4%	5.134	0.120
≥ 65 years	62,933	48.1%	69,106	53.2%	-5.070	-0.134
Sex						
Female	70,737	54.1%	68,792	52.9%	1.137	0.023
Male	60,069	45.9%	61,152	47.1%	-1.137	-0.023
Race[4]						
American Indian or Alaska Native	524	0.4%	421	0.3%	0.077	0.013
Asian	1,450	1.1%	1,767	1.4%	-0.251	-0.023
Black or African American	7,117	5.4%	7,951	6.1%	-0.677	-0.030
Multi-racial	473	0.4%	418	0.3%	0.040	0.007
Native Hawaiian or Other Pacific Islander	154	0.1%	114	0.1%	0.030	0.009
Unknown	59,202	45.3%	51,997	40.0%	5.245	0.207
White	61,885	47.3%	67,277	51.8%	-4.463	-0.135
Hispanic origin						
Yes	2,660	2.0%	2,099	1.6%	0.418	0.031
No	66,169	50.6%	72,594	55.9%	-5.280	-0.261
Unknown	61,976	47.4%	55,251	42.5%	4.861	0.270
Year						
2018	0	0.0%	0	0.0%	NaN	NaN
2019	130,806	100.0%	129,944	100.0%	0.000	NaN
2020	0	0.0%	0	0.0%	NaN	NaN
2021	0	0.0%	0	0.0%	NaN	NaN
2022	0	0.0%	0	0.0%	NaN	NaN
Quarter-Year						
2018Q1	0	0.0%	0	0.0%	NaN	NaN
2018Q2	0	0.0%	0	0.0%	NaN	NaN
2018Q3	0	0.0%	0	0.0%	NaN	NaN
2018Q4	0	0.0%	0	0.0%	NaN	NaN
2019Q1	0	0.0%	0	0.0%	NaN	NaN

Table 1ay. Aggregated Weighted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratified, Percentiles: 5, in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2019Q2

	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
Patient Characteristics[1,2]	Number/ Mean	Percent/ Standard Deviation[3]	Number/ Mean	Percent/ Standard Deviation[3]	Absolute Difference	Standardized Difference
2019Q2	130,806	100.0%	129,944	100.0%	0.000	NaN
2019Q3	0	0.0%	0	0.0%	NaN	NaN
2019Q4	0	0.0%	0	0.0%	NaN	NaN
2020Q1	0	0.0%	0	0.0%	NaN	NaN
2020Q2	0	0.0%	0	0.0%	NaN	NaN
2020Q3	0	0.0%	0	0.0%	NaN	NaN
2020Q4	0	0.0%	0	0.0%	NaN	NaN
2021Q1	0	0.0%	0	0.0%	NaN	NaN
2021Q2	0	0.0%	0	0.0%	NaN	NaN
2021Q3	0	0.0%	0	0.0%	NaN	NaN
2021Q4	0	0.0%	0	0.0%	NaN	NaN
2022Q1	0	0.0%	0	0.0%	NaN	NaN
2022Q2	0	0.0%	0	0.0%	NaN	NaN
Health Characteristics						
Charlson/Elixhauser combined comorbidity score[5]	1.4	2.4	1.6	2.6	-0.209	-0.083
Allergic Reaction	17,779	13.6%	18,272	14.1%	-0.469	-0.014
Diabetes	24,881	19.0%	24,679	19.0%	0.030	0.001
Heart Failure	9,818	7.5%	11,839	9.1%	-1.605	-0.059
Ischemic Heart Disease	18,348	14.0%	20,335	15.6%	-1.622	-0.046
NSAID Use	21,525	16.5%	21,180	16.3%	0.157	0.004
Acquired Hypothyroidism[6]	18,286	14.0%	19,350	14.9%	-0.911	-0.026
Acute Myocardial Infarction[6]	3,427	2.6%	6,585	5.1%	-2.448	-0.128
Alzheimers Disease and Related Disorders[6]	6,216	4.8%	6,062	4.7%	0.087	0.004
Anemia[6]	17,828	13.6%	20,136	15.5%	-1.867	-0.054
Asthma[6]	9,616	7.4%	7,945	6.1%	1.237	0.049
Atrial Fibrillation[6]	6,638	5.1%	17,418	13.4%	-8.329	-0.295
Benign Prostatic Hyperplasia[6]	7,884	6.0%	9,741	7.5%	-1.469	-0.059
Cataract[6]	16,689	12.8%	17,346	13.3%	-0.590	-0.018
Chronic Kidney Disease[6]	21,215	16.2%	20,690	15.9%	0.296	0.008
Chronic Obstructive Pulmonary Disease and Bronchiectasis[6]	16,792	12.8%	15,767	12.1%	0.704	0.022
Depression[6]	23,994	18.3%	23,690	18.2%	0.112	0.003
Glaucoma[6]	8,438	6.5%	8,929	6.9%	-0.421	-0.017
Hip or Pelvic Fracture[6]	867	0.7%	1,093	0.8%	-0.178	-0.021

Table 1ay. Aggregated Weighted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratified, Percentiles: 5, in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2019Q2

| | Medical Product | | | | Covariate Balance | |
| | ACE Inhibitors | | Beta Blockers | | | |
Patient Characteristics[1,2]	Number/ Mean	Percent/ Standard Deviation[3]	Number/ Mean	Percent/ Standard Deviation[3]	Absolute Difference	Standardized Difference
Hyperlipidemia[6]	52,376	40.0%	54,126	41.7%	-1.612	-0.034
Hypertension[6]	69,356	53.0%	63,868	49.2%	3.872	0.080
Osteoporosis[6]	7,119	5.4%	7,909	6.1%	-0.644	-0.028
Rheumatoid Arthritis or Osteoarthritis[6]	30,126	23.0%	30,750	23.7%	-0.632	-0.015
Stroke or Transient Ischemic Attack[6]	7,328	5.6%	6,555	5.0%	0.557	0.025
Breast Cancer[6]	3,736	2.9%	3,396	2.6%	0.243	0.015
Colorectal Cancer[6]	1,631	1.2%	1,314	1.0%	0.236	0.022
Prostate Cancer[6]	2,850	2.2%	2,831	2.2%	0.000	0.000
Lung Cancer[6]	1,152	0.9%	1,364	1.0%	-0.169	-0.017
Endometrial Cancer[6]	570	0.4%	446	0.3%	0.093	0.015
Urologic Cancer[6]	664	0.5%	620	0.5%	0.030	0.004
Health Service Utilization Intensity Metrics						
Mean number of ambulatory encounters	8.9	11.9	9.2	11.4	-0.289	-0.025
Mean number of emergency room encounters	0.4	1.1	0.4	1.1	-0.027	-0.024
Mean number of inpatient hospital encounters	0.2	0.6	0.3	0.6	-0.062	-0.100
Mean number of non-acute institutional encounters	0.1	0.4	0.1	0.4	-0.025	-0.065
Mean number of other ambulatory encounters	3.2	8.5	3.9	10.1	-0.697	-0.074
Mean number of filled prescriptions	10.9	13.5	11.1	13.9	-0.145	-0.011
Mean number of generics dispensed	4.8	4.4	4.8	4.3	-0.003	-0.001
Mean number of unique drug classes dispensed	4.5	4.0	4.5	4.0	0.003	0.001

[1]Covariates in blue show a standardized difference greater than 0.1.

[2]Weighted patient characteristics tables facilitate the assessment of covariate balance after propensity score (PS) stratification and should not be interpreted as a description of the unweighted population. Treated/control patients are weighted by the proportion of the total patient population included in their PS stratum divided by the proportion of the total treated/control patient population included in their PS stratum.

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

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

[5]The Combined Comorbidity Score is calculated based on comorbidities observed during a requester-defined window around the exposure episode start date. (Gagne JJ, Glynn RJ, Avorn J, Levin R, Schneeweiss S. A Combined Comorbidity Score Predicted Mortality in Elderly Patients Better Than Existing Scores. J Clin Epidemiol. 2011;64(7):749-759; Sun JW, Rogers JR, Her Q, Welch EC, Panozzo CA, Toh S, Gagne JJ. Adaptation and Validation of the Combined Comorbidity Score for ICD-10-CM. Med Care. 2017;55(12):1046-1051)

[6]Covariate not included in the propensity score logistic regression model.

NaN: Not a number

Table 1az. Aggregated Unadjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratification (PSS) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2019Q3

| Patient Characteristics[1] | Medical Product | | | | Covariate Balance | |
| | ACE Inhibitors | | Beta Blockers | | | |
	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
Unique patients	131,939	100.0%	137,653	100.0%	N/A	N/A
Demographic Characteristics						
Age (years)	60.3	12.0	60.4	14.6	-0.096	-0.007
Age						
18-44 years	22,629	17.2%	31,839	23.1%	-5.979	-0.149
45-64 years	48,135	36.5%	35,018	25.4%	11.043	0.241
≥ 65 years	61,175	46.4%	70,796	51.4%	-5.065	-0.101
Sex						
Female	64,059	48.6%	78,982	57.4%	-8.826	-0.178
Male	67,880	51.4%	58,671	42.6%	8.826	0.178
Race[3]						
American Indian or Alaska Native	558	0.4%	451	0.3%	0.095	0.016
Asian	1,523	1.2%	1,577	1.1%	0.009	0.001
Black or African American	7,267	5.5%	8,187	5.9%	-0.440	-0.019
Multi-racial	486	0.4%	460	0.3%	0.034	0.006
Native Hawaiian or Other Pacific Islander	184	0.1%	146	0.1%	0.033	0.010
Unknown	63,719	48.3%	57,208	41.6%	6.735	0.136
White	58,202	44.1%	69,624	50.6%	-6.467	-0.130
Hispanic origin						
Yes	2,969	2.3%	1,994	1.4%	0.802	0.060
No	61,444	46.6%	73,488	53.4%	-6.816	-0.137
Unknown	67,526	51.2%	62,171	45.2%	6.015	0.121
Year						
2018	0	0.0%	0	0.0%	NaN	NaN
2019	131,939	100.0%	137,653	100.0%	0.000	NaN
2020	0	0.0%	0	0.0%	NaN	NaN
2021	0	0.0%	0	0.0%	NaN	NaN
2022	0	0.0%	0	0.0%	NaN	NaN
Quarter-Year						
2018Q1	0	0.0%	0	0.0%	NaN	NaN
2018Q2	0	0.0%	0	0.0%	NaN	NaN
2018Q3	0	0.0%	0	0.0%	NaN	NaN
2018Q4	0	0.0%	0	0.0%	NaN	NaN

Table 1az. Aggregated Unadjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratification (PSS) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2019Q3

Patient Characteristics[1]	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
2019Q1	0	0.0%	0	0.0%	NaN	NaN
2019Q2	0	0.0%	0	0.0%	NaN	NaN
2019Q3	131,939	100.0%	137,653	100.0%	0.000	NaN
2019Q4	0	0.0%	0	0.0%	NaN	NaN
2020Q1	0	0.0%	0	0.0%	NaN	NaN
2020Q2	0	0.0%	0	0.0%	NaN	NaN
2020Q3	0	0.0%	0	0.0%	NaN	NaN
2020Q4	0	0.0%	0	0.0%	NaN	NaN
2021Q1	0	0.0%	0	0.0%	NaN	NaN
2021Q2	0	0.0%	0	0.0%	NaN	NaN
2021Q3	0	0.0%	0	0.0%	NaN	NaN
2021Q4	0	0.0%	0	0.0%	NaN	NaN
2022Q1	0	0.0%	0	0.0%	NaN	NaN
2022Q2	0	0.0%	0	0.0%	NaN	NaN
Health Characteristics						
Charlson/Elixhauser combined comorbidity score[4]	0.8	2.0	2.1	2.9	-1.362	-0.557
Allergic Reaction	14,188	10.8%	23,498	17.1%	-6.317	-0.183
Diabetes	29,136	22.1%	23,251	16.9%	5.192	0.131
Heart Failure	5,153	3.9%	17,382	12.6%	-8.722	-0.321
Ischemic Heart Disease	9,866	7.5%	30,512	22.2%	-14.688	-0.423
NSAID Use	21,011	15.9%	21,883	15.9%	0.028	0.001
Acquired Hypothyroidism[5]	15,696	11.9%	22,195	16.1%	-4.227	-0.122
Acute Myocardial Infarction[5]	1,624	1.2%	9,798	7.1%	-5.887	-0.298
Alzheimers Disease and Related Disorders[5]	4,016	3.0%	8,114	5.9%	-2.851	-0.138
Anemia[5]	12,159	9.2%	27,009	19.6%	-10.405	-0.300
Asthma[5]	6,634	5.0%	10,058	7.3%	-2.279	-0.095
Atrial Fibrillation[5]	4,129	3.1%	22,124	16.1%	-12.943	-0.450
Benign Prostatic Hyperplasia[5]	7,005	5.3%	10,605	7.7%	-2.395	-0.097
Cataract[5]	15,844	12.0%	18,371	13.3%	-1.337	-0.040
Chronic Kidney Disease[5]	18,540	14.1%	25,908	18.8%	-4.769	-0.129
Chronic Obstructive Pulmonary Disease and Bronchiectasis[5]	11,079	8.4%	19,536	14.2%	-5.795	-0.184
Depression[5]	18,341	13.9%	30,756	22.3%	-8.442	-0.220

Table 1az. Aggregated Unadjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratification (PSS) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2019Q3

Patient Characteristics[1]	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
Glaucoma[5]	8,044	6.1%	9,398	6.8%	-0.731	-0.030
Hip or Pelvic Fracture[5]	555	0.4%	1,436	1.0%	-0.623	-0.073
Hyperlipidemia[5]	49,563	37.6%	58,506	42.5%	-4.937	-0.101
Hypertension[5]	67,314	51.0%	66,931	48.6%	2.396	0.048
Osteoporosis[5]	5,825	4.4%	9,037	6.6%	-2.150	-0.094
Rheumatoid Arthritis or Osteoarthritis[5]	25,884	19.6%	34,754	25.2%	-5.629	-0.135
Stroke or Transient Ischemic Attack[5]	5,569	4.2%	8,068	5.9%	-1.640	-0.075
Breast Cancer[5]	2,788	2.1%	4,208	3.1%	-0.944	-0.060
Colorectal Cancer[5]	1,112	0.8%	1,826	1.3%	-0.484	-0.047
Prostate Cancer[5]	2,341	1.8%	3,497	2.5%	-0.766	-0.053
Lung Cancer[5]	691	0.5%	2,125	1.5%	-1.020	-0.101
Endometrial Cancer[5]	395	0.3%	582	0.4%	-0.123	-0.021
Urologic Cancer[5]	448	0.3%	867	0.6%	-0.290	-0.042
Health Service Utilization Intensity Metrics						
Mean number of ambulatory encounters	6.9	9.4	10.9	13.2	-3.981	-0.346
Mean number of emergency room encounters	0.3	1.0	0.6	1.4	-0.235	-0.197
Mean number of inpatient hospital encounters	0.1	0.4	0.4	0.7	-0.260	-0.425
Mean number of non-acute institutional encounters	0.0	0.3	0.1	0.5	-0.072	-0.188
Mean number of other ambulatory encounters	2.1	6.8	4.6	11.1	-2.454	-0.268
Mean number of filled prescriptions	8.8	11.8	11.8	14.2	-3.039	-0.233
Mean number of generics dispensed	3.9	3.8	5.2	4.5	-1.269	-0.302
Mean number of unique drug classes dispensed	3.7	3.5	4.9	4.2	-1.208	-0.314

[1]Covariates in blue show a standardized difference greater than 0.1.

[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.

[4]The Combined Comorbidity Score is calculated based on comorbidities observed during a requester-defined window around the exposure episode start date. (Gagne JJ, Glynn RJ, Avorn J, Levin R, Schneeweiss S. A Combined Comorbidity Score Predicted Mortality in Elderly Patients Better Than Existing Scores. J Clin Epidemiol. 2011;64(7):749-759; Sun JW, Rogers JR, Her Q, Welch EC, Panozzo CA, Toh S, Gagne JJ. Adaptation and Validation of the Combined Comorbidity Score for ICD-10-CM. Med Care. 2017;55(12):1046-1051)

[5]Covariate not included in the propensity score logistic regression model.

NaN: Not a number

Table 1ba. Aggregated Weighted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratified, Percentiles: 5, in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2019Q3

| Patient Characteristics[1,2] | Medical Product | | | | Covariate Balance | |
| | ACE Inhibitors | | Beta Blockers | | | |
	Number/ Mean	Percent/ Standard Deviation[3]	Number/ Mean	Percent/ Standard Deviation[3]	Absolute Difference	Standardized Difference
Unique patients	131,918	100.0%	137,620	100.0%	N/A	N/A
Demographic Characteristics						
Age (years)	60.0	12.6	61.5	14.2	-1.453	-0.108
Age						
18-44 years	25,667	19.5%	26,430	19.2%	0.252	0.007
45-64 years	45,312	34.3%	38,699	28.1%	6.228	0.145
≥ 65 years	60,939	46.2%	72,491	52.7%	-6.480	-0.171
Sex						
Female	70,740	53.6%	72,336	52.6%	1.062	0.021
Male	61,178	46.4%	65,284	47.4%	-1.062	-0.021
Race[4]						
American Indian or Alaska Native	542	0.4%	460	0.3%	0.076	0.013
Asian	1,396	1.1%	1,746	1.3%	-0.210	-0.020
Black or African American	7,330	5.6%	8,451	6.1%	-0.585	-0.025
Multi-racial	487	0.4%	429	0.3%	0.058	0.010
Native Hawaiian or Other Pacific Islander	167	0.1%	153	0.1%	0.016	0.005
Unknown	62,867	47.7%	57,442	41.7%	5.917	0.230
White	59,129	44.8%	68,939	50.1%	-5.271	-0.158
Hispanic origin						
Yes	2,675	2.0%	2,078	1.5%	0.517	0.039
No	62,183	47.1%	73,083	53.1%	-5.967	-0.302
Unknown	67,060	50.8%	62,459	45.4%	5.449	0.309
Year						
2018	0	0.0%	0	0.0%	NaN	NaN
2019	131,918	100.0%	137,620	100.0%	0.000	NaN
2020	0	0.0%	0	0.0%	NaN	NaN
2021	0	0.0%	0	0.0%	NaN	NaN
2022	0	0.0%	0	0.0%	NaN	NaN
Quarter-Year						
2018Q1	0	0.0%	0	0.0%	NaN	NaN
2018Q2	0	0.0%	0	0.0%	NaN	NaN
2018Q3	0	0.0%	0	0.0%	NaN	NaN
2018Q4	0	0.0%	0	0.0%	NaN	NaN
2019Q1	0	0.0%	0	0.0%	NaN	NaN

Table 1ba. Aggregated Weighted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratified, Percentiles: 5, in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2019Q3

| Patient Characteristics[1,2] | Medical Product | | | | Covariate Balance | |
| | ACE Inhibitors | | Beta Blockers | | | |
	Number/ Mean	Percent/ Standard Deviation[3]	Number/ Mean	Percent/ Standard Deviation[3]	Absolute Difference	Standardized Difference
2019Q2	0	0.0%	0	0.0%	NaN	NaN
2019Q3	131,918	100.0%	137,620	100.0%	0.000	NaN
2019Q4	0	0.0%	0	0.0%	NaN	NaN
2020Q1	0	0.0%	0	0.0%	NaN	NaN
2020Q2	0	0.0%	0	0.0%	NaN	NaN
2020Q3	0	0.0%	0	0.0%	NaN	NaN
2020Q4	0	0.0%	0	0.0%	NaN	NaN
2021Q1	0	0.0%	0	0.0%	NaN	NaN
2021Q2	0	0.0%	0	0.0%	NaN	NaN
2021Q3	0	0.0%	0	0.0%	NaN	NaN
2021Q4	0	0.0%	0	0.0%	NaN	NaN
2022Q1	0	0.0%	0	0.0%	NaN	NaN
2022Q2	0	0.0%	0	0.0%	NaN	NaN
Health Characteristics						
Charlson/Elixhauser combined comorbidity sco	1.4	2.5	1.6	2.6	-0.205	-0.081
Allergic Reaction	18,224	13.8%	19,763	14.4%	-0.546	-0.016
Diabetes	25,892	19.6%	26,345	19.1%	0.484	0.012
Heart Failure	9,854	7.5%	12,468	9.1%	-1.590	-0.059
Ischemic Heart Disease	18,577	14.1%	21,827	15.9%	-1.778	-0.051
NSAID Use	21,294	16.1%	22,223	16.1%	-0.007	-0.000
Acquired Hypothyroidism[6]	18,083	13.7%	20,528	14.9%	-1.209	-0.035
Acute Myocardial Infarction[6]	3,396	2.6%	6,818	5.0%	-2.380	-0.126
Alzheimers Disease and Related Disorders[6]	6,306	4.8%	6,284	4.6%	0.214	0.010
Anemia[6]	17,873	13.5%	21,359	15.5%	-1.972	-0.057
Asthma[6]	9,006	6.8%	8,145	5.9%	0.908	0.037
Atrial Fibrillation[6]	6,587	5.0%	18,742	13.6%	-8.625	-0.305
Benign Prostatic Hyperplasia[6]	7,635	5.8%	10,214	7.4%	-1.634	-0.066
Cataract[6]	16,311	12.4%	18,482	13.4%	-1.065	-0.033
Chronic Kidney Disease[6]	22,346	16.9%	22,227	16.2%	0.788	0.022
Chronic Obstructive Pulmonary Disease and Bronchiectasis[6]	15,787	12.0%	15,650	11.4%	0.595	0.019
Depression[6]	24,828	18.8%	25,214	18.3%	0.499	0.013
Glaucoma[6]	8,334	6.3%	9,377	6.8%	-0.496	-0.020
Hip or Pelvic Fracture[6]	870	0.7%	1,148	0.8%	-0.175	-0.020

Table 1ba. Aggregated Weighted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratified, Percentiles: 5, in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2019Q3

| | Medical Product | | | | Covariate Balance | |
| | ACE Inhibitors | | Beta Blockers | | | |
Patient Characteristics[1,2]	Number/ Mean	Percent/ Standard Deviation[3]	Number/ Mean	Percent/ Standard Deviation[3]	Absolute Difference	Standardized Difference
Hyperlipidemia[6]	52,362	39.7%	57,211	41.6%	-1.879	-0.040
Hypertension[6]	70,639	53.5%	67,159	48.8%	4.747	0.098
Osteoporosis[6]	7,098	5.4%	7,998	5.8%	-0.431	-0.019
Rheumatoid Arthritis or Osteoarthritis[6]	29,674	22.5%	32,420	23.6%	-1.064	-0.026
Stroke or Transient Ischemic Attack[6]	7,714	5.8%	6,863	5.0%	0.860	0.038
Breast Cancer[6]	3,727	2.8%	3,558	2.6%	0.240	0.015
Colorectal Cancer[6]	1,610	1.2%	1,478	1.1%	0.146	0.014
Prostate Cancer[6]	2,766	2.1%	3,154	2.3%	-0.195	-0.013
Lung Cancer[6]	1,198	0.9%	1,547	1.1%	-0.215	-0.022
Endometrial Cancer[6]	534	0.4%	480	0.3%	0.056	0.009
Urologic Cancer[6]	664	0.5%	702	0.5%	-0.007	-0.001
Health Service Utilization Intensity Metrics						
Mean number of ambulatory encounters	8.8	12.0	9.3	11.7	-0.500	-0.042
Mean number of emergency room	0.5	1.3	0.5	1.2	-0.013	-0.010
Mean number of inpatient hospital encounters	0.2	0.6	0.3	0.6	-0.050	-0.081
Mean number of non-acute institutional encounters	0.1	0.3	0.1	0.4	-0.019	-0.051
Mean number of other ambulatory encounters	3.1	8.5	3.7	9.8	-0.575	-0.063
Mean number of filled prescriptions	10.4	13.3	10.7	13.5	-0.319	-0.024
Mean number of generics dispensed	4.6	4.3	4.7	4.3	-0.094	-0.022
Mean number of unique drug classes dispensed	4.3	4.0	4.4	3.9	-0.091	-0.023

[1]Covariates in blue show a standardized difference greater than 0.1.

[2]Weighted patient characteristics tables facilitate the assessment of covariate balance after propensity score (PS) stratification and should not be interpreted as a description of the unweighted population. Treated/control patients are weighted by the proportion of the total patient population included in their PS stratum divided by the proportion of the total treated/control patient population included in their PS stratum.

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

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

[5]The Combined Comorbidity Score is calculated based on comorbidities observed during a requester-defined window around the exposure episode start date. (Gagne JJ, Glynn RJ, Avorn J, Levin R, Schneeweiss S. A Combined Comorbidity Score Predicted Mortality in Elderly Patients Better Than Existing Scores. J Clin Epidemiol. 2011;64(7):749-759; Sun JW, Rogers JR, Her Q, Welch EC, Panozzo CA, Toh S, Gagne JJ. Adaptation and Validation of the Combined Comorbidity Score for ICD-10-CM. Med Care. 2017;55(12):1046-1051)

[6]Covariate not included in the propensity score logistic regression model.

NaN: Not a number

Table 1bb. Aggregated Unadjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratification (PSS) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2019Q4

Patient Characteristics[1]	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
Unique patients	138,635	100.0%	141,410	100.0%	N/A	N/A
Demographic Characteristics						
Age (years)	60.9	11.9	60.7	14.5	0.188	0.014
Age						
18-44 years	22,331	16.1%	31,741	22.4%	-6.338	-0.161
45-64 years	49,502	35.7%	35,712	25.3%	10.452	0.229
≥ 65 years	66,802	48.2%	73,957	52.3%	-4.114	-0.082
Sex						
Female	67,518	48.7%	80,687	57.1%	-8.357	-0.168
Male	71,117	51.3%	60,723	42.9%	8.357	0.168
Race[3]						
American Indian or Alaska Native	518	0.4%	408	0.3%	0.085	0.015
Asian	1,624	1.2%	1,742	1.2%	-0.060	-0.006
Black or African American	7,320	5.3%	8,233	5.8%	-0.542	-0.024
Multi-racial	511	0.4%	497	0.4%	0.017	0.003
Native Hawaiian or Other Pacific Islander	217	0.2%	145	0.1%	0.054	0.015
Unknown	64,682	46.7%	57,962	41.0%	5.668	0.114
White	63,763	46.0%	72,423	51.2%	-5.221	-0.105
Hispanic origin						
Yes	2,980	2.1%	2,046	1.4%	0.703	0.053
No	66,790	48.2%	76,322	54.0%	-5.795	-0.116
Unknown	68,865	49.7%	63,042	44.6%	5.093	0.102
Year						
2018	0	0.0%	0	0.0%	NaN	NaN
2019	138,635	100.0%	141,410	100.0%	0.000	NaN
2020	0	0.0%	0	0.0%	NaN	NaN
2021	0	0.0%	0	0.0%	NaN	NaN
2022	0	0.0%	0	0.0%	NaN	NaN
Quarter-Year						
2018Q1	0	0.0%	0	0.0%	NaN	NaN
2018Q2	0	0.0%	0	0.0%	NaN	NaN
2018Q3	0	0.0%	0	0.0%	NaN	NaN
2018Q4	0	0.0%	0	0.0%	NaN	NaN

Table 1bb. Aggregated Unadjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratification (PSS) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2019Q4

Patient Characteristics[1]	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
2019Q1	0	0.0%	0	0.0%	NaN	NaN
2019Q2	0	0.0%	0	0.0%	NaN	NaN
2019Q3	0	0.0%	0	0.0%	NaN	NaN
2019Q4	138,635	100.0%	141,410	100.0%	0.000	NaN
2020Q1	0	0.0%	0	0.0%	NaN	NaN
2020Q2	0	0.0%	0	0.0%	NaN	NaN
2020Q3	0	0.0%	0	0.0%	NaN	NaN
2020Q4	0	0.0%	0	0.0%	NaN	NaN
2021Q1	0	0.0%	0	0.0%	NaN	NaN
2021Q2	0	0.0%	0	0.0%	NaN	NaN
2021Q3	0	0.0%	0	0.0%	NaN	NaN
2021Q4	0	0.0%	0	0.0%	NaN	NaN
2022Q1	0	0.0%	0	0.0%	NaN	NaN
2022Q2	0	0.0%	0	0.0%	NaN	NaN
Health Characteristics						
Charlson/Elixhauser combined comorbidity	0.8	1.9	2.1	2.9	-1.361	-0.558
Allergic Reaction	15,557	11.2%	24,515	17.3%	-6.115	-0.175
Diabetes	29,128	21.0%	23,474	16.6%	4.411	0.113
Heart Failure	5,133	3.7%	17,704	12.5%	-8.817	-0.327
Ischemic Heart Disease	10,264	7.4%	31,430	22.2%	-14.823	-0.427
NSAID Use	22,103	15.9%	22,321	15.8%	0.159	0.004
Acquired Hypothyroidism[5]	16,633	12.0%	22,552	15.9%	-3.950	-0.114
Acute Myocardial Infarction[5]	1,608	1.2%	10,625	7.5%	-6.354	-0.316
Alzheimers Disease and Related Disorders[5]	3,998	2.9%	8,148	5.8%	-2.878	-0.142
Anemia[5]	12,683	9.1%	27,820	19.7%	-10.525	-0.303
Asthma[5]	7,014	5.1%	10,340	7.3%	-2.253	-0.094
Atrial Fibrillation[5]	4,184	3.0%	22,516	15.9%	-12.904	-0.452
Benign Prostatic Hyperplasia[5]	7,859	5.7%	11,218	7.9%	-2.264	-0.090
Cataract[5]	17,832	12.9%	19,538	13.8%	-0.954	-0.028
Chronic Kidney Disease[5]	18,846	13.6%	26,608	18.8%	-5.222	-0.142
Chronic Obstructive Pulmonary Disease and Bronchiectasis[5]	11,092	8.0%	19,811	14.0%	-6.009	-0.193
Depression[5]	19,162	13.8%	31,718	22.4%	-8.608	-0.225

Table 1bb. Aggregated Unadjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratification (PSS) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2019Q4

Patient Characteristics[1]	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
Glaucoma[5]	8,699	6.3%	9,948	7.0%	-0.760	-0.031
Hip or Pelvic Fracture[5]	567	0.4%	1,473	1.0%	-0.633	-0.075
Hyperlipidemia[5]	53,437	38.5%	60,921	43.1%	-4.536	-0.092
Hypertension[5]	69,254	50.0%	68,804	48.7%	1.299	0.026
Osteoporosis[5]	6,279	4.5%	9,522	6.7%	-2.204	-0.096
Rheumatoid Arthritis or Osteoarthritis[5]	27,732	20.0%	35,863	25.4%	-5.357	-0.128
Stroke or Transient Ischemic Attack[5]	5,613	4.0%	8,209	5.8%	-1.756	-0.081
Breast Cancer[5]	3,075	2.2%	4,423	3.1%	-0.910	-0.056
Colorectal Cancer[5]	1,167	0.8%	1,790	1.3%	-0.424	-0.042
Prostate Cancer[5]	2,663	1.9%	3,634	2.6%	-0.649	-0.044
Lung Cancer[5]	724	0.5%	2,011	1.4%	-0.900	-0.092
Endometrial Cancer[5]	444	0.3%	615	0.4%	-0.115	-0.019
Urologic Cancer[5]	478	0.3%	876	0.6%	-0.275	-0.040
Health Service Utilization Intensity Metrics						
Mean number of ambulatory encounters	7.2	9.7	11.0	13.3	-3.843	-0.330
Mean number of emergency room encounters	0.3	1.0	0.6	1.4	-0.236	-0.195
Mean number of inpatient hospital encounters	0.1	0.4	0.4	0.7	-0.267	-0.441
Mean number of non-acute institutional encounters	0.0	0.3	0.1	0.4	-0.066	-0.181
Mean number of other ambulatory encounters	2.2	6.6	4.6	10.8	-2.436	-0.271
Mean number of filled prescriptions	8.9	12.0	11.7	14.0	-2.835	-0.217
Mean number of generics dispensed	3.9	3.8	5.1	4.5	-1.197	-0.286
Mean number of unique drug classes dispensed	3.7	3.5	4.9	4.1	-1.135	-0.296

[1]Covariates in blue show a standardized difference greater than 0.1.

[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.

[4]The Combined Comorbidity Score is calculated based on comorbidities observed during a requester-defined window around the exposure episode start date. (Gagne JJ, Glynn RJ, Avorn J, Levin R, Schneeweiss S. A Combined Comorbidity Score Predicted Mortality in Elderly Patients Better Than Existing Scores. J Clin Epidemiol. 2011;64(7):749-759; Sun JW, Rogers JR, Her Q, Welch EC, Panozzo CA, Toh S, Gagne JJ. Adaptation and Validation of the Combined Comorbidity Score for ICD-10-CM. Med Care. 2017;55(12):1046-1051)

[5]Covariate not included in the propensity score logistic regression model.

NaN: Not a number

Table 1bc. Aggregated Weighted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratified, Percentiles: 5, in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2019Q4

| Patient Characteristics[1,2] | Medical Product | | | | Covariate Balance | |
| | ACE Inhibitors | | Beta Blockers | | | |
	Number/ Mean	Percent/ Standard Deviation[3]	Number/ Mean	Percent/ Standard Deviation[3]	Absolute Difference	Standardized Difference
Unique patients	138,624	100.0%	141,371	100.0%	N/A	N/A
Demographic Characteristics						
Age (years)	60.6	12.4	61.8	14.1	-1.147	-0.086
Age						
18-44 years	25,406	18.3%	26,246	18.6%	-0.239	-0.007
45-64 years	46,784	33.7%	39,362	27.8%	5.905	0.139
≥ 65 years	66,435	47.9%	75,762	53.6%	-5.667	-0.150
Sex						
Female	74,418	53.7%	73,812	52.2%	1.471	0.030
Male	64,206	46.3%	67,559	47.8%	-1.471	-0.030
Race[4]						
American Indian or Alaska Native	507	0.4%	400	0.3%	0.083	0.015
Asian	1,476	1.1%	1,894	1.3%	-0.275	-0.025
Black or African American	7,368	5.3%	8,458	6.0%	-0.668	-0.029
Multi-racial	508	0.4%	464	0.3%	0.038	0.007
Native Hawaiian or Other Pacific Islander	210	0.2%	159	0.1%	0.039	0.011
Unknown	63,972	46.1%	58,208	41.2%	4.973	0.193
White	64,583	46.6%	71,788	50.8%	-4.191	-0.126
Hispanic origin						
Yes	2,798	2.0%	2,109	1.5%	0.527	0.040
No	67,432	48.6%	75,917	53.7%	-5.056	-0.254
Unknown	68,394	49.3%	63,346	44.8%	4.530	0.254
Year						
2018	0	0.0%	0	0.0%	NaN	NaN
2019	138,624	100.0%	141,371	100.0%	0.000	NaN
2020	0	0.0%	0	0.0%	NaN	NaN
2021	0	0.0%	0	0.0%	NaN	NaN
2022	0	0.0%	0	0.0%	NaN	NaN
Quarter-Year						
2018Q1	0	0.0%	0	0.0%	NaN	NaN
2018Q2	0	0.0%	0	0.0%	NaN	NaN
2018Q3	0	0.0%	0	0.0%	NaN	NaN
2018Q4	0	0.0%	0	0.0%	NaN	NaN
2019Q1	0	0.0%	0	0.0%	NaN	NaN

Table 1bc. Aggregated Weighted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratified, Percentiles: 5, in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2019Q4

Patient Characteristics[1,2]	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
	Number/ Mean	Percent/ Standard Deviation[3]	Number/ Mean	Percent/ Standard Deviation[3]	Absolute Difference	Standardized Difference
2019Q2	0	0.0%	0	0.0%	NaN	NaN
2019Q3	0	0.0%	0	0.0%	NaN	NaN
2019Q4	138,624	100.0%	141,371	100.0%	0.000	NaN
2020Q1	0	0.0%	0	0.0%	NaN	NaN
2020Q2	0	0.0%	0	0.0%	NaN	NaN
2020Q3	0	0.0%	0	0.0%	NaN	NaN
2020Q4	0	0.0%	0	0.0%	NaN	NaN
2021Q1	0	0.0%	0	0.0%	NaN	NaN
2021Q2	0	0.0%	0	0.0%	NaN	NaN
2021Q3	0	0.0%	0	0.0%	NaN	NaN
2021Q4	0	0.0%	0	0.0%	NaN	NaN
2022Q1	0	0.0%	0	0.0%	NaN	NaN
2022Q2	0	0.0%	0	0.0%	NaN	NaN
Health Characteristics						
Charlson/Elixhauser combined comorbidity	1.4	2.4	1.6	2.6	-0.189	-0.075
Allergic Reaction	19,887	14.3%	20,630	14.6%	-0.247	-0.007
Diabetes	26,224	18.9%	26,408	18.7%	0.237	0.006
Heart Failure	9,913	7.2%	12,490	8.8%	-1.684	-0.063
Ischemic Heart Disease	19,389	14.0%	22,184	15.7%	-1.705	-0.049
NSAID Use	22,277	16.1%	22,626	16.0%	0.065	0.002
Acquired Hypothyroidism[6]	19,254	13.9%	20,706	14.6%	-0.757	-0.022
Acute Myocardial Infarction[6]	3,370	2.4%	7,308	5.2%	-2.738	-0.144
Alzheimers Disease and Related Disorders[6]	6,338	4.6%	6,229	4.4%	0.166	0.008
Anemia[6]	18,586	13.4%	21,890	15.5%	-2.077	-0.060
Asthma[6]	9,585	6.9%	8,240	5.8%	1.086	0.045
Atrial Fibrillation[6]	6,773	4.9%	18,997	13.4%	-8.552	-0.304
Benign Prostatic Hyperplasia[6]	8,505	6.1%	10,833	7.7%	-1.528	-0.061
Cataract[6]	18,151	13.1%	19,721	13.9%	-0.856	-0.026
Chronic Kidney Disease[6]	23,009	16.6%	22,690	16.0%	0.548	0.015
Chronic Obstructive Pulmonary Disease and Bronchiectasis[6]	15,843	11.4%	15,608	11.0%	0.389	0.013
Depression[6]	26,005	18.8%	25,855	18.3%	0.471	0.012
Glaucoma[6]	8,984	6.5%	9,956	7.0%	-0.562	-0.023
Hip or Pelvic Fracture[6]	892	0.6%	1,155	0.8%	-0.173	-0.020

Table 1bc. Aggregated Weighted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratified, Percentiles: 5, in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2019Q4

Patient Characteristics[1,2]	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
	Number/ Mean	Percent/ Standard Deviation[3]	Number/ Mean	Percent/ Standard Deviation[3]	Absolute Difference	Standardized Difference
Hyperlipidemia[6]	56,543	40.8%	59,526	42.1%	-1.317	-0.028
Hypertension[6]	72,895	52.6%	68,874	48.7%	3.866	0.079
Osteoporosis[6]	7,457	5.4%	8,422	6.0%	-0.578	-0.025
Rheumatoid Arthritis or Osteoarthritis[6]	31,857	23.0%	33,344	23.6%	-0.605	-0.015
Stroke or Transient Ischemic Attack[6]	7,822	5.6%	6,916	4.9%	0.750	0.034
Breast Cancer[6]	4,057	2.9%	3,740	2.6%	0.281	0.017
Colorectal Cancer[6]	1,706	1.2%	1,445	1.0%	0.209	0.020
Prostate Cancer[6]	3,149	2.3%	3,275	2.3%	-0.045	-0.003
Lung Cancer[6]	1,264	0.9%	1,443	1.0%	-0.109	-0.011
Endometrial Cancer[6]	615	0.4%	503	0.4%	0.088	0.014
Urologic Cancer[6]	691	0.5%	688	0.5%	0.012	0.002
Health Service Utilization Intensity Metrics						
Mean number of ambulatory encounters	9.1	12.4	9.4	11.7	-0.262	-0.022
Mean number of emergency room encounters	0.4	1.3	0.5	1.2	-0.019	-0.015
Mean number of inpatient hospital encounters	0.2	0.6	0.3	0.6	-0.058	-0.096
Mean number of non-acute institutional encounters	0.1	0.3	0.1	0.4	-0.015	-0.042
Mean number of other ambulatory encounters	3.2	8.4	3.7	9.6	-0.536	-0.059
Mean number of filled prescriptions	10.5	13.4	10.6	13.3	-0.072	-0.005
Mean number of generics dispensed	4.6	4.3	4.6	4.2	-0.012	-0.003
Mean number of unique drug classes dispensed	4.4	4.0	4.4	3.9	-0.009	-0.002

[1]Covariates in blue show a standardized difference greater than 0.1.

[2]Weighted patient characteristics tables facilitate the assessment of covariate balance after propensity score (PS) stratification and should not be interpreted as a description of the unweighted population. Treated/control patients are weighted by the proportion of the total patient population included in their PS stratum divided by the proportion of the total treated/control patient population included in their PS stratum.

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

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

[5]The Combined Comorbidity Score is calculated based on comorbidities observed during a requester-defined window around the exposure episode start date. (Gagne JJ, Glynn RJ, Avorn J, Levin R, Schneeweiss S. A Combined Comorbidity Score Predicted Mortality in Elderly Patients Better Than Existing Scores. J Clin Epidemiol. 2011;64(7):749-759; Sun JW, Rogers JR, Her Q, Welch EC, Panozzo CA, Toh S, Gagne JJ. Adaptation and Validation of the Combined Comorbidity Score for ICD-10-CM. Med Care. 2017;55(12):1046-1051)

[6]Covariate not included in the propensity score logistic regression model.

NaN: Not a number

Table 1bd. Aggregated Unadjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratification (PSS) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2020Q1

Patient Characteristics[1]	ACE Inhibitors Number/ Mean	ACE Inhibitors Percent/ Standard Deviation[2]	Beta Blockers Number/ Mean	Beta Blockers Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
Unique patients	131,327	100.0%	139,423	100.0%	N/A	N/A
Demographic Characteristics						
Age (years)	60.6	11.8	60.7	14.5	-0.070	-0.005
Age						
18-44 years	21,664	16.5%	31,327	22.5%	-5.973	-0.151
45-64 years	47,346	36.1%	34,868	25.0%	11.043	0.242
≥ 65 years	62,317	47.5%	73,228	52.5%	-5.070	-0.102
Sex						
Female	62,202	47.4%	78,744	56.5%	-9.114	-0.183
Male	69,125	52.6%	60,679	43.5%	9.114	0.183
Race[3]						
American Indian or Alaska Native	568	0.4%	444	0.3%	0.114	0.019
Asian	1,516	1.2%	1,656	1.2%	-0.033	-0.003
Black or African American	6,798	5.2%	8,404	6.0%	-0.851	-0.037
Multi-racial	494	0.4%	473	0.3%	0.037	0.006
Native Hawaiian or Other Pacific Islander	166	0.1%	107	0.1%	0.050	0.016
Unknown	62,359	47.5%	56,964	40.9%	6.627	0.134
White	59,426	45.3%	71,375	51.2%	-5.943	-0.119
Hispanic origin						
Yes	2,751	2.1%	2,039	1.5%	0.632	0.048
No	62,988	48.0%	76,203	54.7%	-6.693	-0.134
Unknown	65,588	49.9%	61,181	43.9%	6.061	0.122
Year						
2018	0	0.0%	0	0.0%	NaN	NaN
2019	0	0.0%	0	0.0%	NaN	NaN
2020	131,327	100.0%	139,423	100.0%	0.000	NaN
2021	0	0.0%	0	0.0%	NaN	NaN
2022	0	0.0%	0	0.0%	NaN	NaN
Quarter-Year						
2018Q1	0	0.0%	0	0.0%	NaN	NaN
2018Q2	0	0.0%	0	0.0%	NaN	NaN
2018Q3	0	0.0%	0	0.0%	NaN	NaN
2018Q4	0	0.0%	0	0.0%	NaN	NaN

Table 1bd. Aggregated Unadjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratification (PSS) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2020Q1

| Patient Characteristics[1] | Medical Product | | | | Covariate Balance | |
| | ACE Inhibitors | | Beta Blockers | | | |
	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
2019Q1	0	0.0%	0	0.0%	NaN	NaN
2019Q2	0	0.0%	0	0.0%	NaN	NaN
2019Q3	0	0.0%	0	0.0%	NaN	NaN
2019Q4	0	0.0%	0	0.0%	NaN	NaN
2020Q1	131,327	100.0%	139,423	100.0%	0.000	NaN
2020Q2	0	0.0%	0	0.0%	NaN	NaN
2020Q3	0	0.0%	0	0.0%	NaN	NaN
2020Q4	0	0.0%	0	0.0%	NaN	NaN
2021Q1	0	0.0%	0	0.0%	NaN	NaN
2021Q2	0	0.0%	0	0.0%	NaN	NaN
2021Q3	0	0.0%	0	0.0%	NaN	NaN
2021Q4	0	0.0%	0	0.0%	NaN	NaN
2022Q1	0	0.0%	0	0.0%	NaN	NaN
2022Q2	0	0.0%	0	0.0%	NaN	NaN
Health Characteristics						
Charlson/Elixhauser combined comorbidity	0.8	1.9	2.1	2.9	-1.392	-0.567
Allergic Reaction	13,638	10.4%	23,280	16.7%	-6.313	-0.185
Diabetes	27,738	21.1%	23,614	16.9%	4.184	0.107
Heart Failure	4,926	3.8%	18,027	12.9%	-9.179	-0.337
Ischemic Heart Disease	9,652	7.3%	30,628	22.0%	-14.618	-0.422
NSAID Use	20,033	15.3%	20,810	14.9%	0.328	0.009
Acquired Hypothyroidism[5]	15,535	11.8%	21,994	15.8%	-3.946	-0.115
Acute Myocardial Infarction[5]	1,564	1.2%	10,080	7.2%	-6.039	-0.304
Alzheimers Disease and Related Disorders[5]	3,953	3.0%	8,032	5.8%	-2.751	-0.135
Anemia[5]	11,896	9.1%	27,454	19.7%	-10.633	-0.307
Asthma[5]	6,760	5.1%	10,301	7.4%	-2.241	-0.093
Atrial Fibrillation[5]	4,066	3.1%	22,154	15.9%	-12.794	-0.447
Benign Prostatic Hyperplasia[5]	7,504	5.7%	11,051	7.9%	-2.212	-0.088
Cataract[5]	16,009	12.2%	18,924	13.6%	-1.383	-0.041
Chronic Kidney Disease[5]	18,067	13.8%	27,099	19.4%	-5.679	-0.153
Chronic Obstructive Pulmonary Disease and Bronchiectasis[5]	11,068	8.4%	20,468	14.7%	-6.253	-0.197
Depression[5]	18,040	13.7%	30,631	22.0%	-8.233	-0.216

Table 1bd. Aggregated Unadjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratification (PSS) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2020Q1

	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
Patient Characteristics[1]	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
Glaucoma[5]	7,929	6.0%	9,615	6.9%	-0.859	-0.035
Hip or Pelvic Fracture[5]	586	0.4%	1,455	1.0%	-0.597	-0.070
Hyperlipidemia[5]	50,077	38.1%	60,292	43.2%	-5.112	-0.104
Hypertension[5]	66,560	50.7%	68,698	49.3%	1.410	0.028
Osteoporosis[5]	5,902	4.5%	9,311	6.7%	-2.184	-0.095
Rheumatoid Arthritis or Osteoarthritis[5]	25,843	19.7%	34,886	25.0%	-5.343	-0.129
Stroke or Transient Ischemic Attack[5]	5,365	4.1%	8,121	5.8%	-1.739	-0.080
Breast Cancer[5]	2,895	2.2%	4,425	3.2%	-0.969	-0.060
Colorectal Cancer[5]	1,071	0.8%	1,775	1.3%	-0.458	-0.045
Prostate Cancer[5]	2,543	1.9%	3,621	2.6%	-0.661	-0.044
Lung Cancer[5]	682	0.5%	2,060	1.5%	-0.958	-0.096
Endometrial Cancer[5]	409	0.3%	592	0.4%	-0.113	-0.019
Urologic Cancer[5]	390	0.3%	843	0.6%	-0.308	-0.046
Health Service Utilization Intensity Metrics						
Mean number of ambulatory encounters	7.0	9.6	10.8	13.4	-3.805	-0.328
Mean number of emergency room encounters	0.3	0.9	0.5	1.4	-0.240	-0.205
Mean number of inpatient hospital encounters	0.1	0.4	0.4	0.7	-0.264	-0.439
Mean number of non-acute institutional encounters	0.0	0.3	0.1	0.4	-0.067	-0.187
Mean number of other ambulatory encounters	2.3	6.9	4.7	10.9	-2.483	-0.272
Mean number of filled prescriptions	8.6	11.6	11.4	13.8	-2.853	-0.223
Mean number of generics dispensed	3.9	3.8	5.1	4.5	-1.224	-0.292
Mean number of unique drug classes dispensed	3.7	3.5	4.8	4.2	-1.164	-0.302

[1]Covariates in blue show a standardized difference greater than 0.1.

[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.

[4]The Combined Comorbidity Score is calculated based on comorbidities observed during a requester-defined window around the exposure episode start date. (Gagne JJ, Glynn RJ, Avorn J, Levin R, Schneeweiss S. A Combined Comorbidity Score Predicted Mortality in Elderly Patients Better Than Existing Scores. J Clin Epidemiol. 2011;64(7):749-759; Sun JW, Rogers JR, Her Q, Welch EC, Panozzo CA, Toh S, Gagne JJ. Adaptation and Validation of the Combined Comorbidity Score for ICD-10-CM. Med Care. 2017;55(12):1046-1051)

[5]Covariate not included in the propensity score logistic regression model.

NaN: Not a number

Table 1be. Aggregated Weighted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratified, Percentiles: 5, in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2020Q1

| | Medical Product | | | | Covariate Balance | |
| | ACE Inhibitors | | Beta Blockers | | | |
Patient Characteristics[1,2]	Number/ Mean	Percent/ Standard Deviation[3]	Number/ Mean	Percent/ Standard Deviation[3]	Absolute Difference	Standardized Difference
Unique patients	131,318	100.0%	139,368	100.0%	N/A	N/A
Demographic Characteristics						
Age (years)	60.4	12.4	61.7	14.0	-1.326	-0.100
Age						
18-44 years	24,611	18.7%	26,092	18.7%	0.020	0.001
45-64 years	44,568	33.9%	38,455	27.6%	6.346	0.149
≥ 65 years	62,139	47.3%	74,821	53.7%	-6.366	-0.170
Sex						
Female	69,199	52.7%	71,893	51.6%	1.111	0.022
Male	62,119	47.3%	67,475	48.4%	-1.111	-0.022
Race[4]						
American Indian or Alaska Native	535	0.4%	452	0.3%	0.083	0.014
Asian	1,404	1.1%	1,826	1.3%	-0.241	-0.022
Black or African American	6,829	5.2%	8,546	6.1%	-0.931	-0.041
Multi-racial	499	0.4%	444	0.3%	0.062	0.011
Native Hawaiian or Other Pacific Islander	153	0.1%	111	0.1%	0.037	0.012
Unknown	61,543	46.9%	57,169	41.0%	5.846	0.232
White	60,355	46.0%	70,821	50.8%	-4.855	-0.148
Hispanic origin						
Yes	2,524	1.9%	2,072	1.5%	0.435	0.034
No	63,649	48.5%	75,847	54.4%	-5.953	-0.299
Unknown	65,145	49.6%	61,449	44.1%	5.518	0.311
Year						
2018	0	0.0%	0	0.0%	NaN	NaN
2019	0	0.0%	0	0.0%	NaN	NaN
2020	131,318	100.0%	139,368	100.0%	0.000	NaN
2021	0	0.0%	0	0.0%	NaN	NaN
2022	0	0.0%	0	0.0%	NaN	NaN
Quarter-Year						
2018Q1	0	0.0%	0	0.0%	NaN	NaN
2018Q2	0	0.0%	0	0.0%	NaN	NaN
2018Q3	0	0.0%	0	0.0%	NaN	NaN
2018Q4	0	0.0%	0	0.0%	NaN	NaN
2019Q1	0	0.0%	0	0.0%	NaN	NaN

| | Medical Product | | | | Covariate Balance | |
| | ACE Inhibitors | | Beta Blockers | | | |
Patient Characteristics[1,2]	Number/ Mean	Percent/ Standard Deviation[3]	Number/ Mean	Percent/ Standard Deviation[3]	Absolute Difference	Standardized Difference
2019Q2	0	0.0%	0	0.0%	NaN	NaN
2019Q3	0	0.0%	0	0.0%	NaN	NaN
2019Q4	0	0.0%	0	0.0%	NaN	NaN
2020Q1	131,318	100.0%	139,368	100.0%	0.000	NaN
2020Q2	0	0.0%	0	0.0%	NaN	NaN
2020Q3	0	0.0%	0	0.0%	NaN	NaN
2020Q4	0	0.0%	0	0.0%	NaN	NaN
2021Q1	0	0.0%	0	0.0%	NaN	NaN
2021Q2	0	0.0%	0	0.0%	NaN	NaN
2021Q3	0	0.0%	0	0.0%	NaN	NaN
2021Q4	0	0.0%	0	0.0%	NaN	NaN
2022Q1	0	0.0%	0	0.0%	NaN	NaN
2022Q2	0	0.0%	0	0.0%	NaN	NaN
Health Characteristics						
Charlson/Elixhauser combined comorbidity score[5]	1.4	2.4	1.6	2.6	-0.219	-0.087
Allergic Reaction	17,604	13.4%	19,635	14.1%	-0.683	-0.020
Diabetes	24,783	18.9%	26,360	18.9%	-0.041	-0.001
Heart Failure	9,615	7.3%	12,891	9.2%	-1.928	-0.071
Ischemic Heart Disease	18,365	14.0%	21,862	15.7%	-1.701	-0.049
NSAID Use	20,323	15.5%	21,013	15.1%	0.399	0.011
Acquired Hypothyroidism[6]	18,130	13.8%	20,294	14.6%	-0.756	-0.022
Acute Myocardial Infarction[6]	3,311	2.5%	7,014	5.0%	-2.512	-0.132
Alzheimers Disease and Related Disorders[6]	6,298	4.8%	6,149	4.4%	0.384	0.019
Anemia[6]	17,695	13.5%	21,735	15.6%	-2.120	-0.061
Asthma[6]	9,213	7.0%	8,359	6.0%	1.018	0.041
Atrial Fibrillation[6]	6,526	5.0%	18,683	13.4%	-8.436	-0.299
Benign Prostatic Hyperplasia[6]	8,176	6.2%	10,703	7.7%	-1.454	-0.058
Cataract[6]	16,360	12.5%	18,898	13.6%	-1.101	-0.034
Chronic Kidney Disease[6]	21,909	16.7%	23,102	16.6%	0.107	0.003
Chronic Obstructive Pulmonary Disease and Bronchiectasis[6]	15,839	12.1%	16,327	11.7%	0.346	0.011
Depression[6]	24,536	18.7%	25,035	18.0%	0.721	0.019
Glaucoma[6]	8,318	6.3%	9,581	6.9%	-0.540	-0.022

Table 1be. Aggregated Weighted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratified, Percentiles: 5, in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2020Q1

| Patient Characteristics[1,2] | Medical Product | | | | Covariate Balance | |
| | ACE Inhibitors | | Beta Blockers | | | |
	Number/ Mean	Percent/ Standard Deviation[3]	Number/ Mean	Percent/ Standard Deviation[3]	Absolute Difference	Standardized Difference
Hip or Pelvic Fracture[6]	925	0.7%	1,140	0.8%	-0.114	-0.013
Hyperlipidemia[6]	52,925	40.3%	58,940	42.3%	-1.988	-0.042
Hypertension[6]	69,739	53.1%	68,810	49.4%	3.735	0.077
Osteoporosis[6]	7,188	5.5%	8,282	5.9%	-0.469	-0.020
Rheumatoid Arthritis or Osteoarthritis[6]	29,708	22.6%	32,415	23.3%	-0.636	-0.016
Stroke or Transient Ischemic Attack[6]	7,392	5.6%	6,881	4.9%	0.692	0.031
Breast Cancer[6]	3,824	2.9%	3,731	2.7%	0.235	0.014
Colorectal Cancer[6]	1,548	1.2%	1,441	1.0%	0.145	0.014
Prostate Cancer[6]	2,963	2.3%	3,217	2.3%	-0.052	-0.004
Lung Cancer[6]	1,238	0.9%	1,498	1.1%	-0.132	-0.013
Endometrial Cancer[6]	569	0.4%	489	0.4%	0.083	0.013
Urologic Cancer[6]	566	0.4%	688	0.5%	-0.063	-0.009
Health Service Utilization Intensity Metrics						
Mean number of ambulatory encounters	9.0	12.2	9.3	11.8	-0.316	-0.026
Mean number of emergency room encounters	0.4	1.2	0.4	1.2	-0.024	-0.021
Mean number of inpatient hospital encounters	0.2	0.6	0.3	0.6	-0.058	-0.096
Mean number of non-acute institutional encounters	0.1	0.3	0.1	0.4	-0.016	-0.046
Mean number of other ambulatory encounters	3.3	8.7	3.8	9.7	-0.559	-0.061
Mean number of filled prescriptions	10.2	13.1	10.3	13.2	-0.089	-0.007
Mean number of generics dispensed	4.6	4.3	4.6	4.3	-0.018	-0.004
Mean number of unique drug classes dispensed	4.3	4.0	4.4	3.9	-0.017	-0.004

[1]Covariates in blue show a standardized difference greater than 0.1.

[2]Weighted patient characteristics tables facilitate the assessment of covariate balance after propensity score (PS) stratification and should not be interpreted as a description of the unweighted population. Treated/control patients are weighted by the proportion of the total patient population included in their PS stratum divided by the proportion of the total treated/control patient population included in their PS stratum.

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

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

[5]The Combined Comorbidity Score is calculated based on comorbidities observed during a requester-defined window around the exposure episode start date. (Gagne JJ, Glynn RJ, Avorn J, Levin R, Schneeweiss S. A Combined Comorbidity Score Predicted Mortality in Elderly Patients Better Than Existing Scores. J Clin Epidemiol. 2011;64(7):749-759; Sun JW, Rogers JR, Her Q, Welch EC, Panozzo CA, Toh S, Gagne JJ. Adaptation and Validation of the Combined Comorbidity Score for ICD-10-CM. Med Care. 2017;55(12):1046-1051)

[6]Covariate not included in the propensity score logistic regression model.

NaN: Not a number

Table 1bf. Aggregated Unadjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratification (PSS) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2020Q2

| | Medical Product | | | | Covariate Balance | |
| | ACE Inhibitors | | Beta Blockers | | | |
Patient Characteristics[1]	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
Unique patients	85,514	100.0%	104,463	100.0%	N/A	N/A
Demographic Characteristics						
Age (years)	61.0	12.0	60.3	14.5	0.689	0.052
Age						
18-44 years	14,270	16.7%	24,633	23.6%	-6.893	-0.173
45-64 years	29,494	34.5%	25,841	24.7%	9.753	0.215
≥ 65 years	41,750	48.8%	53,989	51.7%	-2.860	-0.057
Sex						
Female	41,326	48.3%	60,364	57.8%	-9.458	-0.190
Male	44,188	51.7%	44,099	42.2%	9.458	0.190
Race[3]						
American Indian or Alaska Native	352	0.4%	291	0.3%	0.133	0.023
Asian	992	1.2%	1,255	1.2%	-0.041	-0.004
Black or African American	4,590	5.4%	6,455	6.2%	-0.812	-0.035
Multi-racial	321	0.4%	396	0.4%	-0.004	-0.001
Native Hawaiian or Other Pacific Islander	123	0.1%	120	0.1%	0.029	0.008
Unknown	39,292	45.9%	43,158	41.3%	4.634	0.094
White	39,844	46.6%	52,788	50.5%	-3.939	-0.079
Hispanic origin						
Yes	1,847	2.2%	1,575	1.5%	0.652	0.049
No	42,362	49.5%	56,538	54.1%	-4.584	-0.092
Unknown	41,305	48.3%	46,350	44.4%	3.932	0.079
Year						
2018	0	0.0%	0	0.0%	NaN	NaN
2019	0	0.0%	0	0.0%	NaN	NaN
2020	85,514	100.0%	104,463	100.0%	0.000	NaN
2021	0	0.0%	0	0.0%	NaN	NaN
2022	0	0.0%	0	0.0%	NaN	NaN
Quarter-Year						
2018Q1	0	0.0%	0	0.0%	NaN	NaN
2018Q2	0	0.0%	0	0.0%	NaN	NaN
2018Q3	0	0.0%	0	0.0%	NaN	NaN
2018Q4	0	0.0%	0	0.0%	NaN	NaN

Table 1bf. Aggregated Unadjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratification (PSS) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2020Q2

	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
Patient Characteristics[1]	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
2019Q1	0	0.0%	0	0.0%	NaN	NaN
2019Q2	0	0.0%	0	0.0%	NaN	NaN
2019Q3	0	0.0%	0	0.0%	NaN	NaN
2019Q4	0	0.0%	0	0.0%	NaN	NaN
2020Q1	0	0.0%	0	0.0%	NaN	NaN
2020Q2	85,514	100.0%	104,463	100.0%	0.000	NaN
2020Q3	0	0.0%	0	0.0%	NaN	NaN
2020Q4	0	0.0%	0	0.0%	NaN	NaN
2021Q1	0	0.0%	0	0.0%	NaN	NaN
2021Q2	0	0.0%	0	0.0%	NaN	NaN
2021Q3	0	0.0%	0	0.0%	NaN	NaN
2021Q4	0	0.0%	0	0.0%	NaN	NaN
2022Q1	0	0.0%	0	0.0%	NaN	NaN
2022Q2	0	0.0%	0	0.0%	NaN	NaN
Health Characteristics						
Charlson/Elixhauser combined comorbidity score[4]	0.9	2.0	2.2	2.9	-1.344	-0.536
Allergic Reaction	8,705	10.2%	16,439	15.7%	-5.557	-0.166
Diabetes	18,878	22.1%	17,448	16.7%	5.373	0.136
Heart Failure	3,520	4.1%	13,431	12.9%	-8.741	-0.318
Ischemic Heart Disease	6,601	7.7%	22,829	21.9%	-14.134	-0.406
NSAID Use	13,546	15.8%	16,087	15.4%	0.441	0.012
Acquired Hypothyroidism[5]	10,262	12.0%	16,079	15.4%	-3.392	-0.099
Acute Myocardial Infarction[5]	1,169	1.4%	8,115	7.8%	-6.401	-0.310
Alzheimers Disease and Related Disorders[5]	2,913	3.4%	6,307	6.0%	-2.631	-0.124
Anemia[5]	7,949	9.3%	20,569	19.7%	-10.395	-0.299
Asthma[5]	4,560	5.3%	7,991	7.6%	-2.317	-0.094
Atrial Fibrillation[5]	2,842	3.3%	16,284	15.6%	-12.265	-0.429
Benign Prostatic Hyperplasia[5]	4,740	5.5%	7,829	7.5%	-1.952	-0.079
Cataract[5]	8,305	9.7%	11,055	10.6%	-0.871	-0.029
Chronic Kidney Disease[5]	12,605	14.7%	20,679	19.8%	-5.055	-0.134
Chronic Obstructive Pulmonary Disease and Bronchiectasis[5]	7,597	8.9%	14,975	14.3%	-5.451	-0.171
Depression[5]	12,242	14.3%	23,505	22.5%	-8.185	-0.212

Table 1bf. Aggregated Unadjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratification (PSS) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2020Q2

| | Medical Product | | | | Covariate Balance | |
| | ACE Inhibitors | | Beta Blockers | | | |
Patient Characteristics[1]	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
Glaucoma[5]	4,497	5.3%	5,986	5.7%	-0.471	-0.021
Hip or Pelvic Fracture[5]	390	0.5%	1,260	1.2%	-0.750	-0.083
Hyperlipidemia[5]	32,296	37.8%	43,066	41.2%	-3.459	-0.071
Hypertension[5]	43,294	50.6%	49,996	47.9%	2.768	0.055
Osteoporosis[5]	3,670	4.3%	6,572	6.3%	-2.000	-0.089
Rheumatoid Arthritis or Osteoarthritis[5]	16,388	19.2%	24,953	23.9%	-4.723	-0.115
Stroke or Transient Ischemic Attack[5]	3,911	4.6%	6,245	6.0%	-1.405	-0.063
Breast Cancer[5]	1,912	2.2%	3,231	3.1%	-0.857	-0.053
Colorectal Cancer[5]	704	0.8%	1,255	1.2%	-0.378	-0.038
Prostate Cancer[5]	1,656	1.9%	2,649	2.5%	-0.599	-0.041
Lung Cancer[5]	459	0.5%	1,652	1.6%	-1.045	-0.102
Endometrial Cancer[5]	272	0.3%	427	0.4%	-0.091	-0.015
Urologic Cancer[5]	303	0.4%	648	0.6%	-0.266	-0.038
Health Service Utilization Intensity Metrics						
Mean number of ambulatory encounters	6.7	9.7	10.2	13.4	-3.573	-0.305
Mean number of emergency room encounters	0.3	1.0	0.6	1.4	-0.233	-0.191
Mean number of inpatient hospital encounters	0.1	0.5	0.4	0.7	-0.264	-0.423
Mean number of non-acute institutional encounters	0.0	0.3	0.1	0.4	-0.061	-0.166
Mean number of other ambulatory encounters	2.4	7.4	4.9	11.5	-2.450	-0.253
Mean number of filled prescriptions	9.4	12.4	11.9	14.4	-2.520	-0.188
Mean number of generics dispensed	4.1	4.0	5.2	4.6	-1.124	-0.261
Mean number of unique drug classes dispensed	3.9	3.6	5.0	4.2	-1.068	-0.270

[1]Covariates in blue show a standardized difference greater than 0.1.

[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.

[4]The Combined Comorbidity Score is calculated based on comorbidities observed during a requester-defined window around the exposure episode start date. (Gagne JJ, Glynn RJ, Avorn J, Levin R, Schneeweiss S. A Combined Comorbidity Score Predicted Mortality in Elderly Patients Better Than Existing Scores. J Clin Epidemiol. 2011;64(7):749-759; Sun JW, Rogers JR, Her Q, Welch EC, Panozzo CA, Toh S, Gagne JJ. Adaptation and Validation of the Combined Comorbidity Score for ICD-10-CM. Med Care. 2017;55(12):1046-1051)

[5]Covariate not included in the propensity score logistic regression model.

NaN: Not a number

Table 1bg. Aggregated Weighted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratified, Percentiles: 5, in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2020Q2

Patient Characteristics[1,2]	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
	Number/ Mean	Percent/ Standard Deviation[3]	Number/ Mean	Percent/ Standard Deviation[3]	Absolute Difference	Standardized Difference
Unique patients	85,498	100.0%	104,411	100.0%	N/A	N/A
Demographic Characteristics						
Age (years)	60.6	12.6	61.3	14.2	-0.700	-0.052
Age						
18-44 years	16,596	19.4%	20,769	19.9%	-0.481	-0.013
45-64 years	27,346	32.0%	28,342	27.1%	4.840	0.114
≥ 65 years	41,556	48.6%	55,300	53.0%	-4.359	-0.115
Sex						
Female	46,061	53.9%	55,767	53.4%	0.463	0.009
Male	39,437	46.1%	48,644	46.6%	-0.463	-0.009
Race[4]						
American Indian or Alaska Native	358	0.4%	298	0.3%	0.133	0.022
Asian	898	1.1%	1,394	1.3%	-0.285	-0.026
Black or African American	4,569	5.3%	6,572	6.3%	-0.951	-0.041
Multi-racial	322	0.4%	378	0.4%	0.015	0.002
Native Hawaiian or Other Pacific Islander	125	0.1%	126	0.1%	0.025	0.007
Unknown	38,810	45.4%	43,322	41.5%	3.901	0.154
White	40,418	47.3%	52,321	50.1%	-2.838	-0.086
Hispanic origin						
Yes	1,708	2.0%	1,641	1.6%	0.426	0.032
No	42,811	50.1%	56,260	53.9%	-3.811	-0.191
Unknown	40,979	47.9%	46,510	44.5%	3.385	0.188
Year						
2018	0	0.0%	0	0.0%	NaN	NaN
2019	0	0.0%	0	0.0%	NaN	NaN
2020	85,498	100.0%	104,411	100.0%	0.000	NaN
2021	0	0.0%	0	0.0%	NaN	NaN
2022	0	0.0%	0	0.0%	NaN	NaN
Quarter-Year						
2018Q1	0	0.0%	0	0.0%	NaN	NaN
2018Q2	0	0.0%	0	0.0%	NaN	NaN
2018Q3	0	0.0%	0	0.0%	NaN	NaN
2018Q4	0	0.0%	0	0.0%	NaN	NaN
2019Q1	0	0.0%	0	0.0%	NaN	NaN

Table 1bg. Aggregated Weighted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratified, Percentiles: 5, in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2020Q2

Patient Characteristics[1,2]	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
	Number/ Mean	Percent/ Standard Deviation[3]	Number/ Mean	Percent/ Standard Deviation[3]	Absolute Difference	Standardized Difference
2019Q2	0	0.0%	0	0.0%	NaN	NaN
2019Q3	0	0.0%	0	0.0%	NaN	NaN
2019Q4	0	0.0%	0	0.0%	NaN	NaN
2020Q1	0	0.0%	0	0.0%	NaN	NaN
2020Q2	85,498	100.0%	104,411	100.0%	0.000	NaN
2020Q3	0	0.0%	0	0.0%	NaN	NaN
2020Q4	0	0.0%	0	0.0%	NaN	NaN
2021Q1	0	0.0%	0	0.0%	NaN	NaN
2021Q2	0	0.0%	0	0.0%	NaN	NaN
2021Q3	0	0.0%	0	0.0%	NaN	NaN
2021Q4	0	0.0%	0	0.0%	NaN	NaN
2022Q1	0	0.0%	0	0.0%	NaN	NaN
2022Q2	0	0.0%	0	0.0%	NaN	NaN
Health Characteristics						
Charlson/Elixhauser combined comorbidity score[5]	1.5	2.5	1.7	2.7	-0.149	-0.057
Allergic Reaction	11,414	13.4%	13,932	13.3%	0.007	0.000
Diabetes	16,760	19.6%	19,443	18.6%	0.982	0.025
Heart Failure	6,789	7.9%	9,889	9.5%	-1.530	-0.055
Ischemic Heart Disease	12,551	14.7%	16,818	16.1%	-1.427	-0.040
NSAID Use	13,723	16.1%	16,334	15.6%	0.407	0.011
Acquired Hypothyroidism[6]	11,895	13.9%	14,915	14.3%	-0.372	-0.011
Acute Myocardial Infarction[6]	2,474	2.9%	5,849	5.6%	-2.709	-0.135
Alzheimers Disease and Related Disorders[6]	4,588	5.4%	4,985	4.8%	0.593	0.027
Anemia[6]	11,974	14.0%	16,515	15.8%	-1.812	-0.052
Asthma[6]	6,290	7.4%	6,578	6.3%	1.057	0.042
Atrial Fibrillation[6]	4,557	5.3%	13,906	13.3%	-7.989	-0.281
Benign Prostatic Hyperplasia[6]	5,250	6.1%	7,549	7.2%	-1.089	-0.044
Cataract[6]	8,486	9.9%	11,122	10.7%	-0.727	-0.024
Chronic Kidney Disease[6]	15,381	18.0%	17,929	17.2%	0.818	0.022
Chronic Obstructive Pulmonary Disease and Bronchiectasis[6]	10,797	12.6%	12,174	11.7%	0.968	0.030
Depression[6]	16,797	19.6%	19,545	18.7%	0.927	0.024
Glaucoma[6]	4,705	5.5%	5,887	5.6%	-0.135	-0.006
Hip or Pelvic Fracture[6]	624	0.7%	1,026	1.0%	-0.253	-0.027

Table 1bg. Aggregated Weighted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratified, Percentiles: 5, in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2020Q2

| Patient Characteristics[1,2] | Medical Product | | | | Covariate Balance | |
| | ACE Inhibitors | | Beta Blockers | | | |
	Number/ Mean	Percent/ Standard Deviation[3]	Number/ Mean	Percent/ Standard Deviation[3]	Absolute Difference	Standardized Difference
Hyperlipidemia[6]	34,158	40.0%	42,103	40.3%	-0.372	-0.008
Hypertension[6]	45,575	53.3%	49,925	47.8%	5.490	0.113
Osteoporosis[6]	4,474	5.2%	5,953	5.7%	-0.469	-0.021
Rheumatoid Arthritis or Osteoarthritis[6]	18,974	22.2%	23,387	22.4%	-0.207	-0.005
Stroke or Transient Ischemic Attack[6]	5,359	6.3%	5,403	5.2%	1.093	0.047
Breast Cancer[6]	2,607	3.0%	2,750	2.6%	0.415	0.025
Colorectal Cancer[6]	1,065	1.2%	1,043	1.0%	0.247	0.023
Prostate Cancer[6]	1,939	2.3%	2,380	2.3%	-0.011	-0.001
Lung Cancer[6]	827	1.0%	1,227	1.2%	-0.208	-0.020
Endometrial Cancer[6]	386	0.5%	360	0.3%	0.106	0.017
Urologic Cancer[6]	468	0.5%	526	0.5%	0.043	0.006
Health Service Utilization Intensity Metrics						
Mean number of ambulatory encounters	8.7	12.5	8.8	11.9	-0.168	-0.014
Mean number of emergency room encounters	0.4	1.3	0.5	1.2	-0.016	-0.013
Mean number of inpatient hospital encounters	0.2	0.6	0.3	0.7	-0.050	-0.079
Mean number of non-acute institutional encounters	0.1	0.4	0.1	0.4	-0.011	-0.030
Mean number of other ambulatory encounters	3.5	9.3	4.0	10.3	-0.440	-0.045
Mean number of filled prescriptions	11.2	14.1	10.9	13.5	0.316	0.023
Mean number of generics dispensed	4.9	4.5	4.8	4.4	0.081	0.018
Mean number of unique drug classes dispensed	4.6	4.1	4.5	4.0	0.078	0.019

[1]Covariates in blue show a standardized difference greater than 0.1.

[2]Weighted patient characteristics tables facilitate the assessment of covariate balance after propensity score (PS) stratification and should not be interpreted as a description of the unweighted population. Treated/control patients are weighted by the proportion of the total patient population included in their PS stratum divided by the proportion of the total treated/control patient population included in their PS stratum.

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

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

[5]The Combined Comorbidity Score is calculated based on comorbidities observed during a requester-defined window around the exposure episode start date. (Gagne JJ, Glynn RJ, Avorn J, Levin R, Schneeweiss S. A Combined Comorbidity Score Predicted Mortality in Elderly Patients Better Than Existing Scores. J Clin Epidemiol. 2011;64(7):749-759; Sun JW, Rogers JR, Her Q, Welch EC, Panozzo CA, Toh S, Gagne JJ. Adaptation and Validation of the Combined Comorbidity Score for ICD-10-CM. Med Care. 2017;55(12):1046-1051)

[6]Covariate not included in the propensity score logistic regression model.

NaN: Not a number

Table 1bh. Aggregated Unadjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratification (PSS) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2020Q3

	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
Patient Characteristics[1]	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
Unique patients	121,257	100.0%	138,564	100.0%	N/A	N/A
Demographic Characteristics						
Age (years)	61.0	12.1	60.5	14.8	0.470	0.035
Age						
18-44 years	19,654	16.2%	31,807	23.0%	-6.746	-0.171
45-64 years	42,267	34.9%	34,122	24.6%	10.232	0.225
≥ 65 years	59,336	48.9%	72,635	52.4%	-3.486	-0.070
Sex						
Female	59,500	49.1%	80,725	58.3%	-9.189	-0.185
Male	61,757	50.9%	57,839	41.7%	9.189	0.185
Race[3]						
American Indian or Alaska Native	493	0.4%	365	0.3%	0.143	0.025
Asian	1,411	1.2%	1,662	1.2%	-0.036	-0.003
Black or African American	6,835	5.6%	8,601	6.2%	-0.570	-0.024
Multi-racial	517	0.4%	525	0.4%	0.047	0.007
Native Hawaiian or Other Pacific Islander	187	0.2%	158	0.1%	0.040	0.011
Unknown	56,723	46.8%	57,551	41.5%	5.245	0.106
White	55,091	45.4%	69,702	50.3%	-4.870	-0.098
Hispanic origin						
Yes	2,773	2.3%	2,067	1.5%	0.795	0.058
No	55,340	45.6%	70,703	51.0%	-5.387	-0.108
Unknown	63,144	52.1%	65,794	47.5%	4.592	0.092
Year						
2018	0	0.0%	0	0.0%	NaN	NaN
2019	0	0.0%	0	0.0%	NaN	NaN
2020	121,257	100.0%	138,564	100.0%	0.000	NaN
2021	0	0.0%	0	0.0%	NaN	NaN
2022	0	0.0%	0	0.0%	NaN	NaN
Quarter-Year						
2018Q1	0	0.0%	0	0.0%	NaN	NaN
2018Q2	0	0.0%	0	0.0%	NaN	NaN
2018Q3	0	0.0%	0	0.0%	NaN	NaN
2018Q4	0	0.0%	0	0.0%	NaN	NaN
2019Q1	0	0.0%	0	0.0%	NaN	NaN

Table 1bh. Aggregated Unadjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratification (PSS) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2020Q3

	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
Patient Characteristics[1]	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
2019Q2	0	0.0%	0	0.0%	NaN	NaN
2019Q3	0	0.0%	0	0.0%	NaN	NaN
2019Q4	0	0.0%	0	0.0%	NaN	NaN
2020Q1	0	0.0%	0	0.0%	NaN	NaN
2020Q2	0	0.0%	0	0.0%	NaN	NaN
2020Q3	121,257	100.0%	138,564	100.0%	0.000	NaN
2020Q4	0	0.0%	0	0.0%	NaN	NaN
2021Q1	0	0.0%	0	0.0%	NaN	NaN
2021Q2	0	0.0%	0	0.0%	NaN	NaN
2021Q3	0	0.0%	0	0.0%	NaN	NaN
2021Q4	0	0.0%	0	0.0%	NaN	NaN
2022Q1	0	0.0%	0	0.0%	NaN	NaN
2022Q2	0	0.0%	0	0.0%	NaN	NaN
Health Characteristics						
Charlson/Elixhauser combined comorbidity	0.8	1.9	2.1	2.9	-1.324	-0.544
Allergic Reaction	11,552	9.5%	20,785	15.0%	-5.473	-0.167
Diabetes	26,523	21.9%	22,975	16.6%	5.293	0.135
Heart Failure	4,342	3.6%	16,908	12.2%	-8.621	-0.324
Ischemic Heart Disease	8,757	7.2%	30,008	21.7%	-14.435	-0.420
NSAID Use	18,039	14.9%	20,349	14.7%	0.191	0.005
Acquired Hypothyroidism[5]	13,891	11.5%	21,396	15.4%	-3.985	-0.117
Acute Myocardial Infarction[5]	1,459	1.2%	9,858	7.1%	-5.911	-0.299
Alzheimers Disease and Related Disorders[5]	3,553	2.9%	7,687	5.5%	-2.617	-0.130
Anemia[5]	10,522	8.7%	25,864	18.7%	-9.988	-0.294
Asthma[5]	6,037	5.0%	10,026	7.2%	-2.257	-0.094
Atrial Fibrillation[5]	3,553	2.9%	21,378	15.4%	-12.498	-0.443
Benign Prostatic Hyperplasia[5]	6,172	5.1%	10,202	7.4%	-2.273	-0.094
Cataract[5]	11,405	9.4%	14,027	10.1%	-0.717	-0.024
Chronic Kidney Disease[5]	17,511	14.4%	26,697	19.3%	-4.826	-0.129
Chronic Obstructive Pulmonary Disease and Bronchiectasis[5]	9,164	7.6%	18,083	13.1%	-5.493	-0.181
Depression[5]	16,356	13.5%	30,231	21.8%	-8.329	-0.220
Glaucoma[5]	6,235	5.1%	7,662	5.5%	-0.388	-0.017
Hip or Pelvic Fracture[5]	486	0.4%	1,349	1.0%	-0.573	-0.069

Table 1bh. Aggregated Unadjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratification (PSS) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2020Q3

| | Medical Product | | | | Covariate Balance | |
| | ACE Inhibitors | | Beta Blockers | | | |
Patient Characteristics[1]	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
Hyperlipidemia[5]	45,062	37.2%	57,928	41.8%	-4.644	-0.095
Hypertension[5]	59,561	49.1%	65,352	47.2%	1.956	0.039
Osteoporosis[5]	5,018	4.1%	8,274	6.0%	-1.833	-0.084
Rheumatoid Arthritis or Osteoarthritis[5]	22,091	18.2%	31,835	23.0%	-4.757	-0.118
Stroke or Transient Ischemic Attack[5]	4,838	4.0%	7,681	5.5%	-1.553	-0.073
Breast Cancer[5]	2,526	2.1%	4,124	3.0%	-0.893	-0.057
Colorectal Cancer[5]	916	0.8%	1,674	1.2%	-0.453	-0.046
Prostate Cancer[5]	2,180	1.8%	3,332	2.4%	-0.607	-0.042
Lung Cancer[5]	607	0.5%	2,051	1.5%	-0.980	-0.099
Endometrial Cancer[5]	354	0.3%	522	0.4%	-0.085	-0.015
Urologic Cancer[5]	375	0.3%	822	0.6%	-0.284	-0.042
Health Service Utilization Intensity Metrics						
Mean number of ambulatory encounters	6.1	8.8	9.7	12.9	-3.629	-0.327
Mean number of emergency room encounters	0.3	1.0	0.5	1.4	-0.222	-0.182
Mean number of inpatient hospital encounters	0.1	0.4	0.4	0.7	-0.241	-0.418
Mean number of non-acute institutional encounters	0.0	0.2	0.1	0.4	-0.057	-0.170
Mean number of other ambulatory encounters	2.1	6.7	4.5	10.8	-2.347	-0.261
Mean number of filled prescriptions	8.8	12.0	11.6	14.0	-2.833	-0.218
Mean number of generics dispensed	3.8	3.8	5.0	4.5	-1.213	-0.292
Mean number of unique drug classes dispensed	3.6	3.5	4.7	4.1	-1.158	-0.303

[1]Covariates in blue show a standardized difference greater than 0.1.

[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.

[4]The Combined Comorbidity Score is calculated based on comorbidities observed during a requester-defined window around the exposure episode start date. (Gagne JJ, Glynn RJ, Avorn J, Levin R, Schneeweiss S. A Combined Comorbidity Score Predicted Mortality in Elderly Patients Better Than Existing Scores. J Clin Epidemiol. 2011;64(7):749-759; Sun JW, Rogers JR, Her Q, Welch EC, Panozzo CA, Toh S, Gagne JJ. Adaptation and Validation of the Combined Comorbidity Score for ICD-10-CM. Med Care. 2017;55(12):1046-1051)

[5]Covariate not included in the propensity score logistic regression model.

NaN: Not a number

Table 1bi. Aggregated Weighted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratified, Percentiles: 5, in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2020Q3

| Patient Characteristics[1,2] | Medical Product | | | | Covariate Balance | |
| | ACE Inhibitors | | Beta Blockers | | | |
	Number/ Mean	Percent/ Standard Deviation[3]	Number/ Mean	Percent/ Standard Deviation[3]	Absolute Difference	Standardized Difference
Unique patients	121,249	100.0%	138,511	100.0%	N/A	N/A
Demographic Characteristics						
Age (years)	60.6	12.8	61.7	14.4	-1.124	-0.083
Age						
18-44 years	22,737	18.8%	26,469	19.1%	-0.357	-0.010
45-64 years	39,728	32.8%	37,120	26.8%	5.966	0.140
≥ 65 years	58,783	48.5%	74,922	54.1%	-5.610	-0.145
Sex						
Female	65,628	54.1%	74,482	53.8%	0.353	0.007
Male	55,621	45.9%	64,029	46.2%	-0.353	-0.007
Race[4]						
American Indian or Alaska Native	467	0.4%	348	0.3%	0.134	0.024
Asian	1,282	1.1%	1,844	1.3%	-0.275	-0.025
Black or African American	6,904	5.7%	8,834	6.4%	-0.684	-0.029
Multi-racial	514	0.4%	486	0.4%	0.073	0.012
Native Hawaiian or Other Pacific Islander	174	0.1%	169	0.1%	0.021	0.006
Unknown	56,134	46.3%	57,585	41.6%	4.722	0.175
White	55,774	46.0%	69,244	50.0%	-3.993	-0.116
Hispanic origin						
Yes	2,573	2.1%	2,103	1.5%	0.604	0.045
No	55,839	46.1%	70,432	50.8%	-4.796	-0.236
Unknown	62,837	51.8%	65,976	47.6%	4.192	0.223
Year						
2018	0	0.0%	0	0.0%	NaN	NaN
2019	0	0.0%	0	0.0%	NaN	NaN
2020	121,249	100.0%	138,511	100.0%	0.000	NaN
2021	0	0.0%	0	0.0%	NaN	NaN
2022	0	0.0%	0	0.0%	NaN	NaN
Quarter-Year						
2018Q1	0	0.0%	0	0.0%	NaN	NaN
2018Q2	0	0.0%	0	0.0%	NaN	NaN
2018Q3	0	0.0%	0	0.0%	NaN	NaN
2018Q4	0	0.0%	0	0.0%	NaN	NaN
2019Q1	0	0.0%	0	0.0%	NaN	NaN

Table 1bi. Aggregated Weighted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratified, Percentiles: 5, in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2020Q3

Patient Characteristics[1,2]	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
	Number/ Mean	Percent/ Standard Deviation[3]	Number/ Mean	Percent/ Standard Deviation[3]	Absolute Difference	Standardized Difference
2019Q2	0	0.0%	0	0.0%	NaN	NaN
2019Q3	0	0.0%	0	0.0%	NaN	NaN
2019Q4	0	0.0%	0	0.0%	NaN	NaN
2020Q1	0	0.0%	0	0.0%	NaN	NaN
2020Q2	0	0.0%	0	0.0%	NaN	NaN
2020Q3	121,249	100.0%	138,511	100.0%	0.000	NaN
2020Q4	0	0.0%	0	0.0%	NaN	NaN
2021Q1	0	0.0%	0	0.0%	NaN	NaN
2021Q2	0	0.0%	0	0.0%	NaN	NaN
2021Q3	0	0.0%	0	0.0%	NaN	NaN
2021Q4	0	0.0%	0	0.0%	NaN	NaN
2022Q1	0	0.0%	0	0.0%	NaN	NaN
2022Q2	0	0.0%	0	0.0%	NaN	NaN
Health Characteristics						
Charlson/Elixhauser combined comorbidity	1.4	2.5	1.6	2.6	-0.155	-0.061
Allergic Reaction	15,051	12.4%	17,529	12.7%	-0.242	-0.007
Diabetes	23,793	19.6%	25,699	18.6%	1.069	0.027
Heart Failure	8,691	7.2%	12,177	8.8%	-1.623	-0.061
Ischemic Heart Disease	17,178	14.2%	21,606	15.6%	-1.431	-0.041
NSAID Use	18,267	15.1%	20,589	14.9%	0.201	0.006
Acquired Hypothyroidism[6]	16,144	13.3%	19,770	14.3%	-0.958	-0.028
Acute Myocardial Infarction[6]	3,226	2.7%	6,912	5.0%	-2.330	-0.122
Alzheimers Disease and Related Disorders[6]	5,723	4.7%	5,931	4.3%	0.438	0.021
Anemia[6]	15,937	13.1%	20,447	14.8%	-1.618	-0.047
Asthma[6]	8,293	6.8%	8,135	5.9%	0.967	0.040
Atrial Fibrillation[6]	5,834	4.8%	18,192	13.1%	-8.322	-0.298
Benign Prostatic Hyperplasia[6]	6,880	5.7%	9,860	7.1%	-1.444	-0.060
Cataract[6]	11,492	9.5%	14,122	10.2%	-0.717	-0.025
Chronic Kidney Disease[6]	21,446	17.7%	23,036	16.6%	1.056	0.028
Chronic Obstructive Pulmonary Disease and Bronchiectasis[6]	13,338	11.0%	14,489	10.5%	0.540	0.018
Depression[6]	22,613	18.7%	24,723	17.8%	0.801	0.021
Glaucoma[6]	6,396	5.3%	7,576	5.5%	-0.194	-0.009
Hip or Pelvic Fracture[6]	764	0.6%	1,061	0.8%	-0.136	-0.016

Table 1bi. Aggregated Weighted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratified, Percentiles: 5, in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2020Q3

Patient Characteristics[1,2]	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
	Number/ Mean	Percent/ Standard Deviation[3]	Number/ Mean	Percent/ Standard Deviation[3]	Absolute Difference	Standardized Difference
Hyperlipidemia[6]	48,008	39.6%	56,442	40.7%	-1.155	-0.024
Hypertension[6]	63,166	52.1%	65,213	47.1%	5.014	0.103
Osteoporosis[6]	6,155	5.1%	7,391	5.3%	-0.260	-0.012
Rheumatoid Arthritis or Osteoarthritis[6]	25,616	21.1%	29,645	21.4%	-0.276	-0.007
Stroke or Transient Ischemic Attack[6]	6,855	5.7%	6,506	4.7%	0.956	0.043
Breast Cancer[6]	3,348	2.8%	3,525	2.5%	0.216	0.014
Colorectal Cancer[6]	1,359	1.1%	1,371	1.0%	0.131	0.013
Prostate Cancer[6]	2,642	2.2%	2,986	2.2%	0.023	0.002
Lung Cancer[6]	1,079	0.9%	1,500	1.1%	-0.193	-0.020
Endometrial Cancer[6]	508	0.4%	431	0.3%	0.108	0.018
Urologic Cancer[6]	574	0.5%	664	0.5%	-0.006	-0.001
Health Service Utilization Intensity Metrics						
Mean number of ambulatory encounters	8.0	11.5	8.3	11.3	-0.326	-0.029
Mean number of emergency room encounters	0.4	1.3	0.4	1.2	-0.006	-0.005
Mean number of inpatient hospital encounters	0.2	0.6	0.3	0.6	-0.041	-0.069
Mean number of non-acute institutional encounters	0.1	0.3	0.1	0.4	-0.013	-0.037
Mean number of other ambulatory encounters	3.1	8.6	3.6	9.6	-0.471	-0.051
Mean number of filled prescriptions	10.5	13.7	10.5	13.3	-0.041	-0.003
Mean number of generics dispensed	4.5	4.3	4.5	4.2	-0.044	-0.010
Mean number of unique drug classes dispensed	4.3	4.0	4.3	3.9	-0.043	-0.011

[1]Covariates in blue show a standardized difference greater than 0.1.

[2]Weighted patient characteristics tables facilitate the assessment of covariate balance after propensity score (PS) stratification and should not be interpreted as a description of the unweighted population. Treated/control patients are weighted by the proportion of the total patient population included in their PS stratum divided by the proportion of the total treated/control patient population included in their PS stratum.

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

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

[5]The Combined Comorbidity Score is calculated based on comorbidities observed during a requester-defined window around the exposure episode start date. (Gagne JJ, Glynn RJ, Avorn J, Levin R, Schneeweiss S. A Combined Comorbidity Score Predicted Mortality in Elderly Patients Better Than Existing Scores. J Clin Epidemiol. 2011;64(7):749-759; Sun JW, Rogers JR, Her Q, Welch EC, Panozzo CA, Toh S, Gagne JJ. Adaptation and Validation of the Combined Comorbidity Score for ICD-10-CM. Med Care. 2017;55(12):1046-1051)

[6]Covariate not included in the propensity score logistic regression model.

NaN: Not a number

Patient Characteristics[1]	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
Unique patients	125,339	100.0%	143,668	100.0%	N/A	N/A
Demographic Characteristics						
Age (years)	61.2	11.9	60.9	14.6	0.343	0.026
Age						
18-44 years	19,673	15.7%	31,960	22.2%	-6.550	-0.168
45-64 years	42,642	34.0%	34,492	24.0%	10.013	0.222
≥ 65 years	63,024	50.3%	77,216	53.7%	-3.463	-0.069
Sex						
Female	61,341	48.9%	83,259	58.0%	-9.012	-0.181
Male	63,998	51.1%	60,409	42.0%	9.012	0.181
Race[3]						
American Indian or Alaska Native	443	0.4%	428	0.3%	0.056	0.010
Asian	1,571	1.3%	1,858	1.3%	-0.040	-0.004
Black or African American	6,637	5.3%	8,696	6.1%	-0.758	-0.033
Multi-racial	465	0.4%	596	0.4%	-0.044	-0.007
Native Hawaiian or Other Pacific Islander	219	0.2%	171	0.1%	0.056	0.015
Unknown	57,562	45.9%	58,460	40.7%	5.234	0.106
White	58,442	46.6%	73,459	51.1%	-4.504	-0.090
Hispanic origin						
Yes	2,822	2.3%	2,154	1.5%	0.752	0.055
No	58,935	47.0%	74,831	52.1%	-5.066	-0.101
Unknown	63,582	50.7%	66,683	46.4%	4.313	0.086
Year						
2018	0	0.0%	0	0.0%	NaN	NaN
2019	0	0.0%	0	0.0%	NaN	NaN
2020	125,339	100.0%	143,668	100.0%	0.000	NaN
2021	0	0.0%	0	0.0%	NaN	NaN
2022	0	0.0%	0	0.0%	NaN	NaN
Quarter-Year						
2018Q1	0	0.0%	0	0.0%	NaN	NaN
2018Q2	0	0.0%	0	0.0%	NaN	NaN
2018Q3	0	0.0%	0	0.0%	NaN	NaN
2018Q4	0	0.0%	0	0.0%	NaN	NaN
2019Q1	0	0.0%	0	0.0%	NaN	NaN

Table 1bj. Aggregated Unadjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratification (PSS) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2020Q4

| Patient Characteristics[1] | Medical Product | | | | Covariate Balance | |
| | ACE Inhibitors | | Beta Blockers | | | |
	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
2019Q2	0	0.0%	0	0.0%	NaN	NaN
2019Q3	0	0.0%	0	0.0%	NaN	NaN
2019Q4	0	0.0%	0	0.0%	NaN	NaN
2020Q1	0	0.0%	0	0.0%	NaN	NaN
2020Q2	0	0.0%	0	0.0%	NaN	NaN
2020Q3	0	0.0%	0	0.0%	NaN	NaN
2020Q4	125,339	100.0%	143,668	100.0%	0.000	NaN
2021Q1	0	0.0%	0	0.0%	NaN	NaN
2021Q2	0	0.0%	0	0.0%	NaN	NaN
2021Q3	0	0.0%	0	0.0%	NaN	NaN
2021Q4	0	0.0%	0	0.0%	NaN	NaN
2022Q1	0	0.0%	0	0.0%	NaN	NaN
2022Q2	0	0.0%	0	0.0%	NaN	NaN
Health Characteristics						
Charlson/Elixhauser combined comorbidity	0.8	1.9	2.1	2.8	-1.339	-0.551
Allergic Reaction	13,078	10.4%	23,135	16.1%	-5.669	-0.168
Diabetes	26,470	21.1%	23,991	16.7%	4.420	0.113
Heart Failure	4,330	3.5%	17,625	12.3%	-8.813	-0.332
Ischemic Heart Disease	8,890	7.1%	31,417	21.9%	-14.775	-0.429
NSAID Use	18,650	14.9%	21,308	14.8%	0.048	0.001
Acquired Hypothyroidism[5]	15,080	12.0%	22,753	15.8%	-3.806	-0.110
Acute Myocardial Infarction[5]	1,407	1.1%	10,426	7.3%	-6.134	-0.310
Alzheimers Disease and Related Disorders[5]	3,545	2.8%	7,883	5.5%	-2.659	-0.133
Anemia[5]	11,236	9.0%	27,769	19.3%	-10.364	-0.301
Asthma[5]	6,396	5.1%	10,505	7.3%	-2.209	-0.092
Atrial Fibrillation[5]	3,677	2.9%	22,287	15.5%	-12.579	-0.445
Benign Prostatic Hyperplasia[5]	7,265	5.8%	11,388	7.9%	-2.130	-0.084
Cataract[5]	15,267	12.2%	18,464	12.9%	-0.671	-0.020
Chronic Kidney Disease[5]	17,461	13.9%	27,453	19.1%	-5.178	-0.140
Chronic Obstructive Pulmonary Disease and Bronchiectasis[5]	9,011	7.2%	18,064	12.6%	-5.384	-0.181
Depression[5]	17,313	13.8%	31,210	21.7%	-7.911	-0.208
Glaucoma[5]	7,440	5.9%	9,401	6.5%	-0.608	-0.025
Hip or Pelvic Fracture[5]	529	0.4%	1,415	1.0%	-0.563	-0.067

Table 1bj. Aggregated Unadjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratification (PSS) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2020Q4

Patient Characteristics[1]	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
Hyperlipidemia[5]	48,954	39.1%	62,910	43.8%	-4.731	-0.096
Hypertension[5]	60,878	48.6%	68,373	47.6%	0.980	0.020
Osteoporosis[5]	5,607	4.5%	9,530	6.6%	-2.160	-0.094
Rheumatoid Arthritis or Osteoarthritis[5]	23,903	19.1%	34,428	24.0%	-4.893	-0.119
Stroke or Transient Ischemic Attack[5]	5,050	4.0%	8,351	5.8%	-1.784	-0.083
Breast Cancer[5]	2,922	2.3%	4,480	3.1%	-0.787	-0.048
Colorectal Cancer[5]	997	0.8%	1,859	1.3%	-0.499	-0.049
Prostate Cancer[5]	2,464	2.0%	3,730	2.6%	-0.630	-0.042
Lung Cancer[5]	665	0.5%	1,988	1.4%	-0.853	-0.088
Endometrial Cancer[5]	422	0.3%	576	0.4%	-0.064	-0.011
Urologic Cancer[5]	413	0.3%	857	0.6%	-0.267	-0.039
Health Service Utilization Intensity Metrics						
Mean number of ambulatory encounters	6.9	9.3	10.7	13.3	-3.776	-0.329
Mean number of emergency room encounters	0.3	1.0	0.5	1.4	-0.230	-0.188
Mean number of inpatient hospital encounters	0.1	0.4	0.4	0.7	-0.244	-0.428
Mean number of non-acute institutional encounters	0.0	0.2	0.1	0.4	-0.053	-0.162
Mean number of other ambulatory encounters	2.3	6.5	4.7	10.8	-2.389	-0.267
Mean number of filled prescriptions	8.6	11.5	11.3	13.5	-2.742	-0.218
Mean number of generics dispensed	3.8	3.7	5.0	4.5	-1.186	-0.288
Mean number of unique drug classes dispensed	3.6	3.5	4.7	4.1	-1.129	-0.298

[1]Covariates in blue show a standardized difference greater than 0.1.

[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.

[4]The Combined Comorbidity Score is calculated based on comorbidities observed during a requester-defined window around the exposure episode start date. (Gagne JJ, Glynn RJ, Avorn J, Levin R, Schneeweiss S. A Combined Comorbidity Score Predicted Mortality in Elderly Patients Better Than Existing Scores. J Clin Epidemiol. 2011;64(7):749-759; Sun JW, Rogers JR, Her Q, Welch EC, Panozzo CA, Toh S, Gagne JJ. Adaptation and Validation of the Combined Comorbidity Score for ICD-10-CM. Med Care. 2017;55(12):1046-1051)

[5]Covariate not included in the propensity score logistic regression model.

NaN: Not a number

Table 1bk. Aggregated Weighted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratified, Percentiles: 5, in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2020Q4

| Patient Characteristics[1,2] | Medical Product | | | | Covariate Balance | |
| | ACE Inhibitors | | Beta Blockers | | | |
	Number/ Mean	Percent/ Standard Deviation[3]	Number/ Mean	Percent/ Standard Deviation[3]	Absolute Difference	Standardized Difference
Unique patients	125,330	100.0%	143,606	100.0%	N/A	N/A
Demographic Characteristics						
Age (years)	60.8	12.5	62.0	14.2	-1.230	-0.092
Age						
18-44 years	22,949	18.3%	26,497	18.5%	-0.141	-0.004
45-64 years	40,034	31.9%	37,603	26.2%	5.758	0.137
≥ 65 years	62,347	49.7%	79,505	55.4%	-5.617	-0.147
Sex						
Female	68,008	54.3%	76,737	53.4%	0.828	0.017
Male	57,322	45.7%	66,869	46.6%	-0.828	-0.017
Race[4]						
American Indian or Alaska Native	452	0.4%	414	0.3%	0.073	0.013
Asian	1,405	1.1%	2,045	1.4%	-0.303	-0.027
Black or African American	6,687	5.3%	8,970	6.2%	-0.911	-0.040
Multi-racial	471	0.4%	546	0.4%	-0.004	-0.001
Native Hawaiian or Other Pacific Islander	190	0.2%	186	0.1%	0.022	0.006
Unknown	56,830	45.3%	58,472	40.7%	4.627	0.173
White	59,295	47.3%	72,973	50.8%	-3.504	-0.103
Hispanic origin						
Yes	2,573	2.1%	2,157	1.5%	0.551	0.042
No	59,513	47.5%	74,552	51.9%	-4.429	-0.219
Unknown	63,244	50.5%	66,897	46.6%	3.878	0.207
Year						
2018	0	0.0%	0	0.0%	NaN	NaN
2019	0	0.0%	0	0.0%	NaN	NaN
2020	125,330	100.0%	143,606	100.0%	0.000	NaN
2021	0	0.0%	0	0.0%	NaN	NaN
2022	0	0.0%	0	0.0%	NaN	NaN
Quarter-Year						
2018Q1	0	0.0%	0	0.0%	NaN	NaN
2018Q2	0	0.0%	0	0.0%	NaN	NaN
2018Q3	0	0.0%	0	0.0%	NaN	NaN
2018Q4	0	0.0%	0	0.0%	NaN	NaN
2019Q1	0	0.0%	0	0.0%	NaN	NaN

Table 1bk. Aggregated Weighted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratified, Percentiles: 5, in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2020Q4

Patient Characteristics[1,2]	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
	Number/ Mean	Percent/ Standard Deviation[3]	Number/ Mean	Percent/ Standard Deviation[3]	Absolute Difference	Standardized Difference
2019Q2	0	0.0%	0	0.0%	NaN	NaN
2019Q3	0	0.0%	0	0.0%	NaN	NaN
2019Q4	0	0.0%	0	0.0%	NaN	NaN
2020Q1	0	0.0%	0	0.0%	NaN	NaN
2020Q2	0	0.0%	0	0.0%	NaN	NaN
2020Q3	0	0.0%	0	0.0%	NaN	NaN
2020Q4	125,330	100.0%	143,606	100.0%	0.000	NaN
2021Q1	0	0.0%	0	0.0%	NaN	NaN
2021Q2	0	0.0%	0	0.0%	NaN	NaN
2021Q3	0	0.0%	0	0.0%	NaN	NaN
2021Q4	0	0.0%	0	0.0%	NaN	NaN
2022Q1	0	0.0%	0	0.0%	NaN	NaN
2022Q2	0	0.0%	0	0.0%	NaN	NaN
Health Characteristics						
Charlson/Elixhauser combined comorbidity	1.4	2.5	1.6	2.6	-0.171	-0.068
Allergic Reaction	16,801	13.4%	19,604	13.7%	-0.246	-0.007
Diabetes	23,610	18.8%	26,902	18.7%	0.105	0.003
Heart Failure	8,655	6.9%	12,736	8.9%	-1.963	-0.074
Ischemic Heart Disease	17,359	13.9%	22,675	15.8%	-1.939	-0.055
NSAID Use	18,907	15.1%	21,447	14.9%	0.152	0.004
Acquired Hypothyroidism[6]	17,486	14.0%	21,140	14.7%	-0.769	-0.022
Acute Myocardial Infarction[6]	3,084	2.5%	7,373	5.1%	-2.674	-0.141
Alzheimers Disease and Related Disorders[6]	5,793	4.6%	6,102	4.2%	0.373	0.018
Anemia[6]	16,864	13.5%	22,137	15.4%	-1.959	-0.056
Asthma[6]	8,907	7.1%	8,524	5.9%	1.171	0.047
Atrial Fibrillation[6]	5,944	4.7%	19,073	13.3%	-8.538	-0.305
Benign Prostatic Hyperplasia[6]	7,826	6.2%	11,076	7.7%	-1.468	-0.058
Cataract[6]	15,446	12.3%	18,576	12.9%	-0.611	-0.019
Chronic Kidney Disease[6]	21,397	17.1%	23,582	16.4%	0.652	0.018
Chronic Obstructive Pulmonary Disease and Bronchiectasis[6]	13,220	10.5%	14,460	10.1%	0.479	0.016
Depression[6]	23,922	19.1%	25,445	17.7%	1.369	0.035
Glaucoma[6]	7,719	6.2%	9,316	6.5%	-0.328	-0.014
Hip or Pelvic Fracture[6]	869	0.7%	1,120	0.8%	-0.087	-0.010

Table 1bk. Aggregated Weighted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratified, Percentiles: 5, in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2020Q4

Patient Characteristics[1,2]	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
	Number/ Mean	Percent/ Standard Deviation[3]	Number/ Mean	Percent/ Standard Deviation[3]	Absolute Difference	Standardized Difference
Hyperlipidemia[6]	51,677	41.2%	61,628	42.9%	-1.682	-0.035
Hypertension[6]	64,220	51.2%	68,369	47.6%	3.632	0.074
Osteoporosis[6]	6,733	5.4%	8,637	6.0%	-0.642	-0.028
Rheumatoid Arthritis or Osteoarthritis[6]	27,578	22.0%	32,048	22.3%	-0.312	-0.008
Stroke or Transient Ischemic Attack[6]	6,976	5.6%	7,103	4.9%	0.620	0.028
Breast Cancer[6]	3,918	3.1%	3,869	2.7%	0.432	0.026
Colorectal Cancer[6]	1,474	1.2%	1,514	1.1%	0.122	0.012
Prostate Cancer[6]	2,889	2.3%	3,355	2.3%	-0.031	-0.002
Lung Cancer[6]	1,192	1.0%	1,450	1.0%	-0.058	-0.006
Endometrial Cancer[6]	601	0.5%	479	0.3%	0.146	0.023
Urologic Cancer[6]	667	0.5%	705	0.5%	0.041	0.006
Health Service Utilization Intensity Metrics						
Mean number of ambulatory encounters	8.9	12.1	9.1	11.7	-0.251	-0.021
Mean number of emergency room encounters	0.4	1.3	0.4	1.3	-0.017	-0.014
Mean number of inpatient hospital encounters	0.2	0.6	0.3	0.6	-0.050	-0.086
Mean number of non-acute institutional encounters	0.1	0.3	0.1	0.3	-0.011	-0.033
Mean number of other ambulatory encounters	3.3	8.2	3.8	9.7	-0.548	-0.061
Mean number of filled prescriptions	10.3	13.0	10.3	12.9	0.019	0.002
Mean number of generics dispensed	4.5	4.3	4.5	4.2	-0.006	-0.001
Mean number of unique drug classes dispensed	4.3	3.9	4.3	3.9	-0.003	-0.001

[1]Covariates in blue show a standardized difference greater than 0.1.

[2]Weighted patient characteristics tables facilitate the assessment of covariate balance after propensity score (PS) stratification and should not be interpreted as a description of the unweighted population. Treated/control patients are weighted by the proportion of the total patient population included in their PS stratum divided by the proportion of the total treated/control patient population included in their PS stratum.

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

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

[5]The Combined Comorbidity Score is calculated based on comorbidities observed during a requester-defined window around the exposure episode start date. (Gagne JJ, Glynn RJ, Avorn J, Levin R, Schneeweiss S. A Combined Comorbidity Score Predicted Mortality in Elderly Patients Better Than Existing Scores. J Clin Epidemiol. 2011;64(7):749-759; Sun JW, Rogers JR, Her Q, Welch EC, Panozzo CA, Toh S, Gagne JJ. Adaptation and Validation of the Combined Comorbidity Score for ICD-10-CM. Med Care. 2017;55(12):1046-1051)

[6]Covariate not included in the propensity score logistic regression model.

NaN: Not a number

Table 1bl. Aggregated Unadjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratification (PSS) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2021Q1

Patient Characteristics[1]	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
Unique patients	127,516	100.0%	146,342	100.0%	N/A	N/A
Demographic Characteristics						
Age (years)	61.2	11.8	60.8	14.4	0.358	0.027
Age						
18-44 years	20,343	16.0%	32,649	22.3%	-6.357	-0.162
45-64 years	43,689	34.3%	35,719	24.4%	9.854	0.218
≥ 65 years	63,484	49.8%	77,974	53.3%	-3.497	-0.070
Sex						
Female	61,371	48.1%	84,809	58.0%	-9.825	-0.198
Male	66,145	51.9%	61,533	42.0%	9.825	0.198
Race[3]						
American Indian or Alaska Native	485	0.4%	450	0.3%	0.073	0.012
Asian	1,575	1.2%	1,846	1.3%	-0.026	-0.002
Black or African American	6,316	5.0%	8,500	5.8%	-0.855	-0.038
Multi-racial	487	0.4%	616	0.4%	-0.039	-0.006
Native Hawaiian or Other Pacific Islander	187	0.1%	168	0.1%	0.032	0.009
Unknown	59,359	46.6%	60,341	41.2%	5.317	0.107
White	59,107	46.4%	74,421	50.9%	-4.502	-0.090
Hispanic origin						
Yes	2,777	2.2%	2,198	1.5%	0.676	0.050
No	59,679	46.8%	75,935	51.9%	-5.088	-0.102
Unknown	65,060	51.0%	68,209	46.6%	4.412	0.088
Year						
2018	0	0.0%	0	0.0%	NaN	NaN
2019	0	0.0%	0	0.0%	NaN	NaN
2020	0	0.0%	0	0.0%	NaN	NaN
2021	127,516	100.0%	146,342	100.0%	0.000	NaN
2022	0	0.0%	0	0.0%	NaN	NaN
Quarter-Year						
2018Q1	0	0.0%	0	0.0%	NaN	NaN
2018Q2	0	0.0%	0	0.0%	NaN	NaN
2018Q3	0	0.0%	0	0.0%	NaN	NaN
2018Q4	0	0.0%	0	0.0%	NaN	NaN

Table 1bl. Aggregated Unadjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratification (PSS) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2021Q1

Patient Characteristics[1]	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
2019Q1	0	0.0%	0	0.0%	NaN	NaN
2019Q2	0	0.0%	0	0.0%	NaN	NaN
2019Q3	0	0.0%	0	0.0%	NaN	NaN
2019Q4	0	0.0%	0	0.0%	NaN	NaN
2020Q1	0	0.0%	0	0.0%	NaN	NaN
2020Q2	0	0.0%	0	0.0%	NaN	NaN
2020Q3	0	0.0%	0	0.0%	NaN	NaN
2020Q4	0	0.0%	0	0.0%	NaN	NaN
2021Q1	127,516	100.0%	146,342	100.0%	0.000	NaN
2021Q2	0	0.0%	0	0.0%	NaN	NaN
2021Q3	0	0.0%	0	0.0%	NaN	NaN
2021Q4	0	0.0%	0	0.0%	NaN	NaN
2022Q1	0	0.0%	0	0.0%	NaN	NaN
2022Q2	0	0.0%	0	0.0%	NaN	NaN
Health Characteristics						
Charlson/Elixhauser combined comorbidity	0.7	1.9	2.0	2.8	-1.301	-0.545
Allergic Reaction	12,885	10.1%	23,374	16.0%	-5.868	-0.175
Diabetes	26,944	21.1%	24,251	16.6%	4.558	0.117
Heart Failure	4,162	3.3%	17,755	12.1%	-8.869	-0.337
Ischemic Heart Disease	8,846	6.9%	31,000	21.2%	-14.246	-0.419
NSAID Use	18,646	14.6%	21,463	14.7%	-0.044	-0.001
Acquired Hypothyroidism[5]	15,099	11.8%	22,570	15.4%	-3.582	-0.105
Acute Myocardial Infarction[5]	1,315	1.0%	9,917	6.8%	-5.745	-0.300
Alzheimers Disease and Related Disorders[5]	3,530	2.8%	7,665	5.2%	-2.469	-0.126
Anemia[5]	11,098	8.7%	27,167	18.6%	-9.861	-0.290
Asthma[5]	6,494	5.1%	10,586	7.2%	-2.141	-0.089
Atrial Fibrillation[5]	3,675	2.9%	22,233	15.2%	-12.311	-0.440
Benign Prostatic Hyperplasia[5]	7,362	5.8%	11,657	8.0%	-2.192	-0.087
Cataract[5]	15,475	12.1%	18,788	12.8%	-0.703	-0.021
Chronic Kidney Disease[5]	17,670	13.9%	27,503	18.8%	-4.937	-0.134
Chronic Obstructive Pulmonary Disease and Bronchiectasis[5]	8,829	6.9%	17,936	12.3%	-5.332	-0.182
Depression[5]	17,123	13.4%	31,232	21.3%	-7.914	-0.210

Table 1bl. Aggregated Unadjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratification (PSS) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2021Q1

Patient Characteristics[1]	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
Glaucoma[5]	7,719	6.1%	9,499	6.5%	-0.438	-0.018
Hip or Pelvic Fracture[5]	520	0.4%	1,355	0.9%	-0.518	-0.064
Hyperlipidemia[5]	49,692	39.0%	63,831	43.6%	-4.648	-0.095
Hypertension[5]	62,529	49.0%	69,813	47.7%	1.331	0.027
Osteoporosis[5]	5,691	4.5%	10,047	6.9%	-2.402	-0.104
Rheumatoid Arthritis or Osteoarthritis[5]	24,153	18.9%	34,884	23.8%	-4.896	-0.120
Stroke or Transient Ischemic Attack[5]	4,975	3.9%	7,988	5.5%	-1.557	-0.074
Breast Cancer[5]	2,864	2.2%	4,578	3.1%	-0.882	-0.055
Colorectal Cancer[5]	996	0.8%	1,694	1.2%	-0.376	-0.038
Prostate Cancer[5]	2,574	2.0%	3,685	2.5%	-0.500	-0.034
Lung Cancer[5]	635	0.5%	1,929	1.3%	-0.820	-0.087
Endometrial Cancer[5]	397	0.3%	609	0.4%	-0.105	-0.017
Urologic Cancer[5]	455	0.4%	889	0.6%	-0.251	-0.036
Health Service Utilization Intensity Metrics						
Mean number of ambulatory encounters	7.1	9.2	10.7	13.0	-3.656	-0.325
Mean number of emergency room encounters	0.3	1.0	0.5	1.4	-0.228	-0.190
Mean number of inpatient hospital encounters	0.1	0.4	0.3	0.7	-0.231	-0.414
Mean number of non-acute institutional encounters	0.0	0.2	0.1	0.4	-0.053	-0.162
Mean number of other ambulatory encounters	2.5	6.9	4.8	11.0	-2.340	-0.256
Mean number of filled prescriptions	8.3	11.4	11.0	13.5	-2.687	-0.216
Mean number of generics dispensed	3.8	3.7	4.9	4.4	-1.168	-0.285
Mean number of unique drug classes dispensed	3.6	3.4	4.7	4.1	-1.113	-0.294

[1]Covariates in blue show a standardized difference greater than 0.1.

[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.

[4]The Combined Comorbidity Score is calculated based on comorbidities observed during a requester-defined window around the exposure episode start date. (Gagne JJ, Glynn RJ, Avorn J, Levin R, Schneeweiss S. A Combined Comorbidity Score Predicted Mortality in Elderly Patients Better Than Existing Scores. J Clin Epidemiol. 2011;64(7):749-759; Sun JW, Rogers JR, Her Q, Welch EC, Panozzo CA, Toh S, Gagne JJ. Adaptation and Validation of the Combined Comorbidity Score for ICD-10-CM. Med Care. 2017;55(12):1046-1051)

[5]Covariate not included in the propensity score logistic regression model.

NaN: Not a number

Table 1bm. Aggregated Weighted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratified, Percentiles: 5, in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2021Q1

	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
Patient Characteristics[1,2]	Number/ Mean	Percent/ Standard Deviation[3]	Number/ Mean	Percent/ Standard Deviation[3]	Absolute Difference	Standardized Difference
Unique patients	127,499	100.0%	146,291	100.0%	N/A	N/A
Demographic Characteristics						
Age (years)	60.7	12.4	61.9	14.0	-1.184	-0.089
Age						
18-44 years	23,629	18.5%	27,027	18.5%	0.058	0.002
45-64 years	40,987	32.1%	39,177	26.8%	5.367	0.128
≥ 65 years	62,883	49.3%	80,087	54.7%	-5.425	-0.145
Sex						
Female	68,434	53.7%	78,012	53.3%	0.348	0.007
Male	59,065	46.3%	68,279	46.7%	-0.348	-0.007
Race[4]						
American Indian or Alaska Native	480	0.4%	445	0.3%	0.072	0.012
Asian	1,422	1.1%	2,028	1.4%	-0.271	-0.024
Black or African American	6,385	5.0%	8,674	5.9%	-0.921	-0.041
Multi-racial	498	0.4%	575	0.4%	-0.003	-0.000
Native Hawaiian or Other Pacific Islander	175	0.1%	176	0.1%	0.017	0.005
Unknown	58,608	46.0%	60,412	41.3%	4.672	0.181
White	59,930	47.0%	73,981	50.6%	-3.567	-0.107
Hispanic origin						
Yes	2,547	2.0%	2,209	1.5%	0.488	0.037
No	60,272	47.3%	75,667	51.7%	-4.451	-0.228
Unknown	64,680	50.7%	68,415	46.8%	3.964	0.224
Year						
2018	0	0.0%	0	0.0%	NaN	NaN
2019	0	0.0%	0	0.0%	NaN	NaN
2020	0	0.0%	0	0.0%	NaN	NaN
2021	127,499	100.0%	146,291	100.0%	0.000	NaN
2022	0	0.0%	0	0.0%	NaN	NaN
Quarter-Year						
2018Q1	0	0.0%	0	0.0%	NaN	NaN
2018Q2	0	0.0%	0	0.0%	NaN	NaN
2018Q3	0	0.0%	0	0.0%	NaN	NaN
2018Q4	0	0.0%	0	0.0%	NaN	NaN
2019Q1	0	0.0%	0	0.0%	NaN	NaN

Table 1bm. Aggregated Weighted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratified, Percentiles: 5, in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2021Q1

| Patient Characteristics[1,2] | Medical Product | | | | Covariate Balance | |
| | ACE Inhibitors | | Beta Blockers | | | |
	Number/ Mean	Percent/ Standard Deviation[3]	Number/ Mean	Percent/ Standard Deviation[3]	Absolute Difference	Standardized Difference
2019Q2	0	0.0%	0	0.0%	NaN	NaN
2019Q3	0	0.0%	0	0.0%	NaN	NaN
2019Q4	0	0.0%	0	0.0%	NaN	NaN
2020Q1	0	0.0%	0	0.0%	NaN	NaN
2020Q2	0	0.0%	0	0.0%	NaN	NaN
2020Q3	0	0.0%	0	0.0%	NaN	NaN
2020Q4	0	0.0%	0	0.0%	NaN	NaN
2021Q1	127,499	100.0%	146,291	100.0%	0.000	NaN
2021Q2	0	0.0%	0	0.0%	NaN	NaN
2021Q3	0	0.0%	0	0.0%	NaN	NaN
2021Q4	0	0.0%	0	0.0%	NaN	NaN
2022Q1	0	0.0%	0	0.0%	NaN	NaN
2022Q2	0	0.0%	0	0.0%	NaN	NaN
Health Characteristics						
Charlson/Elixhauser combined comorbidity score[5]	1.4	2.4	1.5	2.5	-0.171	-0.069
Allergic Reaction	16,729	13.1%	19,827	13.6%	-0.433	-0.013
Diabetes	24,005	18.8%	27,055	18.5%	0.334	0.009
Heart Failure	8,210	6.4%	12,829	8.8%	-2.330	-0.089
Ischemic Heart Disease	17,360	13.6%	22,343	15.3%	-1.657	-0.048
NSAID Use	19,034	14.9%	21,492	14.7%	0.237	0.007
Acquired Hypothyroidism[6]	17,523	13.7%	21,009	14.4%	-0.617	-0.018
Acute Myocardial Infarction[6]	2,853	2.2%	6,952	4.8%	-2.514	-0.138
Alzheimers Disease and Related Disorders[6]	5,752	4.5%	5,904	4.0%	0.476	0.024
Anemia[6]	16,670	13.1%	21,665	14.8%	-1.735	-0.051
Asthma[6]	9,033	7.1%	8,632	5.9%	1.184	0.048
Atrial Fibrillation[6]	5,959	4.7%	18,882	12.9%	-8.233	-0.298
Benign Prostatic Hyperplasia[6]	7,956	6.2%	11,305	7.7%	-1.488	-0.059
Cataract[6]	15,795	12.4%	18,991	13.0%	-0.593	-0.018
Chronic Kidney Disease[6]	21,555	16.9%	23,785	16.3%	0.648	0.018
Chronic Obstructive Pulmonary Disease and Bronchiectasis[6]	12,869	10.1%	14,335	9.8%	0.295	0.010
Depression[6]	23,717	18.6%	25,510	17.4%	1.164	0.030
Glaucoma[6]	7,991	6.3%	9,535	6.5%	-0.250	-0.010
Hip or Pelvic Fracture[6]	829	0.7%	1,065	0.7%	-0.077	-0.009

Table 1bm. Aggregated Weighted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratified, Percentiles: 5, in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2021Q1

Patient Characteristics[1,2]	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
	Number/ Mean	Percent/ Standard Deviation[3]	Number/ Mean	Percent/ Standard Deviation[3]	Absolute Difference	Standardized Difference
Hyperlipidemia[6]	52,532	41.2%	62,685	42.8%	-1.648	-0.035
Hypertension[6]	65,807	51.6%	70,058	47.9%	3.725	0.076
Osteoporosis[6]	6,936	5.4%	9,103	6.2%	-0.782	-0.034
Rheumatoid Arthritis or Osteoarthritis[6]	27,953	21.9%	32,505	22.2%	-0.295	-0.007
Stroke or Transient Ischemic Attack[6]	6,940	5.4%	6,779	4.6%	0.810	0.037
Breast Cancer[6]	3,862	3.0%	3,916	2.7%	0.353	0.021
Colorectal Cancer[6]	1,491	1.2%	1,405	1.0%	0.209	0.020
Prostate Cancer[6]	3,031	2.4%	3,335	2.3%	0.097	0.006
Lung Cancer[6]	1,169	0.9%	1,411	1.0%	-0.047	-0.005
Endometrial Cancer[6]	565	0.4%	523	0.4%	0.086	0.014
Urologic Cancer[6]	695	0.5%	733	0.5%	0.044	0.006
Health Service Utilization Intensity Metrics						
Mean number of ambulatory encounters	9.1	11.8	9.2	11.5	-0.192	-0.016
Mean number of emergency room	0.4	1.2	0.4	1.2	-0.018	-0.015
Mean number of inpatient hospital encounters	0.2	0.6	0.2	0.6	-0.045	-0.080
Mean number of non-acute institutional encounters	0.1	0.3	0.1	0.3	-0.011	-0.033
Mean number of other ambulatory encounters	3.5	8.7	4.0	9.8	-0.490	-0.053
Mean number of filled prescriptions	9.9	12.8	9.9	12.7	-0.011	-0.001
Mean number of generics dispensed	4.4	4.2	4.5	4.2	-0.010	-0.002
Mean number of unique drug classes dispensed	4.2	3.9	4.2	3.9	-0.008	-0.002

[1]Covariates in blue show a standardized difference greater than 0.1.

[2]Weighted patient characteristics tables facilitate the assessment of covariate balance after propensity score (PS) stratification and should not be interpreted as a description of the unweighted population. Treated/control patients are weighted by the proportion of the total patient population included in their PS stratum divided by the proportion of the total treated/control patient population included in their PS stratum.

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

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

[5]The Combined Comorbidity Score is calculated based on comorbidities observed during a requester-defined window around the exposure episode start date. (Gagne JJ, Glynn RJ, Avorn J, Levin R, Schneeweiss S. A Combined Comorbidity Score Predicted Mortality in Elderly Patients Better Than Existing Scores. J Clin Epidemiol. 2011;64(7):749-759; Sun JW, Rogers JR, Her Q, Welch EC, Panozzo CA, Toh S, Gagne JJ. Adaptation and Validation of the Combined Comorbidity Score for ICD-10-CM. Med Care. 2017;55(12):1046-1051)

[6]Covariate not included in the propensity score logistic regression model.

NaN: Not a number

Table 1bn. Aggregated Unadjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratification (PSS) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2021Q2

| | Medical Product | | | | Covariate Balance | |
| | ACE Inhibitors | | Beta Blockers | | | |
Patient Characteristics[1]	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
Unique patients	112,248	100.0%	136,177	100.0%	N/A	N/A
Demographic Characteristics						
Age (years)	61.2	12.0	60.9	14.5	0.368	0.028
Age						
18-44 years	18,275	16.3%	30,814	22.6%	-6.347	-0.161
45-64 years	37,454	33.4%	31,987	23.5%	9.878	0.220
≥ 65 years	56,519	50.4%	73,376	53.9%	-3.531	-0.071
Sex						
Female	55,535	49.5%	79,904	58.7%	-9.201	-0.185
Male	56,713	50.5%	56,273	41.3%	9.201	0.185
Race[3]						
American Indian or Alaska Native	447	0.4%	388	0.3%	0.113	0.019
Asian	1,449	1.3%	1,711	1.3%	0.034	0.003
Black or African American	5,661	5.0%	7,884	5.8%	-0.746	-0.033
Multi-racial	423	0.4%	601	0.4%	-0.064	-0.010
Native Hawaiian or Other Pacific Islander	181	0.2%	163	0.1%	0.042	0.011
Unknown	51,096	45.5%	55,153	40.5%	5.020	0.102
White	52,991	47.2%	70,277	51.6%	-4.398	-0.088
Hispanic origin						
Yes	2,601	2.3%	2,069	1.5%	0.798	0.058
No	53,778	47.9%	71,783	52.7%	-4.803	-0.096
Unknown	55,869	49.8%	62,325	45.8%	4.005	0.080
Year						
2018	0	0.0%	0	0.0%	NaN	NaN
2019	0	0.0%	0	0.0%	NaN	NaN
2020	0	0.0%	0	0.0%	NaN	NaN
2021	112,248	100.0%	136,177	100.0%	0.000	NaN
2022	0	0.0%	0	0.0%	NaN	NaN
Quarter-Year						
2018Q1	0	0.0%	0	0.0%	NaN	NaN
2018Q2	0	0.0%	0	0.0%	NaN	NaN
2018Q3	0	0.0%	0	0.0%	NaN	NaN
2018Q4	0	0.0%	0	0.0%	NaN	NaN

Table 1bn. Aggregated Unadjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratification (PSS) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2021Q2

Patient Characteristics[1]	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
2019Q1	0	0.0%	0	0.0%	NaN	NaN
2019Q2	0	0.0%	0	0.0%	NaN	NaN
2019Q3	0	0.0%	0	0.0%	NaN	NaN
2019Q4	0	0.0%	0	0.0%	NaN	NaN
2020Q1	0	0.0%	0	0.0%	NaN	NaN
2020Q2	0	0.0%	0	0.0%	NaN	NaN
2020Q3	0	0.0%	0	0.0%	NaN	NaN
2020Q4	0	0.0%	0	0.0%	NaN	NaN
2021Q1	0	0.0%	0	0.0%	NaN	NaN
2021Q2	112,248	100.0%	136,177	100.0%	0.000	NaN
2021Q3	0	0.0%	0	0.0%	NaN	NaN
2021Q4	0	0.0%	0	0.0%	NaN	NaN
2022Q1	0	0.0%	0	0.0%	NaN	NaN
2022Q2	0	0.0%	0	0.0%	NaN	NaN
Health Characteristics						
Charlson/Elixhauser combined comorbidity score[4]	0.8	1.9	2.2	2.9	-1.377	-0.561
Allergic Reaction	11,897	10.6%	22,556	16.6%	-5.965	-0.175
Diabetes	23,999	21.4%	22,682	16.7%	4.724	0.121
Heart Failure	3,996	3.6%	17,407	12.8%	-9.223	-0.342
Ischemic Heart Disease	7,966	7.1%	29,786	21.9%	-14.776	-0.429
NSAID Use	16,846	15.0%	20,367	15.0%	0.052	0.001
Acquired Hypothyroidism[5]	13,703	12.2%	21,645	15.9%	-3.687	-0.106
Acute Myocardial Infarction[5]	1,333	1.2%	10,009	7.3%	-6.162	-0.308
Alzheimers Disease and Related Disorders[5]	3,362	3.0%	7,670	5.6%	-2.637	-0.130
Anemia[5]	10,110	9.0%	26,552	19.5%	-10.491	-0.304
Asthma[5]	5,783	5.2%	10,168	7.5%	-2.315	-0.095
Atrial Fibrillation[5]	3,322	3.0%	21,558	15.8%	-12.871	-0.452
Benign Prostatic Hyperplasia[5]	6,244	5.6%	10,658	7.8%	-2.264	-0.091
Cataract[5]	13,604	12.1%	17,693	13.0%	-0.873	-0.026
Chronic Kidney Disease[5]	16,222	14.5%	26,313	19.3%	-4.871	-0.130
Chronic Obstructive Pulmonary Disease and Bronchiectasis[5]	8,239	7.3%	17,437	12.8%	-5.465	-0.182
Depression[5]	15,794	14.1%	30,793	22.6%	-8.542	-0.222

Table 1bn. Aggregated Unadjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratification (PSS) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2021Q2

Patient Characteristics[1]	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
Glaucoma[5]	6,673	5.9%	9,063	6.7%	-0.710	-0.029
Hip or Pelvic Fracture[5]	418	0.4%	1,348	1.0%	-0.617	-0.075
Hyperlipidemia[5]	43,691	38.9%	59,957	44.0%	-5.105	-0.104
Hypertension[5]	54,997	49.0%	64,337	47.2%	1.751	0.035
Osteoporosis[5]	5,391	4.8%	9,509	7.0%	-2.180	-0.093
Rheumatoid Arthritis or Osteoarthritis[5]	21,742	19.4%	33,668	24.7%	-5.354	-0.129
Stroke or Transient Ischemic Attack[5]	4,710	4.2%	7,703	5.7%	-1.461	-0.068
Breast Cancer[5]	2,461	2.2%	4,514	3.3%	-1.122	-0.069
Colorectal Cancer[5]	904	0.8%	1,707	1.3%	-0.448	-0.044
Prostate Cancer[5]	2,106	1.9%	3,429	2.5%	-0.642	-0.044
Lung Cancer[5]	568	0.5%	1,913	1.4%	-0.899	-0.092
Endometrial Cancer[5]	388	0.3%	588	0.4%	-0.086	-0.014
Urologic Cancer[5]	399	0.4%	844	0.6%	-0.264	-0.038
Health Service Utilization Intensity Metrics						
Mean number of ambulatory encounters	7.1	9.4	10.9	12.8	-3.748	-0.334
Mean number of emergency room encounters	0.3	0.9	0.5	1.5	-0.233	-0.187
Mean number of inpatient hospital encounters	0.1	0.4	0.4	0.7	-0.246	-0.429
Mean number of non-acute institutional encounters	0.0	0.2	0.1	0.4	-0.058	-0.172
Mean number of other ambulatory encounters	2.7	7.0	5.2	11.2	-2.486	-0.266
Mean number of filled prescriptions	8.7	11.7	11.3	13.6	-2.652	-0.209
Mean number of generics dispensed	3.9	3.8	5.0	4.4	-1.178	-0.286
Mean number of unique drug classes dispensed	3.7	3.5	4.8	4.1	-1.122	-0.295

[1]Covariates in blue show a standardized difference greater than 0.1.

[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.

[4]The Combined Comorbidity Score is calculated based on comorbidities observed during a requester-defined window around the exposure episode start date. (Gagne JJ, Glynn RJ, Avorn J, Levin R, Schneeweiss S. A Combined Comorbidity Score Predicted Mortality in Elderly Patients Better Than Existing Scores. J Clin Epidemiol. 2011;64(7):749-759; Sun JW, Rogers JR, Her Q, Welch EC, Panozzo CA, Toh S, Gagne JJ. Adaptation and Validation of the Combined Comorbidity Score for ICD-10-CM. Med Care. 2017;55(12):1046-1051)

[5]Covariate not included in the propensity score logistic regression model.

NaN: Not a number

Table 1bo. Aggregated Weighted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratified, Percentiles: 5, in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2021Q2

| | Medical Product | | | | Covariate Balance | |
| | ACE Inhibitors | | Beta Blockers | | | |
Patient Characteristics[1,2]	Number/ Mean	Percent/ Standard Deviation[3]	Number/ Mean	Percent/ Standard Deviation[3]	Absolute Difference	Standardized Difference
Unique patients	112,232	100.0%	136,128	100.0%	N/A	N/A
Demographic Characteristics						
Age (years)	60.9	12.6	61.9	14.1	-1.005	-0.075
Age						
18-44 years	21,014	18.7%	25,836	19.0%	-0.256	-0.007
45-64 years	35,000	31.2%	34,995	25.7%	5.479	0.131
≥ 65 years	56,218	50.1%	75,298	55.3%	-5.223	-0.138
Sex						
Female	61,593	54.9%	73,846	54.2%	0.633	0.013
Male	50,639	45.1%	62,282	45.8%	-0.633	-0.013
Race[4]						
American Indian or Alaska Native	434	0.4%	379	0.3%	0.108	0.019
Asian	1,267	1.1%	1,867	1.4%	-0.242	-0.022
Black or African American	5,674	5.1%	8,088	5.9%	-0.886	-0.040
Multi-racial	433	0.4%	543	0.4%	-0.013	-0.002
Native Hawaiian or Other Pacific Islander	174	0.2%	173	0.1%	0.028	0.008
Unknown	50,379	44.9%	55,378	40.7%	4.208	0.161
White	53,871	48.0%	69,700	51.2%	-3.203	-0.095
Hispanic origin						
Yes	2,415	2.2%	2,109	1.5%	0.602	0.045
No	54,328	48.4%	71,433	52.5%	-4.068	-0.204
Unknown	55,489	49.4%	62,586	46.0%	3.466	0.191
Year						
2018	0	0.0%	0	0.0%	NaN	NaN
2019	0	0.0%	0	0.0%	NaN	NaN
2020	0	0.0%	0	0.0%	NaN	NaN
2021	112,232	100.0%	136,128	100.0%	0.000	NaN
2022	0	0.0%	0	0.0%	NaN	NaN
Quarter-Year						
2018Q1	0	0.0%	0	0.0%	NaN	NaN
2018Q2	0	0.0%	0	0.0%	NaN	NaN
2018Q3	0	0.0%	0	0.0%	NaN	NaN
2018Q4	0	0.0%	0	0.0%	NaN	NaN
2019Q1	0	0.0%	0	0.0%	NaN	NaN

Patient Characteristics[1,2]	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
	Number/ Mean	Percent/ Standard Deviation[3]	Number/ Mean	Percent/ Standard Deviation[3]	Absolute Difference	Standardized Difference
2019Q2	0	0.0%	0	0.0%	NaN	NaN
2019Q3	0	0.0%	0	0.0%	NaN	NaN
2019Q4	0	0.0%	0	0.0%	NaN	NaN
2020Q1	0	0.0%	0	0.0%	NaN	NaN
2020Q2	0	0.0%	0	0.0%	NaN	NaN
2020Q3	0	0.0%	0	0.0%	NaN	NaN
2020Q4	0	0.0%	0	0.0%	NaN	NaN
2021Q1	0	0.0%	0	0.0%	NaN	NaN
2021Q2	112,232	100.0%	136,128	100.0%	0.000	NaN
2021Q3	0	0.0%	0	0.0%	NaN	NaN
2021Q4	0	0.0%	0	0.0%	NaN	NaN
2022Q1	0	0.0%	0	0.0%	NaN	NaN
2022Q2	0	0.0%	0	0.0%	NaN	NaN
Health Characteristics						
Charlson/Elixhauser combined comorbidity score[5]	1.5	2.5	1.6	2.6	-0.169	-0.066
Allergic Reaction	15,579	13.9%	19,176	14.1%	-0.206	-0.006
Diabetes	21,178	18.9%	25,439	18.7%	0.183	0.005
Heart Failure	8,120	7.2%	12,650	9.3%	-2.058	-0.076
Ischemic Heart Disease	15,953	14.2%	21,615	15.9%	-1.665	-0.047
NSAID Use	17,176	15.3%	20,677	15.2%	0.115	0.003
Acquired Hypothyroidism[6]	15,976	14.2%	20,222	14.9%	-0.620	-0.018
Acute Myocardial Infarction[6]	3,000	2.7%	7,103	5.2%	-2.545	-0.131
Alzheimers Disease and Related Disorders[6]	5,510	4.9%	5,954	4.4%	0.536	0.026
Anemia[6]	15,487	13.8%	21,214	15.6%	-1.784	-0.051
Asthma[6]	8,047	7.2%	8,263	6.1%	1.100	0.044
Atrial Fibrillation[6]	5,586	5.0%	18,447	13.6%	-8.574	-0.303
Benign Prostatic Hyperplasia[6]	6,937	6.2%	10,284	7.6%	-1.374	-0.055
Cataract[6]	13,912	12.4%	17,933	13.2%	-0.778	-0.024
Chronic Kidney Disease[6]	19,994	17.8%	22,768	16.7%	1.089	0.029
Chronic Obstructive Pulmonary Disease and Bronchiectasis[6]	12,269	10.9%	13,973	10.3%	0.667	0.022
Depression[6]	22,177	19.8%	25,315	18.6%	1.164	0.030
Glaucoma[6]	6,878	6.1%	9,055	6.7%	-0.524	-0.022
Hip or Pelvic Fracture[6]	689	0.6%	1,062	0.8%	-0.166	-0.020

Table 1bo. Aggregated Weighted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratified, Percentiles: 5, in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2021Q2

| Patient Characteristics[1,2] | Medical Product | | | | Covariate Balance | |
| | ACE Inhibitors | | Beta Blockers | | | |
	Number/ Mean	Percent/ Standard Deviation[3]	Number/ Mean	Percent/ Standard Deviation[3]	Absolute Difference	Standardized Difference
Hyperlipidemia[6]	46,390	41.3%	58,685	43.1%	-1.776	-0.037
Hypertension[6]	58,192	51.8%	64,192	47.2%	4.694	0.096
Osteoporosis[6]	6,630	5.9%	8,604	6.3%	-0.414	-0.017
Rheumatoid Arthritis or Osteoarthritis[6]	25,348	22.6%	31,393	23.1%	-0.477	-0.012
Stroke or Transient Ischemic Attack[6]	6,664	5.9%	6,593	4.8%	1.095	0.049
Breast Cancer[6]	3,340	3.0%	3,885	2.9%	0.122	0.007
Colorectal Cancer[6]	1,333	1.2%	1,417	1.0%	0.147	0.014
Prostate Cancer[6]	2,546	2.3%	3,111	2.3%	-0.017	-0.001
Lung Cancer[6]	1,034	0.9%	1,415	1.0%	-0.118	-0.012
Endometrial Cancer[6]	552	0.5%	491	0.4%	0.131	0.020
Urologic Cancer[6]	621	0.6%	672	0.5%	0.059	0.008
Health Service Utilization Intensity Metrics						
Mean number of ambulatory encounters	9.2	12.2	9.4	11.4	-0.208	-0.018
Mean number of emergency room encounters	0.4	1.2	0.4	1.3	-0.019	-0.015
Mean number of inpatient hospital encounters	0.2	0.6	0.3	0.6	-0.047	-0.080
Mean number of non-acute institutional encounters	0.1	0.3	0.1	0.4	-0.011	-0.032
Mean number of other ambulatory encounters	3.8	8.9	4.3	10.0	-0.520	-0.055
Mean number of filled prescriptions	10.5	13.3	10.3	12.9	0.139	0.011
Mean number of generics dispensed	4.6	4.3	4.6	4.2	0.016	0.004
Mean number of unique drug classes dispensed	4.4	4.0	4.3	3.9	0.017	0.004

[1]Covariates in blue show a standardized difference greater than 0.1.

[2]Weighted patient characteristics tables facilitate the assessment of covariate balance after propensity score (PS) stratification and should not be interpreted as a description of the unweighted population. Treated/control patients are weighted by the proportion of the total patient population included in their PS stratum divided by the proportion of the total treated/control patient population included in their PS stratum.

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

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

[5]The Combined Comorbidity Score is calculated based on comorbidities observed during a requester-defined window around the exposure episode start date. (Gagne JJ, Glynn RJ, Avorn J, Levin R, Schneeweiss S. A Combined Comorbidity Score Predicted Mortality in Elderly Patients Better Than Existing Scores. J Clin Epidemiol. 2011;64(7):749-759; Sun JW, Rogers JR, Her Q, Welch EC, Panozzo CA, Toh S, Gagne JJ. Adaptation and Validation of the Combined Comorbidity Score for ICD-10-CM. Med Care. 2017;55(12):1046-1051)

[6]Covariate not included in the propensity score logistic regression model.

NaN: Not a number

Table 1bp. Aggregated Unadjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratification (PSS) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2021Q3

| | Medical Product | | | | Covariate Balance | |
| | ACE Inhibitors | | Beta Blockers | | | |
Patient Characteristics[1]	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
Unique patients	112,979	100.0%	142,310	100.0%	N/A	N/A
Demographic Characteristics						
Age (years)	60.9	12.0	60.3	14.7	0.598	0.045
Age						
18-44 years	18,587	16.5%	33,703	23.7%	-7.231	-0.181
45-64 years	39,053	34.6%	33,647	23.6%	10.923	0.242
≥ 65 years	55,339	49.0%	74,960	52.7%	-3.692	-0.074
Sex						
Female	54,901	48.6%	82,907	58.3%	-9.664	-0.195
Male	58,078	51.4%	59,403	41.7%	9.664	0.195
Race[3]						
American Indian or Alaska Native	422	0.4%	396	0.3%	0.095	0.017
Asian	1,423	1.3%	1,688	1.2%	0.073	0.007
Black or African American	6,050	5.4%	8,326	5.9%	-0.496	-0.022
Multi-racial	483	0.4%	691	0.5%	-0.058	-0.009
Native Hawaiian or Other Pacific Islander	185	0.2%	177	0.1%	0.039	0.010
Unknown	53,593	47.4%	60,109	42.2%	5.198	0.105
White	50,823	45.0%	70,923	49.8%	-4.853	-0.097
Hispanic origin						
Yes	2,677	2.4%	2,136	1.5%	0.869	0.063
No	51,072	45.2%	71,459	50.2%	-5.009	-0.100
Unknown	59,230	52.4%	68,715	48.3%	4.140	0.083
Year						
2018	0	0.0%	0	0.0%	NaN	NaN
2019	0	0.0%	0	0.0%	NaN	NaN
2020	0	0.0%	0	0.0%	NaN	NaN
2021	112,979	100.0%	142,310	100.0%	0.000	NaN
2022	0	0.0%	0	0.0%	NaN	NaN
Quarter-Year						
2018Q1	0	0.0%	0	0.0%	NaN	NaN
2018Q2	0	0.0%	0	0.0%	NaN	NaN
2018Q3	0	0.0%	0	0.0%	NaN	NaN
2018Q4	0	0.0%	0	0.0%	NaN	NaN

Table 1bp. Aggregated Unadjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratification (PSS) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2021Q3

| | Medical Product | | | | Covariate Balance | |
| | ACE Inhibitors | | Beta Blockers | | | |
Patient Characteristics[1]	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
2019Q1	0	0.0%	0	0.0%	NaN	NaN
2019Q2	0	0.0%	0	0.0%	NaN	NaN
2019Q3	0	0.0%	0	0.0%	NaN	NaN
2019Q4	0	0.0%	0	0.0%	NaN	NaN
2020Q1	0	0.0%	0	0.0%	NaN	NaN
2020Q2	0	0.0%	0	0.0%	NaN	NaN
2020Q3	0	0.0%	0	0.0%	NaN	NaN
2020Q4	0	0.0%	0	0.0%	NaN	NaN
2021Q1	0	0.0%	0	0.0%	NaN	NaN
2021Q2	0	0.0%	0	0.0%	NaN	NaN
2021Q3	112,979	100.0%	142,310	100.0%	0.000	NaN
2021Q4	0	0.0%	0	0.0%	NaN	NaN
2022Q1	0	0.0%	0	0.0%	NaN	NaN
2022Q2	0	0.0%	0	0.0%	NaN	NaN
Health Characteristics						
Charlson/Elixhauser combined comorbidity score[4]	0.8	1.9	2.1	2.8	-1.345	-0.555
Allergic Reaction	12,273	10.9%	23,990	16.9%	-5.994	-0.174
Diabetes	24,599	21.8%	23,627	16.6%	5.171	0.132
Heart Failure	3,898	3.5%	17,861	12.6%	-9.101	-0.340
Ischemic Heart Disease	8,101	7.2%	30,945	21.7%	-14.574	-0.424
NSAID Use	16,832	14.9%	21,243	14.9%	-0.029	-0.001
Acquired Hypothyroidism[5]	13,235	11.7%	22,057	15.5%	-3.785	-0.111
Acute Myocardial Infarction[5]	1,353	1.2%	10,031	7.0%	-5.851	-0.298
Alzheimers Disease and Related Disorders[5]	3,282	2.9%	7,657	5.4%	-2.476	-0.124
Anemia[5]	10,338	9.2%	27,225	19.1%	-9.980	-0.289
Asthma[5]	5,633	5.0%	10,417	7.3%	-2.334	-0.097
Atrial Fibrillation[5]	3,219	2.8%	22,639	15.9%	-13.059	-0.460
Benign Prostatic Hyperplasia[5]	6,221	5.5%	10,964	7.7%	-2.198	-0.089
Cataract[5]	13,487	11.9%	18,556	13.0%	-1.102	-0.033
Chronic Kidney Disease[5]	16,619	14.7%	27,038	19.0%	-4.290	-0.115
Chronic Obstructive Pulmonary Disease and Bronchiectasis[5]	8,107	7.2%	17,607	12.4%	-5.197	-0.176
Depression[5]	15,699	13.9%	31,873	22.4%	-8.501	-0.222

Table 1bp. Aggregated Unadjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratification (PSS) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2021Q3

	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
Patient Characteristics[1]	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
Glaucoma[5]	6,672	5.9%	9,343	6.6%	-0.660	-0.027
Hip or Pelvic Fracture[5]	530	0.5%	1,362	1.0%	-0.488	-0.058
Hyperlipidemia[5]	43,688	38.7%	61,901	43.5%	-4.828	-0.098
Hypertension[5]	56,513	50.0%	66,629	46.8%	3.201	0.064
Osteoporosis[5]	5,037	4.5%	9,471	6.7%	-2.197	-0.096
Rheumatoid Arthritis or Osteoarthritis[5]	22,158	19.6%	34,800	24.5%	-4.841	-0.117
Stroke or Transient Ischemic Attack[5]	4,723	4.2%	8,013	5.6%	-1.450	-0.067
Breast Cancer[5]	2,464	2.2%	4,524	3.2%	-0.998	-0.062
Colorectal Cancer[5]	906	0.8%	1,711	1.2%	-0.400	-0.040
Prostate Cancer[5]	2,098	1.9%	3,528	2.5%	-0.622	-0.043
Lung Cancer[5]	595	0.5%	1,984	1.4%	-0.867	-0.089
Endometrial Cancer[5]	360	0.3%	586	0.4%	-0.093	-0.015
Urologic Cancer[5]	380	0.3%	822	0.6%	-0.241	-0.036
Health Service Utilization Intensity Metrics						
Mean number of ambulatory encounters	7.1	9.4	11.1	13.5	-4.008	-0.346
Mean number of emergency room encounters	0.3	1.1	0.6	1.5	-0.242	-0.183
Mean number of inpatient hospital encounters	0.1	0.4	0.4	0.7	-0.238	-0.424
Mean number of non-acute institutional encounters	0.0	0.2	0.1	0.4	-0.052	-0.161
Mean number of other ambulatory encounters	2.6	6.8	4.8	10.8	-2.263	-0.251
Mean number of filled prescriptions	8.4	11.4	11.1	13.3	-2.733	-0.221
Mean number of generics dispensed	3.8	3.7	5.0	4.4	-1.201	-0.294
Mean number of unique drug classes dispensed	3.6	3.4	4.7	4.1	-1.147	-0.304

[1]Covariates in blue show a standardized difference greater than 0.1.

[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.

[4]The Combined Comorbidity Score is calculated based on comorbidities observed during a requester-defined window around the exposure episode start date. (Gagne JJ, Glynn RJ, Avorn J, Levin R, Schneeweiss S. A Combined Comorbidity Score Predicted Mortality in Elderly Patients Better Than Existing Scores. J Clin Epidemiol. 2011;64(7):749-759; Sun JW, Rogers JR, Her Q, Welch EC, Panozzo CA, Toh S, Gagne JJ. Adaptation and Validation of the Combined Comorbidity Score for ICD-10-CM. Med Care. 2017;55(12):1046-1051)

[5]Covariate not included in the propensity score logistic regression model.

NaN: Not a number

Table 1bq. Aggregated Weighted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratified, Percentiles: 5, in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2021Q3

Patient Characteristics[1,2]	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
	Number/ Mean	Percent/ Standard Deviation[3]	Number/ Mean	Percent/ Standard Deviation[3]	Absolute Difference	Standardized Difference
Unique patients	112,959	100.0%	142,254	100.0%	N/A	N/A
Demographic Characteristics						
Age (years)	60.5	12.6	61.5	14.3	-0.978	-0.072
Age						
18-44 years	21,634	19.2%	28,106	19.8%	-0.605	-0.017
45-64 years	36,224	32.1%	36,946	26.0%	6.097	0.145
≥ 65 years	55,100	48.8%	77,202	54.3%	-5.491	-0.145
Sex						
Female	61,575	54.5%	76,211	53.6%	0.937	0.019
Male	51,384	45.5%	66,043	46.4%	-0.937	-0.019
Race[4]						
American Indian or Alaska Native	387	0.3%	398	0.3%	0.063	0.011
Asian	1,277	1.1%	1,865	1.3%	-0.181	-0.017
Black or African American	6,083	5.4%	8,515	6.0%	-0.600	-0.027
Multi-racial	479	0.4%	625	0.4%	-0.015	-0.002
Native Hawaiian or Other Pacific Islander	172	0.2%	203	0.1%	0.009	0.002
Unknown	52,854	46.8%	60,242	42.3%	4.443	0.171
White	51,707	45.8%	70,406	49.5%	-3.718	-0.111
Hispanic origin						
Yes	2,441	2.2%	2,139	1.5%	0.657	0.049
No	51,619	45.7%	71,157	50.0%	-4.324	-0.224
Unknown	58,899	52.1%	68,957	48.5%	3.667	0.209
Year						
2018	0	0.0%	0	0.0%	NaN	NaN
2019	0	0.0%	0	0.0%	NaN	NaN
2020	0	0.0%	0	0.0%	NaN	NaN
2021	112,959	100.0%	142,254	100.0%	0.000	NaN
2022	0	0.0%	0	0.0%	NaN	NaN
Quarter-Year						
2018Q1	0	0.0%	0	0.0%	NaN	NaN
2018Q2	0	0.0%	0	0.0%	NaN	NaN
2018Q3	0	0.0%	0	0.0%	NaN	NaN
2018Q4	0	0.0%	0	0.0%	NaN	NaN
2019Q1	0	0.0%	0	0.0%	NaN	NaN

Table 1bq. Aggregated Weighted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratified, Percentiles: 5, in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2021Q3

Patient Characteristics[1,2]	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
	Number/ Mean	Percent/ Standard Deviation[3]	Number/ Mean	Percent/ Standard Deviation[3]	Absolute Difference	Standardized Difference
2019Q2	0	0.0%	0	0.0%	NaN	NaN
2019Q3	0	0.0%	0	0.0%	NaN	NaN
2019Q4	0	0.0%	0	0.0%	NaN	NaN
2020Q1	0	0.0%	0	0.0%	NaN	NaN
2020Q2	0	0.0%	0	0.0%	NaN	NaN
2020Q3	0	0.0%	0	0.0%	NaN	NaN
2020Q4	0	0.0%	0	0.0%	NaN	NaN
2021Q1	0	0.0%	0	0.0%	NaN	NaN
2021Q2	0	0.0%	0	0.0%	NaN	NaN
2021Q3	112,959	100.0%	142,254	100.0%	0.000	NaN
2021Q4	0	0.0%	0	0.0%	NaN	NaN
2022Q1	0	0.0%	0	0.0%	NaN	NaN
2022Q2	0	0.0%	0	0.0%	NaN	NaN
Health Characteristics						
Charlson/Elixhauser combined comorbidity score[5]	1.5	2.5	1.6	2.6	-0.146	-0.058
Allergic Reaction	15,886	14.1%	20,635	14.5%	-0.442	-0.013
Diabetes	21,803	19.3%	26,547	18.7%	0.640	0.016
Heart Failure	8,080	7.2%	13,123	9.2%	-2.072	-0.076
Ischemic Heart Disease	16,384	14.5%	22,648	15.9%	-1.417	-0.040
NSAID Use	16,999	15.0%	21,328	15.0%	0.056	0.002
Acquired Hypothyroidism[6]	15,645	13.9%	20,559	14.5%	-0.602	-0.017
Acute Myocardial Infarction[6]	3,084	2.7%	7,180	5.0%	-2.316	-0.120
Alzheimers Disease and Related Disorders[6]	5,397	4.8%	5,994	4.2%	0.565	0.028
Anemia[6]	15,919	14.1%	21,845	15.4%	-1.264	-0.036
Asthma[6]	8,009	7.1%	8,531	6.0%	1.093	0.044
Atrial Fibrillation[6]	5,422	4.8%	19,588	13.8%	-8.970	-0.317
Benign Prostatic Hyperplasia[6]	6,743	6.0%	10,692	7.5%	-1.547	-0.062
Cataract[6]	13,840	12.3%	18,709	13.2%	-0.900	-0.028
Chronic Kidney Disease[6]	20,464	18.1%	23,600	16.6%	1.526	0.041
Chronic Obstructive Pulmonary Disease and Bronchiectasis[6]	12,121	10.7%	14,200	10.0%	0.748	0.025
Depression[6]	22,200	19.7%	26,231	18.4%	1.213	0.031
Glaucoma[6]	6,984	6.2%	9,380	6.6%	-0.411	-0.017
Hip or Pelvic Fracture[6]	896	0.8%	1,092	0.8%	0.026	0.003

Table 1bq. Aggregated Weighted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratified, Percentiles: 5, in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2021Q3

	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
Patient Characteristics[1,2]	Number/ Mean	Percent/ Standard Deviation[3]	Number/ Mean	Percent/ Standard Deviation[3]	Absolute Difference	Standardized Difference
Hyperlipidemia[6]	46,460	41.1%	60,869	42.8%	-1.659	-0.035
Hypertension[6]	59,683	52.8%	66,858	47.0%	5.837	0.120
Osteoporosis[6]	6,231	5.5%	8,561	6.0%	-0.503	-0.022
Rheumatoid Arthritis or Osteoarthritis[6]	25,735	22.8%	32,683	23.0%	-0.193	-0.005
Stroke or Transient Ischemic Attack[6]	6,712	5.9%	6,854	4.8%	1.124	0.050
Breast Cancer[6]	3,377	3.0%	3,865	2.7%	0.273	0.016
Colorectal Cancer[6]	1,301	1.2%	1,419	1.0%	0.154	0.015
Prostate Cancer[6]	2,526	2.2%	3,221	2.3%	-0.028	-0.002
Lung Cancer[6]	1,160	1.0%	1,484	1.0%	-0.016	-0.002
Endometrial Cancer[6]	537	0.5%	506	0.4%	0.120	0.019
Urologic Cancer[6]	585	0.5%	674	0.5%	0.044	0.006
Health Service Utilization Intensity Metrics						
Mean number of ambulatory encounters	9.3	12.3	9.6	11.9	-0.277	-0.023
Mean number of emergency room encounters	0.5	1.5	0.5	1.2	-0.002	-0.001
Mean number of inpatient hospital encounters	0.2	0.6	0.3	0.6	-0.043	-0.075
Mean number of non-acute institutional encounters	0.1	0.3	0.1	0.3	-0.008	-0.024
Mean number of other ambulatory encounters	3.6	8.6	4.0	9.6	-0.418	-0.046
Mean number of filled prescriptions	10.2	13.0	10.1	12.7	0.076	0.006
Mean number of generics dispensed	4.6	4.3	4.6	4.2	0.014	0.003
Mean number of unique drug classes dispensed	4.3	3.9	4.3	3.9	0.012	0.003

[1]Covariates in blue show a standardized difference greater than 0.1.

[2]Weighted patient characteristics tables facilitate the assessment of covariate balance after propensity score (PS) stratification and should not be interpreted as a description of the unweighted population. Treated/control patients are weighted by the proportion of the total patient population included in their PS stratum divided by the proportion of the total treated/control patient population included in their PS stratum.

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

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

[5]The Combined Comorbidity Score is calculated based on comorbidities observed during a requester-defined window around the exposure episode start date. (Gagne JJ, Glynn RJ, Avorn J, Levin R, Schneeweiss S. A Combined Comorbidity Score Predicted Mortality in Elderly Patients Better Than Existing Scores. J Clin Epidemiol. 2011;64(7):749-759; Sun JW, Rogers JR, Her Q, Welch EC, Panozzo CA, Toh S, Gagne JJ. Adaptation and Validation of the Combined Comorbidity Score for ICD-10-CM. Med Care. 2017;55(12):1046-1051)

[6]Covariate not included in the propensity score logistic regression model.

NaN: Not a number

Table 1br. Aggregated Unadjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratification (PSS) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2021Q4

Patient Characteristics[1]	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
Unique patients	113,745	100.0%	144,536	100.0%	N/A	N/A
Demographic Characteristics						
Age (years)	61.5	11.7	60.8	14.5	0.771	0.059
Age						
18-44 years	17,425	15.3%	32,721	22.6%	-7.319	-0.187
45-64 years	38,181	33.6%	34,112	23.6%	9.966	0.222
≥ 65 years	58,139	51.1%	77,703	53.8%	-2.647	-0.053
Sex						
Female	55,391	48.7%	83,774	58.0%	-9.263	-0.186
Male	58,354	51.3%	60,762	42.0%	9.263	0.186
Race[3]						
American Indian or Alaska Native	399	0.4%	402	0.3%	0.073	0.013
Asian	1,410	1.2%	1,789	1.2%	0.002	0.000
Black or African American	5,840	5.1%	8,466	5.9%	-0.723	-0.032
Multi-racial	484	0.4%	758	0.5%	-0.099	-0.014
Native Hawaiian or Other Pacific Islander	194	0.2%	176	0.1%	0.049	0.013
Unknown	52,110	45.8%	59,425	41.1%	4.699	0.095
White	53,308	46.9%	73,520	50.9%	-4.000	-0.080
Hispanic origin						
Yes	2,610	2.3%	2,139	1.5%	0.815	0.060
No	53,459	47.0%	74,369	51.5%	-4.455	-0.089
Unknown	57,676	50.7%	68,028	47.1%	3.640	0.073
Year						
2018	0	0.0%	0	0.0%	NaN	NaN
2019	0	0.0%	0	0.0%	NaN	NaN
2020	0	0.0%	0	0.0%	NaN	NaN
2021	113,745	100.0%	144,536	100.0%	0.000	NaN
2022	0	0.0%	0	0.0%	NaN	NaN
Quarter-Year						
2018Q1	0	0.0%	0	0.0%	NaN	NaN
2018Q2	0	0.0%	0	0.0%	NaN	NaN
2018Q3	0	0.0%	0	0.0%	NaN	NaN
2018Q4	0	0.0%	0	0.0%	NaN	NaN
2019Q1	0	0.0%	0	0.0%	NaN	NaN

Table 1br. Aggregated Unadjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratification (PSS) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2021Q4

Patient Characteristics[1]	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
2019Q2	0	0.0%	0	0.0%	NaN	NaN
2019Q3	0	0.0%	0	0.0%	NaN	NaN
2019Q4	0	0.0%	0	0.0%	NaN	NaN
2020Q1	0	0.0%	0	0.0%	NaN	NaN
2020Q2	0	0.0%	0	0.0%	NaN	NaN
2020Q3	0	0.0%	0	0.0%	NaN	NaN
2020Q4	0	0.0%	0	0.0%	NaN	NaN
2021Q1	0	0.0%	0	0.0%	NaN	NaN
2021Q2	0	0.0%	0	0.0%	NaN	NaN
2021Q3	0	0.0%	0	0.0%	NaN	NaN
2021Q4	113,745	100.0%	144,536	100.0%	0.000	NaN
2022Q1	0	0.0%	0	0.0%	NaN	NaN
2022Q2	0	0.0%	0	0.0%	NaN	NaN
Health Characteristics						
Charlson/Elixhauser combined comorbidity score[4]	0.8	1.9	2.1	2.8	-1.366	-0.563
Allergic Reaction	13,002	11.4%	25,243	17.5%	-6.034	-0.172
Diabetes	23,845	21.0%	23,811	16.5%	4.489	0.115
Heart Failure	3,807	3.3%	18,370	12.7%	-9.363	-0.350
Ischemic Heart Disease	7,933	7.0%	32,049	22.2%	-15.199	-0.441
NSAID Use	17,389	15.3%	21,732	15.0%	0.252	0.007
Acquired Hypothyroidism[5]	13,705	12.0%	22,381	15.5%	-3.436	-0.100
Acute Myocardial Infarction[5]	1,321	1.2%	10,942	7.6%	-6.409	-0.318
Alzheimers Disease and Related Disorders[5]	3,284	2.9%	7,627	5.3%	-2.390	-0.121
Anemia[5]	10,393	9.1%	27,917	19.3%	-10.178	-0.295
Asthma[5]	5,515	4.8%	10,746	7.4%	-2.586	-0.108
Atrial Fibrillation[5]	3,144	2.8%	22,939	15.9%	-13.107	-0.463
Benign Prostatic Hyperplasia[5]	6,674	5.9%	11,527	8.0%	-2.108	-0.083
Cataract[5]	14,807	13.0%	20,044	13.9%	-0.850	-0.025
Chronic Kidney Disease[5]	16,222	14.3%	28,242	19.5%	-5.278	-0.141
Chronic Obstructive Pulmonary Disease and Bronchiectasis[5]	8,180	7.2%	18,351	12.7%	-5.505	-0.185
Depression[5]	15,714	13.8%	32,175	22.3%	-8.446	-0.221
Glaucoma[5]	7,305	6.4%	9,881	6.8%	-0.414	-0.017

Table 1br. Aggregated Unadjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratification (PSS) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2021Q4

	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
Patient Characteristics[1]	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
Hip or Pelvic Fracture[5]	506	0.4%	1,349	0.9%	-0.488	-0.059
Hyperlipidemia[5]	45,248	39.8%	64,204	44.4%	-4.641	-0.094
Hypertension[5]	55,750	49.0%	67,896	47.0%	2.038	0.041
Osteoporosis[5]	5,526	4.9%	10,224	7.1%	-2.215	-0.094
Rheumatoid Arthritis or Osteoarthritis[5]	22,765	20.0%	35,965	24.9%	-4.869	-0.117
Stroke or Transient Ischemic Attack[5]	4,589	4.0%	8,256	5.7%	-1.678	-0.078
Breast Cancer[5]	2,648	2.3%	4,730	3.3%	-0.945	-0.057
Colorectal Cancer[5]	908	0.8%	1,665	1.2%	-0.354	-0.036
Prostate Cancer[5]	2,305	2.0%	3,630	2.5%	-0.485	-0.033
Lung Cancer[5]	577	0.5%	2,009	1.4%	-0.883	-0.091
Endometrial Cancer[5]	403	0.4%	587	0.4%	-0.052	-0.008
Urologic Cancer[5]	415	0.4%	875	0.6%	-0.241	-0.035
Health Service Utilization Intensity Metrics						
Mean number of ambulatory encounters	7.2	9.5	11.1	13.3	-3.922	-0.339
Mean number of emergency room encounters	0.3	1.0	0.6	1.6	-0.267	-0.198
Mean number of inpatient hospital encounters	0.1	0.4	0.4	0.7	-0.246	-0.434
Mean number of non-acute institutional encounters	0.0	0.2	0.1	0.4	-0.054	-0.164
Mean number of other ambulatory encounters	2.6	6.9	4.9	10.6	-2.288	-0.256
Mean number of filled prescriptions	8.5	11.5	11.2	13.2	-2.630	-0.212
Mean number of generics dispensed	3.9	3.8	5.1	4.5	-1.183	-0.287
Mean number of unique drug classes dispensed	3.7	3.5	4.8	4.1	-1.130	-0.297

[1]Covariates in blue show a standardized difference greater than 0.1.

[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.

[4]The Combined Comorbidity Score is calculated based on comorbidities observed during a requester-defined window around the exposure episode start date. (Gagne JJ, Glynn RJ, Avorn J, Levin R, Schneeweiss S. A Combined Comorbidity Score Predicted Mortality in Elderly Patients Better Than Existing Scores. J Clin Epidemiol. 2011;64(7):749-759; Sun JW, Rogers JR, Her Q, Welch EC, Panozzo CA, Toh S, Gagne JJ. Adaptation and Validation of the Combined Comorbidity Score for ICD-10-CM. Med Care. 2017;55(12):1046-1051)

[5]Covariate not included in the propensity score logistic regression model.

NaN: Not a number

Table 1bs. Aggregated Weighted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratified, Percentiles: 5, in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2021Q4

	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
Patient Characteristics[1,2]	Number/ Mean	Percent/ Standard Deviation[3]	Number/ Mean	Percent/ Standard Deviation[3]	Absolute Difference	Standardized Difference
Unique patients	113,727	100.0%	144,494	100.0%	N/A	N/A
Demographic Characteristics						
Age (years)	61.2	12.3	61.9	14.1	-0.671	-0.051
Age						
18-44 years	20,265	17.8%	27,326	18.9%	-1.093	-0.031
45-64 years	35,711	31.4%	37,323	25.8%	5.570	0.134
≥ 65 years	57,751	50.8%	79,844	55.3%	-4.478	-0.119
Sex						
Female	62,078	54.6%	76,997	53.3%	1.297	0.026
Male	51,649	45.4%	67,497	46.7%	-1.297	-0.026
Race[4]						
American Indian or Alaska Native	368	0.3%	397	0.3%	0.048	0.009
Asian	1,231	1.1%	1,949	1.3%	-0.267	-0.024
Black or African American	5,858	5.2%	8,632	6.0%	-0.823	-0.037
Multi-racial	477	0.4%	705	0.5%	-0.068	-0.010
Native Hawaiian or Other Pacific Islander	186	0.2%	187	0.1%	0.034	0.009
Unknown	51,397	45.2%	59,638	41.3%	3.920	0.152
White	54,210	47.7%	72,986	50.5%	-2.844	-0.085
Hispanic origin						
Yes	2,368	2.1%	2,165	1.5%	0.584	0.044
No	53,996	47.5%	74,038	51.2%	-3.761	-0.195
Unknown	57,363	50.4%	68,291	47.3%	3.177	0.179
Year						
2018	0	0.0%	0	0.0%	NaN	NaN
2019	0	0.0%	0	0.0%	NaN	NaN
2020	0	0.0%	0	0.0%	NaN	NaN
2021	113,727	100.0%	144,494	100.0%	0.000	NaN
2022	0	0.0%	0	0.0%	NaN	NaN
Quarter-Year						
2018Q1	0	0.0%	0	0.0%	NaN	NaN
2018Q2	0	0.0%	0	0.0%	NaN	NaN
2018Q3	0	0.0%	0	0.0%	NaN	NaN
2018Q4	0	0.0%	0	0.0%	NaN	NaN
2019Q1	0	0.0%	0	0.0%	NaN	NaN

Table 1bs. Aggregated Weighted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratified, Percentiles: 5, in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2021Q4

Patient Characteristics[1,2]	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
	Number/ Mean	Percent/ Standard Deviation[3]	Number/ Mean	Percent/ Standard Deviation[3]	Absolute Difference	Standardized Difference
2019Q2	0	0.0%	0	0.0%	NaN	NaN
2019Q3	0	0.0%	0	0.0%	NaN	NaN
2019Q4	0	0.0%	0	0.0%	NaN	NaN
2020Q1	0	0.0%	0	0.0%	NaN	NaN
2020Q2	0	0.0%	0	0.0%	NaN	NaN
2020Q3	0	0.0%	0	0.0%	NaN	NaN
2020Q4	0	0.0%	0	0.0%	NaN	NaN
2021Q1	0	0.0%	0	0.0%	NaN	NaN
2021Q2	0	0.0%	0	0.0%	NaN	NaN
2021Q3	0	0.0%	0	0.0%	NaN	NaN
2021Q4	113,727	100.0%	144,494	100.0%	0.000	NaN
2022Q1	0	0.0%	0	0.0%	NaN	NaN
2022Q2	0	0.0%	0	0.0%	NaN	NaN
Health Characteristics						
Charlson/Elixhauser combined comorbidity score[5]	1.5	2.5	1.6	2.6	-0.151	-0.059
Allergic Reaction	16,757	14.7%	21,708	15.0%	-0.289	-0.008
Diabetes	21,057	18.5%	26,697	18.5%	0.039	0.001
Heart Failure	8,089	7.1%	13,430	9.3%	-2.182	-0.080
Ischemic Heart Disease	16,383	14.4%	23,415	16.2%	-1.799	-0.051
NSAID Use	17,571	15.5%	21,957	15.2%	0.255	0.007
Acquired Hypothyroidism[6]	16,230	14.3%	20,825	14.4%	-0.141	-0.004
Acute Myocardial Infarction[6]	3,075	2.7%	7,828	5.4%	-2.714	-0.138
Alzheimers Disease and Related Disorders[6]	5,492	4.8%	5,950	4.1%	0.712	0.035
Anemia[6]	16,057	14.1%	22,367	15.5%	-1.361	-0.039
Asthma[6]	7,878	6.9%	8,727	6.0%	0.888	0.036
Atrial Fibrillation[6]	5,279	4.6%	19,795	13.7%	-9.057	-0.322
Benign Prostatic Hyperplasia[6]	7,398	6.5%	11,251	7.8%	-1.282	-0.050
Cataract[6]	15,013	13.2%	20,196	14.0%	-0.776	-0.023
Chronic Kidney Disease[6]	20,122	17.7%	24,622	17.0%	0.653	0.017
Chronic Obstructive Pulmonary Disease and Bronchiectasis[6]	12,367	10.9%	14,745	10.2%	0.670	0.022
Depression[6]	22,230	19.5%	26,525	18.4%	1.190	0.030
Glaucoma[6]	7,538	6.6%	9,855	6.8%	-0.192	-0.008
Hip or Pelvic Fracture[6]	850	0.7%	1,066	0.7%	0.010	0.001

Table 1bs. Aggregated Weighted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratified, Percentiles: 5, in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2021Q4

	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
Patient Characteristics[1,2]	Number/ Mean	Percent/ Standard Deviation[3]	Number/ Mean	Percent/ Standard Deviation[3]	Absolute Difference	Standardized Difference
Hyperlipidemia[6]	48,113	42.3%	62,960	43.6%	-1.267	-0.027
Hypertension[6]	59,227	52.1%	67,804	46.9%	5.153	0.106
Osteoporosis[6]	6,775	6.0%	9,275	6.4%	-0.461	-0.019
Rheumatoid Arthritis or Osteoarthritis[6]	26,488	23.3%	33,765	23.4%	-0.077	-0.002
Stroke or Transient Ischemic Attack[6]	6,572	5.8%	7,126	4.9%	0.846	0.038
Breast Cancer[6]	3,603	3.2%	4,058	2.8%	0.360	0.021
Colorectal Cancer[6]	1,363	1.2%	1,361	0.9%	0.256	0.025
Prostate Cancer[6]	2,740	2.4%	3,297	2.3%	0.128	0.008
Lung Cancer[6]	1,091	1.0%	1,500	1.0%	-0.079	-0.008
Endometrial Cancer[6]	590	0.5%	484	0.3%	0.184	0.028
Urologic Cancer[6]	647	0.6%	714	0.5%	0.075	0.010
Health Service Utilization Intensity Metrics						
Mean number of ambulatory encounters	9.5	12.5	9.7	11.8	-0.213	-0.018
Mean number of emergency room encounters	0.5	1.3	0.5	1.4	-0.021	-0.015
Mean number of inpatient hospital encounters	0.2	0.6	0.3	0.6	-0.047	-0.081
Mean number of non-acute institutional encounters	0.1	0.3	0.1	0.4	-0.008	-0.023
Mean number of other ambulatory encounters	3.7	8.8	4.0	9.5	-0.372	-0.041
Mean number of filled prescriptions	10.4	13.1	10.2	12.6	0.226	0.018
Mean number of generics dispensed	4.7	4.3	4.7	4.2	0.047	0.011
Mean number of unique drug classes dispensed	4.5	4.0	4.4	3.9	0.046	0.012

[1]Covariates in blue show a standardized difference greater than 0.1.

[2]Weighted patient characteristics tables facilitate the assessment of covariate balance after propensity score (PS) stratification and should not be interpreted as a description of the unweighted population. Treated/control patients are weighted by the proportion of the total patient population included in their PS stratum divided by the proportion of the total treated/control patient population included in their PS stratum.

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

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

[5]The Combined Comorbidity Score is calculated based on comorbidities observed during a requester-defined window around the exposure episode start date. (Gagne JJ, Glynn RJ, Avorn J, Levin R, Schneeweiss S. A Combined Comorbidity Score Predicted Mortality in Elderly Patients Better Than Existing Scores. J Clin Epidemiol. 2011;64(7):749-759; Sun JW, Rogers JR, Her Q, Welch EC, Panozzo CA, Toh S, Gagne JJ. Adaptation and Validation of the Combined Comorbidity Score for ICD-10-CM. Med Care. 2017;55(12):1046-1051)

[6]Covariate not included in the propensity score logistic regression model.

NaN: Not a number

Table 1bt. Aggregated Unadjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratification (PSS) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2022Q1

Patient Characteristics[1]	ACE Inhibitors Number/ Mean	ACE Inhibitors Percent/ Standard Deviation[2]	Beta Blockers Number/ Mean	Beta Blockers Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
	Medical Product				**Covariate Balance**	
Unique patients	116,093	100.0%	148,742	100.0%	N/A	N/A
Demographic Characteristics						
Age (years)	61.5	11.6	60.7	14.3	0.761	0.058
Age						
18-44 years	18,021	15.5%	34,260	23.0%	-7.510	-0.191
45-64 years	38,867	33.5%	34,397	23.1%	10.354	0.231
≥ 65 years	59,205	51.0%	80,085	53.8%	-2.844	-0.057
Sex						
Female	56,033	48.3%	86,511	58.2%	-9.896	-0.199
Male	60,060	51.7%	62,231	41.8%	9.896	0.199
Race[3]						
American Indian or Alaska Native	465	0.4%	419	0.3%	0.119	0.020
Asian	1,504	1.3%	1,824	1.2%	0.069	0.006
Black or African American	5,586	4.8%	8,277	5.6%	-0.753	-0.034
Multi-racial	521	0.4%	735	0.5%	-0.045	-0.007
Native Hawaiian or Other Pacific Islander	167	0.1%	175	0.1%	0.026	0.007
Unknown	53,169	45.8%	60,647	40.8%	5.025	0.102
White	54,681	47.1%	76,665	51.5%	-4.441	-0.089
Hispanic origin						
Yes	2,694	2.3%	2,164	1.5%	0.866	0.064
No	56,295	48.5%	79,237	53.3%	-4.780	-0.096
Unknown	57,104	49.2%	67,341	45.3%	3.914	0.078
Year						
2018	0	0.0%	0	0.0%	NaN	NaN
2019	0	0.0%	0	0.0%	NaN	NaN
2020	0	0.0%	0	0.0%	NaN	NaN
2021	0	0.0%	0	0.0%	NaN	NaN
2022	116,093	100.0%	148,742	100.0%	0.000	NaN
Quarter-Year						
2018Q1	0	0.0%	0	0.0%	NaN	NaN
2018Q2	0	0.0%	0	0.0%	NaN	NaN
2018Q3	0	0.0%	0	0.0%	NaN	NaN
2018Q4	0	0.0%	0	0.0%	NaN	NaN

Table 1bt. Aggregated Unadjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratification (PSS) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2022Q1

	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
Patient Characteristics[1]	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
2019Q1	0	0.0%	0	0.0%	NaN	NaN
2019Q2	0	0.0%	0	0.0%	NaN	NaN
2019Q3	0	0.0%	0	0.0%	NaN	NaN
2019Q4	0	0.0%	0	0.0%	NaN	NaN
2020Q1	0	0.0%	0	0.0%	NaN	NaN
2020Q2	0	0.0%	0	0.0%	NaN	NaN
2020Q3	0	0.0%	0	0.0%	NaN	NaN
2020Q4	0	0.0%	0	0.0%	NaN	NaN
2021Q1	0	0.0%	0	0.0%	NaN	NaN
2021Q2	0	0.0%	0	0.0%	NaN	NaN
2021Q3	0	0.0%	0	0.0%	NaN	NaN
2021Q4	0	0.0%	0	0.0%	NaN	NaN
2022Q1	116,093	100.0%	148,742	100.0%	0.000	NaN
2022Q2	0	0.0%	0	0.0%	NaN	NaN
Health Characteristics						
Charlson/Elixhauser combined comorbidity score[4]	0.7	1.9	2.1	2.8	-1.310	-0.552
Allergic Reaction	12,694	10.9%	24,179	16.3%	-5.321	-0.156
Diabetes	24,199	20.8%	24,179	16.3%	4.589	0.118
Heart Failure	3,796	3.3%	18,302	12.3%	-9.035	-0.342
Ischemic Heart Disease	8,031	6.9%	31,420	21.1%	-14.206	-0.418
NSAID Use	16,736	14.4%	20,995	14.1%	0.301	0.009
Acquired Hypothyroidism[5]	13,894	12.0%	22,717	15.3%	-3.305	-0.096
Acute Myocardial Infarction[5]	1,195	1.0%	10,231	6.9%	-5.849	-0.304
Alzheimers Disease and Related Disorders[5]	3,200	2.8%	7,632	5.1%	-2.375	-0.122
Anemia[5]	10,320	8.9%	27,417	18.4%	-9.543	-0.281
Asthma[5]	5,713	4.9%	10,737	7.2%	-2.297	-0.096
Atrial Fibrillation[5]	3,370	2.9%	23,223	15.6%	-12.710	-0.449
Benign Prostatic Hyperplasia[5]	6,929	6.0%	11,786	7.9%	-1.955	-0.077
Cataract[5]	14,953	12.9%	20,380	13.7%	-0.821	-0.024
Chronic Kidney Disease[5]	16,521	14.2%	28,137	18.9%	-4.686	-0.126
Chronic Obstructive Pulmonary Disease and Bronchiectasis[5]	8,149	7.0%	18,265	12.3%	-5.260	-0.179
Depression[5]	15,520	13.4%	32,379	21.8%	-8.400	-0.222

Table 1bt. Aggregated Unadjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratification (PSS) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2022Q1

Patient Characteristics[1]	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
Glaucoma[5]	7,309	6.3%	10,115	6.8%	-0.505	-0.020
Hip or Pelvic Fracture[5]	463	0.4%	1,411	0.9%	-0.550	-0.067
Hyperlipidemia[5]	46,018	39.6%	65,389	44.0%	-4.322	-0.088
Hypertension[5]	57,410	49.5%	69,520	46.7%	2.713	0.054
Osteoporosis[5]	5,533	4.8%	10,205	6.9%	-2.095	-0.090
Rheumatoid Arthritis or Osteoarthritis[5]	22,939	19.8%	35,869	24.1%	-4.356	-0.105
Stroke or Transient Ischemic Attack[5]	4,514	3.9%	8,116	5.5%	-1.568	-0.074
Breast Cancer[5]	2,648	2.3%	4,713	3.2%	-0.888	-0.055
Colorectal Cancer[5]	975	0.8%	1,680	1.1%	-0.290	-0.029
Prostate Cancer[5]	2,299	2.0%	3,758	2.5%	-0.546	-0.037
Lung Cancer[5]	500	0.4%	1,951	1.3%	-0.881	-0.095
Endometrial Cancer[5]	354	0.3%	588	0.4%	-0.090	-0.015
Urologic Cancer[5]	387	0.3%	867	0.6%	-0.250	-0.037
Health Service Utilization Intensity Metrics						
Mean number of ambulatory encounters	7.1	9.1	10.9	13.1	-3.731	-0.331
Mean number of emergency room encounters	0.3	1.0	0.5	1.4	-0.217	-0.177
Mean number of inpatient hospital encounters	0.1	0.4	0.3	0.7	-0.226	-0.415
Mean number of non-acute institutional encounters	0.0	0.2	0.1	0.4	-0.051	-0.160
Mean number of other ambulatory encounters	2.7	6.7	5.0	10.7	-2.308	-0.258
Mean number of filled prescriptions	8.2	11.2	10.7	13.0	-2.498	-0.206
Mean number of generics dispensed	3.9	3.8	5.0	4.4	-1.121	-0.273
Mean number of unique drug classes dispensed	3.7	3.5	4.7	4.1	-1.069	-0.283

[1]Covariates in blue show a standardized difference greater than 0.1.

[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.

[4]The Combined Comorbidity Score is calculated based on comorbidities observed during a requester-defined window around the exposure episode start date. (Gagne JJ, Glynn RJ, Avorn J, Levin R, Schneeweiss S. A Combined Comorbidity Score Predicted Mortality in Elderly Patients Better Than Existing Scores. J Clin Epidemiol. 2011;64(7):749-759; Sun JW, Rogers JR, Her Q, Welch EC, Panozzo CA, Toh S, Gagne JJ. Adaptation and Validation of the Combined Comorbidity Score for ICD-10-CM. Med Care. 2017;55(12):1046-1051)

[5]Covariate not included in the propensity score logistic regression model.

NaN: Not a number

Table 1bu. Aggregated Weighted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratified, Percentiles: 5, in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2022Q1

	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
Patient Characteristics[1,2]	Number/ Mean	Percent/ Standard Deviation[3]	Number/ Mean	Percent/ Standard Deviation[3]	Absolute Difference	Standardized Difference
Unique patients	116,065	100.0%	148,653	99.9%	N/A	N/A
Demographic Characteristics						
Age (years)	61.1	12.2	61.9	14.0	-0.742	-0.056
Age						
18-44 years	21,138	18.2%	28,602	19.2%	-1.029	-0.029
45-64 years	36,131	31.1%	37,909	25.5%	5.628	0.136
≥ 65 years	58,796	50.7%	82,141	55.3%	-4.599	-0.126
Sex						
Female	62,904	54.2%	79,667	53.6%	0.605	0.012
Male	53,161	45.8%	68,986	46.4%	-0.605	-0.012
Race[4]						
American Indian or Alaska Native	424	0.4%	407	0.3%	0.092	0.016
Asian	1,341	1.2%	1,969	1.3%	-0.169	-0.015
Black or African American	5,641	4.9%	8,308	5.6%	-0.728	-0.033
Multi-racial	532	0.5%	678	0.5%	0.002	0.000
Native Hawaiian or Other Pacific Islander	145	0.1%	193	0.1%	-0.005	-0.001
Unknown	52,393	45.1%	60,769	40.9%	4.261	0.173
White	55,589	47.9%	76,329	51.3%	-3.452	-0.106
Hispanic origin						
Yes	2,446	2.1%	2,225	1.5%	0.610	0.046
No	56,848	49.0%	78,939	53.1%	-4.124	-0.212
Unknown	56,771	48.9%	67,488	45.4%	3.513	0.199
Year						
2018	0	0.0%	0	0.0%	NaN	NaN
2019	0	0.0%	0	0.0%	NaN	NaN
2020	0	0.0%	0	0.0%	NaN	NaN
2021	0	0.0%	0	0.0%	NaN	NaN
2022	116,065	100.0%	148,653	100.0%	0.000	NaN
Quarter-Year						
2018Q1	0	0.0%	0	0.0%	NaN	NaN
2018Q2	0	0.0%	0	0.0%	NaN	NaN
2018Q3	0	0.0%	0	0.0%	NaN	NaN
2018Q4	0	0.0%	0	0.0%	NaN	NaN
2019Q1	0	0.0%	0	0.0%	NaN	NaN

Table 1bu. Aggregated Weighted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratified, Percentiles: 5, in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2022Q1

Patient Characteristics[1,2]	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
	Number/ Mean	Percent/ Standard Deviation[3]	Number/ Mean	Percent/ Standard Deviation[3]	Absolute Difference	Standardized Difference
2019Q2	0	0.0%	0	0.0%	NaN	NaN
2019Q3	0	0.0%	0	0.0%	NaN	NaN
2019Q4	0	0.0%	0	0.0%	NaN	NaN
2020Q1	0	0.0%	0	0.0%	NaN	NaN
2020Q2	0	0.0%	0	0.0%	NaN	NaN
2020Q3	0	0.0%	0	0.0%	NaN	NaN
2020Q4	0	0.0%	0	0.0%	NaN	NaN
2021Q1	0	0.0%	0	0.0%	NaN	NaN
2021Q2	0	0.0%	0	0.0%	NaN	NaN
2021Q3	0	0.0%	0	0.0%	NaN	NaN
2021Q4	0	0.0%	0	0.0%	NaN	NaN
2022Q1	116,065	100.0%	148,653	100.0%	0.000	NaN
2022Q2	0	0.0%	0	0.0%	NaN	NaN
Health Characteristics						
Charlson/Elixhauser combined comorbidity score[5]	1.4	2.4	1.6	2.5	-0.155	-0.062
Allergic Reaction	16,492	14.2%	20,798	14.0%	0.219	0.006
Diabetes	21,312	18.4%	27,127	18.2%	0.113	0.003
Heart Failure	7,833	6.7%	13,456	9.1%	-2.303	-0.086
Ischemic Heart Disease	16,325	14.1%	23,044	15.5%	-1.436	-0.041
NSAID Use	16,866	14.5%	21,113	14.2%	0.329	0.009
Acquired Hypothyroidism[6]	16,308	14.1%	21,179	14.2%	-0.197	-0.006
Acute Myocardial Infarction[6]	2,731	2.4%	7,328	4.9%	-2.577	-0.138
Alzheimers Disease and Related Disorders[6]	5,281	4.6%	5,969	4.0%	0.535	0.027
Anemia[6]	15,869	13.7%	22,018	14.8%	-1.139	-0.033
Asthma[6]	8,186	7.1%	8,817	5.9%	1.122	0.046
Atrial Fibrillation[6]	5,488	4.7%	20,102	13.5%	-8.795	-0.313
Benign Prostatic Hyperplasia[6]	7,461	6.4%	11,524	7.8%	-1.324	-0.052
Cataract[6]	15,221	13.1%	20,524	13.8%	-0.693	-0.021
Chronic Kidney Disease[6]	20,443	17.6%	24,532	16.5%	1.111	0.030
Chronic Obstructive Pulmonary Disease and Bronchiectasis[6]	12,144	10.5%	14,782	9.9%	0.520	0.017
Depression[6]	21,854	18.8%	26,698	18.0%	0.869	0.022
Glaucoma[6]	7,519	6.5%	10,031	6.7%	-0.270	-0.011
Hip or Pelvic Fracture[6]	778	0.7%	1,135	0.8%	-0.093	-0.011

Table 1bu. Aggregated Weighted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratified, Percentiles: 5, in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2022Q1

	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
Patient Characteristics[1,2]	Number/ Mean	Percent/ Standard Deviation[3]	Number/ Mean	Percent/ Standard Deviation[3]	Absolute Difference	Standardized Difference
Hyperlipidemia[6]	48,722	42.0%	64,290	43.2%	-1.270	-0.027
Hypertension[6]	60,529	52.2%	69,770	46.9%	5.217	0.107
Osteoporosis[6]	6,673	5.7%	9,328	6.3%	-0.526	-0.022
Rheumatoid Arthritis or Osteoarthritis[6]	26,578	22.9%	33,746	22.7%	0.198	0.005
Stroke or Transient Ischemic Attack[6]	6,446	5.6%	6,994	4.7%	0.849	0.039
Breast Cancer[6]	3,670	3.2%	4,074	2.7%	0.421	0.025
Colorectal Cancer[6]	1,483	1.3%	1,417	1.0%	0.325	0.031
Prostate Cancer[6]	2,724	2.3%	3,443	2.3%	0.031	0.002
Lung Cancer[6]	941	0.8%	1,470	1.0%	-0.178	-0.019
Endometrial Cancer[6]	514	0.4%	497	0.3%	0.109	0.017
Urologic Cancer[6]	615	0.5%	709	0.5%	0.053	0.008
Health Service Utilization Intensity Metrics						
Mean number of ambulatory encounters	9.3	11.8	9.5	11.6	-0.203	-0.017
Mean number of emergency room encounters	0.4	1.3	0.4	1.2	0.000	0.000
Mean number of inpatient hospital encounters	0.2	0.5	0.2	0.6	-0.045	-0.080
Mean number of non-acute institutional encounters	0.1	0.3	0.1	0.3	-0.009	-0.028
Mean number of other ambulatory encounters	3.7	8.6	4.2	9.6	-0.465	-0.051
Mean number of filled prescriptions	9.9	12.8	9.7	12.4	0.194	0.015
Mean number of generics dispensed	4.6	4.3	4.6	4.2	0.056	0.013
Mean number of unique drug classes dispensed	4.4	4.0	4.3	3.9	0.059	0.015

[1]Covariates in blue show a standardized difference greater than 0.1.

[2]Weighted patient characteristics tables facilitate the assessment of covariate balance after propensity score (PS) stratification and should not be interpreted as a description of the unweighted population. Treated/control patients are weighted by the proportion of the total patient population included in their PS stratum divided by the proportion of the total treated/control patient population included in their PS stratum.

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

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

[5]The Combined Comorbidity Score is calculated based on comorbidities observed during a requester-defined window around the exposure episode start date. (Gagne JJ, Glynn RJ, Avorn J, Levin R, Schneeweiss S. A Combined Comorbidity Score Predicted Mortality in Elderly Patients Better Than Existing Scores. J Clin Epidemiol. 2011;64(7):749-759; Sun JW, Rogers JR, Her Q, Welch EC, Panozzo CA, Toh S, Gagne JJ. Adaptation and Validation of the Combined Comorbidity Score for ICD-10-CM. Med Care. 2017;55(12):1046-1051)

[6]Covariate not included in the propensity score logistic regression model.

NaN: Not a number

Table 1bv. Aggregated Unadjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratification (PSS) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2022Q2

	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
Patient Characteristics[1]	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
Unique patients	97,770	100.0%	133,947	100.0%	N/A	N/A
Demographic Characteristics						
Age (years)	61.4	11.7	60.3	14.3	1.054	0.081
Age						
18-44 years	15,621	16.0%	32,177	24.0%	-8.045	-0.202
45-64 years	32,570	33.3%	30,397	22.7%	10.620	0.238
≥ 65 years	49,579	50.7%	71,373	53.3%	-2.575	-0.052
Sex						
Female	48,026	49.1%	78,818	58.8%	-9.721	-0.196
Male	49,744	50.9%	55,129	41.2%	9.721	0.196
Race[3]						
American Indian or Alaska Native	421	0.4%	341	0.3%	0.176	0.030
Asian	1,162	1.2%	1,659	1.2%	-0.050	-0.005
Black or African American	4,749	4.9%	7,157	5.3%	-0.486	-0.022
Multi-racial	395	0.4%	718	0.5%	-0.132	-0.019
Native Hawaiian or Other Pacific Islander	165	0.2%	161	0.1%	0.049	0.013
Unknown	44,934	46.0%	55,442	41.4%	4.568	0.092
White	45,944	47.0%	68,469	51.1%	-4.125	-0.083
Hispanic origin						
Yes	2,420	2.5%	2,037	1.5%	0.954	0.068
No	47,402	48.5%	70,666	52.8%	-4.274	-0.086
Unknown	47,948	49.0%	61,244	45.7%	3.319	0.067
Year						
2018	0	0.0%	0	0.0%	NaN	NaN
2019	0	0.0%	0	0.0%	NaN	NaN
2020	0	0.0%	0	0.0%	NaN	NaN
2021	0	0.0%	0	0.0%	NaN	NaN
2022	97,770	100.0%	133,947	100.0%	0.000	NaN
Quarter-Year						
2018Q1	0	0.0%	0	0.0%	NaN	NaN
2018Q2	0	0.0%	0	0.0%	NaN	NaN
2018Q3	0	0.0%	0	0.0%	NaN	NaN
2018Q4	0	0.0%	0	0.0%	NaN	NaN
2019Q1	0	0.0%	0	0.0%	NaN	NaN

Table 1bv. Aggregated Unadjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratification (PSS) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2022Q2

| Patient Characteristics[1] | Medical Product | | | | Covariate Balance | |
| | ACE Inhibitors | | Beta Blockers | | | |
	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
2019Q2	0	0.0%	0	0.0%	NaN	NaN
2019Q3	0	0.0%	0	0.0%	NaN	NaN
2019Q4	0	0.0%	0	0.0%	NaN	NaN
2020Q1	0	0.0%	0	0.0%	NaN	NaN
2020Q2	0	0.0%	0	0.0%	NaN	NaN
2020Q3	0	0.0%	0	0.0%	NaN	NaN
2020Q4	0	0.0%	0	0.0%	NaN	NaN
2021Q1	0	0.0%	0	0.0%	NaN	NaN
2021Q2	0	0.0%	0	0.0%	NaN	NaN
2021Q3	0	0.0%	0	0.0%	NaN	NaN
2021Q4	0	0.0%	0	0.0%	NaN	NaN
2022Q1	0	0.0%	0	0.0%	NaN	NaN
2022Q2	97,770	100.0%	133,947	100.0%	0.000	NaN
Health Characteristics						
Charlson/Elixhauser combined comorbidity score[4]	0.8	1.9	2.1	2.8	-1.346	-0.556
Allergic Reaction	10,374	10.6%	22,386	16.7%	-6.102	-0.178
Diabetes	20,533	21.0%	21,349	15.9%	5.063	0.131
Heart Failure	3,294	3.4%	17,017	12.7%	-9.335	-0.349
Ischemic Heart Disease	6,772	6.9%	28,731	21.4%	-14.523	-0.426
NSAID Use	14,448	14.8%	19,910	14.9%	-0.087	-0.002
Acquired Hypothyroidism[5]	11,492	11.8%	20,762	15.5%	-3.746	-0.109
Acute Myocardial Infarction[5]	1,096	1.1%	9,856	7.4%	-6.237	-0.313
Alzheimers Disease and Related Disorders[5]	2,935	3.0%	7,153	5.3%	-2.338	-0.117
Anemia[5]	8,875	9.1%	25,365	18.9%	-9.859	-0.287
Asthma[5]	4,883	5.0%	9,999	7.5%	-2.471	-0.102
Atrial Fibrillation[5]	2,697	2.8%	20,955	15.6%	-12.886	-0.457
Benign Prostatic Hyperplasia[5]	5,689	5.8%	10,431	7.8%	-1.969	-0.078
Cataract[5]	12,094	12.4%	17,529	13.1%	-0.717	-0.022
Chronic Kidney Disease[5]	14,171	14.5%	25,062	18.7%	-4.216	-0.113
Chronic Obstructive Pulmonary Disease and Bronchiectasis[5]	7,129	7.3%	16,915	12.6%	-5.337	-0.179
Depression[5]	13,686	14.0%	30,523	22.8%	-8.789	-0.228
Glaucoma[5]	5,954	6.1%	8,737	6.5%	-0.433	-0.018

Table 1bv. Aggregated Unadjusted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratification (PSS) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2022Q2

| Patient Characteristics[1] | Medical Product | | | | Covariate Balance | |
| | ACE Inhibitors | | Beta Blockers | | | |
	Number/ Mean	Percent/ Standard Deviation[2]	Number/ Mean	Percent/ Standard Deviation[2]	Absolute Difference	Standardized Difference
Hip or Pelvic Fracture[5]	463	0.5%	1,251	0.9%	-0.460	-0.055
Hyperlipidemia[5]	38,636	39.5%	58,542	43.7%	-4.188	-0.085
Hypertension[5]	47,703	48.8%	60,787	45.4%	3.410	0.068
Osteoporosis[5]	4,747	4.9%	9,225	6.9%	-2.032	-0.087
Rheumatoid Arthritis or Osteoarthritis[5]	19,226	19.7%	32,713	24.4%	-4.758	-0.115
Stroke or Transient Ischemic Attack[5]	4,034	4.1%	7,501	5.6%	-1.474	-0.069
Breast Cancer[5]	2,185	2.2%	4,390	3.3%	-1.043	-0.064
Colorectal Cancer[5]	791	0.8%	1,546	1.2%	-0.345	-0.035
Prostate Cancer[5]	1,865	1.9%	3,370	2.5%	-0.608	-0.041
Lung Cancer[5]	499	0.5%	1,847	1.4%	-0.869	-0.090
Endometrial Cancer[5]	363	0.4%	503	0.4%	-0.004	-0.001
Urologic Cancer[5]	344	0.4%	785	0.6%	-0.234	-0.034
Health Service Utilization Intensity Metrics						
Mean number of ambulatory encounters	7.0	9.2	10.7	12.7	-3.742	-0.339
Mean number of emergency room encounters	0.3	0.9	0.5	1.3	-0.219	-0.193
Mean number of inpatient hospital encounters	0.1	0.4	0.3	0.7	-0.236	-0.430
Mean number of non-acute institutional encounters	0.0	0.2	0.1	0.4	-0.053	-0.160
Mean number of other ambulatory encounters	2.5	7.0	4.9	11.2	-2.407	-0.258
Mean number of filled prescriptions	8.5	11.3	11.2	13.4	-2.654	-0.215
Mean number of generics dispensed	4.0	3.8	5.1	4.5	-1.164	-0.281
Mean number of unique drug classes dispensed	3.7	3.5	4.9	4.1	-1.113	-0.291

[1]Covariates in blue show a standardized difference greater than 0.1.

[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.

[4]The Combined Comorbidity Score is calculated based on comorbidities observed during a requester-defined window around the exposure episode start date. (Gagne JJ, Glynn RJ, Avorn J, Levin R, Schneeweiss S. A Combined Comorbidity Score Predicted Mortality in Elderly Patients Better Than Existing Scores. J Clin Epidemiol. 2011;64(7):749-759; Sun JW, Rogers JR, Her Q, Welch EC, Panozzo CA, Toh S, Gagne JJ. Adaptation and Validation of the Combined Comorbidity Score for ICD-10-CM. Med Care. 2017;55(12):1046-1051)

[5]Covariate not included in the propensity score logistic regression model.

NaN: Not a number

Table 1bw. Aggregated Weighted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratified, Percentiles: 5, in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2022Q2

Patient Characteristics[1,2]	Medical Product				Covariate Balance	
	ACE Inhibitors		Beta Blockers			
	Number/ Mean	Percent/ Standard Deviation[3]	Number/ Mean	Percent/ Standard Deviation[3]	Absolute Difference	Standardized Difference
Unique patients	97,752	100.0%	133,910	100.0%	N/A	N/A
Demographic Characteristics						
Age (years)	61.0	12.4	61.4	14.0	-0.442	-0.033
Age						
18-44 years	18,474	18.9%	27,106	20.2%	-1.344	-0.038
45-64 years	29,944	30.6%	33,680	25.2%	5.482	0.133
≥ 65 years	49,334	50.5%	73,124	54.6%	-4.138	-0.114
Sex						
Female	54,310	55.6%	72,679	54.3%	1.284	0.026
Male	43,442	44.4%	61,231	45.7%	-1.284	-0.026
Race[4]						
American Indian or Alaska Native	379	0.4%	331	0.2%	0.140	0.025
Asian	1,035	1.1%	1,794	1.3%	-0.280	-0.026
Black or African American	4,835	4.9%	7,271	5.4%	-0.484	-0.022
Multi-racial	391	0.4%	671	0.5%	-0.101	-0.015
Native Hawaiian or Other Pacific Islander	141	0.1%	191	0.1%	0.001	0.000
Unknown	44,250	45.3%	55,666	41.6%	3.697	0.149
White	46,722	47.8%	67,986	50.8%	-2.973	-0.092
Hispanic origin						
Yes	2,166	2.2%	2,114	1.6%	0.638	0.047
No	47,955	49.1%	70,361	52.5%	-3.486	-0.177
Unknown	47,631	48.7%	61,435	45.9%	2.849	0.159
Year						
2018	0	0.0%	0	0.0%	NaN	NaN
2019	0	0.0%	0	0.0%	NaN	NaN
2020	0	0.0%	0	0.0%	NaN	NaN
2021	0	0.0%	0	0.0%	NaN	NaN
2022	97,752	100.0%	133,910	100.0%	0.000	NaN
Quarter-Year						
2018Q1	0	0.0%	0	0.0%	NaN	NaN
2018Q2	0	0.0%	0	0.0%	NaN	NaN
2018Q3	0	0.0%	0	0.0%	NaN	NaN
2018Q4	0	0.0%	0	0.0%	NaN	NaN
2019Q1	0	0.0%	0	0.0%	NaN	NaN

Table 1bw. Aggregated Weighted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratified, Percentiles: 5, in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2022Q2

| Patient Characteristics[1,2] | Medical Product | | | | Covariate Balance | |
| | ACE Inhibitors | | Beta Blockers | | | |
	Number/ Mean	Percent/ Standard Deviation[3]	Number/ Mean	Percent/ Standard Deviation[3]	Absolute Difference	Standardized Difference
2019Q2	0	0.0%	0	0.0%	NaN	NaN
2019Q3	0	0.0%	0	0.0%	NaN	NaN
2019Q4	0	0.0%	0	0.0%	NaN	NaN
2020Q1	0	0.0%	0	0.0%	NaN	NaN
2020Q2	0	0.0%	0	0.0%	NaN	NaN
2020Q3	0	0.0%	0	0.0%	NaN	NaN
2020Q4	0	0.0%	0	0.0%	NaN	NaN
2021Q1	0	0.0%	0	0.0%	NaN	NaN
2021Q2	0	0.0%	0	0.0%	NaN	NaN
2021Q3	0	0.0%	0	0.0%	NaN	NaN
2021Q4	0	0.0%	0	0.0%	NaN	NaN
2022Q1	0	0.0%	0	0.0%	NaN	NaN
2022Q2	97,752	100.0%	133,910	100.0%	0.000	NaN
Health Characteristics						
Charlson/Elixhauser combined comorbidity score[5]	1.5	2.5	1.6	2.6	-0.136	-0.053
Allergic Reaction	13,732	14.0%	19,375	14.5%	-0.421	-0.012
Diabetes	18,009	18.4%	23,947	17.9%	0.541	0.014
Heart Failure	6,983	7.1%	12,610	9.4%	-2.273	-0.084
Ischemic Heart Disease	14,068	14.4%	21,275	15.9%	-1.495	-0.042
NSAID Use	14,629	15.0%	20,216	15.1%	-0.132	-0.004
Acquired Hypothyroidism[6]	13,607	13.9%	19,388	14.5%	-0.558	-0.016
Acute Myocardial Infarction[6]	2,538	2.6%	7,160	5.3%	-2.750	-0.142
Alzheimers Disease and Related Disorders[6]	4,907	5.0%	5,619	4.2%	0.824	0.040
Anemia[6]	13,813	14.1%	20,540	15.3%	-1.208	-0.035
Asthma[6]	7,092	7.3%	8,202	6.1%	1.131	0.045
Atrial Fibrillation[6]	4,624	4.7%	18,179	13.6%	-8.845	-0.315
Benign Prostatic Hyperplasia[6]	6,276	6.4%	10,171	7.6%	-1.176	-0.047
Cataract[6]	12,402	12.7%	17,605	13.1%	-0.460	-0.014
Chronic Kidney Disease[6]	17,737	18.1%	21,904	16.4%	1.787	0.048
Chronic Obstructive Pulmonary Disease and Bronchiectasis[6]	10,842	11.1%	13,809	10.3%	0.779	0.026
Depression[6]	19,534	20.0%	25,267	18.9%	1.114	0.028
Glaucoma[6]	6,260	6.4%	8,680	6.5%	-0.078	-0.003
Hip or Pelvic Fracture[6]	780	0.8%	998	0.7%	0.052	0.006

Table 1bw. Aggregated Weighted Characteristics of New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratified, Percentiles: 5, in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2022Q2

| Patient Characteristics[1,2] | Medical Product | | | | Covariate Balance | |
| | ACE Inhibitors | | Beta Blockers | | | |
	Number/ Mean	Percent/ Standard Deviation[3]	Number/ Mean	Percent/ Standard Deviation[3]	Absolute Difference	Standardized Difference
Hyperlipidemia[6]	41,160	42.1%	57,440	42.9%	-0.787	-0.017
Hypertension[6]	50,559	51.7%	60,712	45.3%	6.384	0.132
Osteoporosis[6]	5,873	6.0%	8,392	6.3%	-0.259	-0.011
Rheumatoid Arthritis or Osteoarthritis[6]	22,549	23.1%	30,740	23.0%	0.112	0.003
Stroke or Transient Ischemic Attack[6]	5,861	6.0%	6,490	4.8%	1.149	0.051
Breast Cancer[6]	3,012	3.1%	3,787	2.8%	0.253	0.015
Colorectal Cancer[6]	1,235	1.3%	1,286	1.0%	0.303	0.029
Prostate Cancer[6]	2,257	2.3%	3,071	2.3%	0.016	0.001
Lung Cancer[6]	926	0.9%	1,397	1.0%	-0.096	-0.010
Endometrial Cancer[6]	555	0.6%	430	0.3%	0.247	0.037
Urologic Cancer[6]	565	0.6%	656	0.5%	0.088	0.012
Health Service Utilization Intensity Metrics						
Mean number of ambulatory encounters	9.2	11.9	9.4	11.3	-0.157	-0.013
Mean number of emergency room encounters	0.4	1.1	0.4	1.1	-0.008	-0.007
Mean number of inpatient hospital encounters	0.2	0.6	0.3	0.6	-0.044	-0.078
Mean number of non-acute institutional encounters	0.1	0.3	0.1	0.4	-0.007	-0.020
Mean number of other ambulatory encounters	3.7	9.3	4.1	10.1	-0.400	-0.041
Mean number of filled prescriptions	10.5	13.0	10.2	12.7	0.260	0.020
Mean number of generics dispensed	4.8	4.4	4.7	4.2	0.098	0.023
Mean number of unique drug classes dispensed	4.5	4.0	4.5	3.9	0.091	0.023

[1]Covariates in blue show a standardized difference greater than 0.1.

[2]Weighted patient characteristics tables facilitate the assessment of covariate balance after propensity score (PS) stratification and should not be interpreted as a description of the unweighted population. Treated/control patients are weighted by the proportion of the total patient population included in their PS stratum divided by the proportion of the total treated/control patient population included in their PS stratum.

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

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

[5]The Combined Comorbidity Score is calculated based on comorbidities observed during a requester-defined window around the exposure episode start date. (Gagne JJ, Glynn RJ, Avorn J, Levin R, Schneeweiss S. A Combined Comorbidity Score Predicted Mortality in Elderly Patients Better Than Existing Scores. J Clin Epidemiol. 2011;64(7):749-759; Sun JW, Rogers JR, Her Q, Welch EC, Panozzo CA, Toh S, Gagne JJ. Adaptation and Validation of the Combined Comorbidity Score for ICD-10-CM. Med Care. 2017;55(12):1046-1051)

[6]Covariate not included in the propensity score logistic regression model.

NaN: Not a number

Table 2a. Effect Estimates for New Users of ACE Inhibitors vs Beta Blockers and Angioedema, Propensity Score Matching (PSM) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, by Analysis Type

Medical Product	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	Hazard Ratio (95% Confidence Interval)	Wald P-Value
Site-Adjusted Analysis									
ACE Inhibitors	2,240,239	442,941.07	72.22	0.20	3,771	8.51	1.68	3.99 (3.72, 4.29)	<0.001
Beta Blockers	2,479,076	429,916.47	63.34	0.17	960	2.23	0.39		
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.025									
ACE Inhibitors	1,511,170	220,532.03	53.30	0.15	2,304	10.45	1.52	4.47 (4.07, 4.92)	<0.001
Beta Blockers	1,511,170	220,532.03	53.30	0.15	515	2.34	0.34		
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.025									
ACE Inhibitors	1,511,170	295,014.63	71.31	0.20	2,777	9.41	1.84	4.44 (4.06, 4.85)	<0.001
Beta Blockers	1,511,170	266,301.27	64.37	0.18	582	2.19	0.39		

Table 2b. Effect Estimates for New Users of ACE Inhibitors vs Beta Blockers and Angioedema, Propensity Score Matching (PSM) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, by Analysis Type and 2018Q1

Medical Product	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	Hazard Ratio (95% Confidence Interval)	Wald P-Value
ACE Inhibitors vs Beta Blockers and Angioedema, Overall									
Site-Adjusted Analysis									
ACE Inhibitors	2,240,239	442,941.07	72.22	0.20	3,771	8.51	1.68	3.99 (3.72, 4.29)	<0.001
Beta Blockers	2,479,076	429,916.47	63.34	0.17	960	2.23	0.39		
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.025									
ACE Inhibitors	1,511,170	220,532.03	53.30	0.15	2,304	10.45	1.52	4.47 (4.07, 4.92)	<0.001
Beta Blockers	1,511,170	220,532.03	53.30	0.15	515	2.34	0.34		
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.025									
ACE Inhibitors	1,511,170	295,014.63	71.31	0.20	2,777	9.41	1.84	4.44 (4.06, 4.85)	<0.001
Beta Blockers	1,511,170	266,301.27	64.37	0.18	582	2.19	0.39		
ACE Inhibitors vs Beta Blockers and Angioedema by Quarter, 2018Q1									
Site-Adjusted Analysis									
ACE Inhibitors	101,477	19,895.55	71.61	0.20	165	8.29	1.63	3.25 (2.32, 4.57)	<0.001
Beta Blockers	89,394	15,967.31	65.24	0.18	42	2.63	0.47		
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.025									
ACE Inhibitors	89,379	13,280.87	54.27	0.15	125	9.41	1.40	3.38 (2.34, 4.88)	<0.001
Beta Blockers	89,379	13,280.87	54.27	0.15	37	2.79	0.41		
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.025									
ACE Inhibitors	89,379	17,552.39	71.73	0.20	149	8.49	1.67	3.32 (2.36, 4.68)	<0.001
Beta Blockers	89,379	15,964.93	65.24	0.18	42	2.63	0.47		

Table 2c. Effect Estimates for New Users of ACE Inhibitors vs Beta Blockers and Angioedema, Propensity Score Matching (PSM) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, by Analysis Type and 2018Q2

Medical Product	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	Hazard Ratio (95% Confidence Interval)	Wald P-Value
ACE Inhibitors vs Beta Blockers and Angioedema, Overall									
Site-Adjusted Analysis									
ACE Inhibitors	2,240,239	442,941.07	72.22	0.20	3,771	8.51	1.68	3.99 (3.72, 4.29)	<0.001
Beta Blockers	2,479,076	429,916.47	63.34	0.17	960	2.23	0.39		
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.025									
ACE Inhibitors	1,511,170	220,532.03	53.30	0.15	2,304	10.45	1.52	4.47 (4.07, 4.92)	<0.001
Beta Blockers	1,511,170	220,532.03	53.30	0.15	515	2.34	0.34		
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.025									
ACE Inhibitors	1,511,170	295,014.63	71.31	0.20	2,777	9.41	1.84	4.44 (4.06, 4.85)	<0.001
Beta Blockers	1,511,170	266,301.27	64.37	0.18	582	2.19	0.39		
ACE Inhibitors vs Beta Blockers and Angioedema by Quarter, 2018Q2									
Site-Adjusted Analysis									
ACE Inhibitors	89,070	17,366.07	71.21	0.19	198	11.40	2.22	6.04 (4.06, 8.97)	<0.001
Beta Blockers	81,416	14,546.06	65.26	0.18	28	1.92	0.34		
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.025									
ACE Inhibitors	81,331	12,045.35	54.09	0.15	141	11.71	1.73	5.87 (3.81, 9.06)	<0.001
Beta Blockers	81,331	12,045.35	54.09	0.15	24	1.99	0.30		
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.025									
ACE Inhibitors	81,331	15,862.97	71.24	0.20	169	10.65	2.08	5.65 (3.79, 8.43)	<0.001
Beta Blockers	81,331	14,530.76	65.26	0.18	28	1.93	0.34		

Table 2d. Effect Estimates for New Users of ACE Inhibitors vs Beta Blockers and Angioedema, Propensity Score Matching (PSM) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, by Analysis Type and 2018Q3

Medical Product	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	Hazard Ratio (95% Confidence Interval)	Wald P-Value
ACE Inhibitors vs Beta Blockers and Angioedema, Overall									
Site-Adjusted Analysis									
ACE Inhibitors	2,240,239	442,941.07	72.22	0.20	3,771	8.51	1.68	3.99 (3.72, 4.29)	<0.001
Beta Blockers	2,479,076	429,916.47	63.34	0.17	960	2.23	0.39		
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.025									
ACE Inhibitors	1,511,170	220,532.03	53.30	0.15	2,304	10.45	1.52	4.47 (4.07, 4.92)	<0.001
Beta Blockers	1,511,170	220,532.03	53.30	0.15	515	2.34	0.34		
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.025									
ACE Inhibitors	1,511,170	295,014.63	71.31	0.20	2,777	9.41	1.84	4.44 (4.06, 4.85)	<0.001
Beta Blockers	1,511,170	266,301.27	64.37	0.18	582	2.19	0.39		
ACE Inhibitors vs Beta Blockers and Angioedema by Quarter, 2018Q3									
Site-Adjusted Analysis									
ACE Inhibitors	87,025	17,033.24	71.49	0.20	179	10.51	2.06	5.15 (3.52, 7.55)	<0.001
Beta Blockers	81,755	14,627.15	65.35	0.18	31	2.12	0.38		
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.025									
ACE Inhibitors	81,539	12,134.21	54.35	0.15	146	12.03	1.79	6.35 (4.09, 9.85)	<0.001
Beta Blockers	81,539	12,134.21	54.35	0.15	23	1.90	0.28		
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.025									
ACE Inhibitors	81,539	15,985.23	71.61	0.20	167	10.45	2.05	5.28 (3.58, 7.78)	<0.001
Beta Blockers	81,539	14,589.42	65.35	0.18	30	2.06	0.37		

Table 2e. Effect Estimates for New Users of ACE Inhibitors vs Beta Blockers and Angioedema, Propensity Score Matching (PSM) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, by Analysis Type and 2018Q4

Medical Product	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	Hazard Ratio (95% Confidence Interval)	Wald P-Value
ACE Inhibitors vs Beta Blockers and Angioedema, Overall									
Site-Adjusted Analysis									
ACE Inhibitors	2,240,239	442,941.07	72.22	0.20	3,771	8.51	1.68	3.99 (3.72, 4.29)	<0.001
Beta Blockers	2,479,076	429,916.47	63.34	0.17	960	2.23	0.39		
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.025									
ACE Inhibitors	1,511,170	220,532.03	53.30	0.15	2,304	10.45	1.52	4.47 (4.07, 4.92)	<0.001
Beta Blockers	1,511,170	220,532.03	53.30	0.15	515	2.34	0.34		
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.025									
ACE Inhibitors	1,511,170	295,014.63	71.31	0.20	2,777	9.41	1.84	4.44 (4.06, 4.85)	<0.001
Beta Blockers	1,511,170	266,301.27	64.37	0.18	582	2.19	0.39		
ACE Inhibitors vs Beta Blockers and Angioedema by Quarter, 2018Q4									
Site-Adjusted Analysis									
ACE Inhibitors	91,795	17,643.71	70.20	0.19	168	9.52	1.83	3.09 (2.24, 4.26)	<0.001
Beta Blockers	86,055	15,111.41	64.14	0.18	48	3.18	0.56		
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.025									
ACE Inhibitors	85,671	12,345.97	52.64	0.14	130	10.53	1.52	3.10 (2.19, 4.38)	<0.001
Beta Blockers	85,671	12,345.97	52.64	0.14	42	3.40	0.49		
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.025									
ACE Inhibitors	85,671	16,477.51	70.25	0.19	160	9.71	1.87	3.14 (2.28, 4.34)	<0.001
Beta Blockers	85,671	15,048.37	64.16	0.18	48	3.19	0.56		

Table 2f. Effect Estimates for New Users of ACE Inhibitors vs Beta Blockers and Angioedema, Propensity Score Matching (PSM) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, by Analysis Type and 2019Q1

Medical Product	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	Hazard Ratio (95% Confidence Interval)	Wald P-Value
ACE Inhibitors vs Beta Blockers and Angioedema, Overall									
Site-Adjusted Analysis									
ACE Inhibitors	2,240,239	442,941.07	72.22	0.20	3,771	8.51	1.68	3.99 (3.72, 4.29)	<0.001
Beta Blockers	2,479,076	429,916.47	63.34	0.17	960	2.23	0.39		
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.025									
ACE Inhibitors	1,511,170	220,532.03	53.30	0.15	2,304	10.45	1.52	4.47 (4.07, 4.92)	<0.001
Beta Blockers	1,511,170	220,532.03	53.30	0.15	515	2.34	0.34		
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.025									
ACE Inhibitors	1,511,170	295,014.63	71.31	0.20	2,777	9.41	1.84	4.44 (4.06, 4.85)	<0.001
Beta Blockers	1,511,170	266,301.27	64.37	0.18	582	2.19	0.39		
ACE Inhibitors vs Beta Blockers and Angioedema by Quarter, 2019Q1									
Site-Adjusted Analysis									
ACE Inhibitors	99,665	19,933.22	73.05	0.20	202	10.13	2.03	5.79 (3.92, 8.54)	<0.001
Beta Blockers	88,957	16,062.44	65.95	0.18	29	1.81	0.33		
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.025									
ACE Inhibitors	88,808	13,514.20	55.58	0.15	148	10.95	1.67	6.43 (4.15, 9.98)	<0.001
Beta Blockers	88,808	13,514.20	55.58	0.15	23	1.70	0.26		
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.025									
ACE Inhibitors	88,808	17,763.89	73.06	0.20	177	9.96	1.99	5.66 (3.82, 8.39)	<0.001
Beta Blockers	88,808	16,038.25	65.96	0.18	29	1.81	0.33		

Table 2g. Effect Estimates for New Users of ACE Inhibitors vs Beta Blockers and Angioedema, Propensity Score Matching (PSM) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, by Analysis Type and 2019Q2

Medical Product	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	Hazard Ratio (95% Confidence Interval)	Wald P-Value
ACE Inhibitors vs Beta Blockers and Angioedema, Overall									
Site-Adjusted Analysis									
ACE Inhibitors	2,240,239	442,941.07	72.22	0.20	3,771	8.51	1.68	3.99 (3.72, 4.29)	<0.001
Beta Blockers	2,479,076	429,916.47	63.34	0.17	960	2.23	0.39		
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.025									
ACE Inhibitors	1,511,170	220,532.03	53.30	0.15	2,304	10.45	1.52	4.47 (4.07, 4.92)	<0.001
Beta Blockers	1,511,170	220,532.03	53.30	0.15	515	2.34	0.34		
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.025									
ACE Inhibitors	1,511,170	295,014.63	71.31	0.20	2,777	9.41	1.84	4.44 (4.06, 4.85)	<0.001
Beta Blockers	1,511,170	266,301.27	64.37	0.18	582	2.19	0.39		
ACE Inhibitors vs Beta Blockers and Angioedema by Quarter, 2019Q2									
Site-Adjusted Analysis									
ACE Inhibitors	88,968	17,681.44	72.59	0.20	200	11.31	2.25	5.50 (3.75, 8.07)	<0.001
Beta Blockers	79,016	14,269.30	65.96	0.18	30	2.10	0.38		
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.025									
ACE Inhibitors	78,958	11,971.95	55.38	0.15	139	11.61	1.76	5.79 (3.76, 8.93)	<0.001
Beta Blockers	78,958	11,971.95	55.38	0.15	24	2.00	0.30		
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.025									
ACE Inhibitors	78,958	15,672.36	72.50	0.20	177	11.29	2.24	5.47 (3.71, 8.05)	<0.001
Beta Blockers	78,958	14,259.17	65.96	0.18	30	2.10	0.38		

Table 2h. Effect Estimates for New Users of ACE Inhibitors vs Beta Blockers and Angioedema, Propensity Score Matching (PSM) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, by Analysis Type and 2019Q3

Medical Product	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	Hazard Ratio (95% Confidence Interval)	Wald P-Value
ACE Inhibitors vs Beta Blockers and Angioedema, Overall									
Site-Adjusted Analysis									
ACE Inhibitors	2,240,239	442,941.07	72.22	0.20	3,771	8.51	1.68	3.99 (3.72, 4.29)	<0.001
Beta Blockers	2,479,076	429,916.47	63.34	0.17	960	2.23	0.39		
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.025									
ACE Inhibitors	1,511,170	220,532.03	53.30	0.15	2,304	10.45	1.52	4.47 (4.07, 4.92)	<0.001
Beta Blockers	1,511,170	220,532.03	53.30	0.15	515	2.34	0.34		
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.025									
ACE Inhibitors	1,511,170	295,014.63	71.31	0.20	2,777	9.41	1.84	4.44 (4.06, 4.85)	<0.001
Beta Blockers	1,511,170	266,301.27	64.37	0.18	582	2.19	0.39		
ACE Inhibitors vs Beta Blockers and Angioedema by Quarter, 2019Q3									
Site-Adjusted Analysis									
ACE Inhibitors	88,735	17,671.00	72.74	0.20	200	11.32	2.25	3.67 (2.68, 5.03)	<0.001
Beta Blockers	83,512	15,093.19	66.01	0.18	48	3.18	0.57		
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.025									
ACE Inhibitors	83,386	12,682.74	55.55	0.15	164	12.93	1.97	3.90 (2.78, 5.48)	<0.001
Beta Blockers	83,386	12,682.74	55.55	0.15	42	3.31	0.50		
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.025									
ACE Inhibitors	83,386	16,603.17	72.73	0.20	187	11.26	2.24	3.65 (2.66, 5.01)	<0.001
Beta Blockers	83,386	15,071.71	66.02	0.18	48	3.18	0.58		

Medical Product	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	Hazard Ratio (95% Confidence Interval)	Wald P-Value
ACE Inhibitors vs Beta Blockers and Angioedema, Overall									
Site-Adjusted Analysis									
ACE Inhibitors	2,240,239	442,941.07	72.22	0.20	3,771	8.51	1.68	3.99 (3.72, 4.29)	<0.001
Beta Blockers	2,479,076	429,916.47	63.34	0.17	960	2.23	0.39		
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.025									
ACE Inhibitors	1,511,170	220,532.03	53.30	0.15	2,304	10.45	1.52	4.47 (4.07, 4.92)	<0.001
Beta Blockers	1,511,170	220,532.03	53.30	0.15	515	2.34	0.34		
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.025									
ACE Inhibitors	1,511,170	295,014.63	71.31	0.20	2,777	9.41	1.84	4.44 (4.06, 4.85)	<0.001
Beta Blockers	1,511,170	266,301.27	64.37	0.18	582	2.19	0.39		
ACE Inhibitors vs Beta Blockers and Angioedema by Quarter, 2019Q4									
Site-Adjusted Analysis									
ACE Inhibitors	94,193	18,336.73	71.10	0.19	193	10.53	2.05	6.61 (4.36, 10.02)	<0.001
Beta Blockers	85,983	15,223.81	64.67	0.18	25	1.64	0.29		
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.025									
ACE Inhibitors	85,917	12,590.75	53.53	0.15	156	12.39	1.82	7.09 (4.54, 11.08)	<0.001
Beta Blockers	85,917	12,590.75	53.53	0.15	22	1.75	0.26		
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.025									
ACE Inhibitors	85,917	16,703.17	71.01	0.19	180	10.78	2.10	6.76 (4.45, 10.28)	<0.001
Beta Blockers	85,917	15,213.67	64.68	0.18	25	1.64	0.29		

Table 2j. Effect Estimates for New Users of ACE Inhibitors vs Beta Blockers and Angioedema, Propensity Score Matching (PSM) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, by Analysis Type and 2020Q1

Medical Product	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	Hazard Ratio (95% Confidence Interval)	Wald P-Value
ACE Inhibitors vs Beta Blockers and Angioedema, Overall									
Site-Adjusted Analysis									
ACE Inhibitors	2,240,239	442,941.07	72.22	0.20	3,771	8.51	1.68	3.99 (3.72, 4.29)	<0.001
Beta Blockers	2,479,076	429,916.47	63.34	0.17	960	2.23	0.39		
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.025									
ACE Inhibitors	1,511,170	220,532.03	53.30	0.15	2,304	10.45	1.52	4.47 (4.07, 4.92)	<0.001
Beta Blockers	1,511,170	220,532.03	53.30	0.15	515	2.34	0.34		
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.025									
ACE Inhibitors	1,511,170	295,014.63	71.31	0.20	2,777	9.41	1.84	4.44 (4.06, 4.85)	<0.001
Beta Blockers	1,511,170	266,301.27	64.37	0.18	582	2.19	0.39		
ACE Inhibitors vs Beta Blockers and Angioedema by Quarter, 2020Q1									
Site-Adjusted Analysis									
ACE Inhibitors	88,450	17,882.69	73.85	0.20	163	9.11	1.84	4.19 (2.91, 6.04)	<0.001
Beta Blockers	84,983	15,566.36	66.90	0.18	35	2.25	0.41		
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.025									
ACE Inhibitors	84,751	13,201.78	56.90	0.16	134	10.15	1.58	3.94 (2.71, 5.74)	<0.001
Beta Blockers	84,751	13,201.78	56.90	0.16	34	2.58	0.40		
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.025									
ACE Inhibitors	84,751	17,156.69	73.94	0.20	161	9.38	1.90	4.43 (3.06, 6.42)	<0.001
Beta Blockers	84,751	15,522.57	66.90	0.18	34	2.19	0.40		

Table 2k. Effect Estimates for New Users of ACE Inhibitors vs Beta Blockers and Angioedema, Propensity Score Matching (PSM) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, by Analysis Type and 2020Q2

Medical Product	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	Hazard Ratio (95% Confidence Interval)	Wald P-Value
ACE Inhibitors vs Beta Blockers and Angioedema, Overall									
Site-Adjusted Analysis									
ACE Inhibitors	2,240,239	442,941.07	72.22	0.20	3,771	8.51	1.68	3.99 (3.72, 4.29)	<0.001
Beta Blockers	2,479,076	429,916.47	63.34	0.17	960	2.23	0.39		
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.025									
ACE Inhibitors	1,511,170	220,532.03	53.30	0.15	2,304	10.45	1.52	4.47 (4.07, 4.92)	<0.001
Beta Blockers	1,511,170	220,532.03	53.30	0.15	515	2.34	0.34		
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.025									
ACE Inhibitors	1,511,170	295,014.63	71.31	0.20	2,777	9.41	1.84	4.44 (4.06, 4.85)	<0.001
Beta Blockers	1,511,170	266,301.27	64.37	0.18	582	2.19	0.39		
ACE Inhibitors vs Beta Blockers and Angioedema by Quarter, 2020Q2									
Site-Adjusted Analysis									
ACE Inhibitors	58,184	11,637.12	73.05	0.20	103	8.85	1.77	4.54 (2.89, 7.13)	<0.001
Beta Blockers	62,766	11,459.25	66.68	0.18	23	2.01	0.37		
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.025									
ACE Inhibitors	57,908	8,914.39	56.23	0.15	80	8.97	1.38	3.81 (2.36, 6.16)	<0.001
Beta Blockers	57,908	8,914.39	56.23	0.15	21	2.36	0.36		
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.025									
ACE Inhibitors	57,908	11,585.00	73.07	0.20	103	8.89	1.78	4.39 (2.77, 6.96)	<0.001
Beta Blockers	57,908	10,576.74	66.71	0.18	22	2.08	0.38		

Table 2l. Effect Estimates for New Users of ACE Inhibitors vs Beta Blockers and Angioedema, Propensity Score Matching (PSM) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, by Analysis Type and 2020Q3

Medical Product	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	Hazard Ratio (95% Confidence Interval)	Wald P-Value
ACE Inhibitors vs Beta Blockers and Angioedema, Overall									
Site-Adjusted Analysis									
ACE Inhibitors	2,240,239	442,941.07	72.22	0.20	3,771	8.51	1.68	3.99 (3.72, 4.29)	<0.001
Beta Blockers	2,479,076	429,916.47	63.34	0.17	960	2.23	0.39		
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.025									
ACE Inhibitors	1,511,170	220,532.03	53.30	0.15	2,304	10.45	1.52	4.47 (4.07, 4.92)	<0.001
Beta Blockers	1,511,170	220,532.03	53.30	0.15	515	2.34	0.34		
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.025									
ACE Inhibitors	1,511,170	295,014.63	71.31	0.20	2,777	9.41	1.84	4.44 (4.06, 4.85)	<0.001
Beta Blockers	1,511,170	266,301.27	64.37	0.18	582	2.19	0.39		
ACE Inhibitors vs Beta Blockers and Angioedema by Quarter, 2020Q3									
Site-Adjusted Analysis									
ACE Inhibitors	80,892	16,403.55	74.07	0.20	155	9.45	1.92	5.46 (3.65, 8.16)	<0.001
Beta Blockers	85,425	15,670.78	67.00	0.18	28	1.79	0.33		
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.025									
ACE Inhibitors	80,318	12,521.21	56.94	0.16	135	10.78	1.68	5.62 (3.64, 8.68)	<0.001
Beta Blockers	80,318	12,521.21	56.94	0.16	24	1.92	0.30		
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.025									
ACE Inhibitors	80,318	16,290.54	74.08	0.20	154	9.45	1.92	5.33 (3.54, 8.02)	<0.001
Beta Blockers	80,318	14,718.24	66.93	0.18	27	1.83	0.34		

Table 2m. Effect Estimates for New Users of ACE Inhibitors vs Beta Blockers and Angioedema, Propensity Score Matching (PSM) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, by Analysis Type and 2020Q4

Medical Product	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	Hazard Ratio (95% Confidence Interval)	Wald P-Value
ACE Inhibitors vs Beta Blockers and Angioedema, Overall									
Site-Adjusted Analysis									
ACE Inhibitors	2,240,239	442,941.07	72.22	0.20	3,771	8.51	1.68	3.99 (3.72, 4.29)	<0.001
Beta Blockers	2,479,076	429,916.47	63.34	0.17	960	2.23	0.39		
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.025									
ACE Inhibitors	1,511,170	220,532.03	53.30	0.15	2,304	10.45	1.52	4.47 (4.07, 4.92)	<0.001
Beta Blockers	1,511,170	220,532.03	53.30	0.15	515	2.34	0.34		
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.025									
ACE Inhibitors	1,511,170	295,014.63	71.31	0.20	2,777	9.41	1.84	4.44 (4.06, 4.85)	<0.001
Beta Blockers	1,511,170	266,301.27	64.37	0.18	582	2.19	0.39		
ACE Inhibitors vs Beta Blockers and Angioedema by Quarter, 2020Q4									
Site-Adjusted Analysis									
ACE Inhibitors	84,008	16,546.08	71.94	0.20	132	7.98	1.57	3.47 (2.41, 5.00)	<0.001
Beta Blockers	87,907	15,762.57	65.49	0.18	37	2.35	0.42		
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.025									
ACE Inhibitors	83,494	12,475.75	54.58	0.15	108	8.66	1.29	3.27 (2.22, 4.83)	<0.001
Beta Blockers	83,494	12,475.75	54.58	0.15	33	2.65	0.40		
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.025									
ACE Inhibitors	83,494	16,455.49	71.99	0.20	130	7.90	1.56	3.46 (2.38, 5.02)	<0.001
Beta Blockers	83,494	14,970.28	65.49	0.18	35	2.34	0.42		

Table 2n. Effect Estimates for New Users of ACE Inhibitors vs Beta Blockers and Angioedema, Propensity Score Matching (PSM) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, by Analysis Type and 2021Q1

Medical Product	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	Hazard Ratio (95% Confidence Interval)	Wald P-Value
ACE Inhibitors vs Beta Blockers and Angioedema, Overall									
Site-Adjusted Analysis									
ACE Inhibitors	2,240,239	442,941.07	72.22	0.20	3,771	8.51	1.68	3.99 (3.72, 4.29)	<0.001
Beta Blockers	2,479,076	429,916.47	63.34	0.17	960	2.23	0.39		
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.025									
ACE Inhibitors	1,511,170	220,532.03	53.30	0.15	2,304	10.45	1.52	4.47 (4.07, 4.92)	<0.001
Beta Blockers	1,511,170	220,532.03	53.30	0.15	515	2.34	0.34		
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.025									
ACE Inhibitors	1,511,170	295,014.63	71.31	0.20	2,777	9.41	1.84	4.44 (4.06, 4.85)	<0.001
Beta Blockers	1,511,170	266,301.27	64.37	0.18	582	2.19	0.39		
ACE Inhibitors vs Beta Blockers and Angioedema by Quarter, 2021Q1									
Site-Adjusted Analysis									
ACE Inhibitors	85,556	17,479.18	74.62	0.20	118	6.75	1.38	3.27 (2.25, 4.78)	<0.001
Beta Blockers	89,949	16,502.67	67.01	0.18	35	2.12	0.39		
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.025									
ACE Inhibitors	85,005	13,359.42	57.40	0.16	96	7.19	1.13	3.56 (2.32, 5.45)	<0.001
Beta Blockers	85,005	13,359.42	57.40	0.16	27	2.02	0.32		
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.025									
ACE Inhibitors	85,005	17,377.76	74.67	0.20	117	6.73	1.38	3.60 (2.41, 5.37)	<0.001
Beta Blockers	85,005	15,598.52	67.02	0.18	30	1.92	0.35		

Table 2o. Effect Estimates for New Users of ACE Inhibitors vs Beta Blockers and Angioedema, Propensity Score Matching (PSM) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, by Analysis Type and 2021Q2

Medical Product	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	Hazard Ratio (95% Confidence Interval)	Wald P-Value
ACE Inhibitors vs Beta Blockers and Angioedema, Overall									
Site-Adjusted Analysis									
ACE Inhibitors	2,240,239	442,941.07	72.22	0.20	3,771	8.51	1.68	3.99 (3.72, 4.29)	<0.001
Beta Blockers	2,479,076	429,916.47	63.34	0.17	960	2.23	0.39		
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.025									
ACE Inhibitors	1,511,170	220,532.03	53.30	0.15	2,304	10.45	1.52	4.47 (4.07, 4.92)	<0.001
Beta Blockers	1,511,170	220,532.03	53.30	0.15	515	2.34	0.34		
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.025									
ACE Inhibitors	1,511,170	295,014.63	71.31	0.20	2,777	9.41	1.84	4.44 (4.06, 4.85)	<0.001
Beta Blockers	1,511,170	266,301.27	64.37	0.18	582	2.19	0.39		
ACE Inhibitors vs Beta Blockers and Angioedema by Quarter, 2021Q2									
Site-Adjusted Analysis									
ACE Inhibitors	76,244	15,393.31	73.74	0.20	143	9.29	1.88	4.32 (2.96, 6.31)	<0.001
Beta Blockers	81,650	14,907.93	66.69	0.18	33	2.21	0.40		
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.025									
ACE Inhibitors	76,001	11,779.99	56.61	0.15	115	9.76	1.51	4.11 (2.72, 6.21)	<0.001
Beta Blockers	76,001	11,779.99	56.61	0.15	28	2.38	0.37		
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.025									
ACE Inhibitors	76,001	15,351.30	73.78	0.20	143	9.32	1.88	4.44 (3.00, 6.59)	<0.001
Beta Blockers	76,001	13,880.44	66.71	0.18	30	2.16	0.39		

Table 2p. Effect Estimates for New Users of ACE Inhibitors vs Beta Blockers and Angioedema, Propensity Score Matching (PSM) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, by Analysis Type and 2021Q3

Medical Product	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	Hazard Ratio (95% Confidence Interval)	Wald P-Value
ACE Inhibitors vs Beta Blockers and Angioedema, Overall									
Site-Adjusted Analysis									
ACE Inhibitors	2,240,239	442,941.07	72.22	0.20	3,771	8.51	1.68	3.99 (3.72, 4.29)	<0.001
Beta Blockers	2,479,076	429,916.47	63.34	0.17	960	2.23	0.39		
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.025									
ACE Inhibitors	1,511,170	220,532.03	53.30	0.15	2,304	10.45	1.52	4.47 (4.07, 4.92)	<0.001
Beta Blockers	1,511,170	220,532.03	53.30	0.15	515	2.34	0.34		
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.025									
ACE Inhibitors	1,511,170	295,014.63	71.31	0.20	2,777	9.41	1.84	4.44 (4.06, 4.85)	<0.001
Beta Blockers	1,511,170	266,301.27	64.37	0.18	582	2.19	0.39		
ACE Inhibitors vs Beta Blockers and Angioedema by Quarter, 2021Q3									
Site-Adjusted Analysis									
ACE Inhibitors	75,764	15,274.77	73.64	0.20	136	8.90	1.80	5.24 (3.47, 7.92)	<0.001
Beta Blockers	85,329	15,435.58	66.07	0.18	27	1.75	0.32		
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.025									
ACE Inhibitors	75,623	11,608.57	56.07	0.15	122	10.51	1.61	5.30 (3.40, 8.28)	<0.001
Beta Blockers	75,623	11,608.57	56.07	0.15	23	1.98	0.30		
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.025									
ACE Inhibitors	75,623	15,251.50	73.66	0.20	135	8.85	1.79	5.41 (3.48, 8.42)	<0.001
Beta Blockers	75,623	13,674.77	66.05	0.18	23	1.68	0.30		

Table 2q. Effect Estimates for New Users of ACE Inhibitors vs Beta Blockers and Angioedema, Propensity Score Matching (PSM) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, by Analysis Type and 2021Q4

Medical Product	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	Hazard Ratio (95% Confidence Interval)	Wald P-Value
ACE Inhibitors vs Beta Blockers and Angioedema, Overall									
Site-Adjusted Analysis									
ACE Inhibitors	2,240,239	442,941.07	72.22	0.20	3,771	8.51	1.68	3.99 (3.72, 4.29)	<0.001
Beta Blockers	2,479,076	429,916.47	63.34	0.17	960	2.23	0.39		
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.025									
ACE Inhibitors	1,511,170	220,532.03	53.30	0.15	2,304	10.45	1.52	4.47 (4.07, 4.92)	<0.001
Beta Blockers	1,511,170	220,532.03	53.30	0.15	515	2.34	0.34		
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.025									
ACE Inhibitors	1,511,170	295,014.63	71.31	0.20	2,777	9.41	1.84	4.44 (4.06, 4.85)	<0.001
Beta Blockers	1,511,170	266,301.27	64.37	0.18	582	2.19	0.39		
ACE Inhibitors vs Beta Blockers and Angioedema by Quarter, 2021Q4									
Site-Adjusted Analysis									
ACE Inhibitors	76,573	15,115.71	72.10	0.20	116	7.67	1.51	3.66 (2.49, 5.39)	<0.001
Beta Blockers	86,467	15,296.67	64.62	0.18	33	2.16	0.38		
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.025									
ACE Inhibitors	76,537	11,307.14	53.96	0.15	96	8.49	1.25	4.00 (2.56, 6.26)	<0.001
Beta Blockers	76,537	11,307.14	53.96	0.15	24	2.12	0.31		
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.025									
ACE Inhibitors	76,537	15,107.96	72.10	0.20	116	7.68	1.52	3.70 (2.46, 5.56)	<0.001
Beta Blockers	76,537	13,533.65	64.59	0.18	29	2.14	0.38		

Table 2r. Effect Estimates for New Users of ACE Inhibitors vs Beta Blockers and Angioedema, Propensity Score Matching (PSM) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, by Analysis Type and 2022Q1

Medical Product	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	Hazard Ratio (95% Confidence Interval)	Wald P-Value
ACE Inhibitors vs Beta Blockers and Angioedema, Overall									
Site-Adjusted Analysis									
ACE Inhibitors	2,240,239	442,941.07	72.22	0.20	3,771	8.51	1.68	3.99 (3.72, 4.29)	<0.001
Beta Blockers	2,479,076	429,916.47	63.34	0.17	960	2.23	0.39		
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.025									
ACE Inhibitors	1,511,170	220,532.03	53.30	0.15	2,304	10.45	1.52	4.47 (4.07, 4.92)	<0.001
Beta Blockers	1,511,170	220,532.03	53.30	0.15	515	2.34	0.34		
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.025									
ACE Inhibitors	1,511,170	295,014.63	71.31	0.20	2,777	9.41	1.84	4.44 (4.06, 4.85)	<0.001
Beta Blockers	1,511,170	266,301.27	64.37	0.18	582	2.19	0.39		
ACE Inhibitors vs Beta Blockers and Angioedema by Quarter, 2022Q1									
Site-Adjusted Analysis									
ACE Inhibitors	78,290	16,040.62	74.84	0.20	133	8.29	1.70	5.00 (3.32, 7.51)	<0.001
Beta Blockers	90,636	16,381.86	66.02	0.18	28	1.71	0.31		
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.025									
ACE Inhibitors	78,279	12,150.35	56.69	0.16	101	8.31	1.29	6.31 (3.73, 10.70)	<0.001
Beta Blockers	78,279	12,150.35	56.69	0.16	16	1.32	0.20		
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.025									
ACE Inhibitors	78,279	16,038.53	74.84	0.20	133	8.29	1.70	6.70 (4.10, 10.97)	<0.001
Beta Blockers	78,279	14,155.42	66.05	0.18	18	1.27	0.23		

Table 2s. Effect Estimates for New Users of ACE Inhibitors vs Beta Blockers and Angioedema, Propensity Score Matching (PSM) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, by Analysis Type and 2022Q2

Medical Product	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	Hazard Ratio (95% Confidence Interval)	Wald P-Value
ACE Inhibitors vs Beta Blockers and Angioedema, Overall									
Site-Adjusted Analysis									
ACE Inhibitors	2,240,239	442,941.07	72.22	0.20	3,771	8.51	1.68	3.99 (3.72, 4.29)	<0.001
Beta Blockers	2,479,076	429,916.47	63.34	0.17	960	2.23	0.39		
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.025									
ACE Inhibitors	1,511,170	220,532.03	53.30	0.15	2,304	10.45	1.52	4.47 (4.07, 4.92)	<0.001
Beta Blockers	1,511,170	220,532.03	53.30	0.15	515	2.34	0.34		
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.025									
ACE Inhibitors	1,511,170	295,014.63	71.31	0.20	2,777	9.41	1.84	4.44 (4.06, 4.85)	<0.001
Beta Blockers	1,511,170	266,301.27	64.37	0.18	582	2.19	0.39		
ACE Inhibitors vs Beta Blockers and Angioedema by Quarter, 2022Q2									
Site-Adjusted Analysis									
ACE Inhibitors	66,281	7,680.64	42.33	0.12	73	9.50	1.10	3.74 (2.32, 6.03)	<0.001
Beta Blockers	79,970	8,416.91	38.44	0.11	22	2.61	0.28		
Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper= 0.025									
ACE Inhibitors	66,264	4,679.48	25.79	0.07	50	10.68	0.75	3.33 (1.87, 5.94)	<0.001
Beta Blockers	66,264	4,679.48	25.79	0.07	15	3.21	0.23		
Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper= 0.025									
ACE Inhibitors	66,264	7,678.86	42.33	0.12	73	9.51	1.10	3.59 (2.17, 5.96)	<0.001
Beta Blockers	66,264	6,979.92	38.47	0.11	19	2.72	0.29		

Table 3a. Effect Estimates for New Users of ACE Inhibitors vs Beta Blockers and Angioedema, Propensity Score Stratification (PSS) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, by Analysis Type

Medical Product	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	Hazard Ratio (95% Confidence Interval)	Wald P-Value
Site-Adjusted Analysis									
ACE Inhibitors	2,240,239	442,941.07	72.22	0.20	3,771	8.51	1.68	3.99 (3.72, 4.29)	<0.001
Beta Blockers	2,479,076	429,916.47	63.34	0.17	960	2.23	0.39		
Propensity Score Adjusted Stratified Analysis; Percentiles= 5, Trimmed									
ACE Inhibitors	2,240,221	442,937.88	72.22	0.20	3,771	8.51	1.68	4.54 (4.21, 4.90)	<0.001
Beta Blockers	2,479,056	429,913.41	63.34	0.17	960	2.23	0.39		

Table 3b. Effect Estimates for New Users of ACE Inhibitors vs Beta Blockers and Angioedema, Propensity Score Stratification (PSS) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, by Analysis Type and 2018Q1

Medical Product	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	Hazard Ratio (95% Confidence Interval)	Wald P-Value
ACE Inhibitors vs Beta Blockers and Angioedema, Overall									
Site-Adjusted Analysis									
ACE Inhibitors	2,240,239	442,941.07	72.22	0.20	3,771	8.51	1.68	3.99 (3.72, 4.29)	<0.001
Beta Blockers	2,479,076	429,916.47	63.34	0.17	960	2.23	0.39		
Propensity Score Adjusted Stratified Analysis; Percentiles= 5, Trimmed									
ACE Inhibitors	2,240,221	442,937.88	72.22	0.20	3,771	8.51	1.68	4.54 (4.21, 4.90)	<0.001
Beta Blockers	2,479,056	429,913.41	63.34	0.17	960	2.23	0.39		
ACE Inhibitors vs Beta Blockers and Angioedema by Quarter, 2018Q1									
Site-Adjusted Analysis									
ACE Inhibitors	150,608	29,928.54	72.58	0.20	246	8.22	1.63	3.69 (2.77, 4.90)	<0.001
Beta Blockers	143,350	25,309.87	64.49	0.18	59	2.33	0.41		
Propensity Score Adjusted Stratified Analysis; Percentiles= 5, Trimmed									
ACE Inhibitors	150,587	29,925.39	72.58	0.20	246	8.22	1.63	3.68 (2.72, 4.99)	<0.001
Beta Blockers	143,326	25,306.37	64.49	0.18	59	2.33	0.41		

Table 3c. Effect Estimates for New Users of ACE Inhibitors vs Beta Blockers and Angioedema, Propensity Score Stratification (PSS) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, by Analysis Type and 2018Q2

Medical Product	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	Hazard Ratio (95% Confidence Interval)	Wald P-Value
ACE Inhibitors vs Beta Blockers and Angioedema, Overall									
Site-Adjusted Analysis									
ACE Inhibitors	2,240,239	442,941.07	72.22	0.20	3,771	8.51	1.68	3.99 (3.72, 4.29)	<0.001
Beta Blockers	2,479,076	429,916.47	63.34	0.17	960	2.23	0.39		
Propensity Score Adjusted Stratified Analysis; Percentiles= 5, Trimmed									
ACE Inhibitors	2,240,221	442,937.88	72.22	0.20	3,771	8.51	1.68	4.54 (4.21, 4.90)	<0.001
Beta Blockers	2,479,056	429,913.41	63.34	0.17	960	2.23	0.39		
ACE Inhibitors vs Beta Blockers and Angioedema by Quarter, 2018Q2									
Site-Adjusted Analysis									
ACE Inhibitors	130,985	25,873.40	72.15	0.20	260	10.05	1.98	4.72 (3.50, 6.38)	<0.001
Beta Blockers	132,526	23,382.68	64.44	0.18	51	2.18	0.38		
Propensity Score Adjusted Stratified Analysis; Percentiles= 5, Trimmed									
ACE Inhibitors	130,960	25,869.03	72.15	0.20	260	10.05	1.99	5.46 (3.98, 7.50)	<0.001
Beta Blockers	132,485	23,375.86	64.45	0.18	51	2.18	0.38		

Table 3d. Effect Estimates for New Users of ACE Inhibitors vs Beta Blockers and Angioedema, Propensity Score Stratification (PSS) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, by Analysis Type and 2018Q3

Medical Product	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	Hazard Ratio (95% Confidence Interval)	Wald P-Value
ACE Inhibitors vs Beta Blockers and Angioedema, Overall									
Site-Adjusted Analysis									
ACE Inhibitors	2,240,239	442,941.07	72.22	0.20	3,771	8.51	1.68	3.99 (3.72, 4.29)	<0.001
Beta Blockers	2,479,076	429,916.47	63.34	0.17	960	2.23	0.39		
Propensity Score Adjusted Stratified Analysis; Percentiles= 5, Trimmed									
ACE Inhibitors	2,240,221	442,937.88	72.22	0.20	3,771	8.51	1.68	4.54 (4.21, 4.90)	<0.001
Beta Blockers	2,479,056	429,913.41	63.34	0.17	960	2.23	0.39		
ACE Inhibitors vs Beta Blockers and Angioedema by Quarter, 2018Q3									
Site-Adjusted Analysis									
ACE Inhibitors	129,572	25,723.50	72.51	0.20	246	9.56	1.90	3.95 (2.98, 5.23)	<0.001
Beta Blockers	133,641	23,616.88	64.55	0.18	61	2.58	0.46		
Propensity Score Adjusted Stratified Analysis; Percentiles= 5, Trimmed									
ACE Inhibitors	129,547	25,718.25	72.51	0.20	246	9.57	1.90	4.69 (3.48, 6.32)	<0.001
Beta Blockers	133,610	23,611.95	64.55	0.18	61	2.58	0.46		

Table 3e. Effect Estimates for New Users of ACE Inhibitors vs Beta Blockers and Angioedema, Propensity Score Stratification (PSS) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, by Analysis Type and 2018Q4

Medical Product	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	Hazard Ratio (95% Confidence Interval)	Wald P-Value
ACE Inhibitors vs Beta Blockers and Angioedema, Overall									
Site-Adjusted Analysis									
ACE Inhibitors	2,240,239	442,941.07	72.22	0.20	3,771	8.51	1.68	3.99 (3.72, 4.29)	<0.001
Beta Blockers	2,479,076	429,916.47	63.34	0.17	960	2.23	0.39		
Propensity Score Adjusted Stratified Analysis; Percentiles= 5, Trimmed									
ACE Inhibitors	2,240,221	442,937.88	72.22	0.20	3,771	8.51	1.68	4.54 (4.21, 4.90)	<0.001
Beta Blockers	2,479,056	429,913.41	63.34	0.17	960	2.23	0.39		
ACE Inhibitors vs Beta Blockers and Angioedema by Quarter, 2018Q4									
Site-Adjusted Analysis									
ACE Inhibitors	135,707	26,383.72	71.01	0.19	228	8.64	1.68	3.18 (2.43, 4.16)	<0.001
Beta Blockers	140,007	24,304.73	63.41	0.17	70	2.88	0.50		
Propensity Score Adjusted Stratified Analysis; Percentiles= 5, Trimmed									
ACE Inhibitors	135,692	26,380.77	71.01	0.19	228	8.64	1.68	3.34 (2.51, 4.46)	<0.001
Beta Blockers	139,951	24,295.90	63.41	0.17	70	2.88	0.50		

Table 3f. Effect Estimates for New Users of ACE Inhibitors vs Beta Blockers and Angioedema, Propensity Score Stratification (PSS) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, by Analysis Type and 2019Q1

Medical Product	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	Hazard Ratio (95% Confidence Interval)	Wald P-Value
ACE Inhibitors vs Beta Blockers and Angioedema, Overall									
Site-Adjusted Analysis									
ACE Inhibitors	2,240,239	442,941.07	72.22	0.20	3,771	8.51	1.68	3.99 (3.72, 4.29)	<0.001
Beta Blockers	2,479,076	429,916.47	63.34	0.17	960	2.23	0.39		
Propensity Score Adjusted Stratified Analysis; Percentiles= 5, Trimmed									
ACE Inhibitors	2,240,221	442,937.88	72.22	0.20	3,771	8.51	1.68	4.54 (4.21, 4.90)	<0.001
Beta Blockers	2,479,056	429,913.41	63.34	0.17	960	2.23	0.39		
ACE Inhibitors vs Beta Blockers and Angioedema by Quarter, 2019Q1									
Site-Adjusted Analysis									
ACE Inhibitors	148,153	30,005.53	73.97	0.20	266	8.87	1.80	4.21 (3.15, 5.62)	<0.001
Beta Blockers	142,348	25,354.07	65.06	0.18	56	2.21	0.39		
Propensity Score Adjusted Stratified Analysis; Percentiles= 5, Trimmed									
ACE Inhibitors	148,132	30,001.67	73.98	0.20	264	8.80	1.78	4.82 (3.55, 6.53)	<0.001
Beta Blockers	142,315	25,348.85	65.06	0.18	56	2.21	0.39		

Table 3g. Effect Estimates for New Users of ACE Inhibitors vs Beta Blockers and Angioedema, Propensity Score Stratification (PSS) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, by Analysis Type and 2019Q2

Medical Product	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	Hazard Ratio (95% Confidence Interval)	Wald P-Value
ACE Inhibitors vs Beta Blockers and Angioedema, Overall									
Site-Adjusted Analysis									
ACE Inhibitors	2,240,239	442,941.07	72.22	0.20	3,771	8.51	1.68	3.99 (3.72, 4.29)	<0.001
Beta Blockers	2,479,076	429,916.47	63.34	0.17	960	2.23	0.39		
Propensity Score Adjusted Stratified Analysis; Percentiles= 5, Trimmed									
ACE Inhibitors	2,240,221	442,937.88	72.22	0.20	3,771	8.51	1.68	4.54 (4.21, 4.90)	<0.001
Beta Blockers	2,479,056	429,913.41	63.34	0.17	960	2.23	0.39		
ACE Inhibitors vs Beta Blockers and Angioedema by Quarter, 2019Q2									
Site-Adjusted Analysis									
ACE Inhibitors	130,852	26,319.92	73.47	0.20	262	9.95	2.00	4.71 (3.48, 6.37)	<0.001
Beta Blockers	129,969	23,153.28	65.07	0.18	50	2.16	0.38		
Propensity Score Adjusted Stratified Analysis; Percentiles= 5, Trimmed									
ACE Inhibitors	130,806	26,309.87	73.47	0.20	262	9.96	2.00	5.91 (4.29, 8.15)	<0.001
Beta Blockers	129,944	23,149.97	65.07	0.18	50	2.16	0.38		

Table 3h. Effect Estimates for New Users of ACE Inhibitors vs Beta Blockers and Angioedema, Propensity Score Stratification (PSS) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, by Analysis Type and 2019Q3

Medical Product	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	Hazard Ratio (95% Confidence Interval)	Wald P-Value
ACE Inhibitors vs Beta Blockers and Angioedema, Overall									
Site-Adjusted Analysis									
ACE Inhibitors	2,240,239	442,941.07	72.22	0.20	3,771	8.51	1.68	3.99 (3.72, 4.29)	<0.001
Beta Blockers	2,479,076	429,916.47	63.34	0.17	960	2.23	0.39		
Propensity Score Adjusted Stratified Analysis; Percentiles= 5, Trimmed									
ACE Inhibitors	2,240,221	442,937.88	72.22	0.20	3,771	8.51	1.68	4.54 (4.21, 4.90)	<0.001
Beta Blockers	2,479,056	429,913.41	63.34	0.17	960	2.23	0.39		
ACE Inhibitors vs Beta Blockers and Angioedema by Quarter, 2019Q3									
Site-Adjusted Analysis									
ACE Inhibitors	131,939	26,622.09	73.70	0.20	269	10.10	2.04	3.84 (2.94, 5.00)	<0.001
Beta Blockers	137,653	24,528.63	65.08	0.18	69	2.81	0.50		
Propensity Score Adjusted Stratified Analysis; Percentiles= 5, Trimmed									
ACE Inhibitors	131,918	26,617.46	73.70	0.20	269	10.11	2.04	4.65 (3.51, 6.16)	<0.001
Beta Blockers	137,620	24,523.58	65.09	0.18	69	2.81	0.50		

Table 3i. Effect Estimates for New Users of ACE Inhibitors vs Beta Blockers and Angioedema, Propensity Score Stratification (PSS) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, by Analysis Type and 2019Q4

Medical Product	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	Hazard Ratio (95% Confidence Interval)	Wald P-Value
ACE Inhibitors vs Beta Blockers and Angioedema, Overall									
Site-Adjusted Analysis									
ACE Inhibitors	2,240,239	442,941.07	72.22	0.20	3,771	8.51	1.68	3.99 (3.72, 4.29)	<0.001
Beta Blockers	2,479,076	429,916.47	63.34	0.17	960	2.23	0.39		
Propensity Score Adjusted Stratified Analysis; Percentiles= 5, Trimmed									
ACE Inhibitors	2,240,221	442,937.88	72.22	0.20	3,771	8.51	1.68	4.54 (4.21, 4.90)	<0.001
Beta Blockers	2,479,056	429,913.41	63.34	0.17	960	2.23	0.39		
ACE Inhibitors vs Beta Blockers and Angioedema by Quarter, 2019Q4									
Site-Adjusted Analysis									
ACE Inhibitors	138,635	27,262.77	71.83	0.20	258	9.46	1.86	5.33 (3.90, 7.30)	<0.001
Beta Blockers	141,410	24,660.34	63.70	0.17	46	1.87	0.33		
Propensity Score Adjusted Stratified Analysis; Percentiles= 5, Trimmed									
ACE Inhibitors	138,624	27,261.03	71.83	0.20	258	9.46	1.86	6.34 (4.56, 8.83)	<0.001
Beta Blockers	141,371	24,654.68	63.70	0.17	46	1.87	0.33		

Table 3j. Effect Estimates for New Users of ACE Inhibitors vs Beta Blockers and Angioedema, Propensity Score Stratification (PSS) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, by Analysis Type and 2020Q1

Medical Product	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	Hazard Ratio (95% Confidence Interval)	Wald P-Value
ACE Inhibitors vs Beta Blockers and Angioedema, Overall									
Site-Adjusted Analysis									
ACE Inhibitors	2,240,239	442,941.07	72.22	0.20	3,771	8.51	1.68	3.99 (3.72, 4.29)	<0.001
Beta Blockers	2,479,076	429,916.47	63.34	0.17	960	2.23	0.39		
Propensity Score Adjusted Stratified Analysis; Percentiles= 5, Trimmed									
ACE Inhibitors	2,240,221	442,937.88	72.22	0.20	3,771	8.51	1.68	4.54 (4.21, 4.90)	<0.001
Beta Blockers	2,479,056	429,913.41	63.34	0.17	960	2.23	0.39		
ACE Inhibitors vs Beta Blockers and Angioedema by Quarter, 2020Q1									
Site-Adjusted Analysis									
ACE Inhibitors	131,327	26,898.92	74.81	0.20	200	7.44	1.52	3.77 (2.77, 5.12)	<0.001
Beta Blockers	139,423	25,137.47	65.85	0.18	52	2.07	0.37		
Propensity Score Adjusted Stratified Analysis; Percentiles= 5, Trimmed									
ACE Inhibitors	131,318	26,896.93	74.81	0.20	200	7.44	1.52	4.11 (2.96, 5.69)	<0.001
Beta Blockers	139,368	25,127.58	65.85	0.18	52	2.07	0.37		

Table 3k. Effect Estimates for New Users of ACE Inhibitors vs Beta Blockers and Angioedema, Propensity Score Stratification (PSS) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, by Analysis Type and 2020Q2

Medical Product	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	Hazard Ratio (95% Confidence Interval)	Wald P-Value
ACE Inhibitors vs Beta Blockers and Angioedema, Overall									
Site-Adjusted Analysis									
ACE Inhibitors	2,240,239	442,941.07	72.22	0.20	3,771	8.51	1.68	3.99 (3.72, 4.29)	<0.001
Beta Blockers	2,479,076	429,916.47	63.34	0.17	960	2.23	0.39		
Propensity Score Adjusted Stratified Analysis; Percentiles= 5, Trimmed									
ACE Inhibitors	2,240,221	442,937.88	72.22	0.20	3,771	8.51	1.68	4.54 (4.21, 4.90)	<0.001
Beta Blockers	2,479,056	429,913.41	63.34	0.17	960	2.23	0.39		
ACE Inhibitors vs Beta Blockers and Angioedema by Quarter, 2020Q2									
Site-Adjusted Analysis									
ACE Inhibitors	85,514	17,357.01	74.14	0.20	138	7.95	1.61	3.81 (2.68, 5.40)	<0.001
Beta Blockers	104,463	18,729.56	65.49	0.18	41	2.19	0.39		
Propensity Score Adjusted Stratified Analysis; Percentiles= 5, Trimmed									
ACE Inhibitors	85,498	17,353.72	74.14	0.20	138	7.95	1.61	4.07 (2.80, 5.91)	<0.001
Beta Blockers	104,411	18,721.55	65.49	0.18	41	2.19	0.39		

Table 3l. Effect Estimates for New Users of ACE Inhibitors vs Beta Blockers and Angioedema, Propensity Score Stratification (PSS) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, by Analysis Type and 2020Q3

Medical Product	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	Hazard Ratio (95% Confidence Interval)	Wald P-Value
ACE Inhibitors vs Beta Blockers and Angioedema, Overall									
Site-Adjusted Analysis									
ACE Inhibitors	2,240,239	442,941.07	72.22	0.20	3,771	8.51	1.68	3.99 (3.72, 4.29)	<0.001
Beta Blockers	2,479,076	429,916.47	63.34	0.17	960	2.23	0.39		
Propensity Score Adjusted Stratified Analysis; Percentiles= 5, Trimmed									
ACE Inhibitors	2,240,221	442,937.88	72.22	0.20	3,771	8.51	1.68	4.54 (4.21, 4.90)	<0.001
Beta Blockers	2,479,056	429,913.41	63.34	0.17	960	2.23	0.39		
ACE Inhibitors vs Beta Blockers and Angioedema by Quarter, 2020Q3									
Site-Adjusted Analysis									
ACE Inhibitors	121,257	24,926.76	75.08	0.21	207	8.30	1.71	4.27 (3.14, 5.80)	<0.001
Beta Blockers	138,564	24,958.91	65.79	0.18	51	2.04	0.37		
Propensity Score Adjusted Stratified Analysis; Percentiles= 5, Trimmed									
ACE Inhibitors	121,249	24,925.23	75.08	0.21	207	8.30	1.71	4.87 (3.51, 6.75)	<0.001
Beta Blockers	138,511	24,950.79	65.79	0.18	51	2.04	0.37		

Table 3m. Effect Estimates for New Users of ACE Inhibitors vs Beta Blockers and Angioedema, Propensity Score Stratification (PSS) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, by Analysis Type and 2020Q4

Medical Product	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	Hazard Ratio (95% Confidence Interval)	Wald P-Value
ACE Inhibitors vs Beta Blockers and Angioedema, Overall									
Site-Adjusted Analysis									
ACE Inhibitors	2,240,239	442,941.07	72.22	0.20	3,771	8.51	1.68	3.99 (3.72, 4.29)	<0.001
Beta Blockers	2,479,076	429,916.47	63.34	0.17	960	2.23	0.39		
Propensity Score Adjusted Stratified Analysis; Percentiles= 5, Trimmed									
ACE Inhibitors	2,240,221	442,937.88	72.22	0.20	3,771	8.51	1.68	4.54 (4.21, 4.90)	<0.001
Beta Blockers	2,479,056	429,913.41	63.34	0.17	960	2.23	0.39		
ACE Inhibitors vs Beta Blockers and Angioedema by Quarter, 2020Q4									
Site-Adjusted Analysis									
ACE Inhibitors	125,339	25,007.53	72.87	0.20	186	7.44	1.48	3.59 (2.65, 4.87)	<0.001
Beta Blockers	143,668	25,343.41	64.43	0.18	54	2.13	0.38		
Propensity Score Adjusted Stratified Analysis; Percentiles= 5, Trimmed									
ACE Inhibitors	125,330	25,005.83	72.87	0.20	186	7.44	1.48	4.22 (3.05, 5.84)	<0.001
Beta Blockers	143,606	25,334.02	64.43	0.18	54	2.13	0.38		

Medical Product	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	Hazard Ratio (95% Confidence Interval)	Wald P-Value
ACE Inhibitors vs Beta Blockers and Angioedema, Overall									
Site-Adjusted Analysis									
ACE Inhibitors	2,240,239	442,941.07	72.22	0.20	3,771	8.51	1.68	3.99 (3.72, 4.29)	<0.001
Beta Blockers	2,479,076	429,916.47	63.34	0.17	960	2.23	0.39		
Propensity Score Adjusted Stratified Analysis; Percentiles= 5, Trimmed									
ACE Inhibitors	2,240,221	442,937.88	72.22	0.20	3,771	8.51	1.68	4.54 (4.21, 4.90)	<0.001
Beta Blockers	2,479,056	429,913.41	63.34	0.17	960	2.23	0.39		
ACE Inhibitors vs Beta Blockers and Angioedema by Quarter, 2021Q1									
Site-Adjusted Analysis									
ACE Inhibitors	127,516	26,364.90	75.52	0.21	175	6.64	1.37	2.88 (2.16, 3.84)	<0.001
Beta Blockers	146,342	26,386.91	65.86	0.18	64	2.43	0.44		
Propensity Score Adjusted Stratified Analysis; Percentiles= 5, Trimmed									
ACE Inhibitors	127,499	26,361.93	75.52	0.21	175	6.64	1.37	3.21 (2.36, 4.37)	<0.001
Beta Blockers	146,291	26,378.19	65.86	0.18	64	2.43	0.44		

Table 3o. Effect Estimates for New Users of ACE Inhibitors vs Beta Blockers and Angioedema, Propensity Score Stratification (PSS) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, by Analysis Type and 2021Q2

Medical Product	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	Hazard Ratio (95% Confidence Interval)	Wald P-Value
ACE Inhibitors vs Beta Blockers and Angioedema, Overall									
Site-Adjusted Analysis									
ACE Inhibitors	2,240,239	442,941.07	72.22	0.20	3,771	8.51	1.68	3.99 (3.72, 4.29)	<0.001
Beta Blockers	2,479,076	429,916.47	63.34	0.17	960	2.23	0.39		
Propensity Score Adjusted Stratified Analysis; Percentiles= 5, Trimmed									
ACE Inhibitors	2,240,221	442,937.88	72.22	0.20	3,771	8.51	1.68	4.54 (4.21, 4.90)	<0.001
Beta Blockers	2,479,056	429,913.41	63.34	0.17	960	2.23	0.39		
ACE Inhibitors vs Beta Blockers and Angioedema by Quarter, 2021Q2									
Site-Adjusted Analysis									
ACE Inhibitors	112,248	22,957.30	74.70	0.20	193	8.41	1.72	4.00 (2.95, 5.42)	<0.001
Beta Blockers	136,177	24,366.83	65.36	0.18	53	2.18	0.39		
Propensity Score Adjusted Stratified Analysis; Percentiles= 5, Trimmed									
ACE Inhibitors	112,232	22,954.56	74.70	0.20	193	8.41	1.72	4.45 (3.22, 6.15)	<0.001
Beta Blockers	136,128	24,359.56	65.36	0.18	53	2.18	0.39		

Table 3p. Effect Estimates for New Users of ACE Inhibitors vs Beta Blockers and Angioedema, Propensity Score Stratification (PSS) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, by Analysis Type and 2021Q3

Medical Product	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	Hazard Ratio (95% Confidence Interval)	Wald P-Value
ACE Inhibitors vs Beta Blockers and Angioedema, Overall									
Site-Adjusted Analysis									
ACE Inhibitors	2,240,239	442,941.07	72.22	0.20	3,771	8.51	1.68	3.99 (3.72, 4.29)	<0.001
Beta Blockers	2,479,076	429,916.47	63.34	0.17	960	2.23	0.39		
Propensity Score Adjusted Stratified Analysis; Percentiles= 5, Trimmed									
ACE Inhibitors	2,240,221	442,937.88	72.22	0.20	3,771	8.51	1.68	4.54 (4.21, 4.90)	<0.001
Beta Blockers	2,479,056	429,913.41	63.34	0.17	960	2.23	0.39		
ACE Inhibitors vs Beta Blockers and Angioedema by Quarter, 2021Q3									
Site-Adjusted Analysis									
ACE Inhibitors	112,979	23,100.34	74.68	0.20	191	8.27	1.69	5.42 (3.85, 7.62)	<0.001
Beta Blockers	142,310	25,281.54	64.89	0.18	40	1.58	0.28		
Propensity Score Adjusted Stratified Analysis; Percentiles= 5, Trimmed									
ACE Inhibitors	112,959	23,096.10	74.68	0.20	191	8.27	1.69	6.03 (4.20, 8.67)	<0.001
Beta Blockers	142,254	25,273.61	64.89	0.18	40	1.58	0.28		

Table 3q. Effect Estimates for New Users of ACE Inhibitors vs Beta Blockers and Angioedema, Propensity Score Stratification (PSS) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, by Analysis Type and 2021Q4

Medical Product	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	Hazard Ratio (95% Confidence Interval)	Wald P-Value
ACE Inhibitors vs Beta Blockers and Angioedema, Overall									
Site-Adjusted Analysis									
ACE Inhibitors	2,240,239	442,941.07	72.22	0.20	3,771	8.51	1.68	3.99 (3.72, 4.29)	<0.001
Beta Blockers	2,479,076	429,916.47	63.34	0.17	960	2.23	0.39		
Propensity Score Adjusted Stratified Analysis; Percentiles= 5, Trimmed									
ACE Inhibitors	2,240,221	442,937.88	72.22	0.20	3,771	8.51	1.68	4.54 (4.21, 4.90)	<0.001
Beta Blockers	2,479,056	429,913.41	63.34	0.17	960	2.23	0.39		
ACE Inhibitors vs Beta Blockers and Angioedema by Quarter, 2021Q4									
Site-Adjusted Analysis									
ACE Inhibitors	113,745	22,708.45	72.92	0.20	158	6.96	1.39	2.99 (2.22, 4.02)	<0.001
Beta Blockers	144,536	25,091.08	63.41	0.17	61	2.43	0.42		
Propensity Score Adjusted Stratified Analysis; Percentiles= 5, Trimmed									
ACE Inhibitors	113,727	22,704.93	72.92	0.20	158	6.96	1.39	3.45 (2.50, 4.76)	<0.001
Beta Blockers	144,494	25,084.51	63.41	0.17	61	2.43	0.42		

Table 3r. Effect Estimates for New Users of ACE Inhibitors vs Beta Blockers and Angioedema, Propensity Score Stratification (PSS) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, by Analysis Type and 2022Q1

Medical Product	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	Hazard Ratio (95% Confidence Interval)	Wald P-Value
ACE Inhibitors vs Beta Blockers and Angioedema, Overall									
Site-Adjusted Analysis									
ACE Inhibitors	2,240,239	442,941.07	72.22	0.20	3,771	8.51	1.68	3.99 (3.72, 4.29)	<0.001
Beta Blockers	2,479,076	429,916.47	63.34	0.17	960	2.23	0.39		
Propensity Score Adjusted Stratified Analysis; Percentiles= 5, Trimmed									
ACE Inhibitors	2,240,221	442,937.88	72.22	0.20	3,771	8.51	1.68	4.54 (4.21, 4.90)	<0.001
Beta Blockers	2,479,056	429,913.41	63.34	0.17	960	2.23	0.39		
ACE Inhibitors vs Beta Blockers and Angioedema by Quarter, 2022Q1									
Site-Adjusted Analysis									
ACE Inhibitors	116,093	24,062.15	75.70	0.21	180	7.48	1.55	4.43 (3.21, 6.11)	<0.001
Beta Blockers	148,742	26,430.37	64.90	0.18	47	1.78	0.32		
Propensity Score Adjusted Stratified Analysis; Percentiles= 5, Trimmed									
ACE Inhibitors	116,065	24,057.36	75.71	0.21	180	7.48	1.55	4.87 (3.46, 6.86)	<0.001
Beta Blockers	148,653	26,416.56	64.91	0.18	47	1.78	0.32		

Table 3s. Effect Estimates for New Users of ACE Inhibitors vs Beta Blockers and Angioedema, Propensity Score Stratification (PSS) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, by Analysis Type and 2022Q2

Medical Product	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	Hazard Ratio (95% Confidence Interval)	Wald P-Value
ACE Inhibitors vs Beta Blockers and Angioedema, Overall									
Site-Adjusted Analysis									
ACE Inhibitors	2,240,239	442,941.07	72.22	0.20	3,771	8.51	1.68	3.99 (3.72, 4.29)	<0.001
Beta Blockers	2,479,076	429,916.47	63.34	0.17	960	2.23	0.39		
Propensity Score Adjusted Stratified Analysis; Percentiles= 5, Trimmed									
ACE Inhibitors	2,240,221	442,937.88	72.22	0.20	3,771	8.51	1.68	4.54 (4.21, 4.90)	<0.001
Beta Blockers	2,479,056	429,913.41	63.34	0.17	960	2.23	0.39		
ACE Inhibitors vs Beta Blockers and Angioedema by Quarter, 2022Q2									
Site-Adjusted Analysis									
ACE Inhibitors	97,770	11,438.26	42.73	0.12	108	9.44	1.10	3.88 (2.65, 5.68)	<0.001
Beta Blockers	133,947	13,879.91	37.85	0.10	35	2.52	0.26		
Propensity Score Adjusted Stratified Analysis; Percentiles= 5, Trimmed									
ACE Inhibitors	97,752	11,436.50	42.73	0.12	108	9.44	1.10	4.36 (2.90, 6.56)	<0.001
Beta Blockers	133,910	13,876.56	37.85	0.10	35	2.52	0.26		

Table 4. Summary of Patient-Level Cohort Attrition in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022

	New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM)				New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratification (PSS)			
	ACE Inhibitors		Beta Blockers		ACE Inhibitors		Beta Blockers	
	Remaining	Excluded	Remaining	Excluded	Remaining	Excluded	Remaining	Excluded
Members meeting enrollment and demographic requirements								
Enrolled at any point during the query period	196,438,595	N/A	196,438,595	N/A	196,438,595	N/A	196,438,595	N/A
Had required coverage type (medical and/or drug coverage)	120,840,861	75,597,734	120,840,861	75,597,734	120,840,861	75,597,734	120,840,861	75,597,734
Enrolled during specified age range	107,092,384	13,748,477	107,092,384	13,748,477	107,092,384	13,748,477	107,092,384	13,748,477
Had requestable medical charts	107,092,384	0	107,092,384	0	107,092,384	0	107,092,384	0
Met demographic requirements (sex, race, and Hispanic origin)	107,030,277	62,107	107,030,277	62,107	107,030,277	62,107	107,030,277	62,107
Members with a valid index event								
Had any cohort-defining claim during the query period	17,377,771	89,652,506	21,111,755	85,918,522	17,377,771	89,652,506	21,111,755	85,918,522
Claim recorded during specified age range	17,374,226	3,545	21,096,058	15,697	17,374,226	3,545	21,096,058	15,697
Episode defining index claim recorded during the query period	8,502,887	8,871,339	10,282,947	10,813,111	8,502,887	8,871,339	10,282,947	10,813,111
Members with required pre-index history								
Had sufficient pre-index continuous enrollment	3,383,767	5,119,120	4,666,195	5,616,752	3,383,767	5,119,120	4,666,195	5,616,752
Met inclusion and exclusion criteria[1]	2,416,422	967,345	2,660,625	2,005,570	2,416,422	967,345	2,660,625	2,005,570
Evidence of ACE Inhibitors	N/A	0	N/A	1,096,124	N/A	0	N/A	1,096,124
Evidence of Aliskiren	N/A	816	N/A	1,375	N/A	816	N/A	1,375
Evidence of Angioedema (exclusion)	N/A	2,608	N/A	14,631	N/A	2,608	N/A	14,631
Evidence of ARBs	N/A	288,459	N/A	974,646	N/A	288,459	N/A	974,646
Evidence of Beta Blockers	N/A	805,345	N/A	0	N/A	805,345	N/A	0
Met event incidence criteria	2,416,422	0	2,660,625	0	2,416,422	0	2,660,625	0
Members with required post-index follow-up								
Had sufficient post-index continuous enrollment	2,416,422	0	2,660,625	0	2,416,422	0	2,660,625	0
Had minimum days' supply on index date	2,416,422	0	2,660,625	0	2,416,422	0	2,660,625	0
Had index episode of at least required length	2,416,422	0	2,660,625	0	2,416,422	0	2,660,625	0

Table 4. Summary of Patient-Level Cohort Attrition in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022

	New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM)				New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratification (PSS)			
	ACE Inhibitors		Beta Blockers		ACE Inhibitors		Beta Blockers	
	Remaining	Excluded	Remaining	Excluded	Remaining	Excluded	Remaining	Excluded
Had index episode longer than blackout period	2,416,422	0	2,660,625	0	2,416,422	0	2,660,625	0
Did not have an event during blackout period	2,416,422	0	2,660,625	0	2,416,422	0	2,660,625	0
Final cohort								
Number of members	2,416,422	N/A	2,660,625	N/A	2,416,422	N/A	2,660,625	N/A
Number of episodes	2,416,422	N/A	2,660,625	N/A	2,416,422	N/A	2,660,625	N/A
Members meeting comparative cohort eligibility requirements								
Excluded due to same-day initiation of both exposure groups	2,261,361	155,061	2,505,564	155,061	2,261,361	155,061	2,505,564	155,061
Excluded due to prior initiation of other exposure group	2,240,239	21,122	2,479,076	26,488	2,240,239	21,122	2,479,076	26,488
Excluded due to propensity score trimming	N/A	N/A	N/A	N/A	2,240,221	18	2,479,056	20
Included in comparative analysis	1,511,170	729,069	1,511,170	967,906	2,240,221	0	2,479,056	0
Additional information								
Number of events in comparative analysis	2,777	N/A	582	N/A	3,771	N/A	960	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.

Figure 1a. Histograms Depicting Propensity Score Distributions Before and After Adjustment for New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022

Unadjusted Propensity Score Distribution
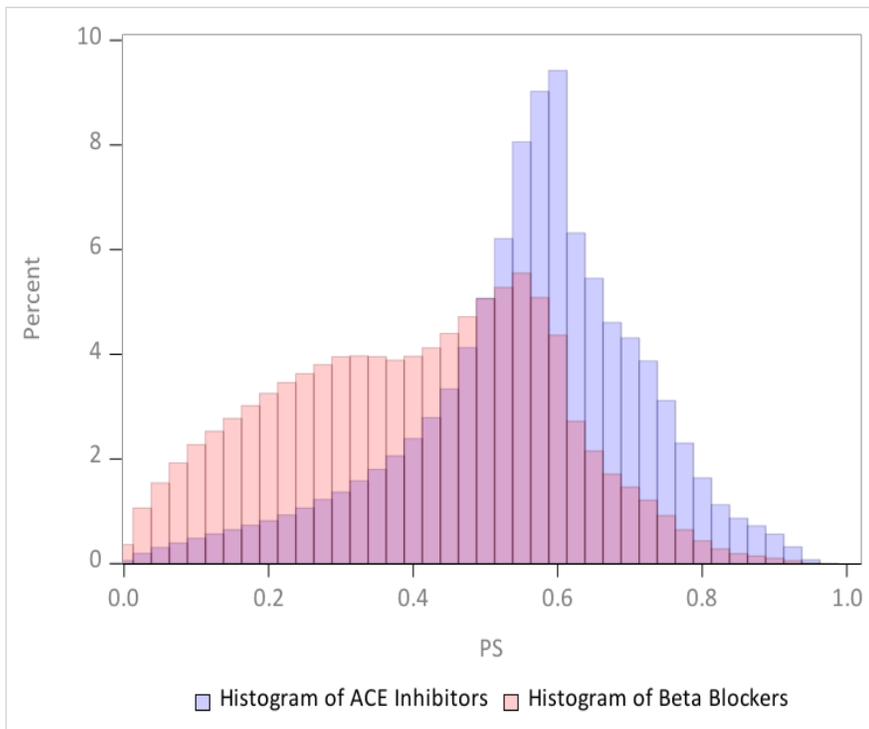
Propensity Score Fixed Ratio 1:1 Adjusted Cohort, Matched Caliper = 0.025
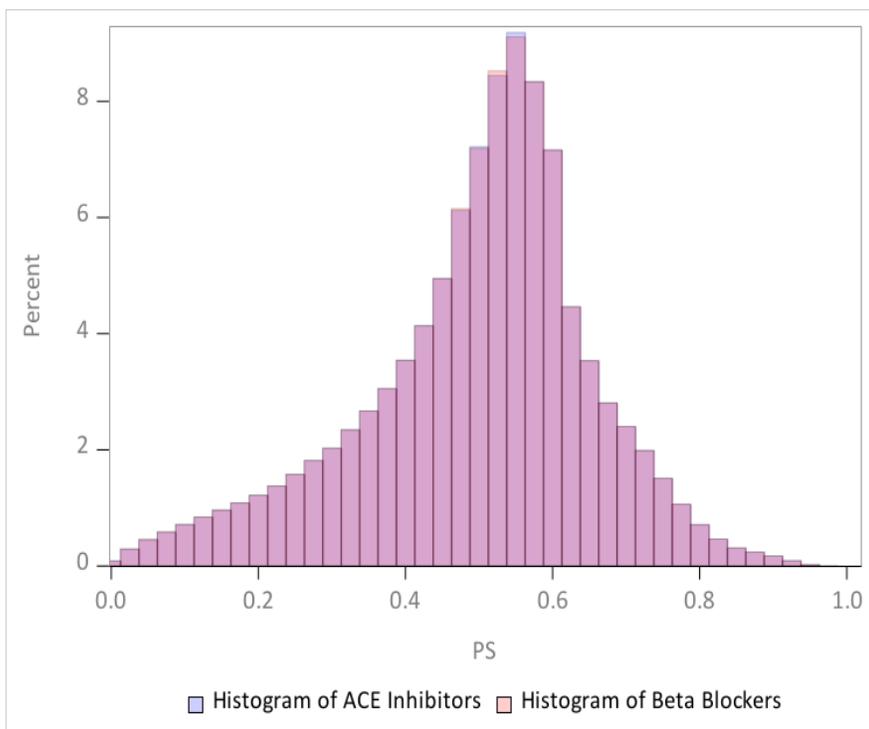
Figure 1b. Histograms Depicting Propensity Score Distributions Before and After Adjustment for New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2018Q1

Unadjusted Propensity Score Distribution
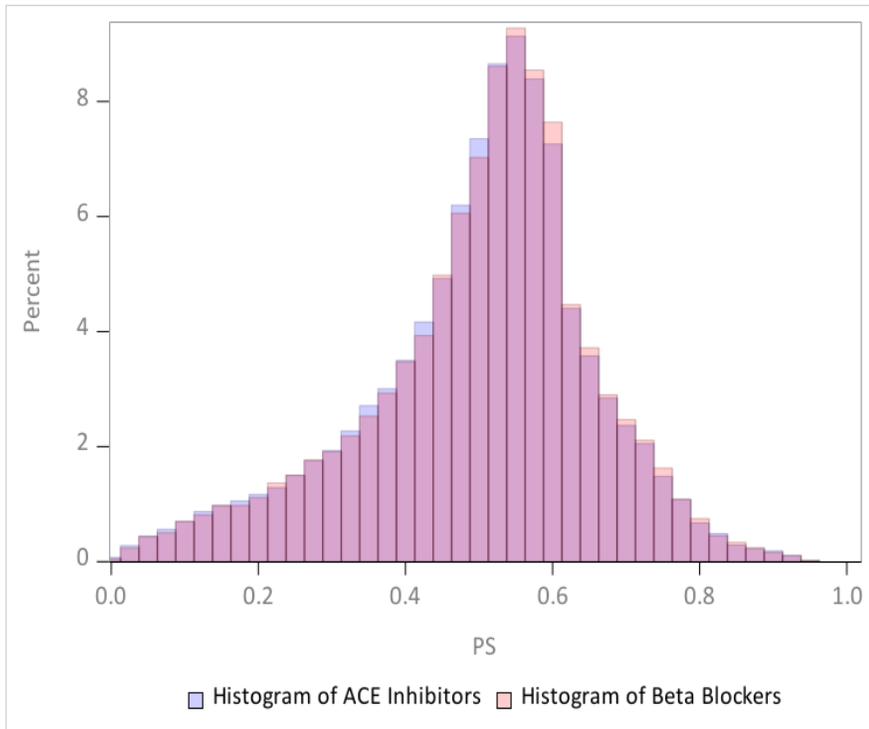
Propensity Score Fixed Ratio 1:1 Adjusted Cohort, Matched Caliper = 0.025
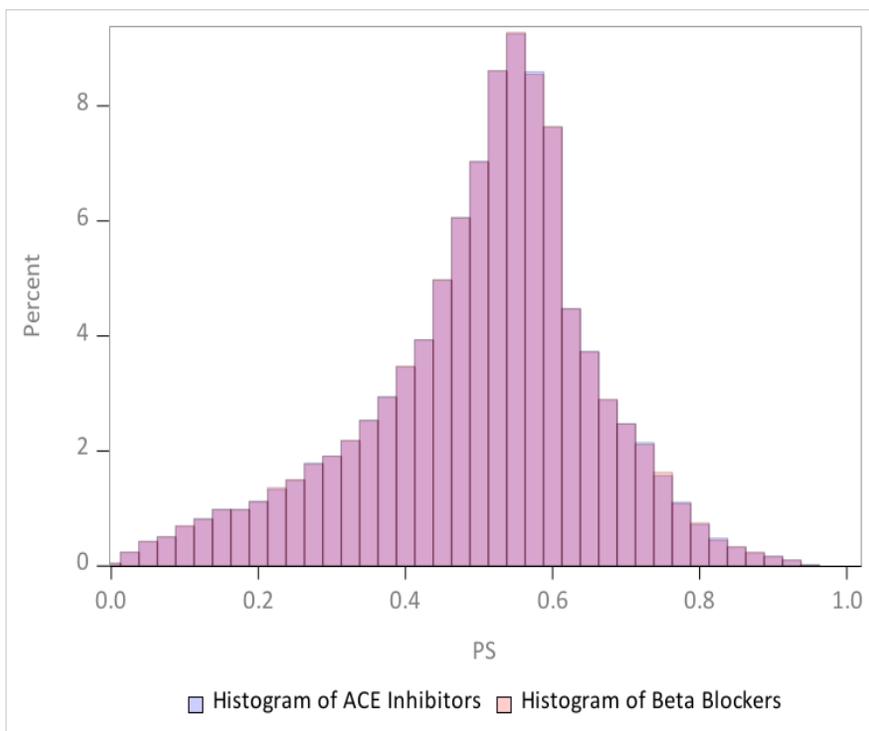
Figure 1c. Histograms Depicting Propensity Score Distributions Before and After Adjustment for New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2018Q2

Unadjusted Propensity Score Distribution
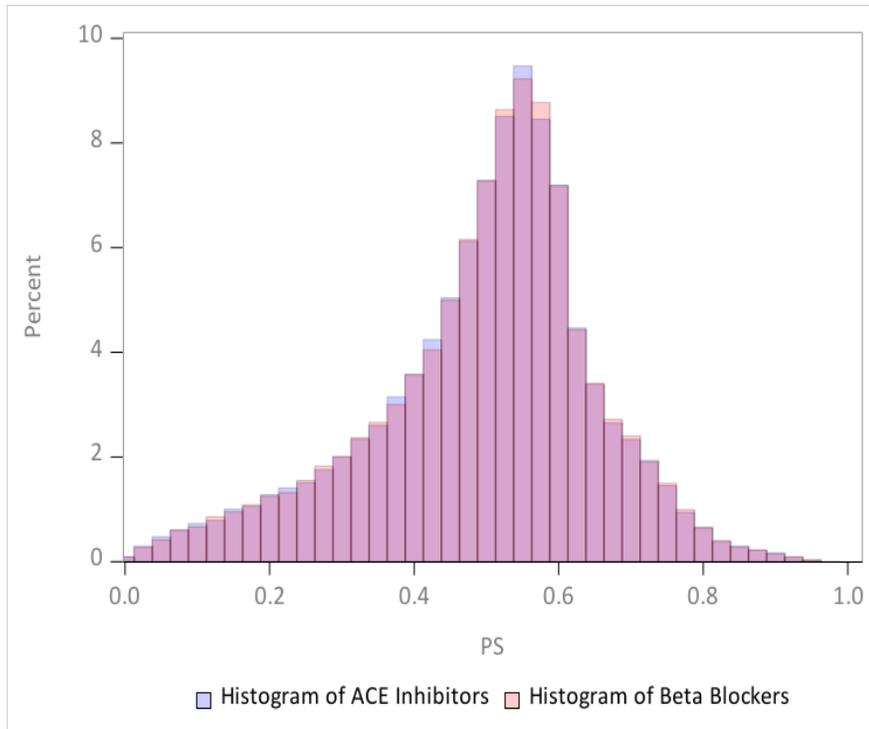
Propensity Score Fixed Ratio 1:1 Adjusted Cohort, Matched Caliper = 0.025
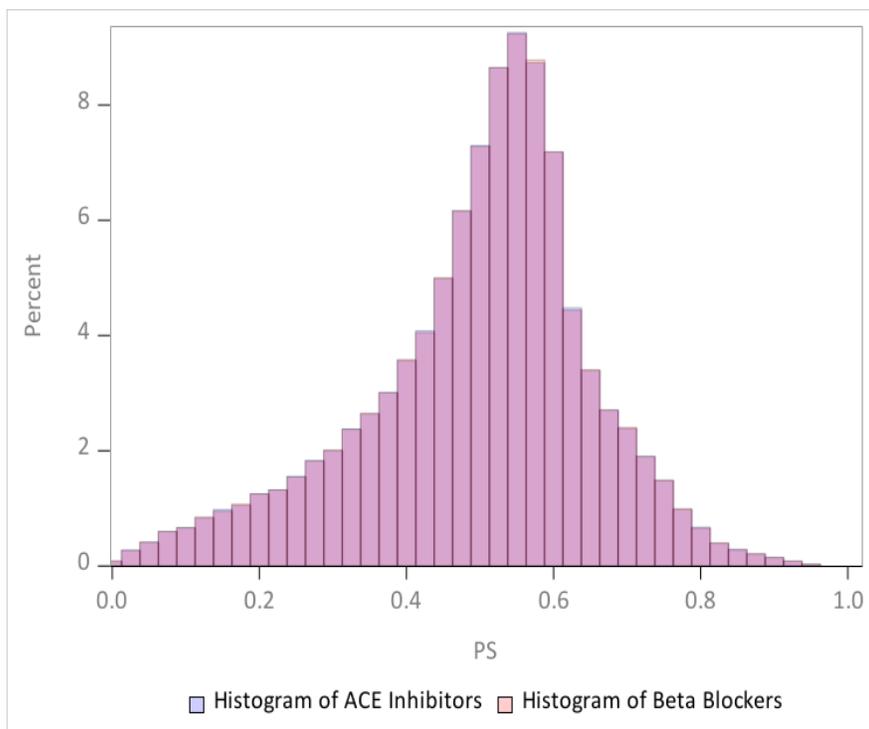
Figure 1d. Histograms Depicting Propensity Score Distributions Before and After Adjustment for New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2018Q3

Unadjusted Propensity Score Distribution
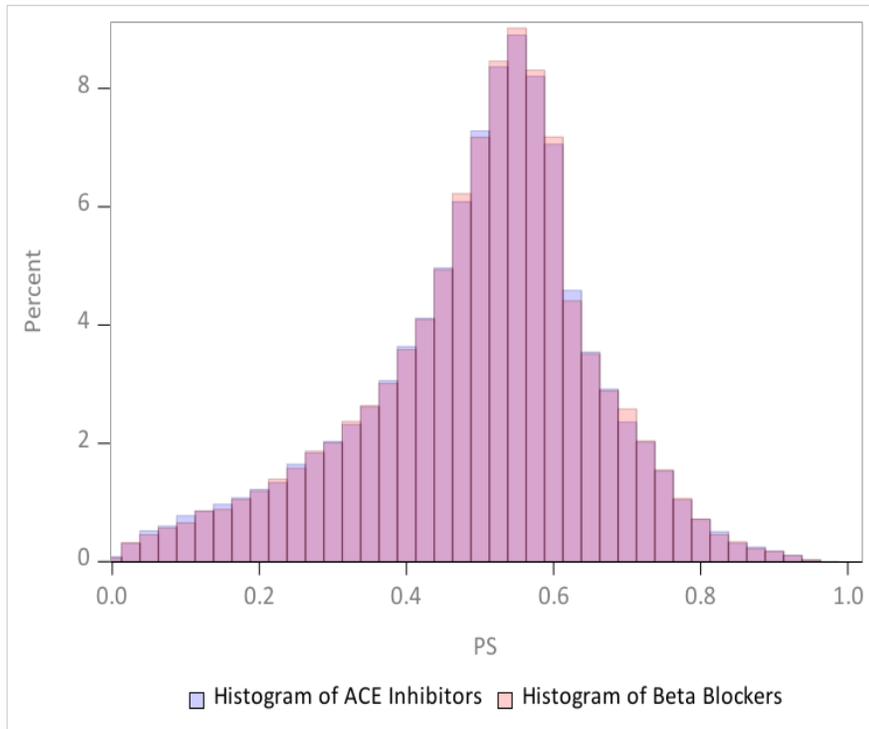
Propensity Score Fixed Ratio 1:1 Adjusted Cohort, Matched Caliper = 0.025
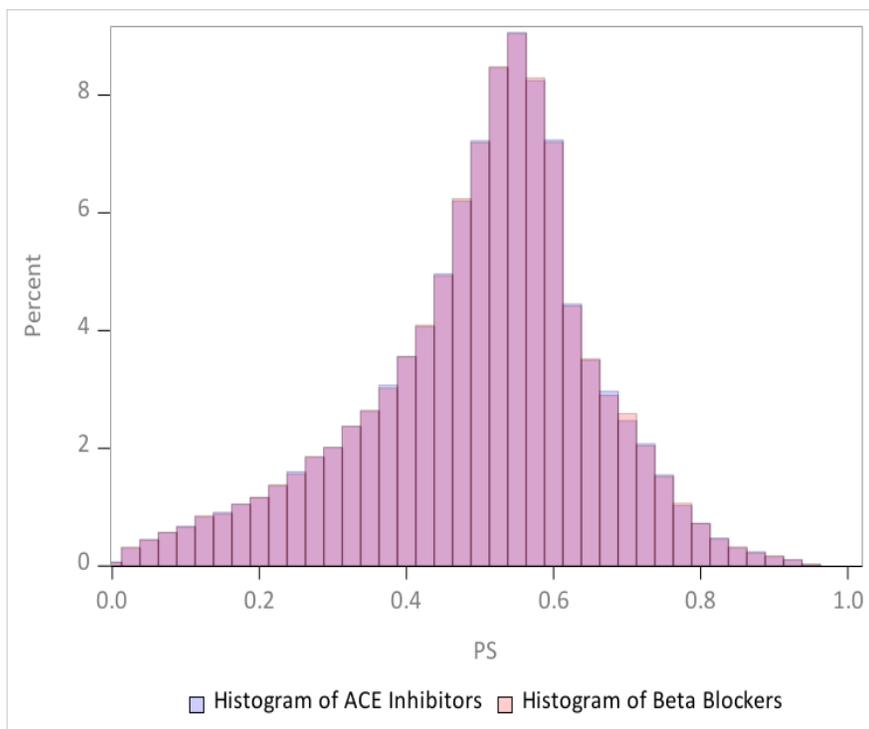
Figure 1e. Histograms Depicting Propensity Score Distributions Before and After Adjustment for New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2018Q4

Unadjusted Propensity Score Distribution
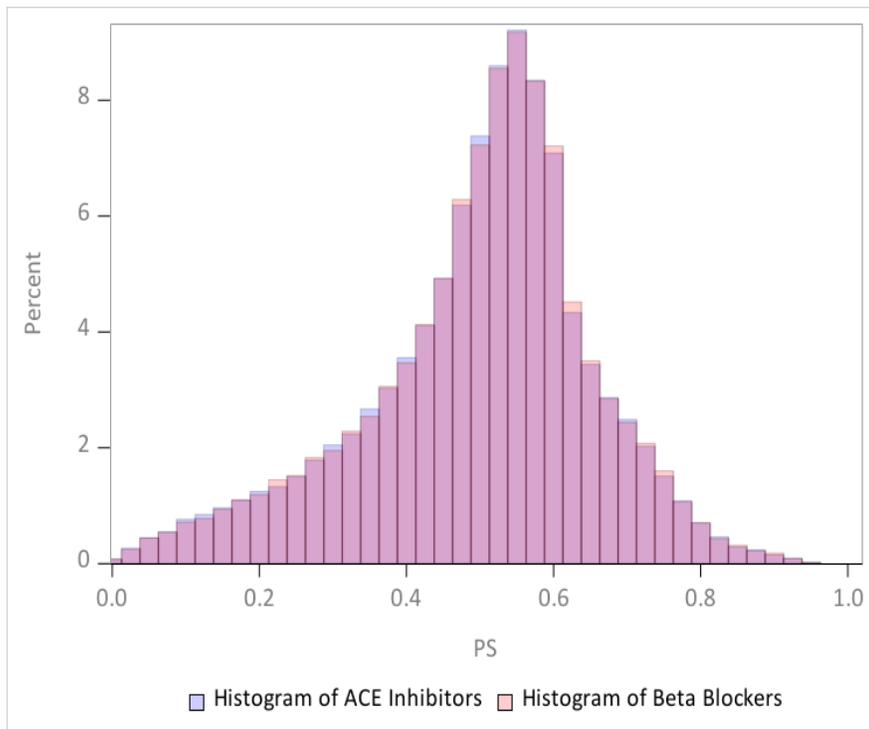
Propensity Score Fixed Ratio 1:1 Adjusted Cohort, Matched Caliper = 0.025
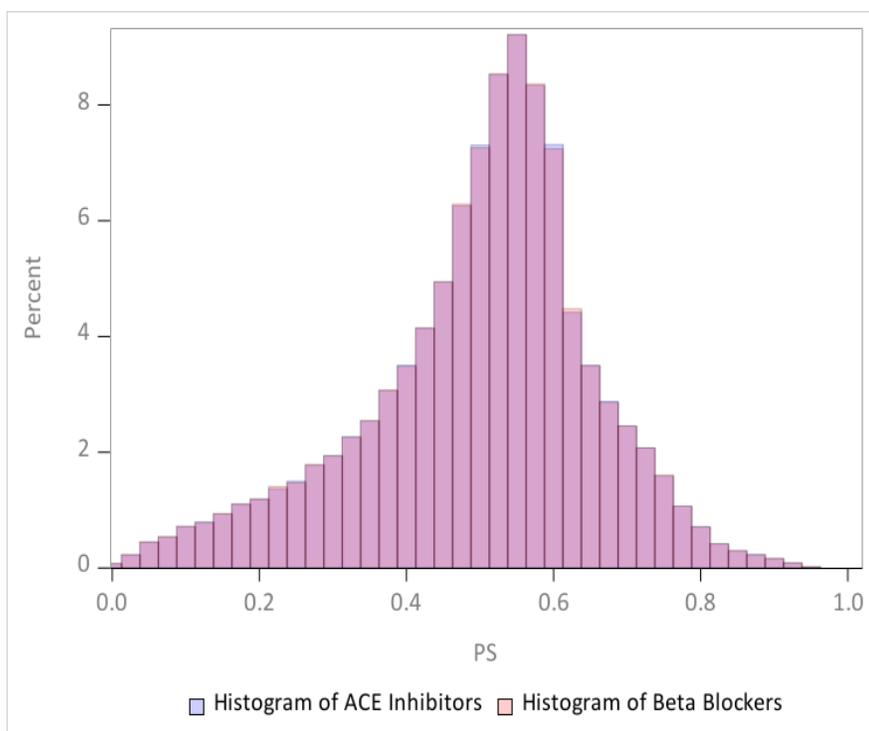
Figure 1f. Histograms Depicting Propensity Score Distributions Before and After Adjustment for New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2019Q1

Unadjusted Propensity Score Distribution
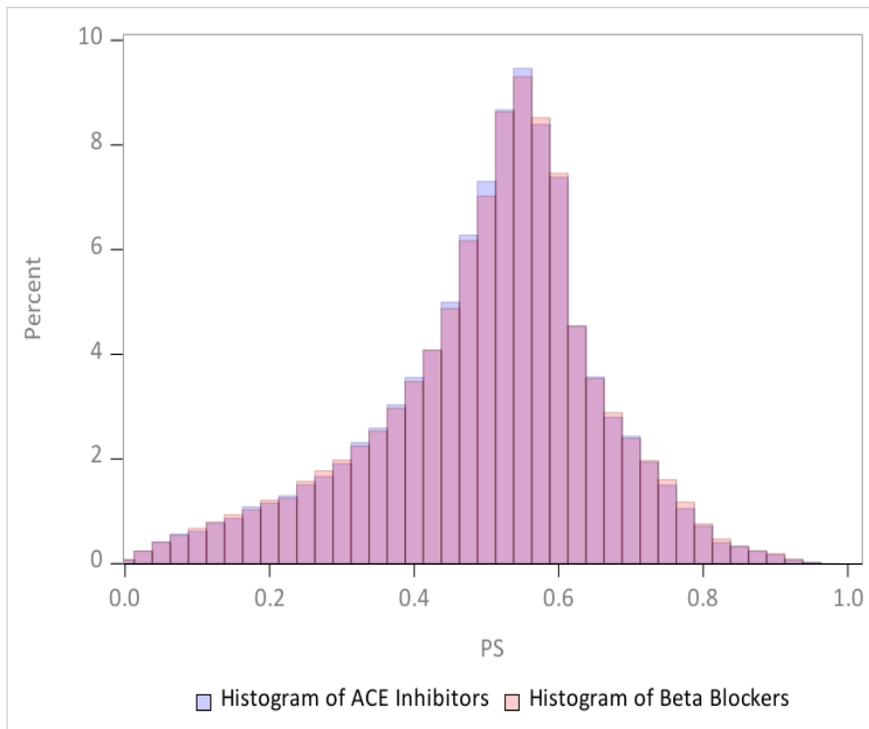
Propensity Score Fixed Ratio 1:1 Adjusted Cohort, Matched Caliper = 0.025
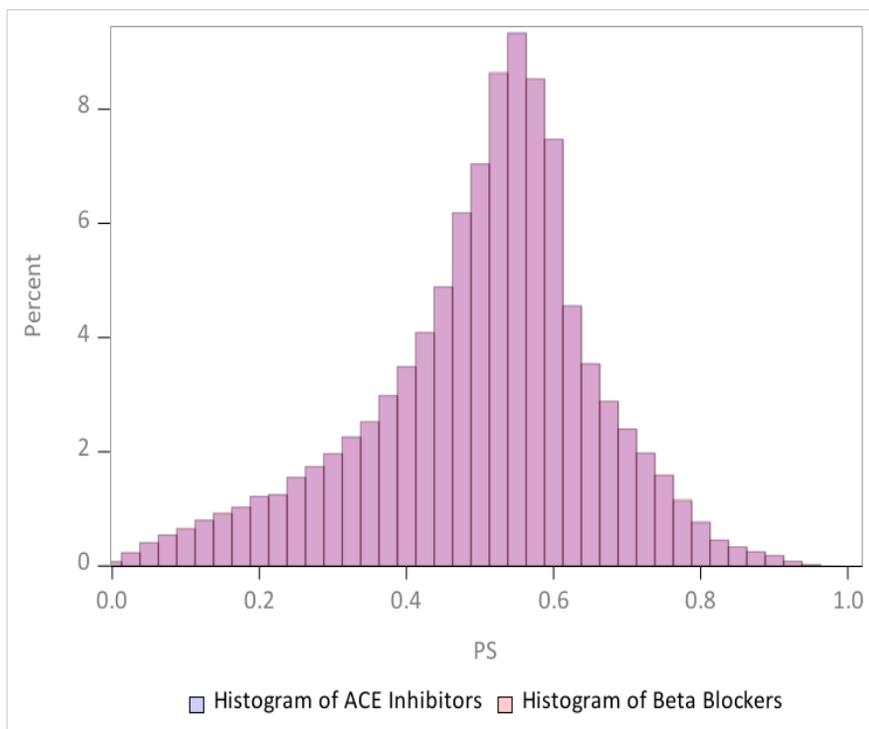
Figure 1g. Histograms Depicting Propensity Score Distributions Before and After Adjustment for New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2019Q2

Unadjusted Propensity Score Distribution
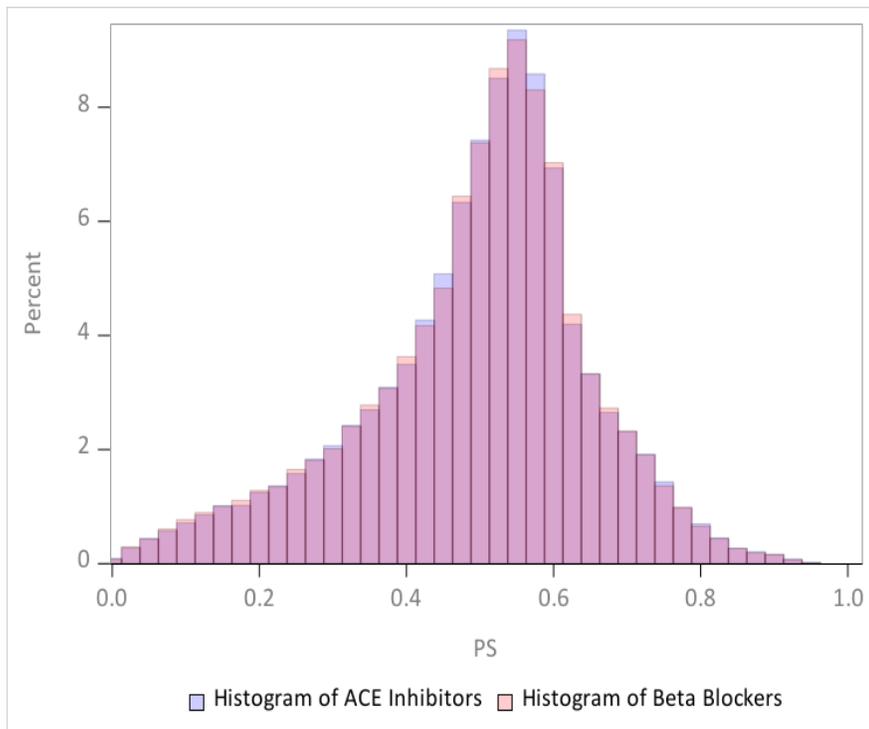
Propensity Score Fixed Ratio 1:1 Adjusted Cohort, Matched Caliper = 0.025
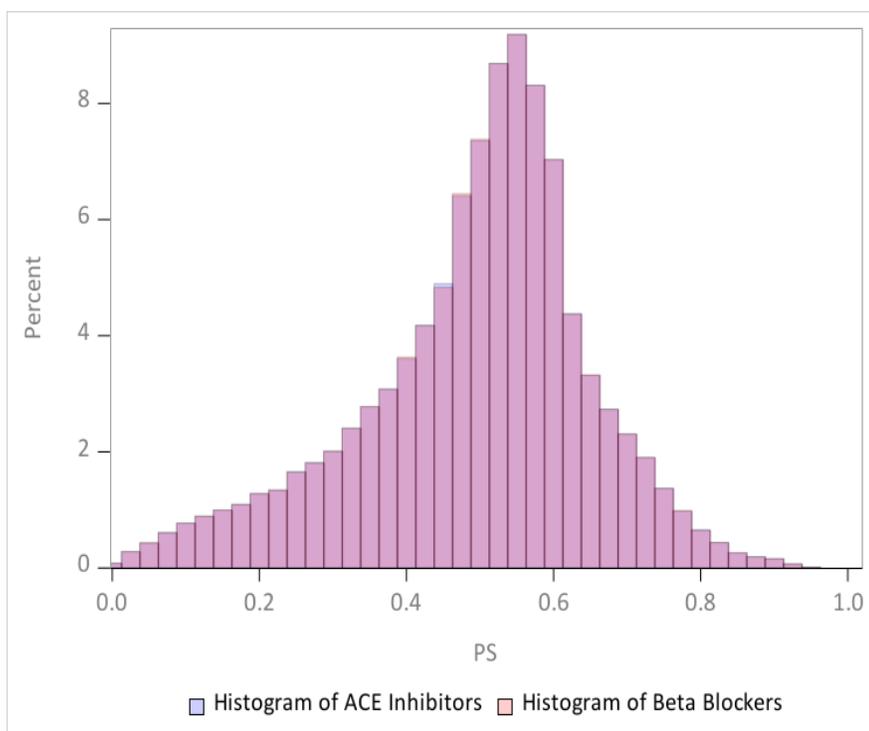
Figure 1h. Histograms Depicting Propensity Score Distributions Before and After Adjustment for New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2019Q3

Unadjusted Propensity Score Distribution
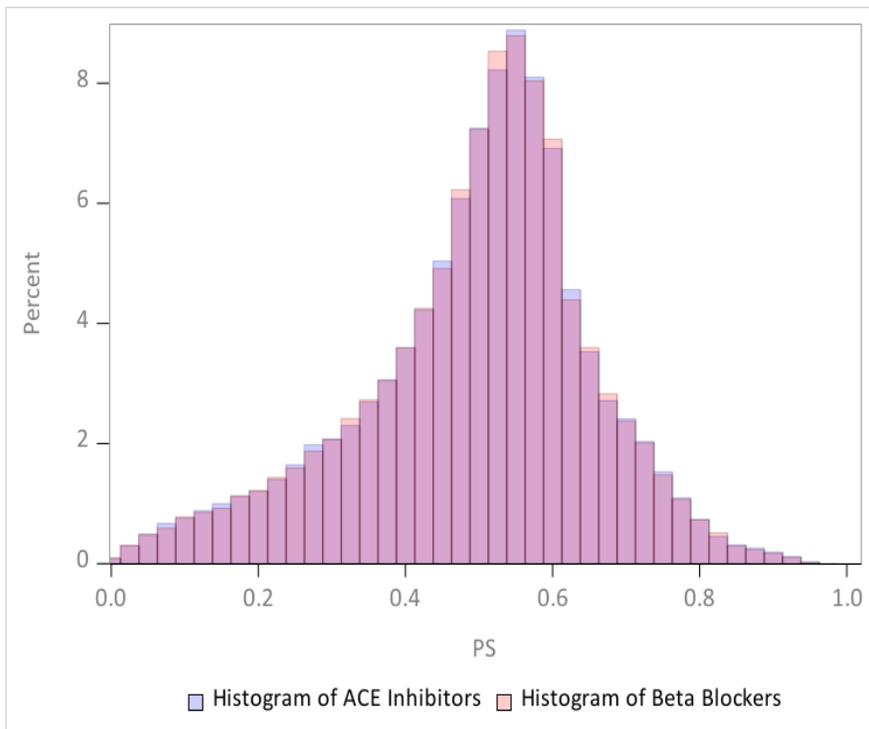
Propensity Score Fixed Ratio 1:1 Adjusted Cohort, Matched Caliper = 0.025
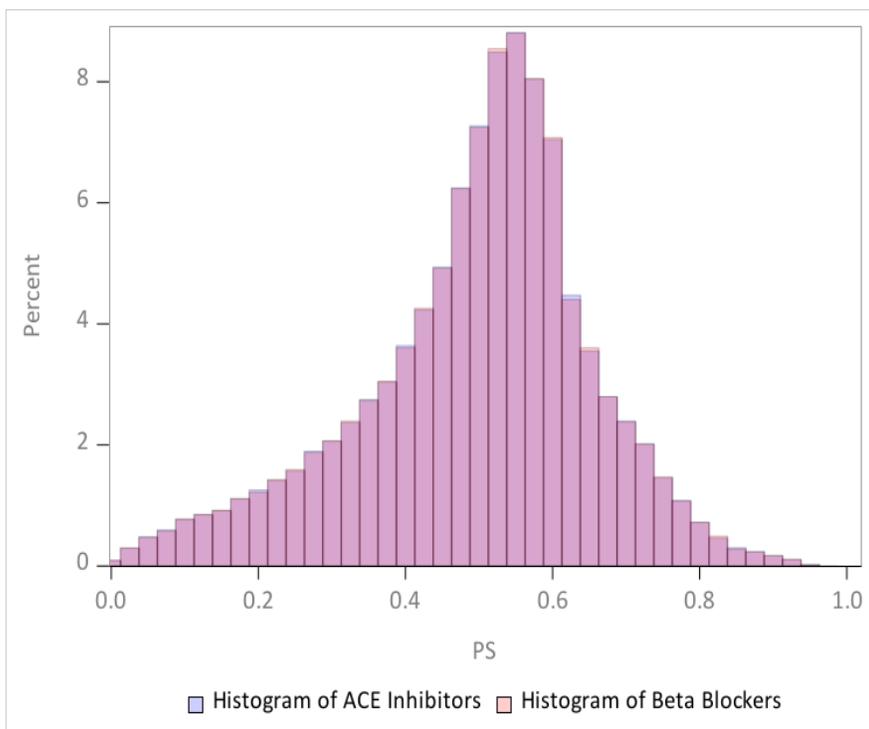
Figure 1i. Histograms Depicting Propensity Score Distributions Before and After Adjustment for New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2019Q4

Unadjusted Propensity Score Distribution
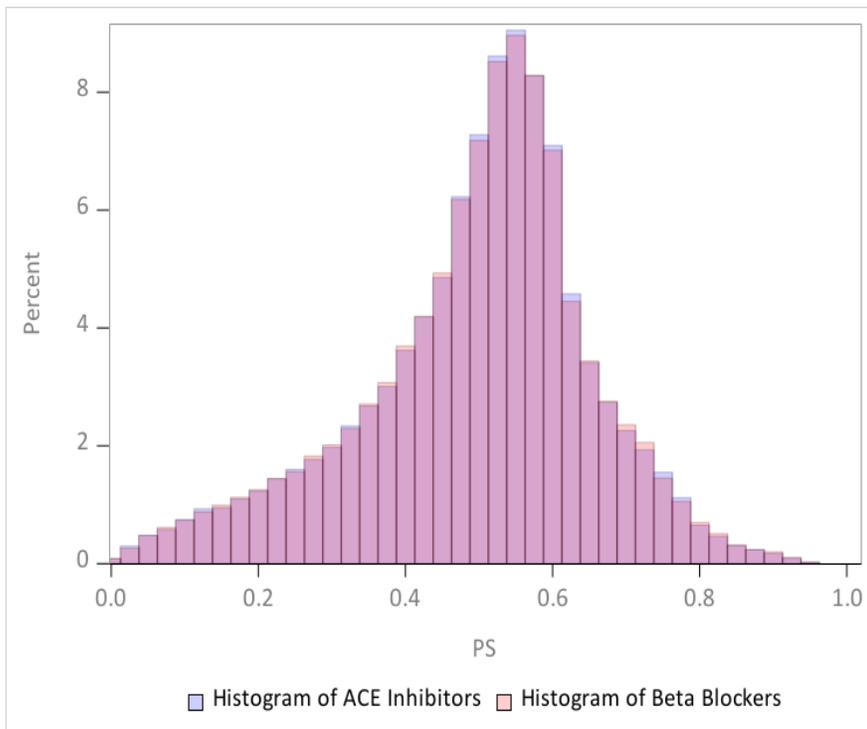
Propensity Score Fixed Ratio 1:1 Adjusted Cohort, Matched Caliper = 0.025
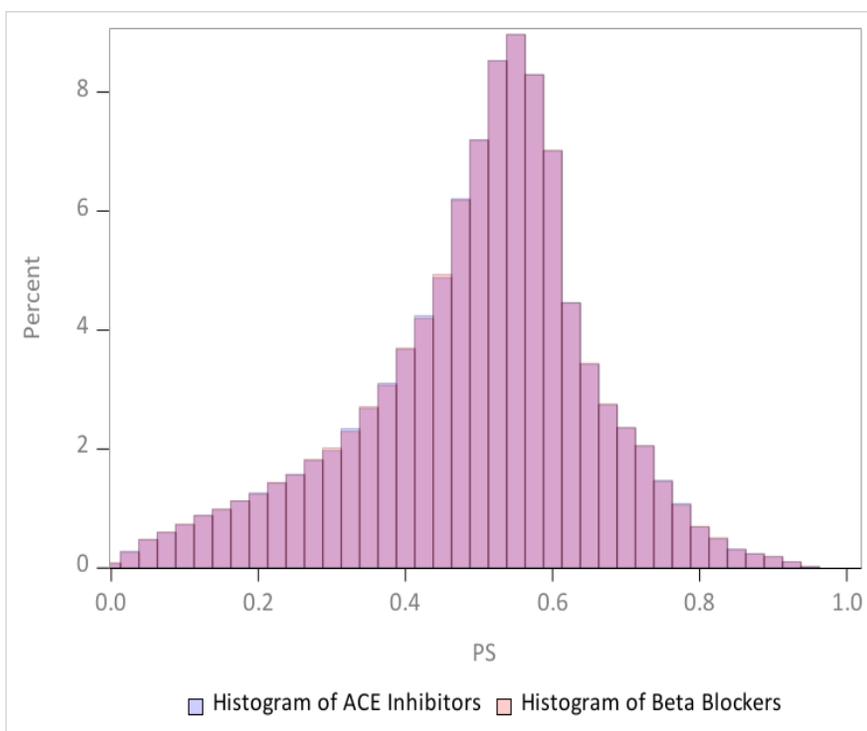
Figure 1j. Histograms Depicting Propensity Score Distributions Before and After Adjustment for New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2020Q1

Unadjusted Propensity Score Distribution
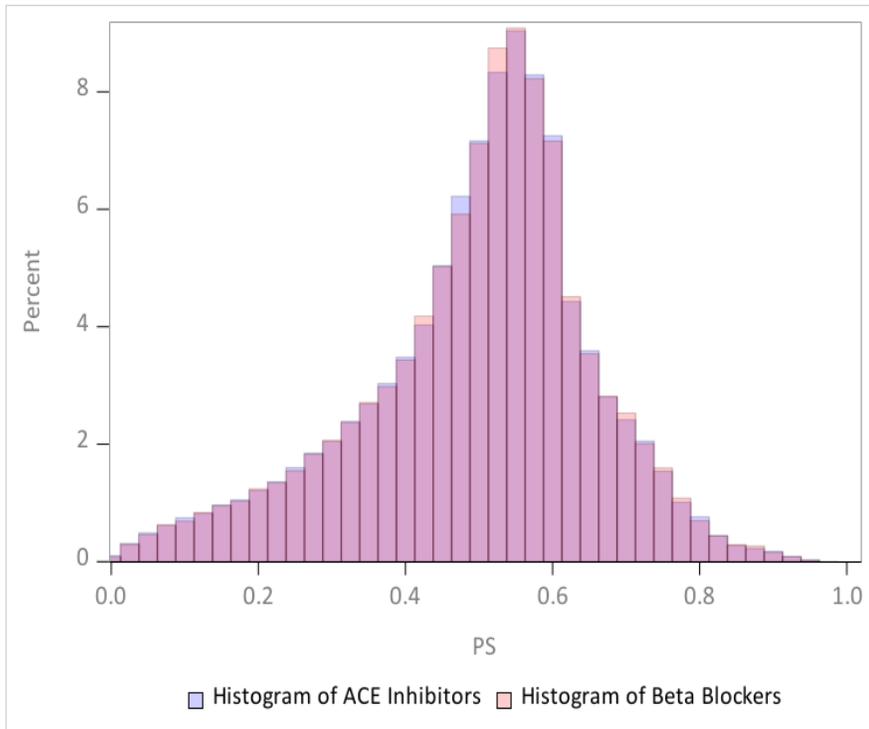
Propensity Score Fixed Ratio 1:1 Adjusted Cohort, Matched Caliper = 0.025
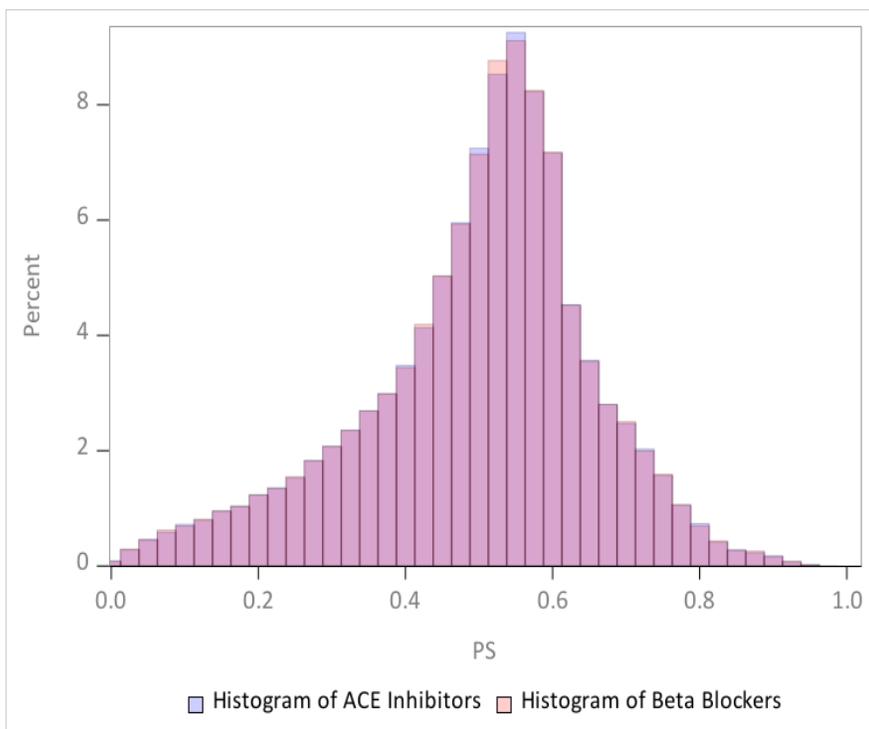
Figure 1k. Histograms Depicting Propensity Score Distributions Before and After Adjustment for New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2020Q2

Unadjusted Propensity Score Distribution

Propensity Score Fixed Ratio 1:1 Adjusted Cohort, Matched Caliper = 0.025
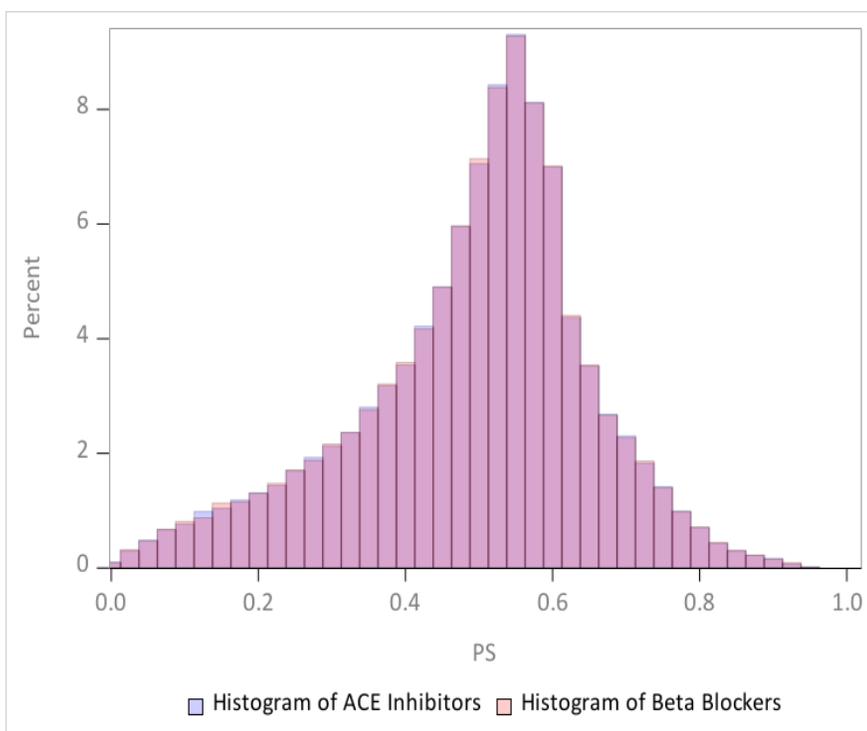
Figure 1l. Histograms Depicting Propensity Score Distributions Before and After Adjustment for New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2020Q3

Unadjusted Propensity Score Distribution
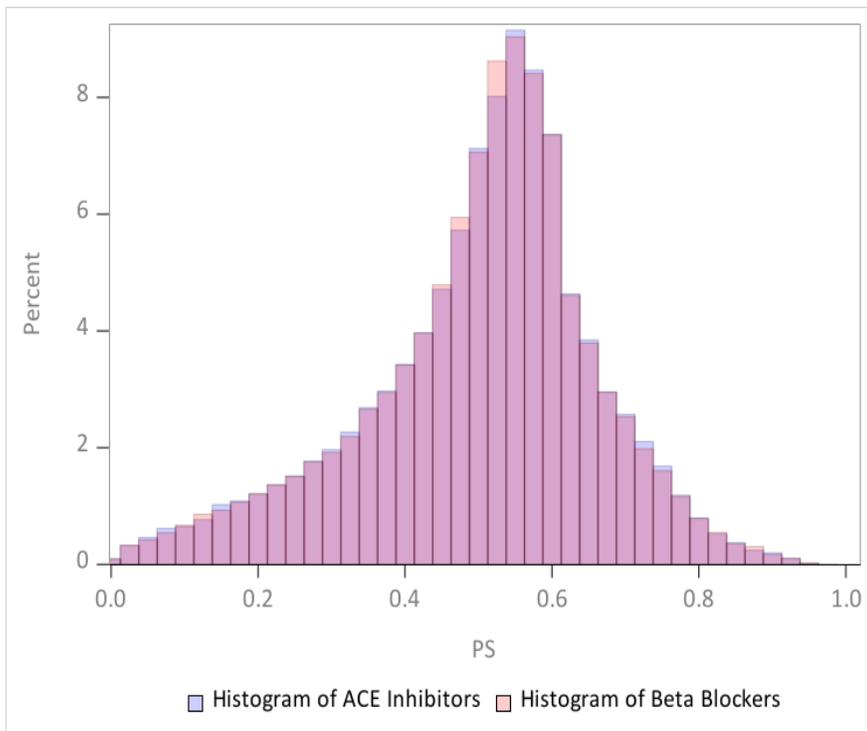
Propensity Score Fixed Ratio 1:1 Adjusted Cohort, Matched Caliper = 0.025

Figure 1m. Histograms Depicting Propensity Score Distributions Before and After Adjustment for New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2020Q4

Unadjusted Propensity Score Distribution
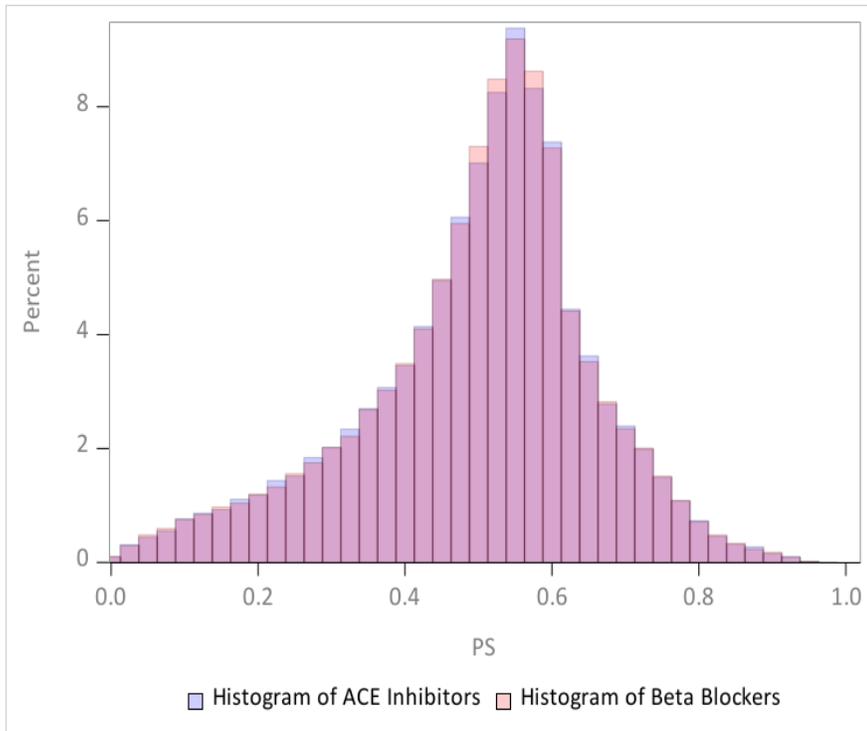
Propensity Score Fixed Ratio 1:1 Adjusted Cohort, Matched Caliper = 0.025
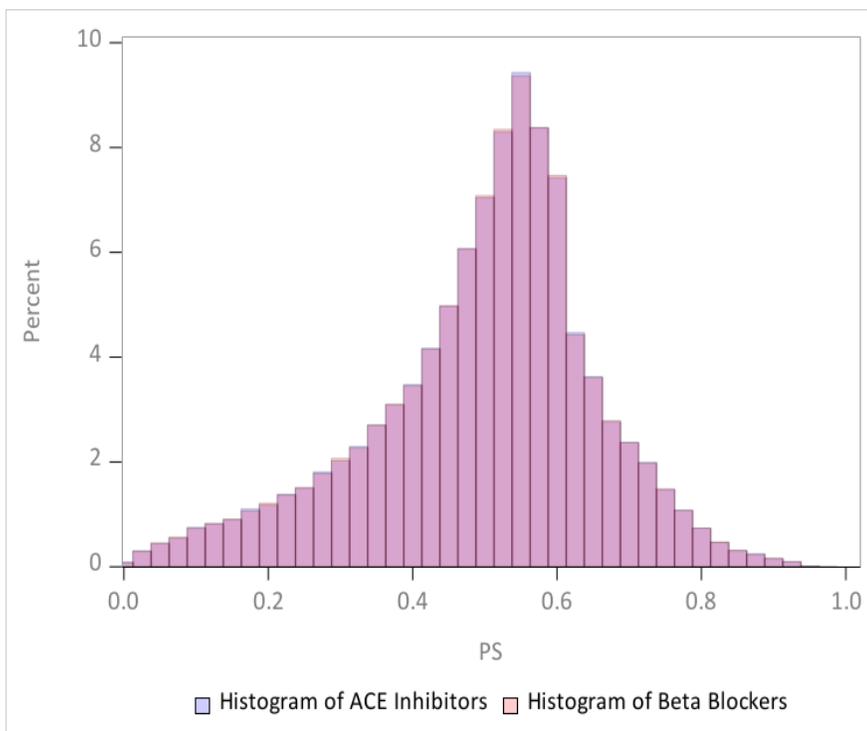
Figure 1n. Histograms Depicting Propensity Score Distributions Before and After Adjustment for New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2021Q1
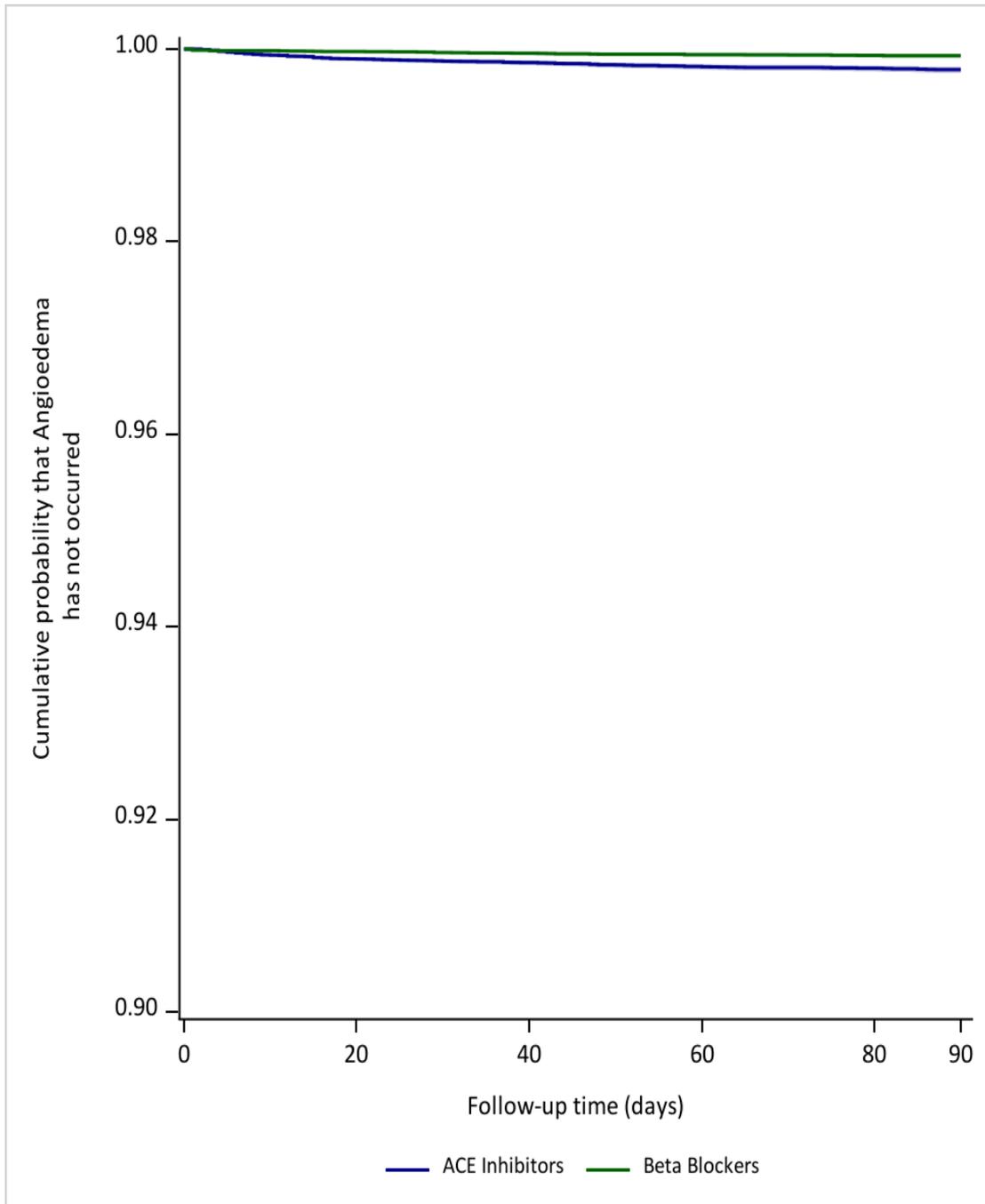
Unadjusted Propensity Score Distribution
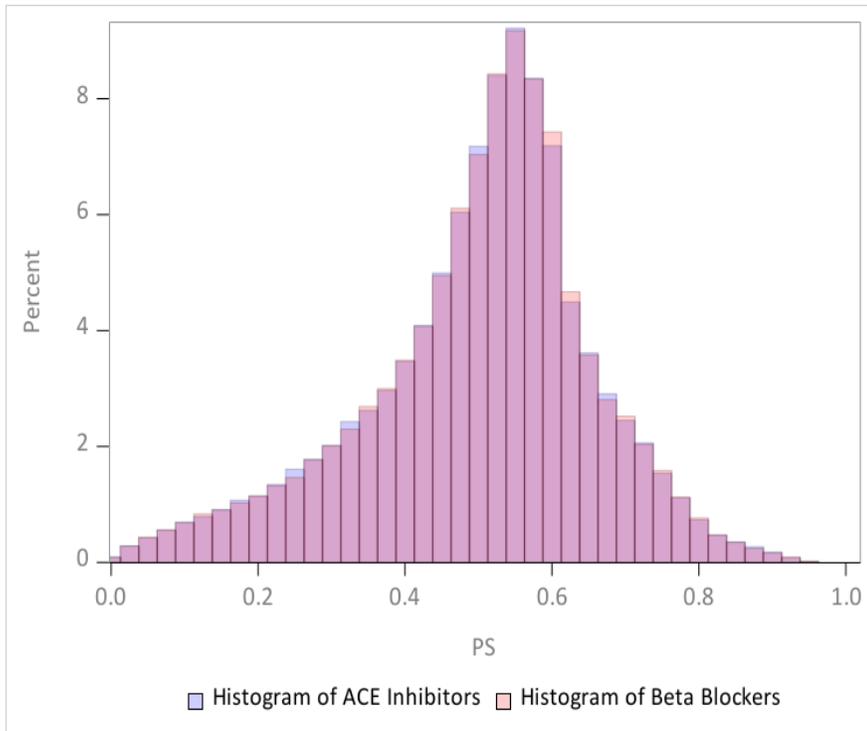
Propensity Score Fixed Ratio 1:1 Adjusted Cohort, Matched Caliper = 0.025
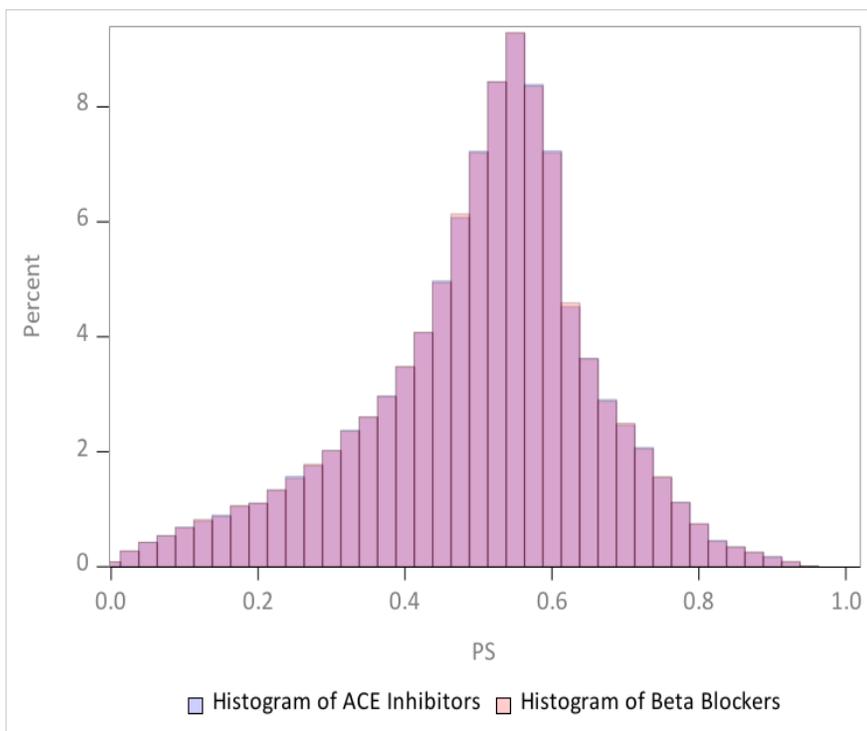
Figure 1o. Histograms Depicting Propensity Score Distributions Before and After Adjustment for New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2021Q2

Unadjusted Propensity Score Distribution
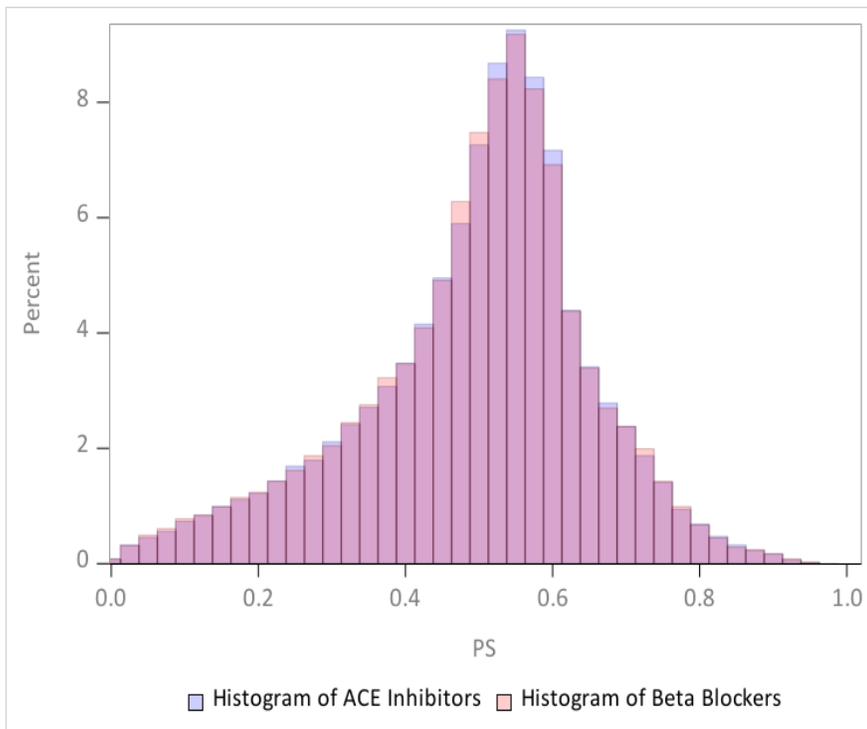
Propensity Score Fixed Ratio 1:1 Adjusted Cohort, Matched Caliper = 0.025
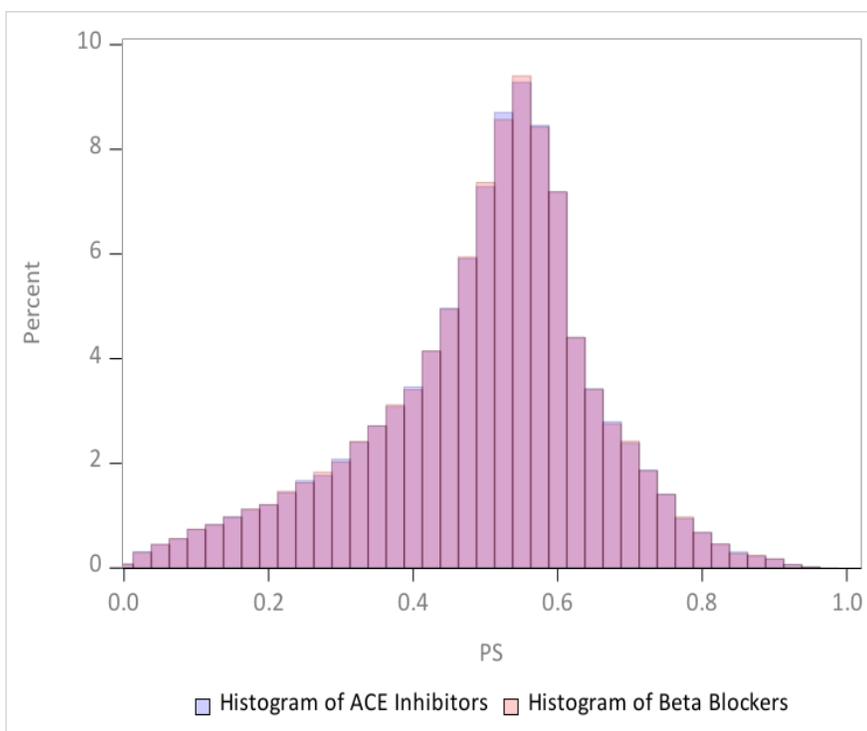
Figure 1p. Histograms Depicting Propensity Score Distributions Before and After Adjustment for New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2021Q3

Unadjusted Propensity Score Distribution
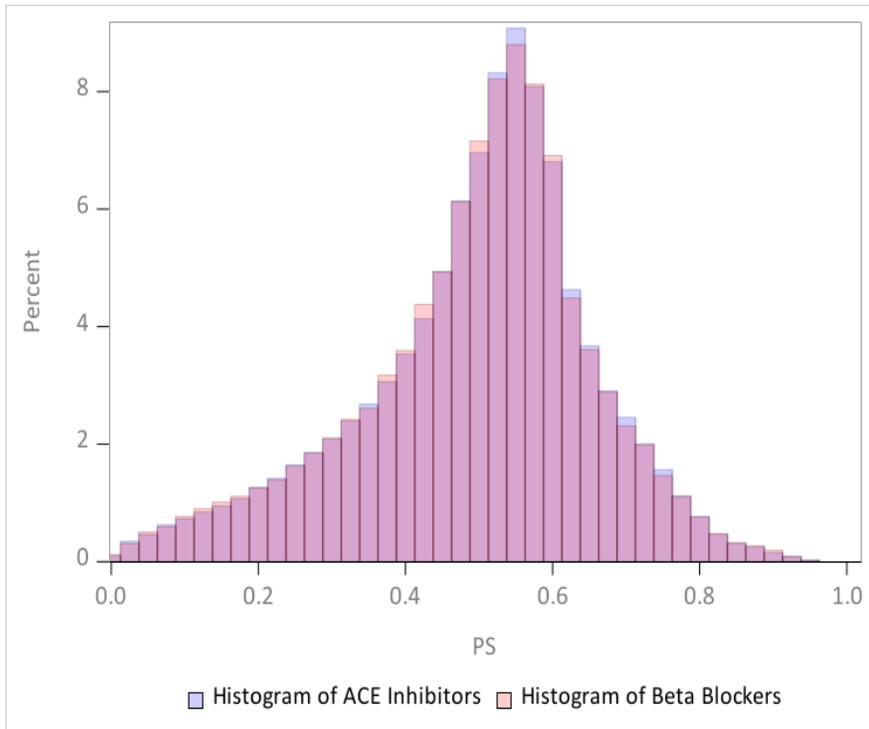
Propensity Score Fixed Ratio 1:1 Adjusted Cohort, Matched Caliper = 0.025
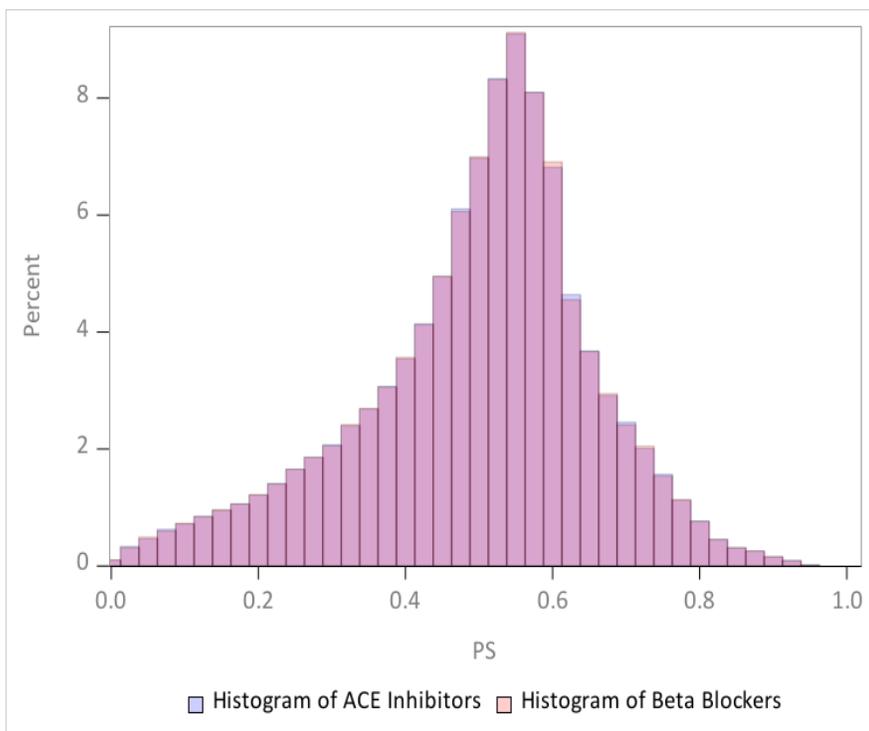
Figure 1q. Histograms Depicting Propensity Score Distributions Before and After Adjustment for New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2021Q4

Unadjusted Propensity Score Distribution
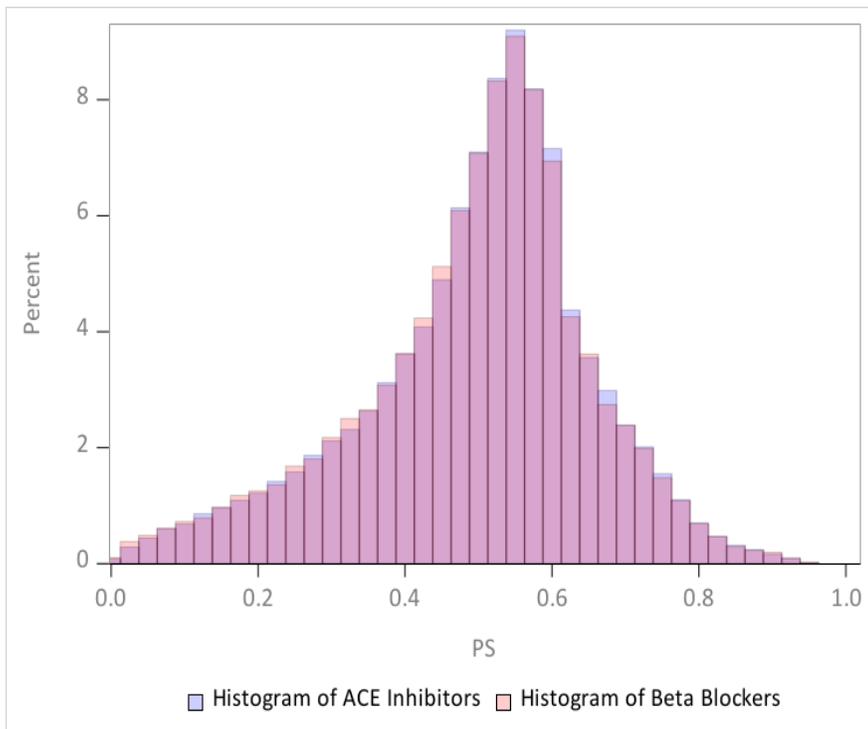
Propensity Score Fixed Ratio 1:1 Adjusted Cohort, Matched Caliper = 0.025
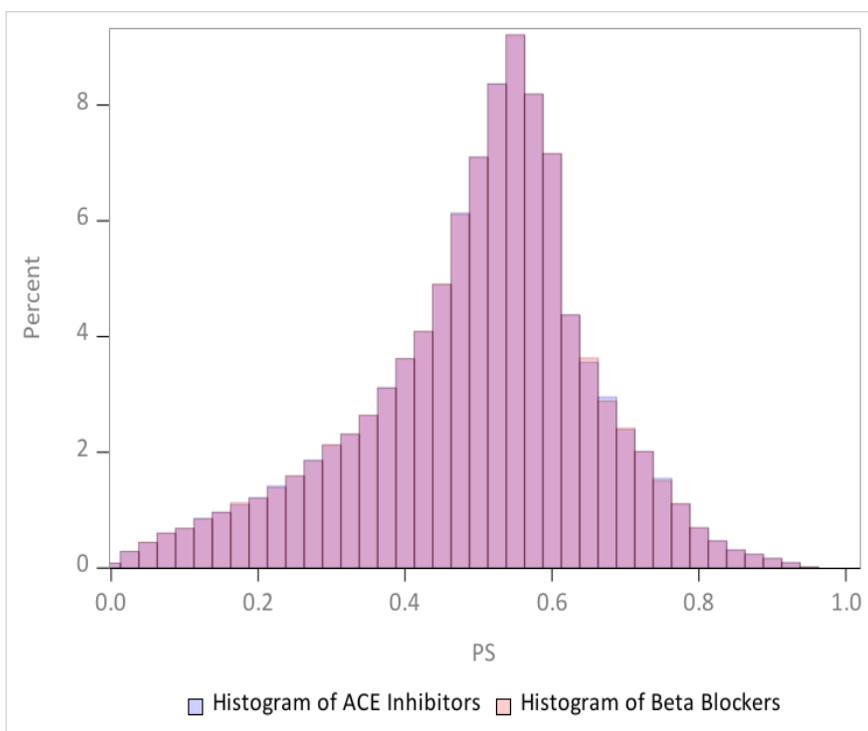
Figure 1r. Histograms Depicting Propensity Score Distributions Before and After Adjustment for New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2022Q1

Unadjusted Propensity Score Distribution
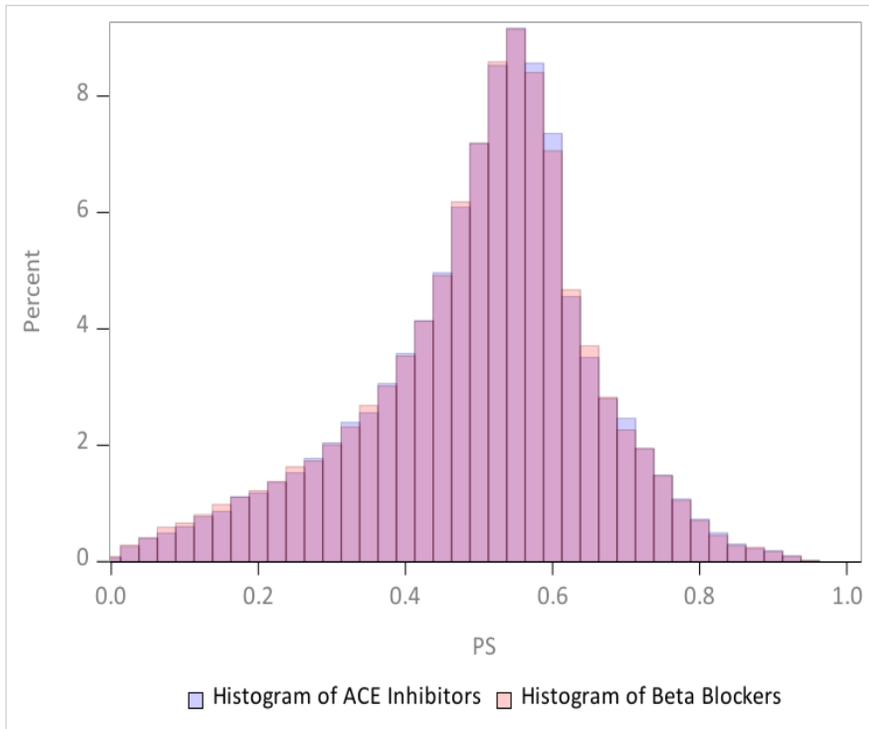
Propensity Score Fixed Ratio 1:1 Adjusted Cohort, Matched Caliper = 0.025
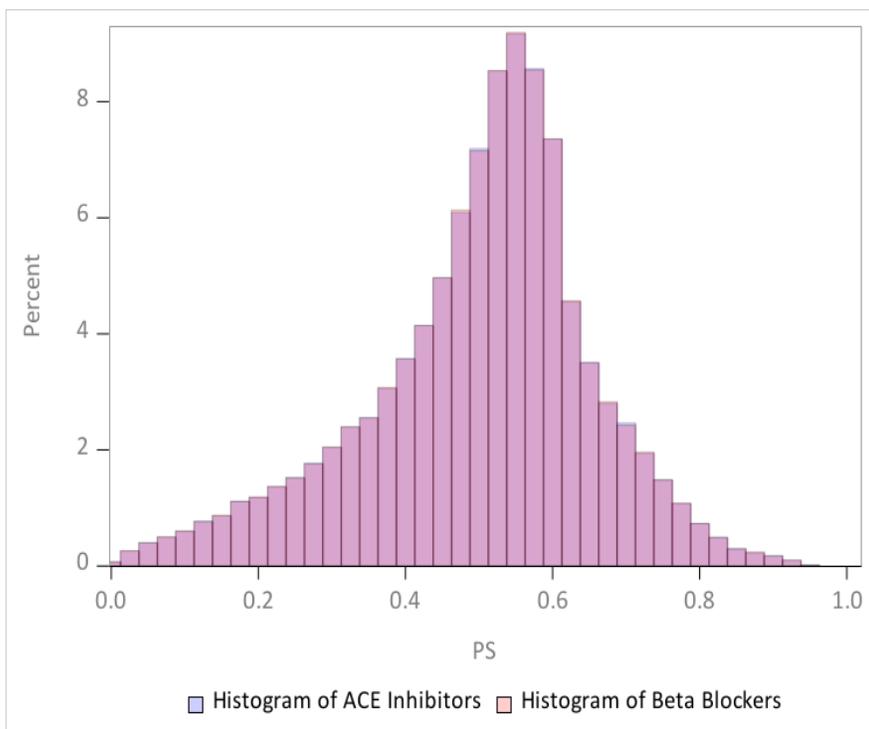
Figure 1s. Histograms Depicting Propensity Score Distributions Before and After Adjustment for New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2022Q2

Unadjusted Propensity Score Distribution
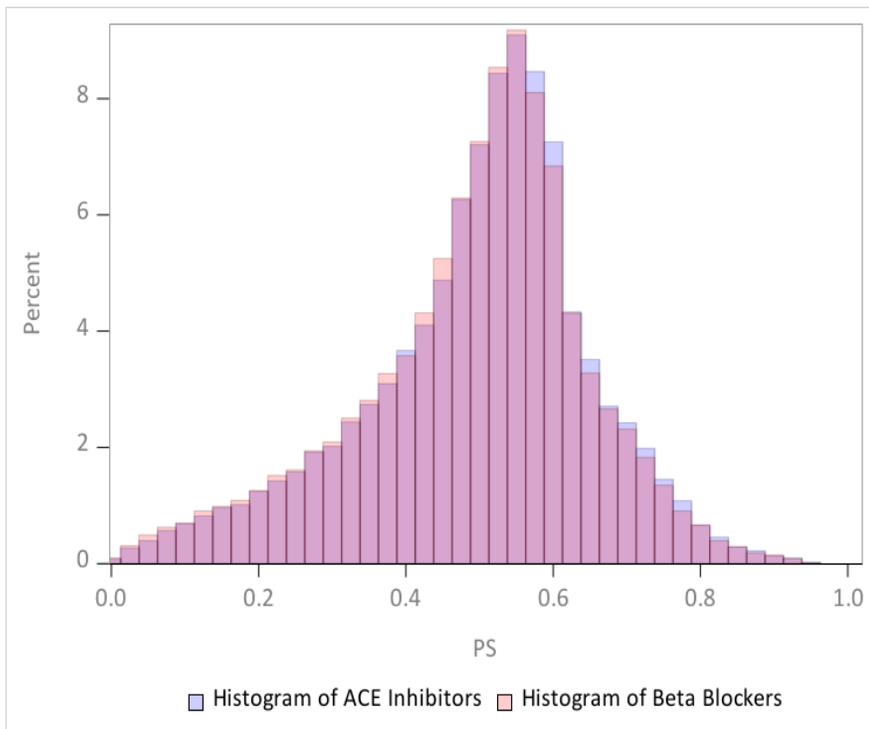
Propensity Score Fixed Ratio 1:1 Adjusted Cohort, Matched Caliper = 0.025
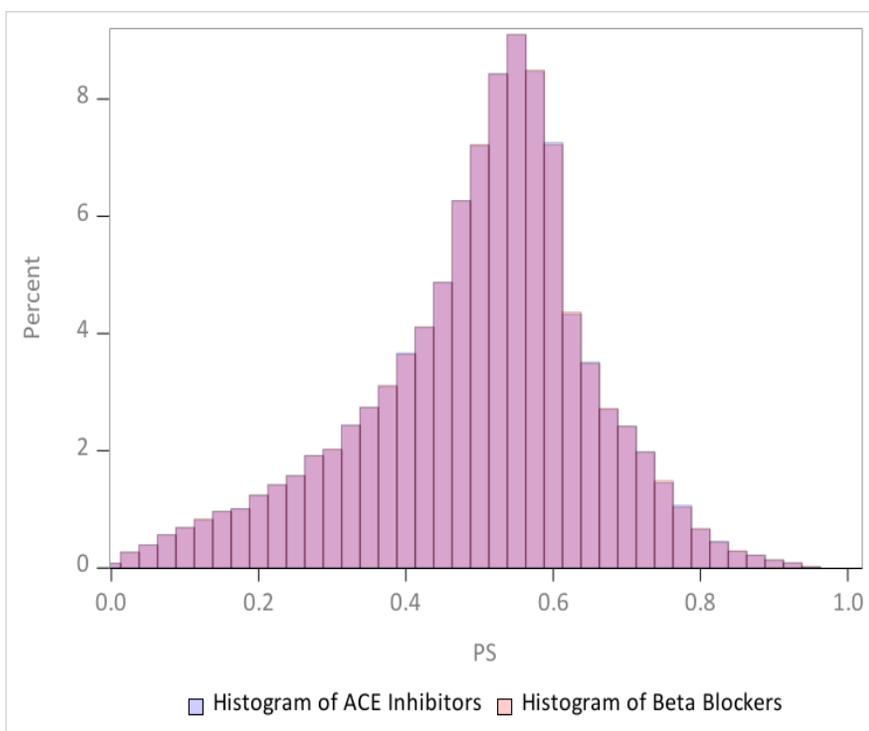
Figure 2a. Histograms Depicting Propensity Score Distributions Before Adjustment for New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratification (PSS) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022

Unadjusted Propensity Score Distribution
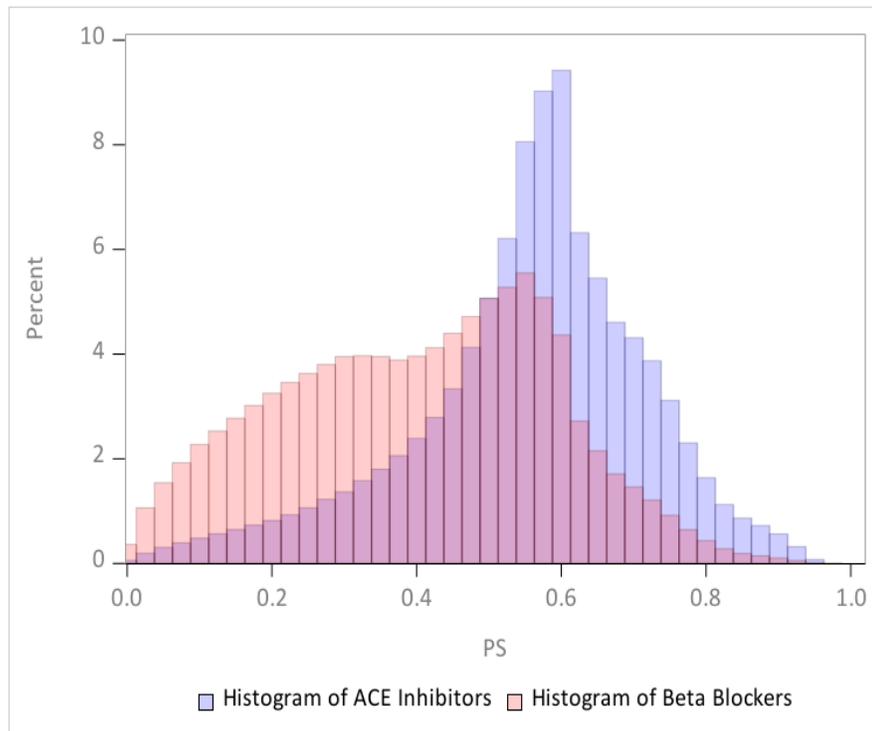
Figure 2b. Histograms Depicting Propensity Score Distributions Before Adjustment for New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratification (PSS) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2018Q1

Unadjusted Propensity Score Distribution
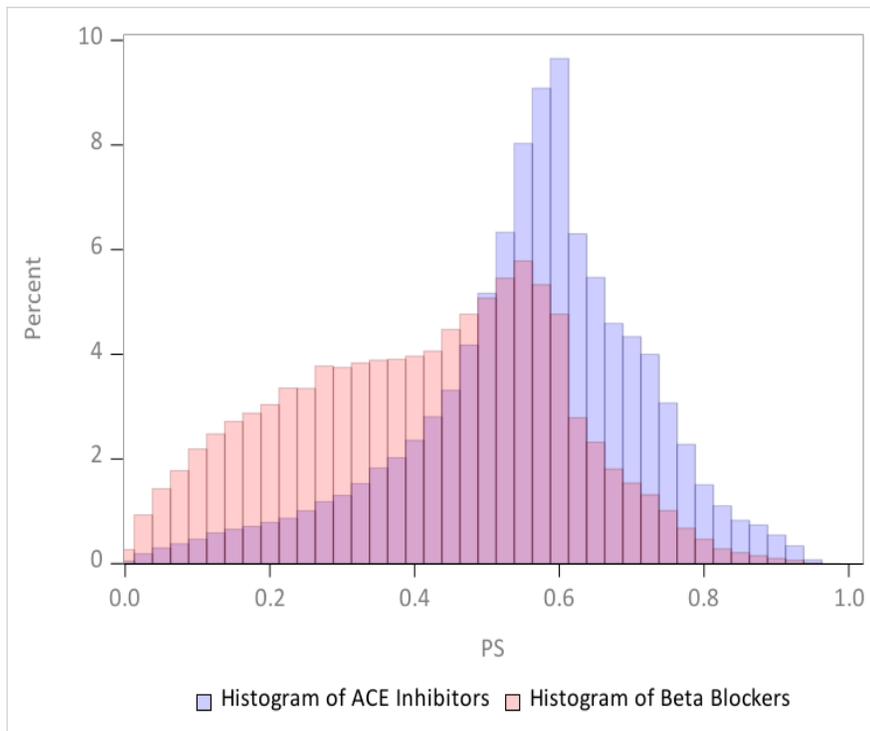
Figure 2c. Histograms Depicting Propensity Score Distributions Before Adjustment for New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratification (PSS) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2018Q2

Unadjusted Propensity Score Distribution
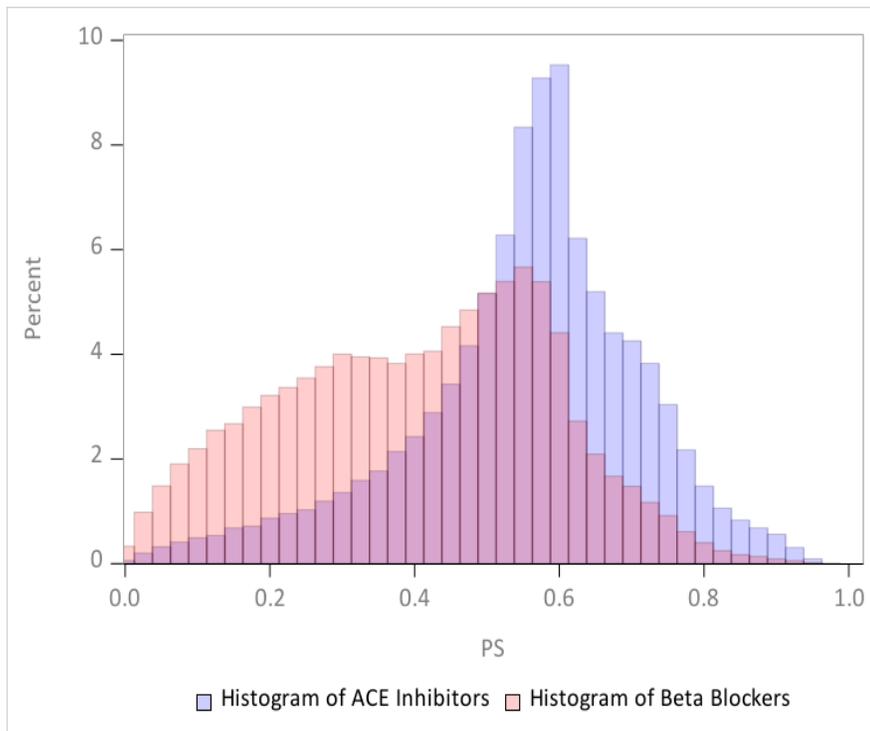
Figure 2d. Histograms Depicting Propensity Score Distributions Before Adjustment for New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratification (PSS) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2018Q3

Unadjusted Propensity Score Distribution
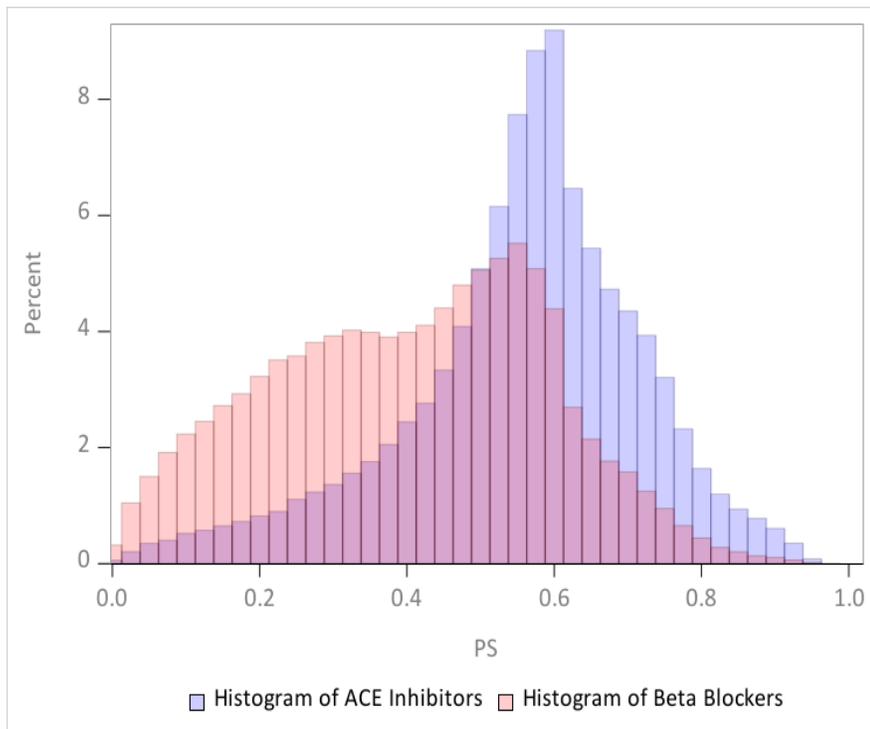
Figure 2e. Histograms Depicting Propensity Score Distributions Before Adjustment for New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratification (PSS) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2018Q4

Unadjusted Propensity Score Distribution
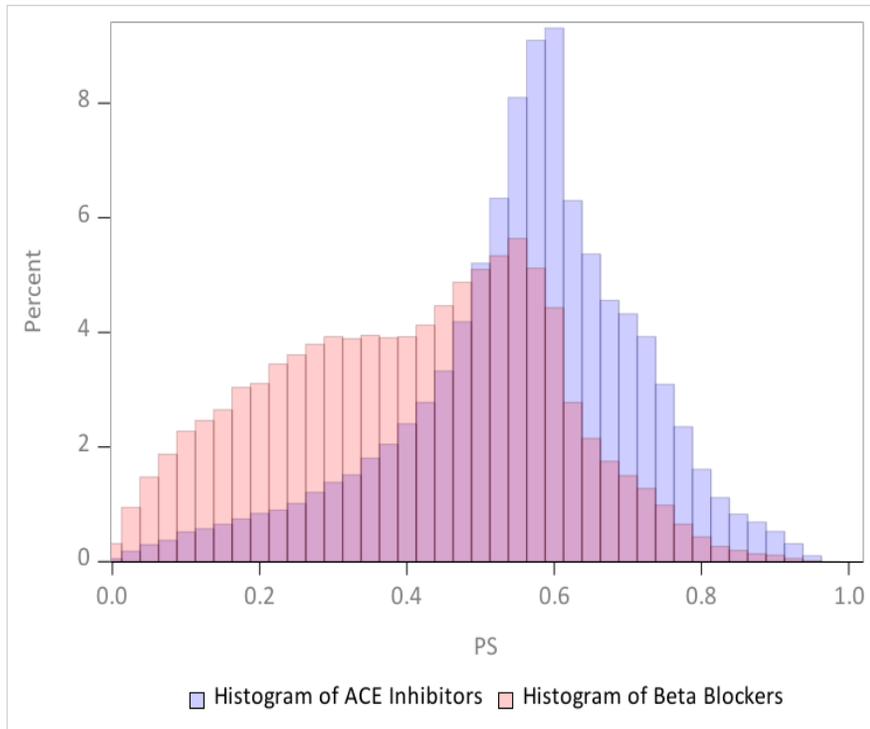
Figure 2f. Histograms Depicting Propensity Score Distributions Before Adjustment for New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratification (PSS) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2019Q1

Unadjusted Propensity Score Distribution
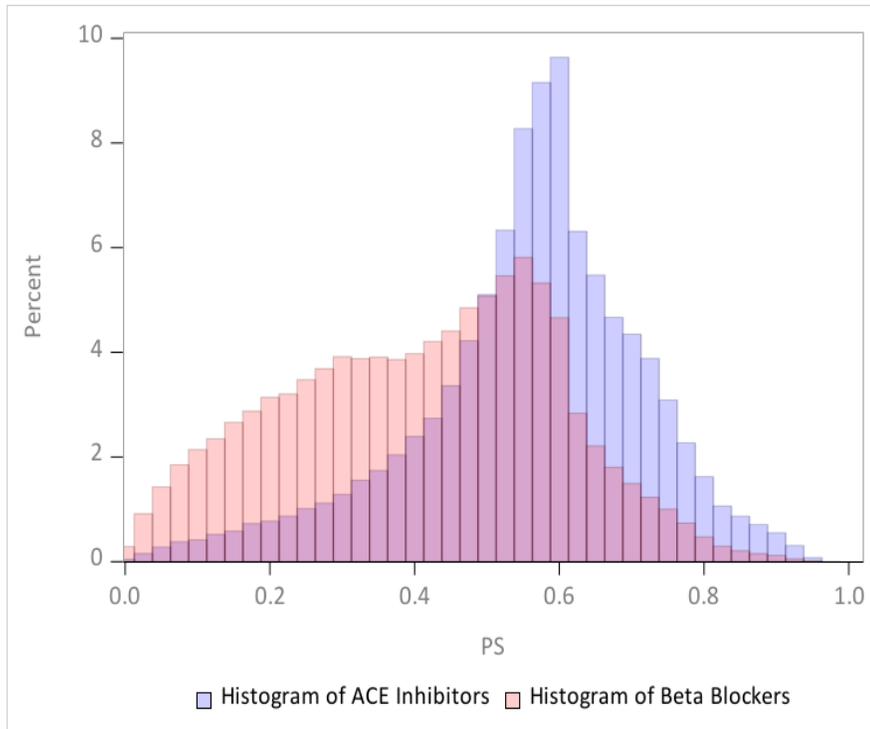
Figure 2g. Histograms Depicting Propensity Score Distributions Before Adjustment for New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratification (PSS) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2019Q2

Unadjusted Propensity Score Distribution
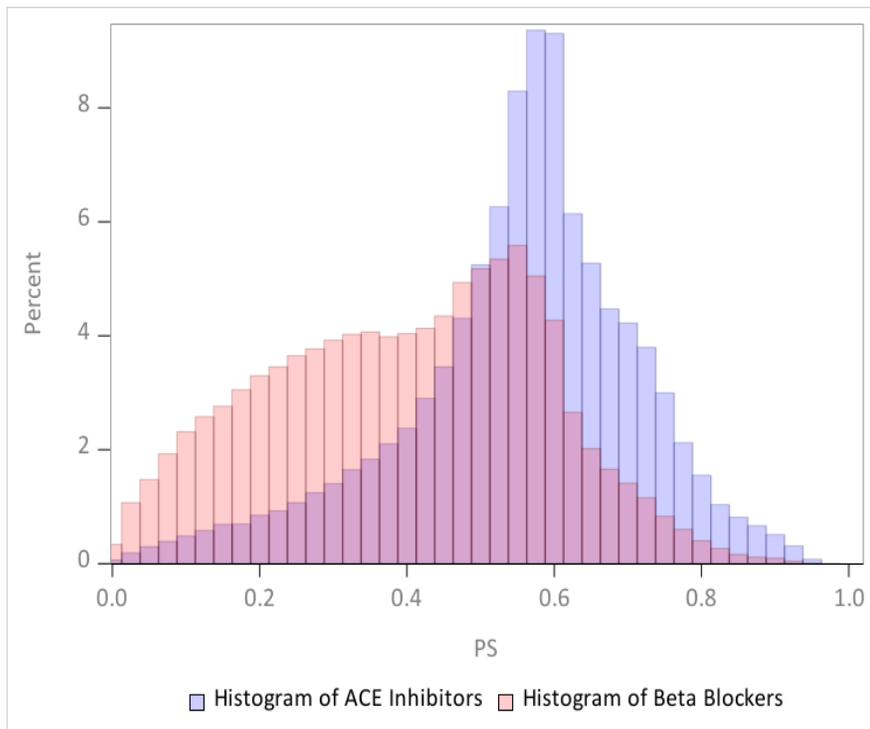
Figure 2h. Histograms Depicting Propensity Score Distributions Before Adjustment for New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratification (PSS) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2019Q3

Unadjusted Propensity Score Distribution
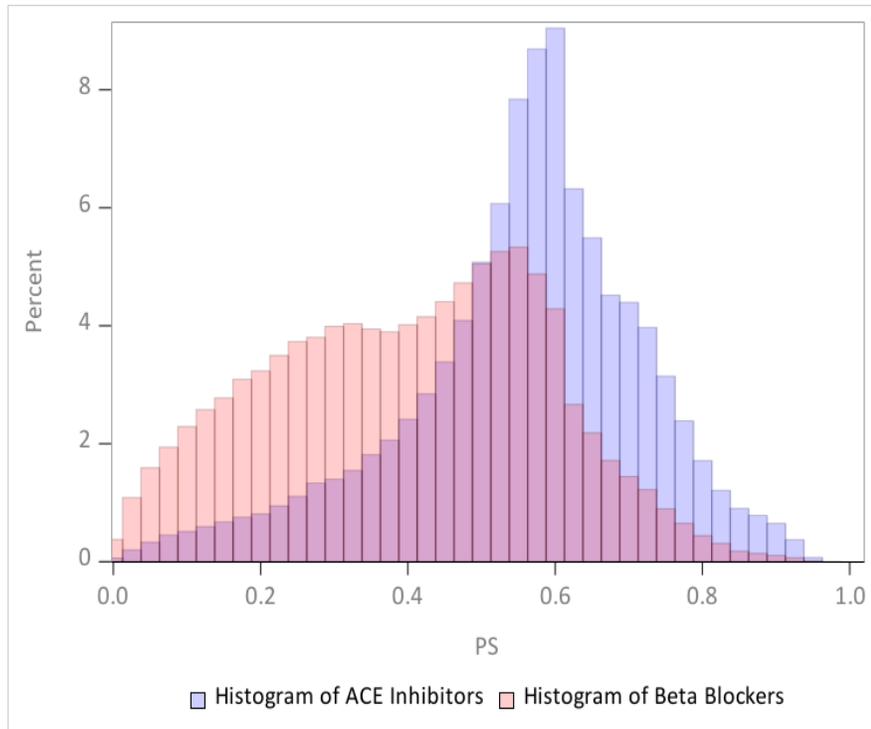
Figure 2i. Histograms Depicting Propensity Score Distributions Before Adjustment for New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratification (PSS) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2019Q4

Unadjusted Propensity Score Distribution
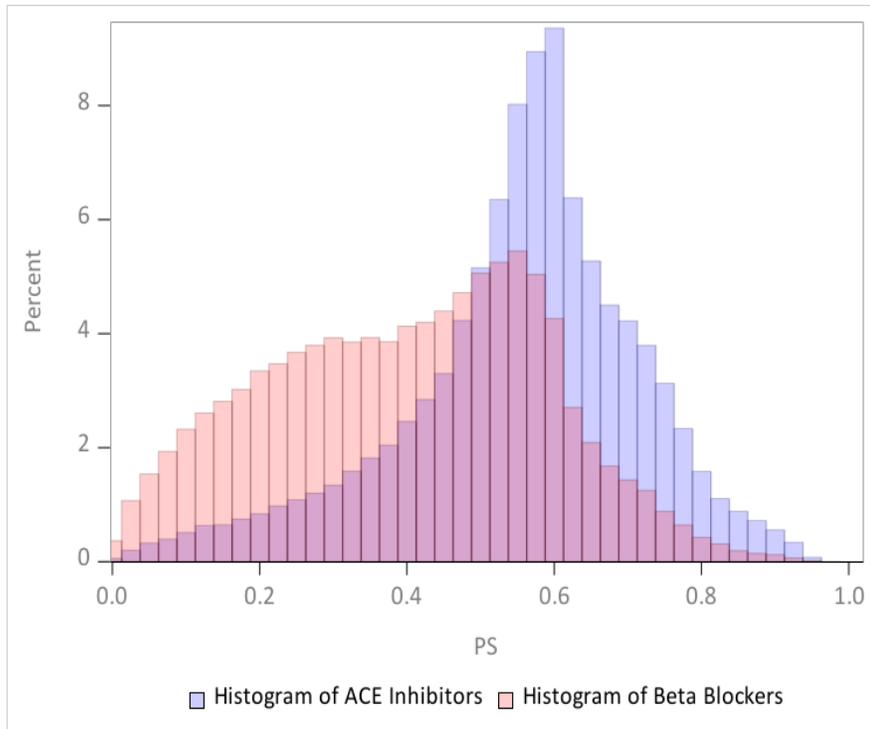
Figure 2j. Histograms Depicting Propensity Score Distributions Before Adjustment for New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratification (PSS) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2020Q1

Unadjusted Propensity Score Distribution
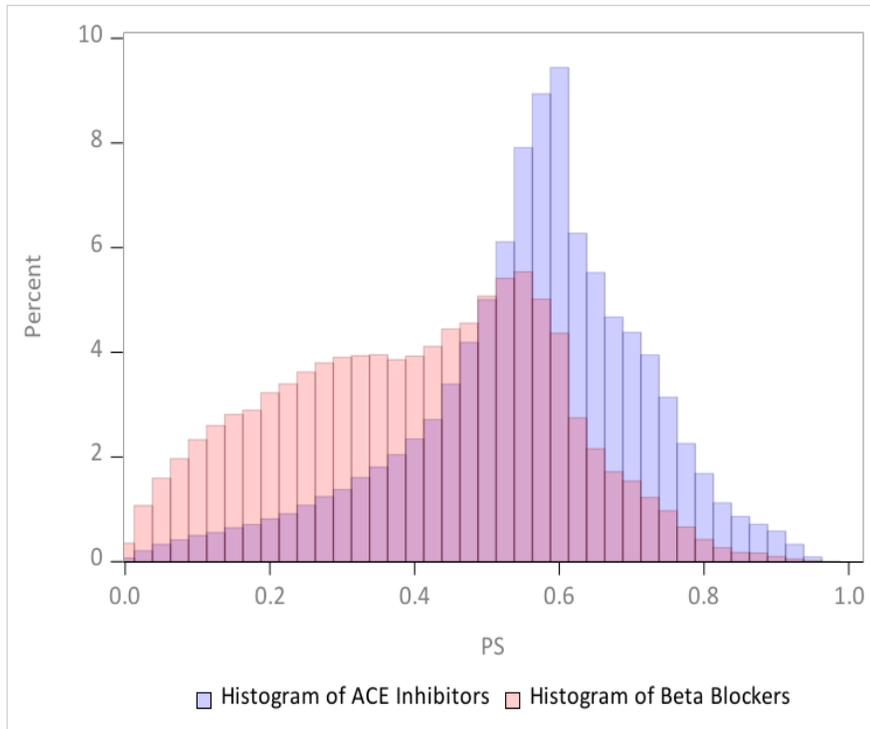
Figure 2k. Histograms Depicting Propensity Score Distributions Before Adjustment for New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratification (PSS) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2020Q2

Unadjusted Propensity Score Distribution

Figure 2l. Histograms Depicting Propensity Score Distributions Before Adjustment for New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratification (PSS) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2020Q3

Unadjusted Propensity Score Distribution

Figure 2m. Histograms Depicting Propensity Score Distributions Before Adjustment for New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratification (PSS) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2020Q4

Unadjusted Propensity Score Distribution
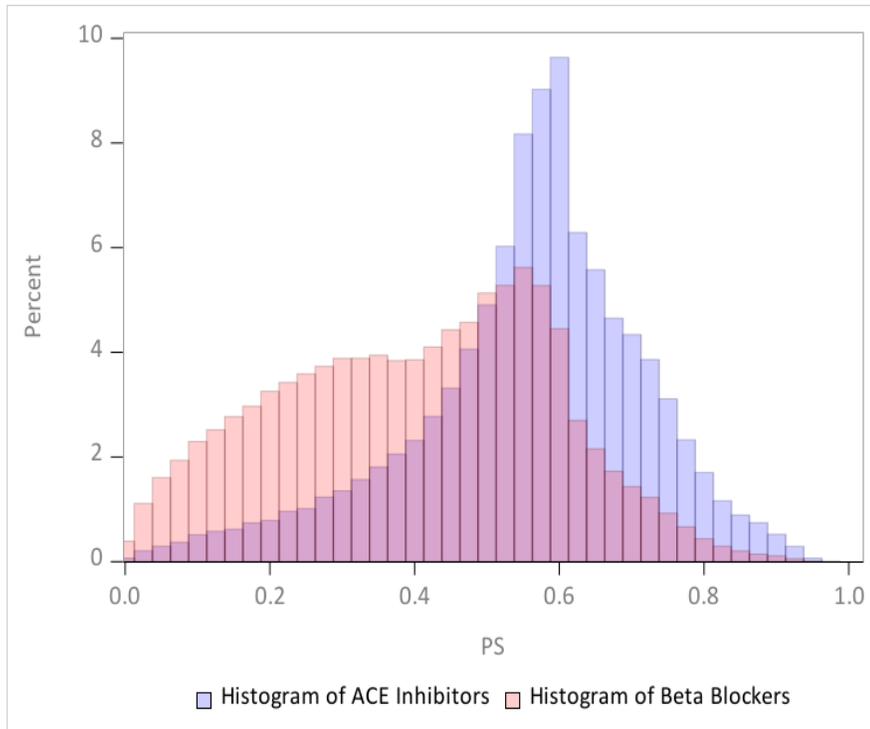
Figure 2n. Histograms Depicting Propensity Score Distributions Before Adjustment for New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratification (PSS) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2021Q1

Unadjusted Propensity Score Distribution
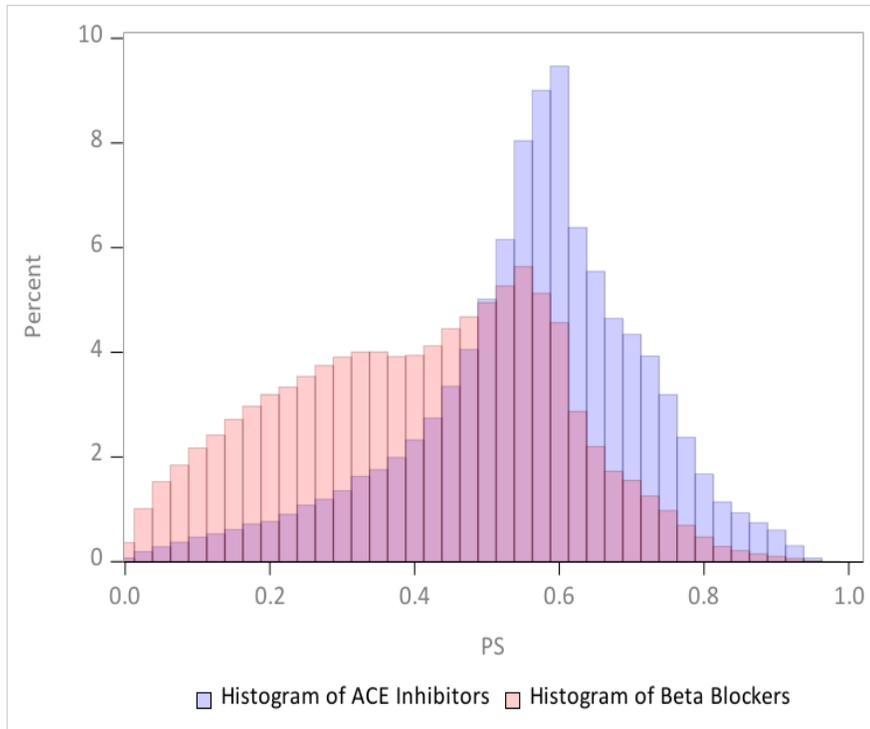
Figure 2o. Histograms Depicting Propensity Score Distributions Before Adjustment for New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratification (PSS) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2021Q2

Unadjusted Propensity Score Distribution
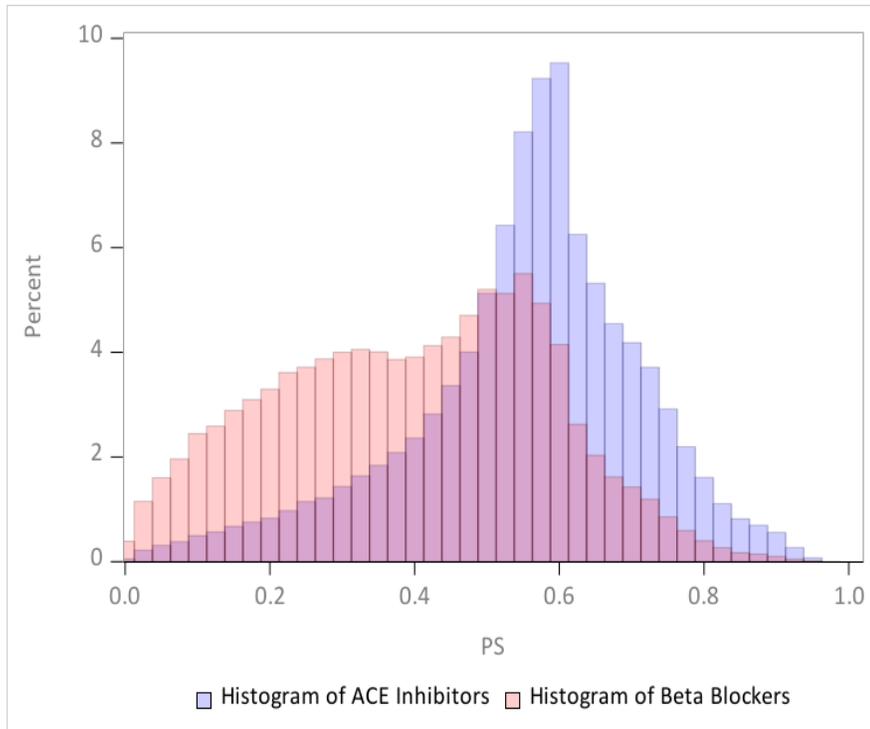
Figure 2p. Histograms Depicting Propensity Score Distributions Before Adjustment for New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratification (PSS) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2021Q3

Unadjusted Propensity Score Distribution
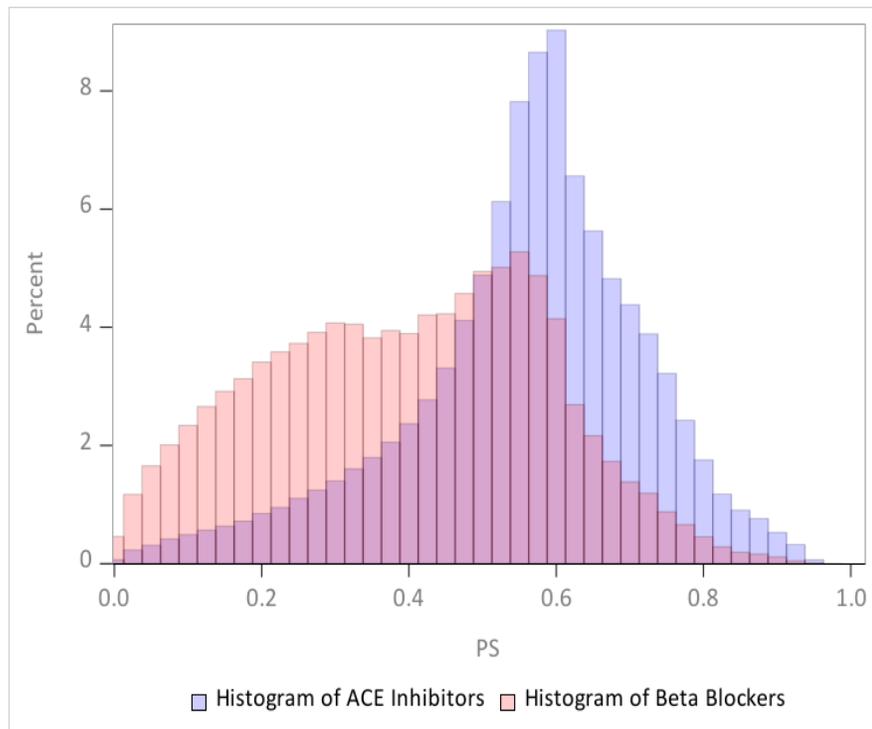
Figure 2q. Histograms Depicting Propensity Score Distributions Before Adjustment for New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratification (PSS) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2021Q4
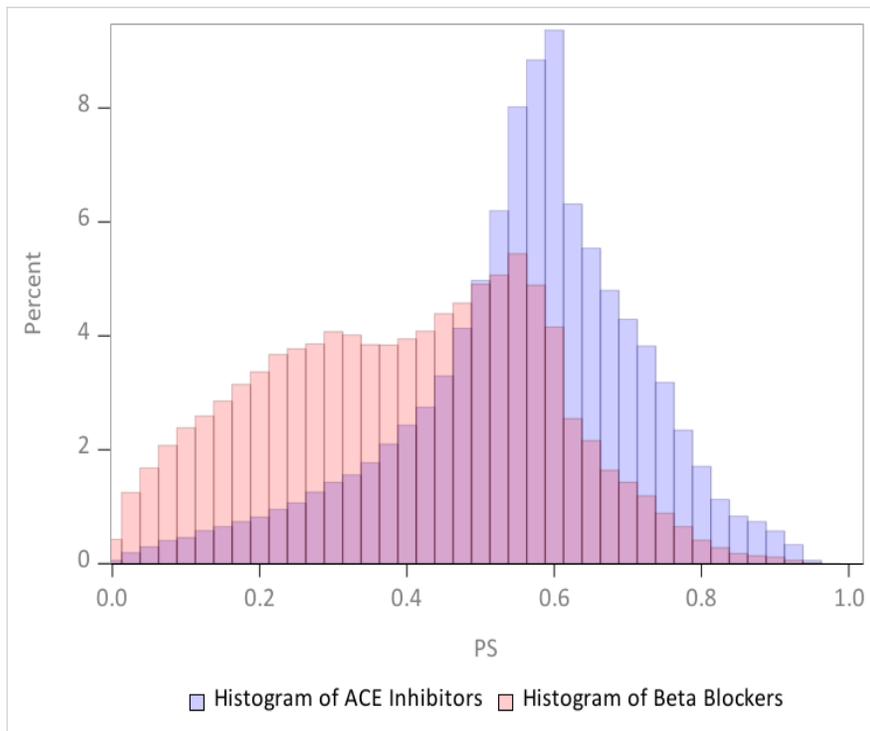
Unadjusted Propensity Score Distribution

Unadjusted Propensity Score Distribution
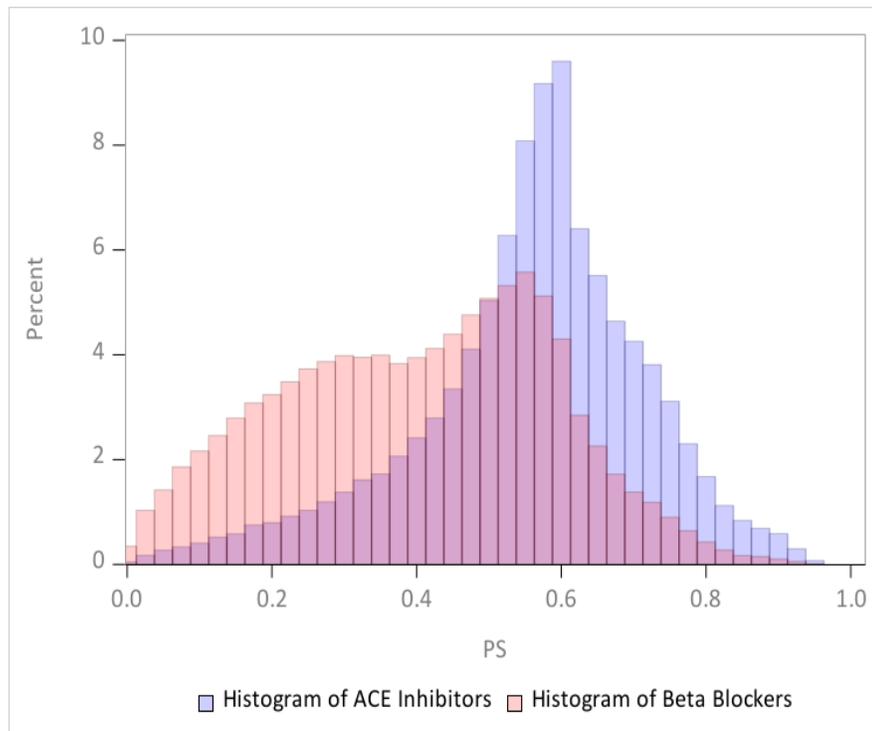
Figure 2s. Histograms Depicting Propensity Score Distributions Before Adjustment for New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratification (PSS) in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2022Q2

Unadjusted Propensity Score Distribution

Figure 3a. Forest Plot of Hazard Ratios (HR) and 95% Confidence Intervals (CI) for Site-Adjusted Analyses in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022

Analysis	HR (95% CI)
ACEi vs BB, PSM	
Overall	3.99 (3.72, 4.29)
2018Q1	
2018Q1	3.25 (2.32, 4.57)
2018Q2	
2018Q2	6.04 (4.06, 8.97)
2018Q3	
2018Q3	5.15 (3.52, 7.55)
2018Q4	
2018Q4	3.09 (2.24, 4.26)
2019Q1	
2019Q1	5.79 (3.92, 8.54)
2019Q2	
2019Q2	5.50 (3.75, 8.07)
2019Q3	
2019Q3	3.67 (2.68, 5.03)
2019Q4	
2019Q4	6.61 (4.36, 10.02)
2020Q1	
2020Q1	4.19 (2.91, 6.04)
2020Q2	
2020Q2	4.54 (2.89, 7.13)
2020Q3	
2020Q3	5.46 (3.65, 8.16)
2020Q4	
2020Q4	3.47 (2.41, 5.00)
2021Q1	
2021Q1	3.27 (2.25, 4.78)
2021Q2	
2021Q2	4.32 (2.96, 6.31)
2021Q3	
2021Q3	5.24 (3.47, 7.92)
2021Q4	
2021Q4	3.66 (2.49, 5.39)
2022Q1	
2022Q1	5.00 (3.32, 7.51)
2022Q2	
2022Q2	3.74 (2.32, 6.03)
ACEi vs BB, PSS	
Overall	3.99 (3.72, 4.29)
2018Q1	
2018Q1	3.69 (2.77, 4.90)
2018Q2	
2018Q2	4.72 (3.50, 6.38)
2018Q3	
2018Q3	3.95 (2.98, 5.23)

Figure 3a. Forest Plot of Hazard Ratios (HR) and 95% Confidence Intervals (CI) for Site-Adjusted Analyses in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022

Quarter	HR (95% CI)
2018Q4	
2018Q4	3.18 (2.43, 4.16)
2019Q1	
2019Q1	4.21 (3.15, 5.62)
2019Q2	
2019Q2	4.71 (3.48, 6.37)
2019Q3	
2019Q3	3.84 (2.94, 5.00)
2019Q4	
2019Q4	5.33 (3.90, 7.30)
2020Q1	
2020Q1	3.77 (2.77, 5.12)
2020Q2	
2020Q2	3.81 (2.68, 5.40)
2020Q3	
2020Q3	4.27 (3.14, 5.80)
2020Q4	
2020Q4	3.59 (2.65, 4.87)
2021Q1	
2021Q1	2.88 (2.16, 3.84)
2021Q2	
2021Q2	4.00 (2.95, 5.42)
2021Q3	
2021Q3	5.42 (3.85, 7.62)
2021Q4	
2021Q4	2.99 (2.22, 4.02)
2022Q1	
2022Q1	4.43 (3.21, 6.11)
2022Q2	
2022Q2	3.88 (2.65, 5.68)

HR (95% CI)

Notes:
ACEi: ACE Inhibitors
BB: Beta Blockers
PSM: Propensity Score Matching
PSS: Propensity Score Stratification

Figure 3b. Forest Plot of Hazard Ratios (HR) and 95% Confidence Intervals (CI) for Propensity Score Matched Conditional Analyses in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022

Analysis	HR (95% CI)
ACEi vs BB, PSM[1]	
Overall	4.47 (4.07, 4.92)
2018Q1	
2018Q1	3.38 (2.34, 4.88)
2018Q2	
2018Q2	5.87 (3.81, 9.06)
2018Q3	
2018Q3	6.35 (4.09, 9.85)
2018Q4	
2018Q4	3.10 (2.19, 4.38)
2019Q1	
2019Q1	6.43 (4.15, 9.98)
2019Q2	
2019Q2	5.79 (3.76, 8.93)
2019Q3	
2019Q3	3.90 (2.78, 5.48)
2019Q4	
2019Q4	7.09 (4.54, 11.08)
2020Q1	
2020Q1	3.94 (2.71, 5.74)
2020Q2	
2020Q2	3.81 (2.36, 6.16)
2020Q3	
2020Q3	5.62 (3.64, 8.68)
2020Q4	
2020Q4	3.27 (2.22, 4.83)
2021Q1	
2021Q1	3.56 (2.32, 5.45)
2021Q2	
2021Q2	4.11 (2.72, 6.21)
2021Q3	
2021Q3	5.30 (3.40, 8.28)
2021Q4	
2021Q4	4.00 (2.56, 6.26)
2022Q1	
2022Q1	6.31 (3.73, 10.70)
2022Q2	
2022Q2	3.33 (1.87, 5.94)
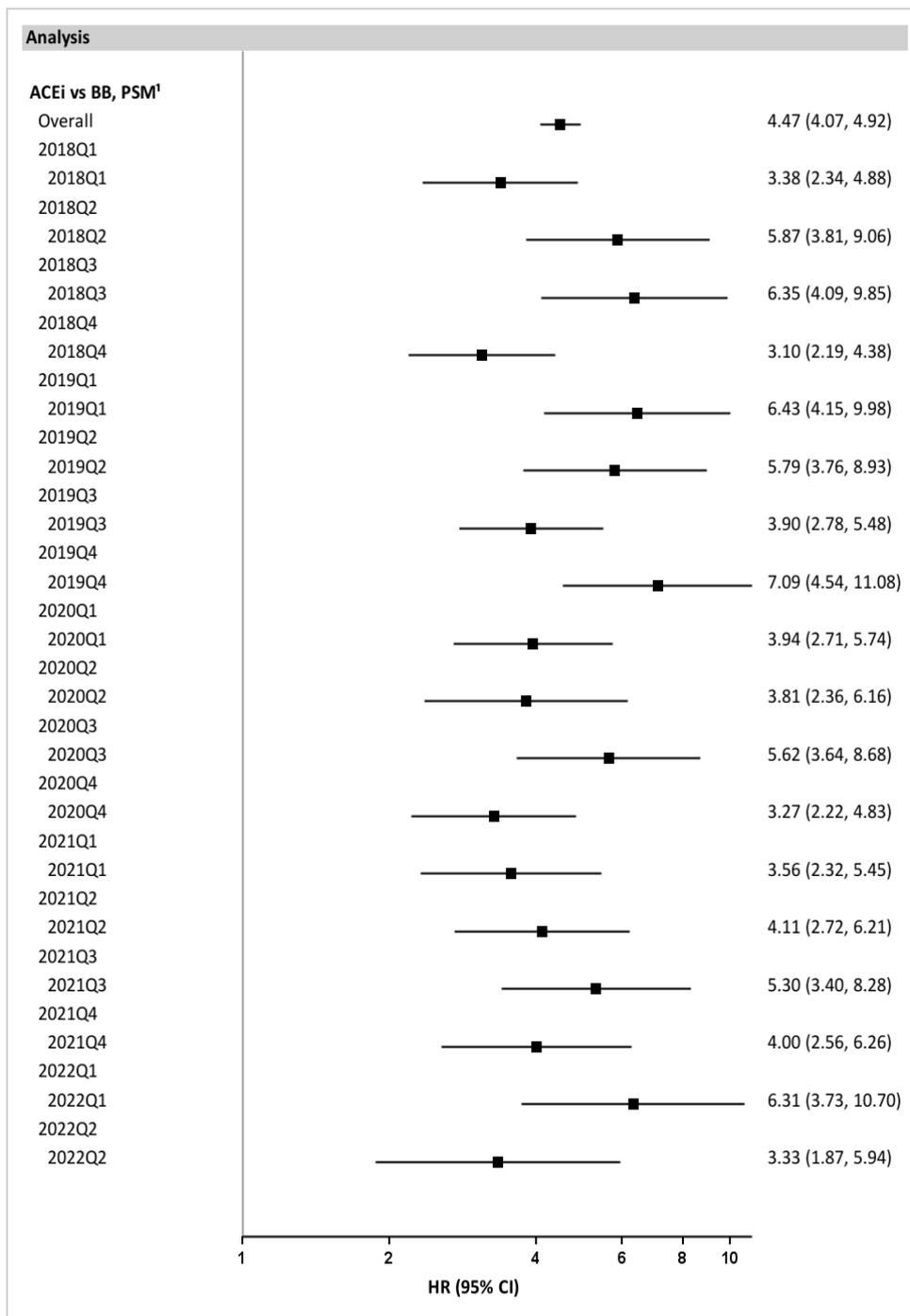
Notes:

[1]Fixed Ratio 1:1 Propensity Score Matched Conditional Analysis; Caliper=0.025

ACEi: ACE Inhibitors

BB: Beta Blockers

PSM: Propensity Score Matching

Figure 3c. Forest Plot of Hazard Ratios (HR) and 95% Confidence Intervals (CI) for Propensity Score Matched Unconditional Analyses in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022
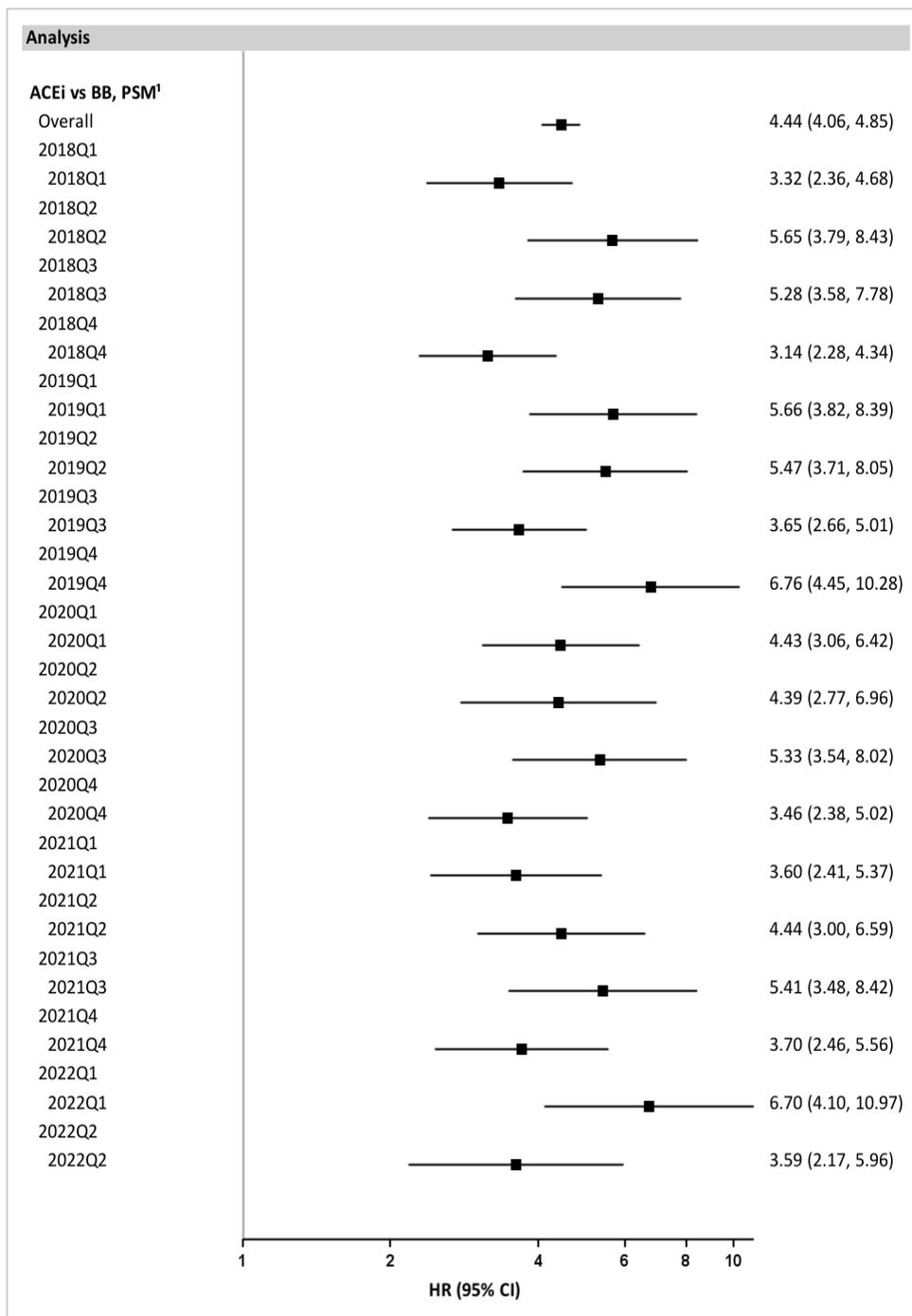
Notes:

[1]Fixed Ratio 1:1 Propensity Score Matched Unconditional Analysis; Caliper=0.025

ACEi: ACE Inhibitors

BB: Beta Blockers

PSM: Propensity Score Matching

Figure 3d. Forest Plot of Hazard Ratios (HR) and 95% Confidence Intervals (CI) for Propensity Score Stratified Analyses in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022

Analysis	HR (95% CI)
ACEi vs BB, PSS[1]	
Overall	4.54 (4.21, 4.90)
2018Q1	
2018Q1	3.68 (2.72, 4.99)
2018Q2	
2018Q2	5.46 (3.98, 7.50)
2018Q3	
2018Q3	4.69 (3.48, 6.32)
2018Q4	
2018Q4	3.34 (2.51, 4.46)
2019Q1	
2019Q1	4.82 (3.55, 6.53)
2019Q2	
2019Q2	5.91 (4.29, 8.15)
2019Q3	
2019Q3	4.65 (3.51, 6.16)
2019Q4	
2019Q4	6.34 (4.56, 8.83)
2020Q1	
2020Q1	4.11 (2.96, 5.69)
2020Q2	
2020Q2	4.07 (2.80, 5.91)
2020Q3	
2020Q3	4.87 (3.51, 6.75)
2020Q4	
2020Q4	4.22 (3.05, 5.84)
2021Q1	
2021Q1	3.21 (2.36, 4.37)
2021Q2	
2021Q2	4.45 (3.22, 6.15)
2021Q3	
2021Q3	6.03 (4.20, 8.67)
2021Q4	
2021Q4	3.45 (2.50, 4.76)
2022Q1	
2022Q1	4.87 (3.46, 6.86)
2022Q2	
2022Q2	4.36 (2.90, 6.56)

HR (95% CI)

Notes:
[1]Percentiles: 5
ACEi: ACE Inhibitors
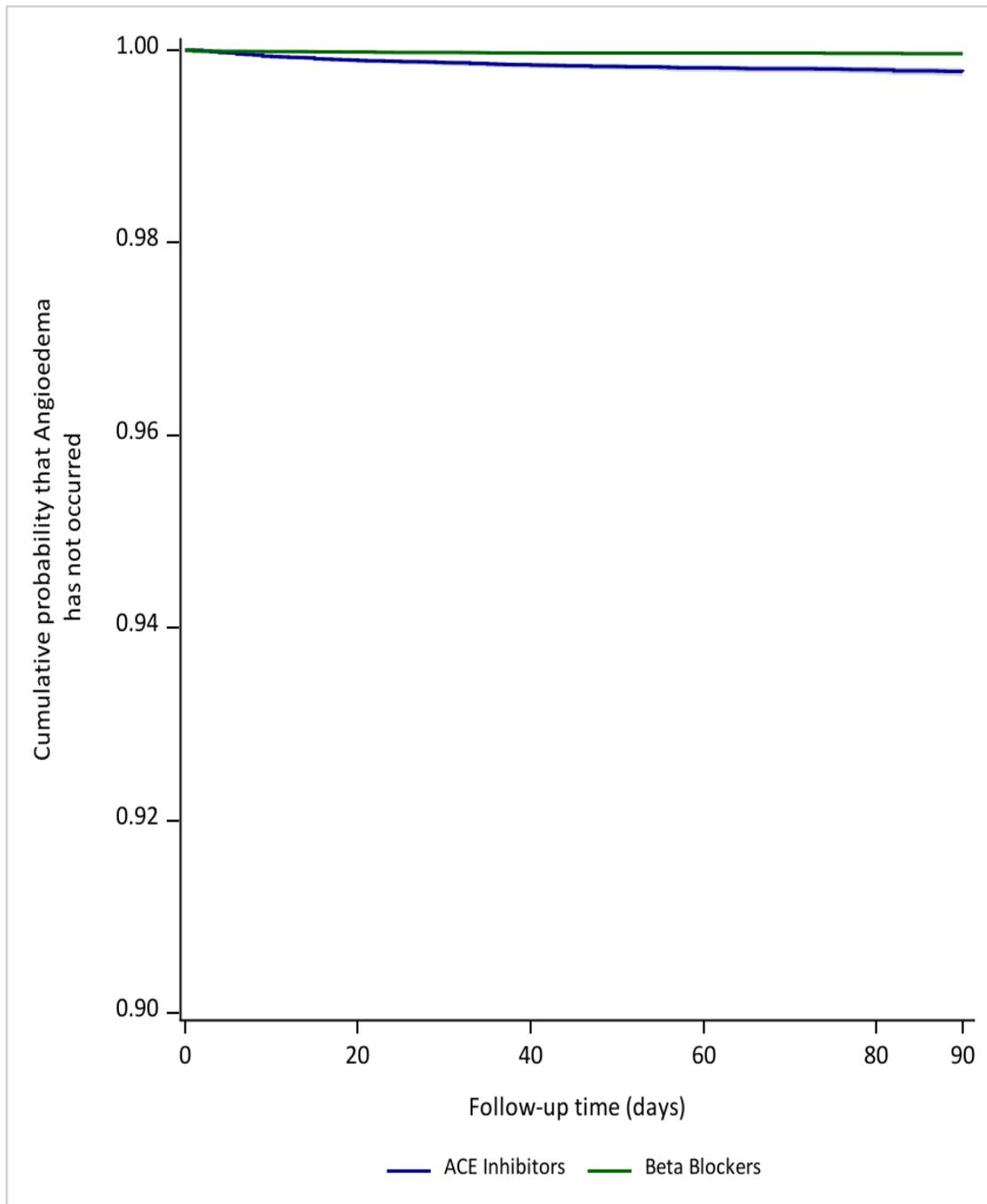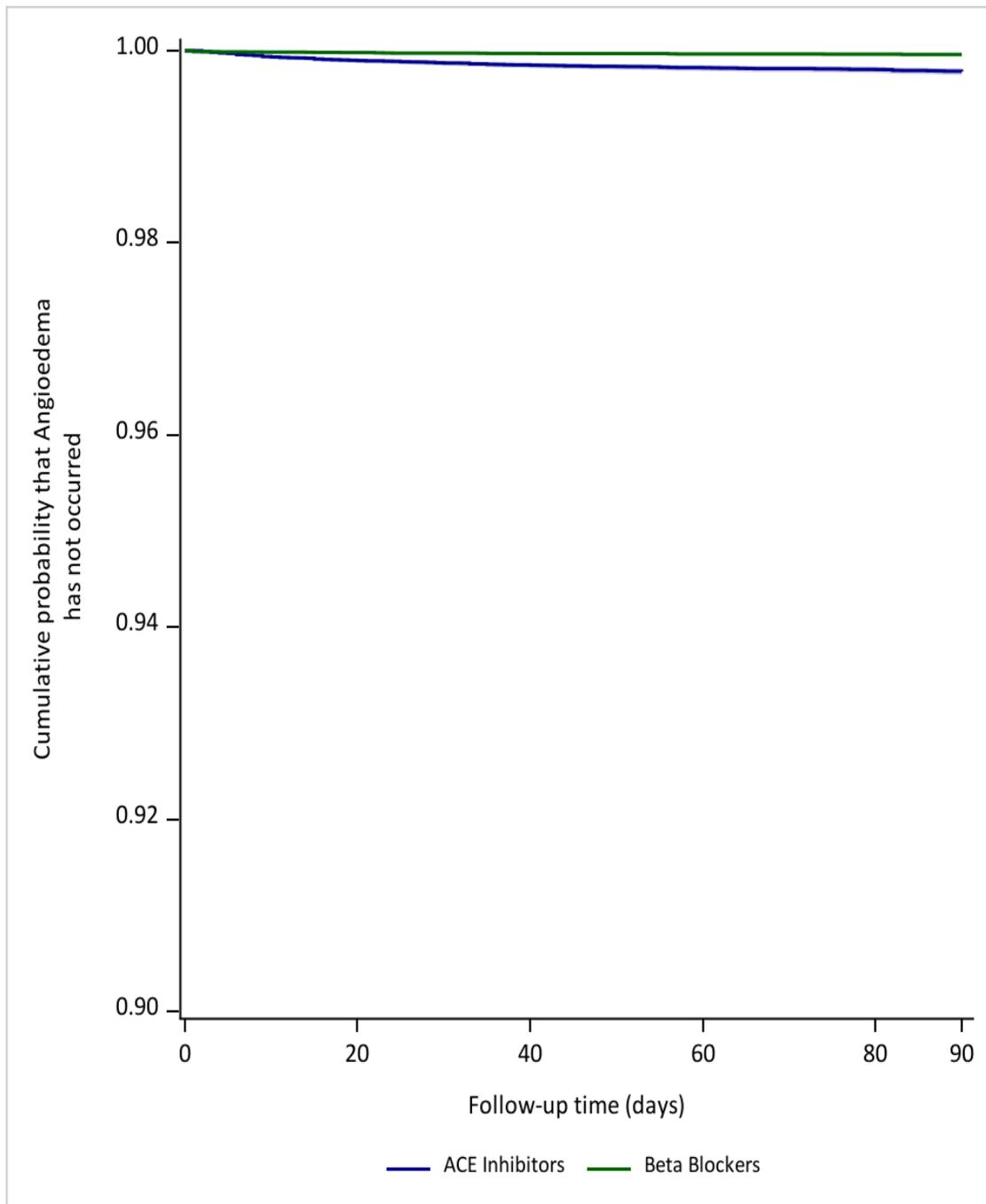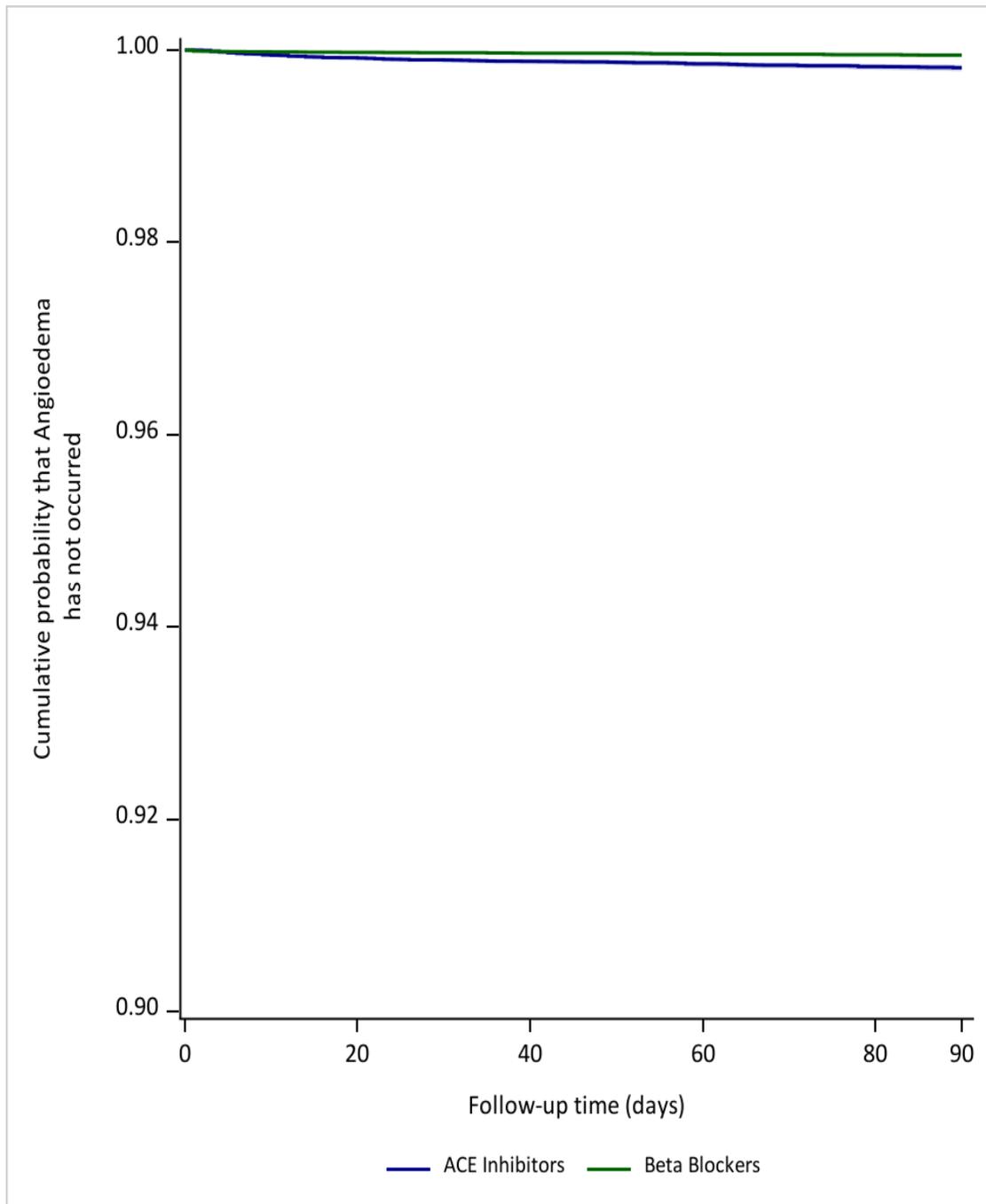BB: Beta Blockers
PSS: Propensity Score Stratification

Figure 4a. Aggregated Unadjusted Kaplan-Meier Estimate and 95% Confidence Interval of Angioedema Not Occurring Among New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) from the Whole Population in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022
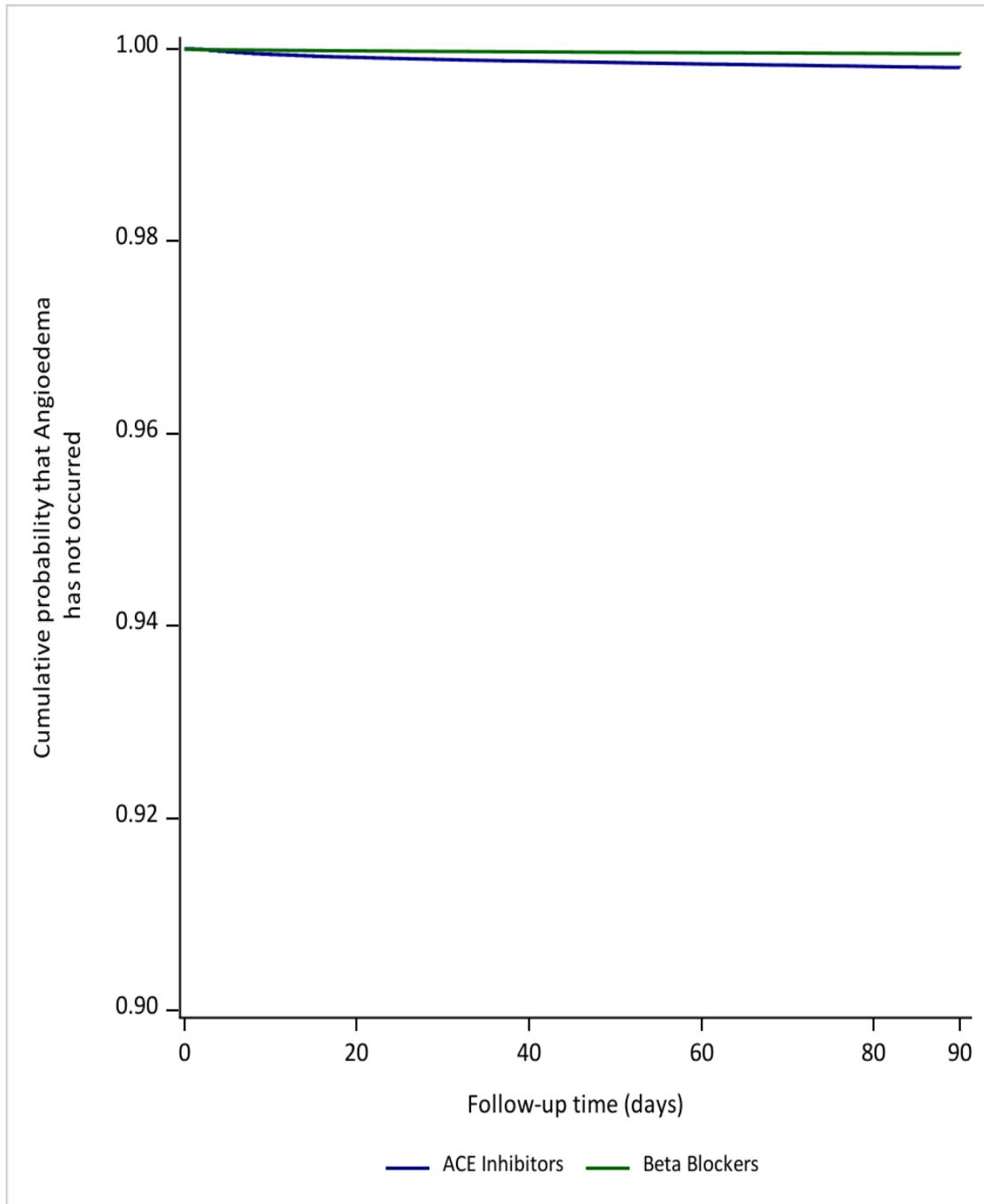
Figure 4b. Aggregated Adjusted Kaplan-Meier Estimate and 95% Confidence Interval of Angioedema Not Occurring Among New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) from the Conditional Matched Population in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022
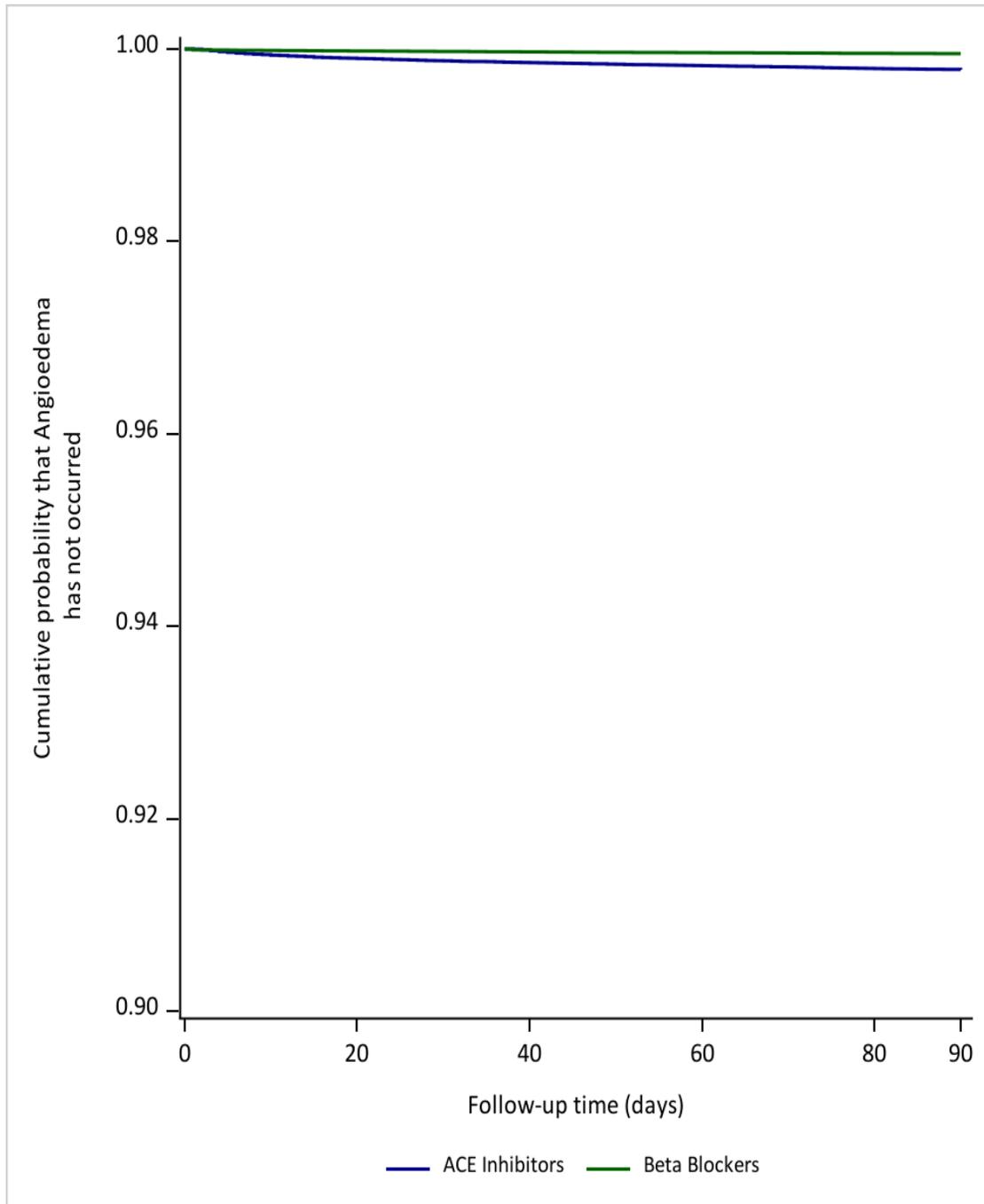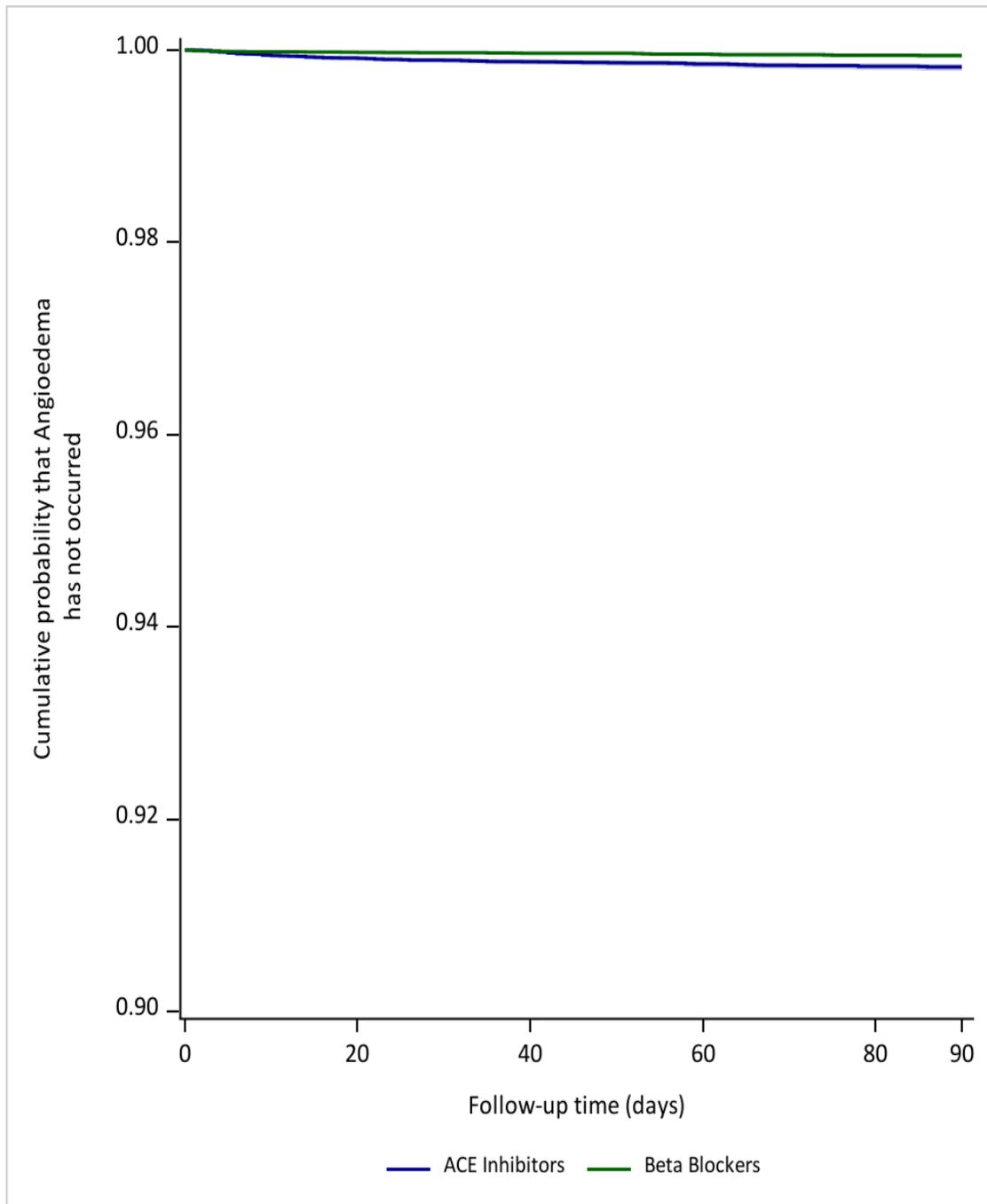
Figure 4c. Aggregated Adjusted Kaplan-Meier Estimate and 95% Confidence Interval of Angioedema Not Occurring Among New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) from the Unconditional Matched Population in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022
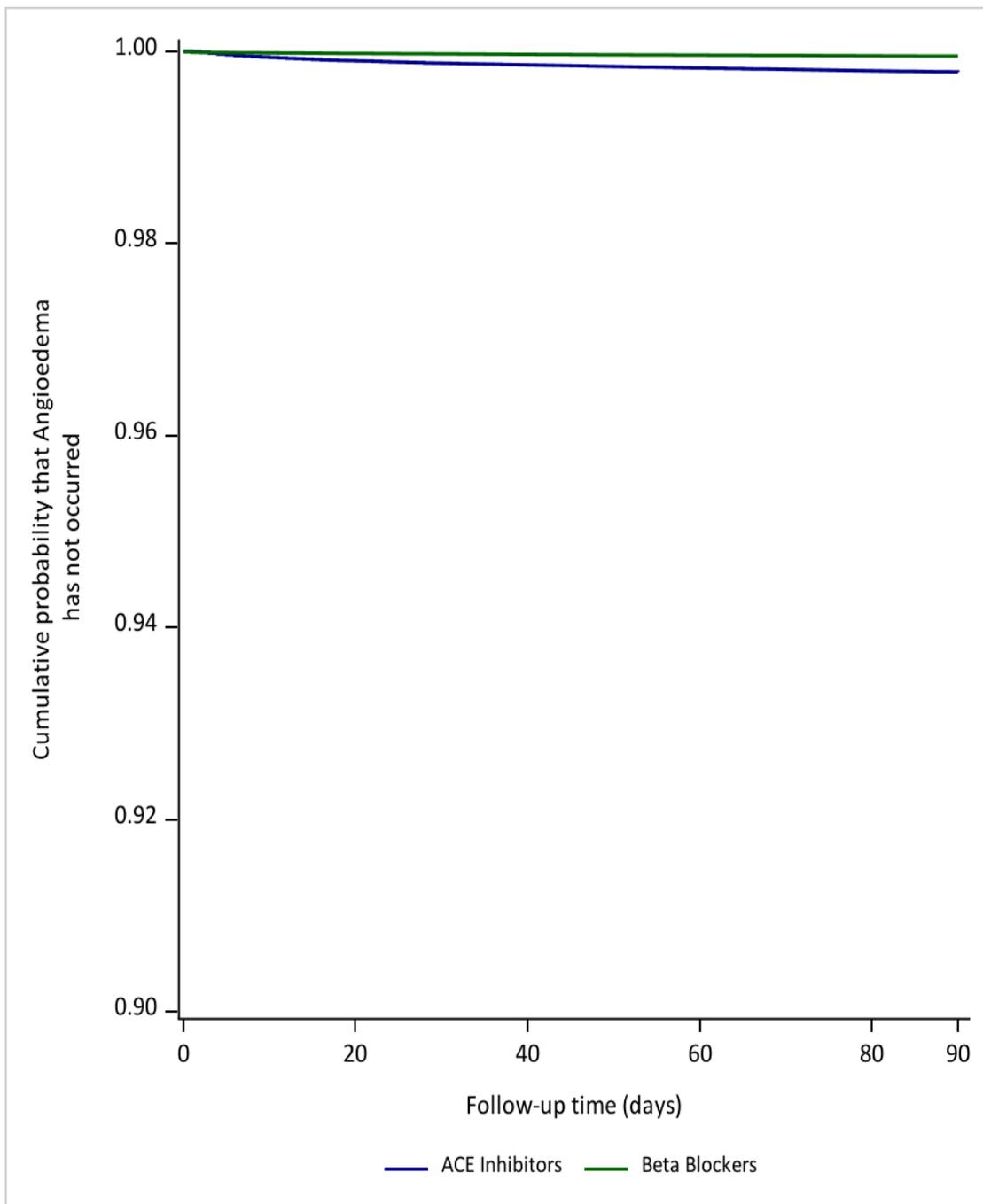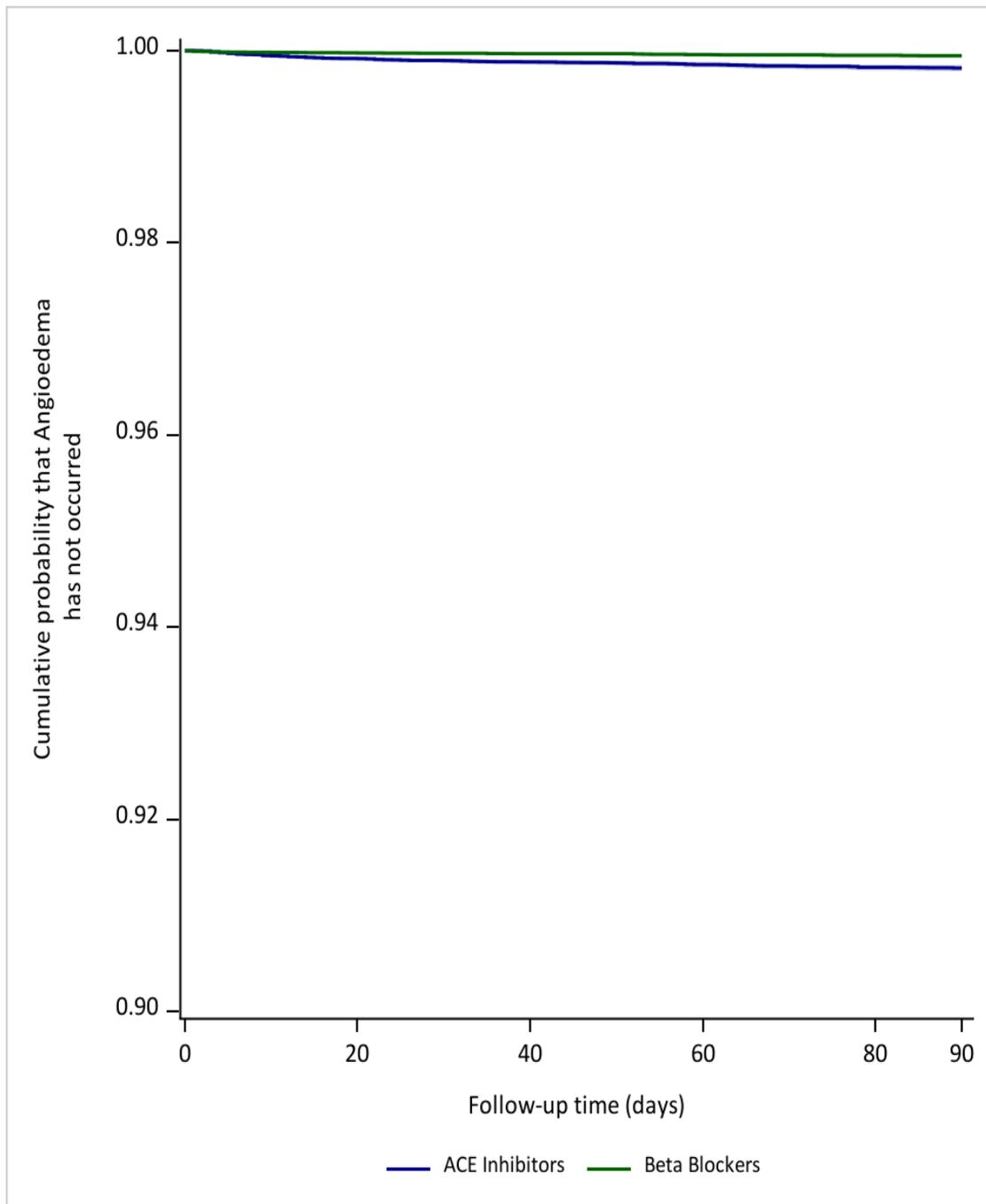
Figure 4d. Aggregated Unadjusted Kaplan-Meier Estimate and 95% Confidence Interval of Angioedema Not Occurring Among New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) from the Whole Population in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2018Q1
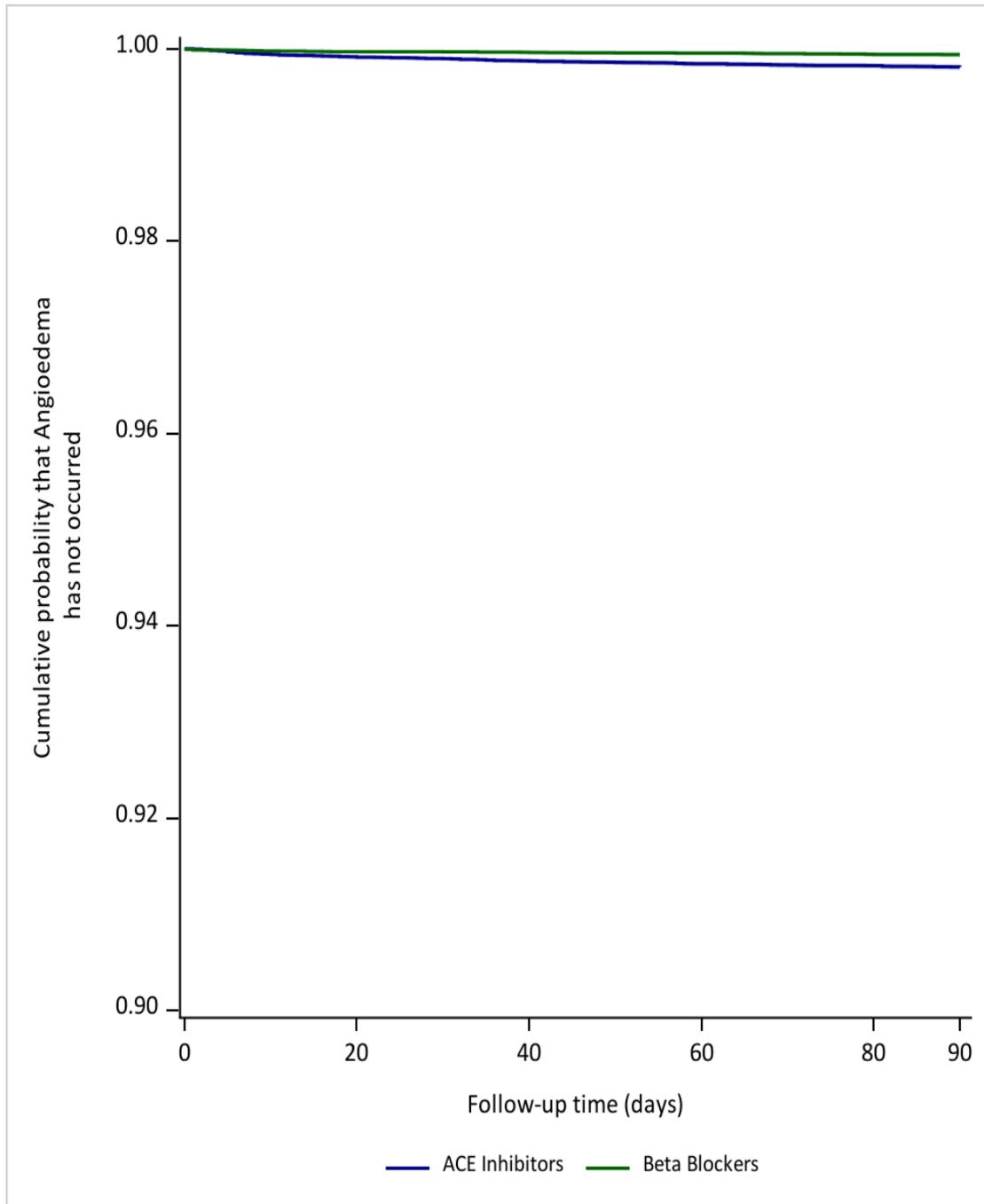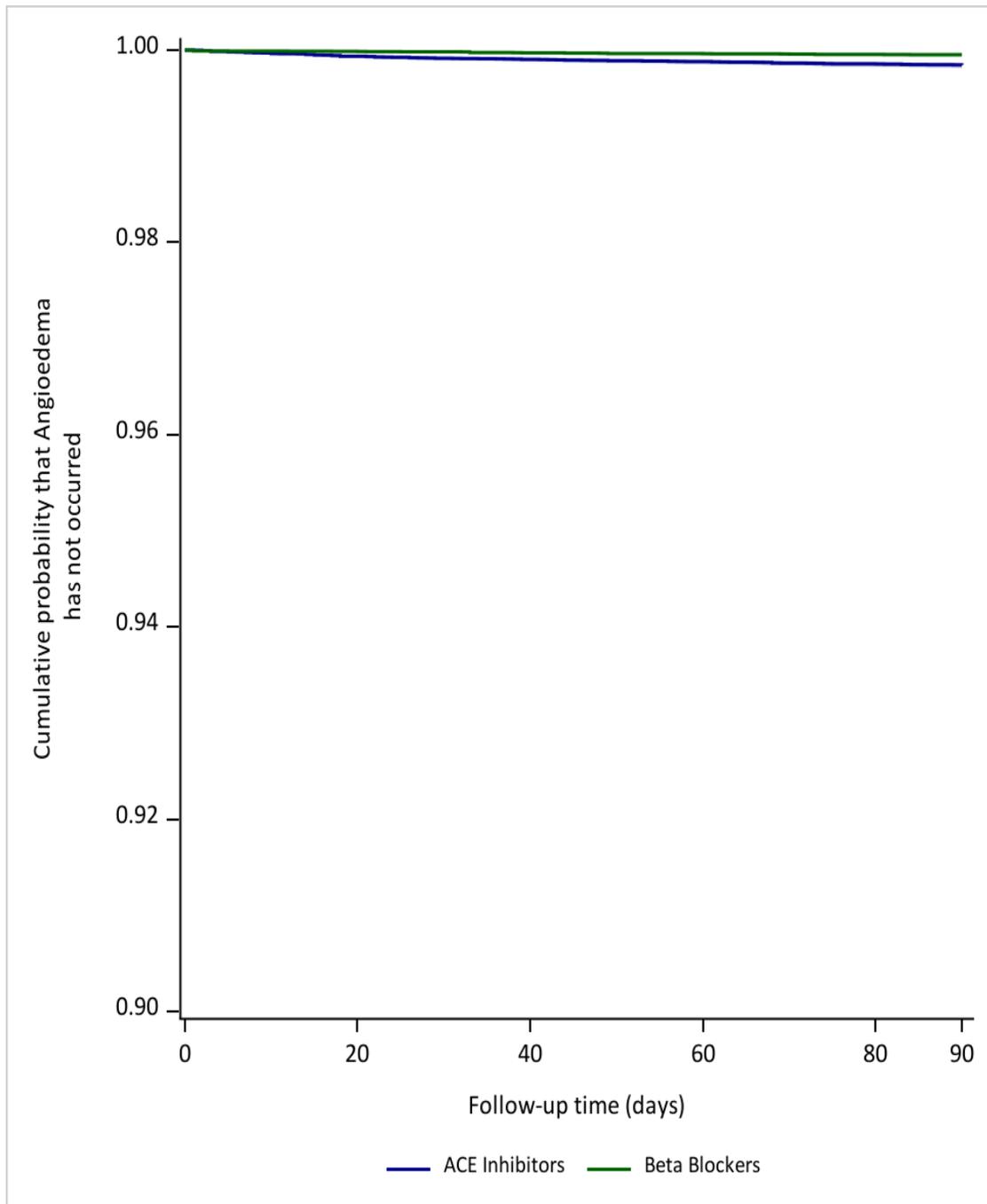
Figure 4e. Aggregated Adjusted Kaplan-Meier Estimate and 95% Confidence Interval of Angioedema Not Occurring Among New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) from the Conditional Matched Population in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2018Q1
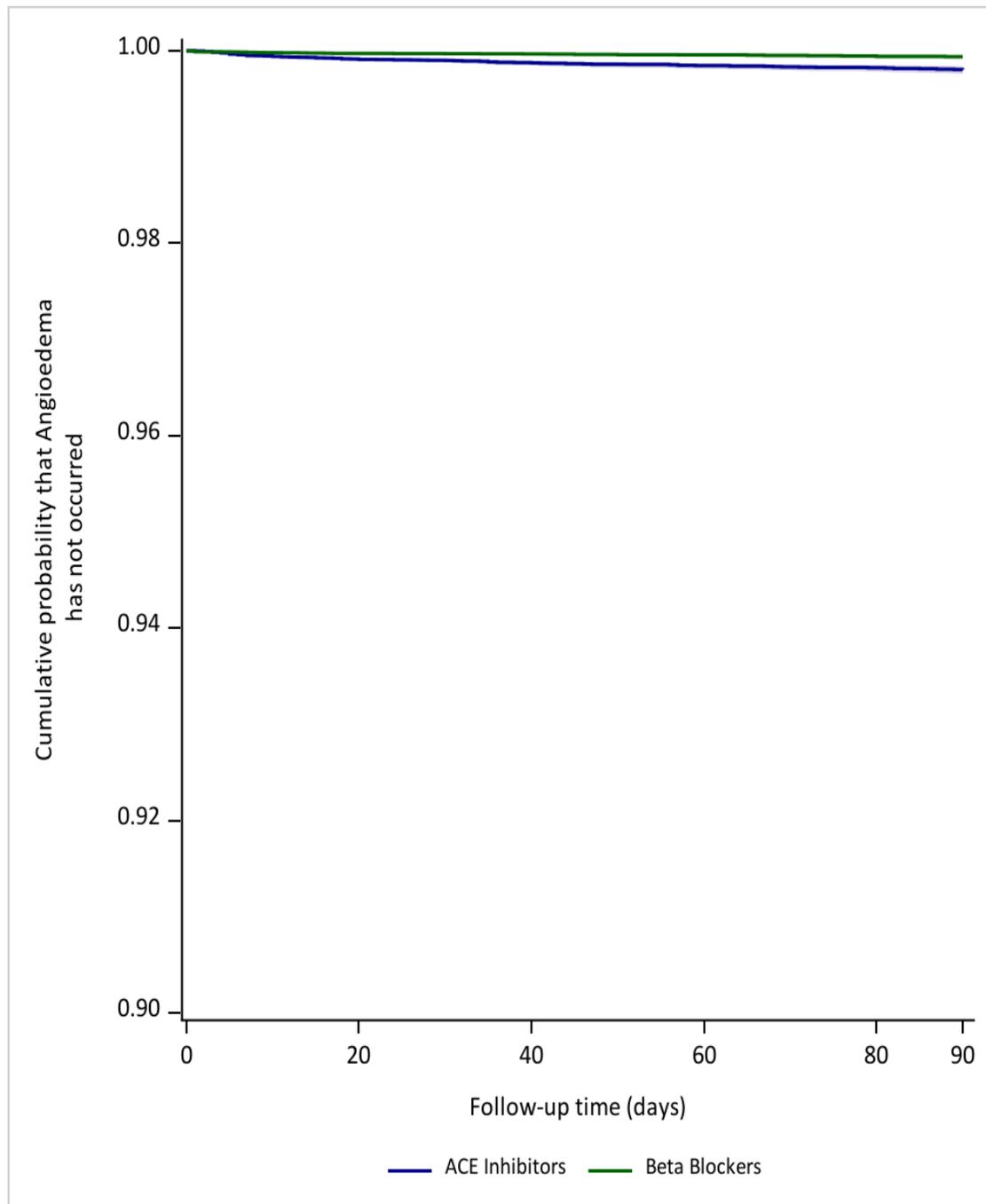
Figure 4f. Aggregated Adjusted Kaplan-Meier Estimate and 95% Confidence Interval of Angioedema Not Occurring Among New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) from the Unconditional Matched Population in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2018Q1
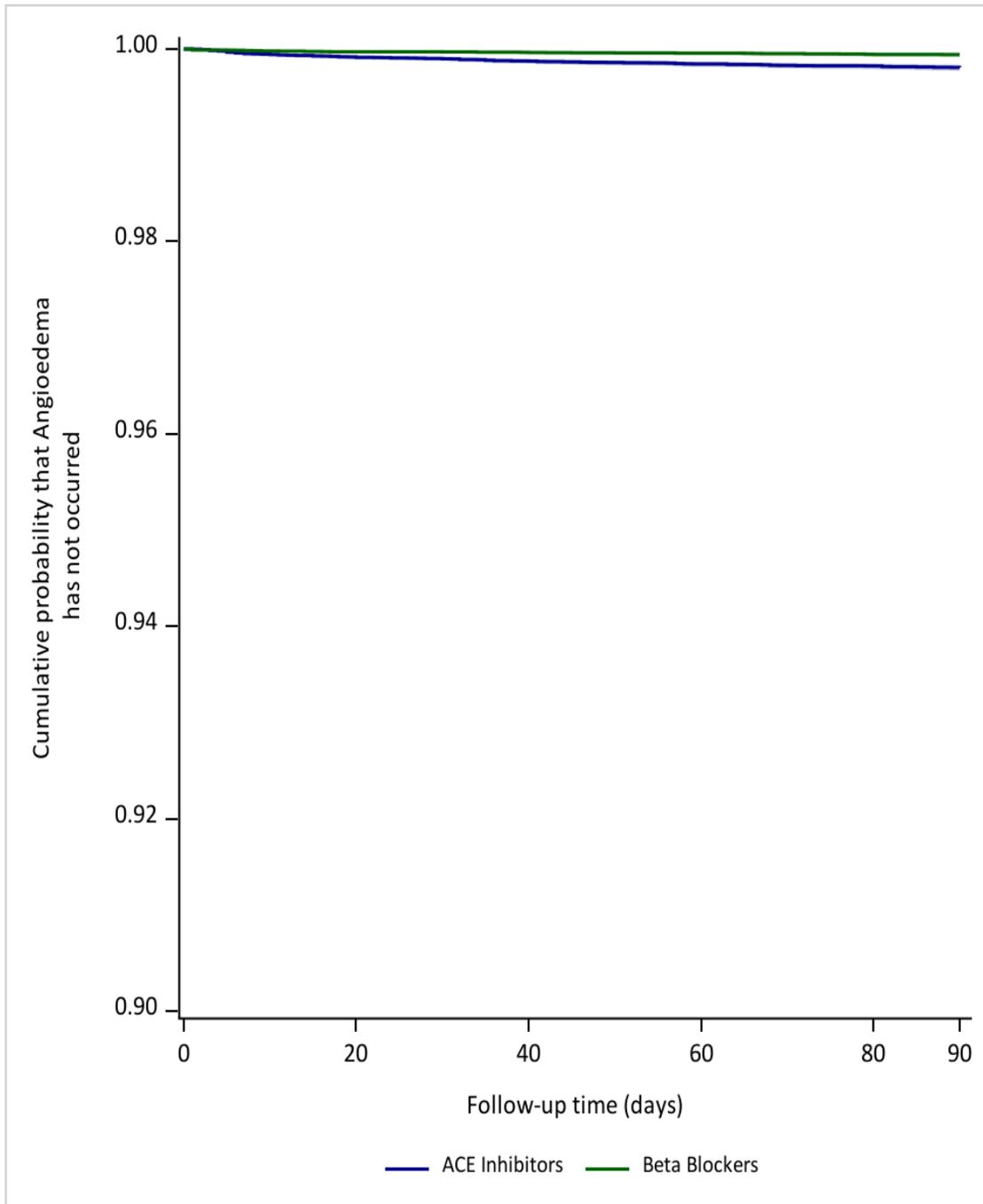
Figure 4g. Aggregated Unadjusted Kaplan-Meier Estimate and 95% Confidence Interval of Angioedema Not Occurring Among New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) from the Whole Population in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2018Q2
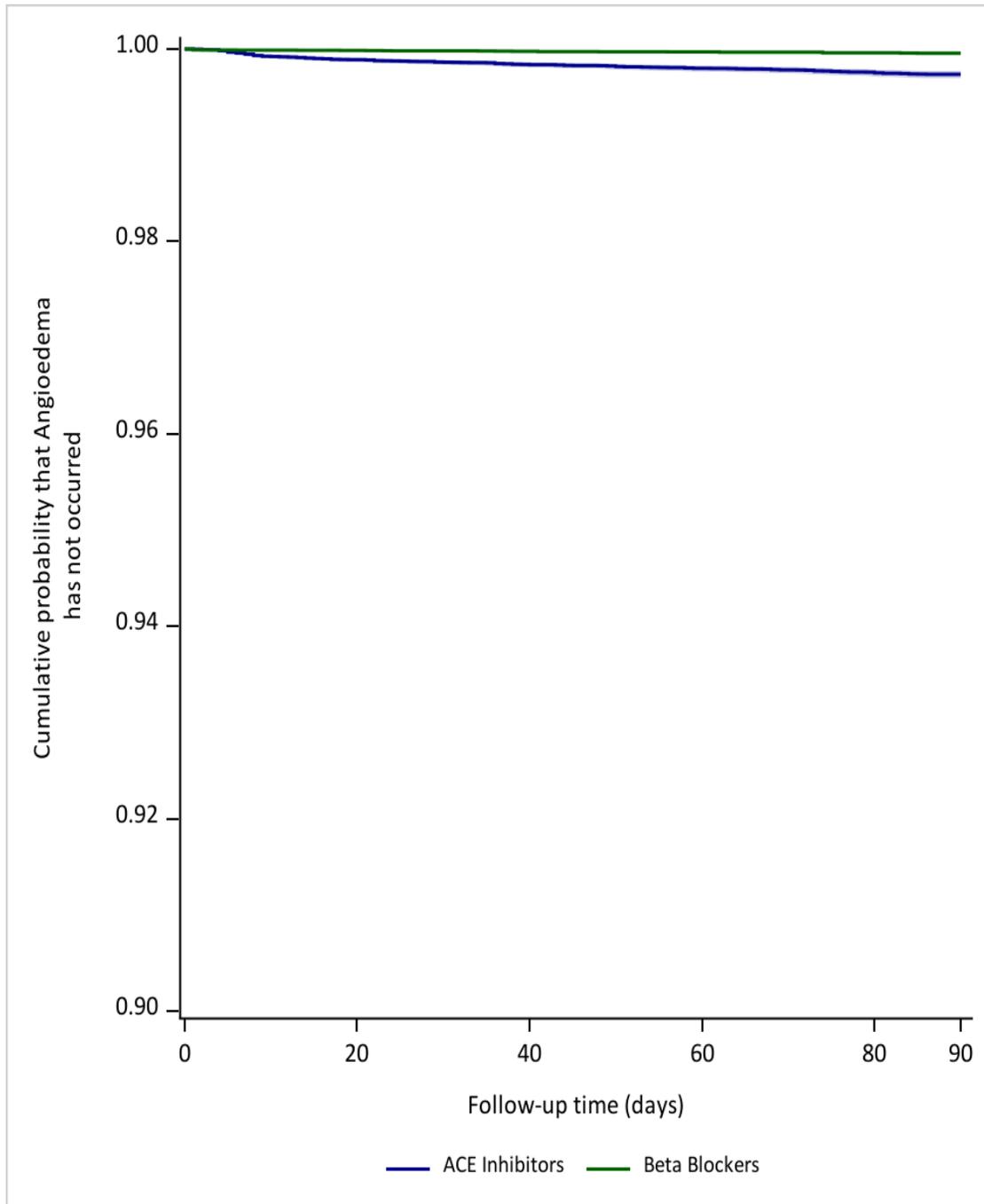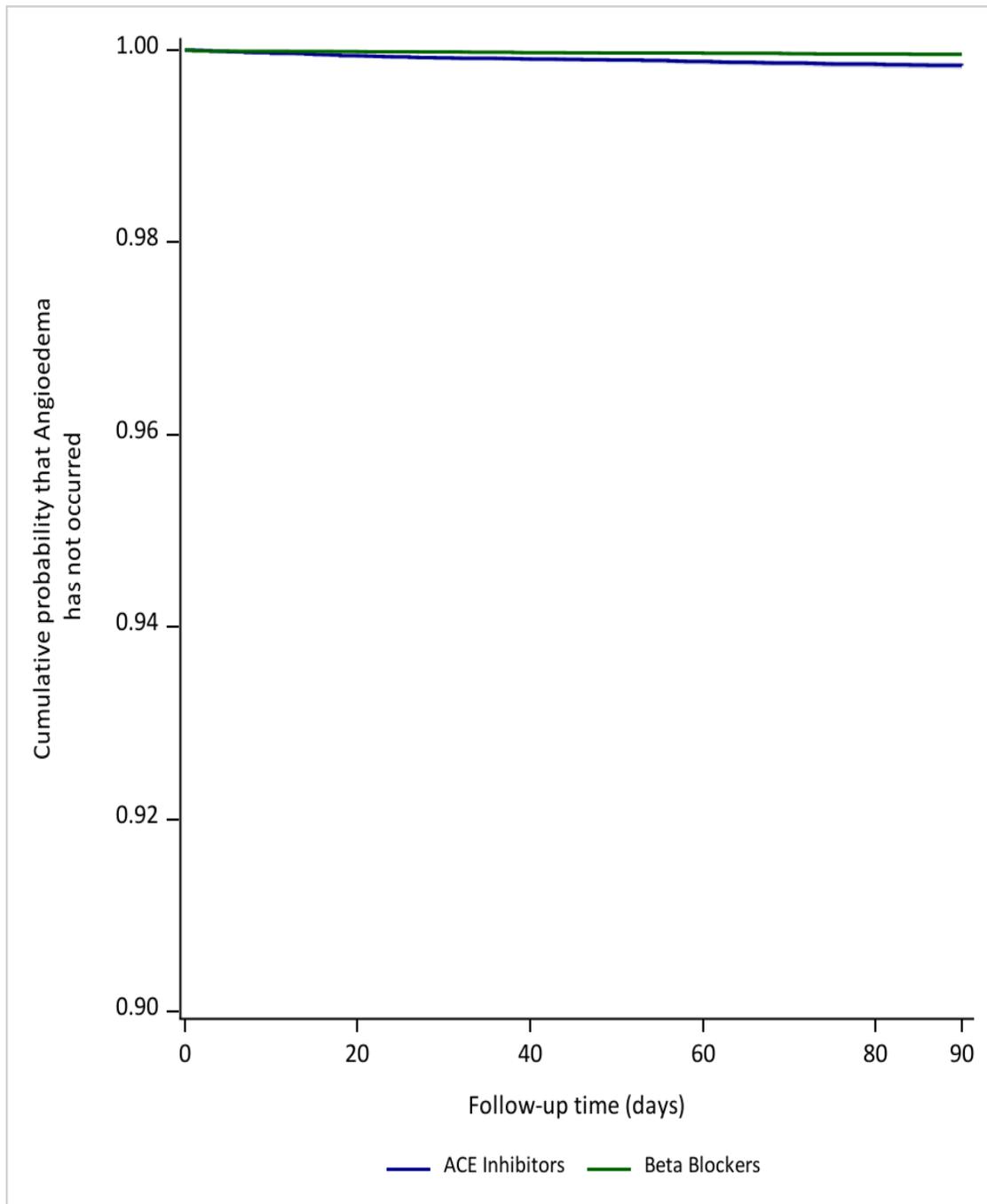
Figure 4h. Aggregated Adjusted Kaplan-Meier Estimate and 95% Confidence Interval of Angioedema Not Occurring Among New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) from the Conditional Matched Population in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2018Q2
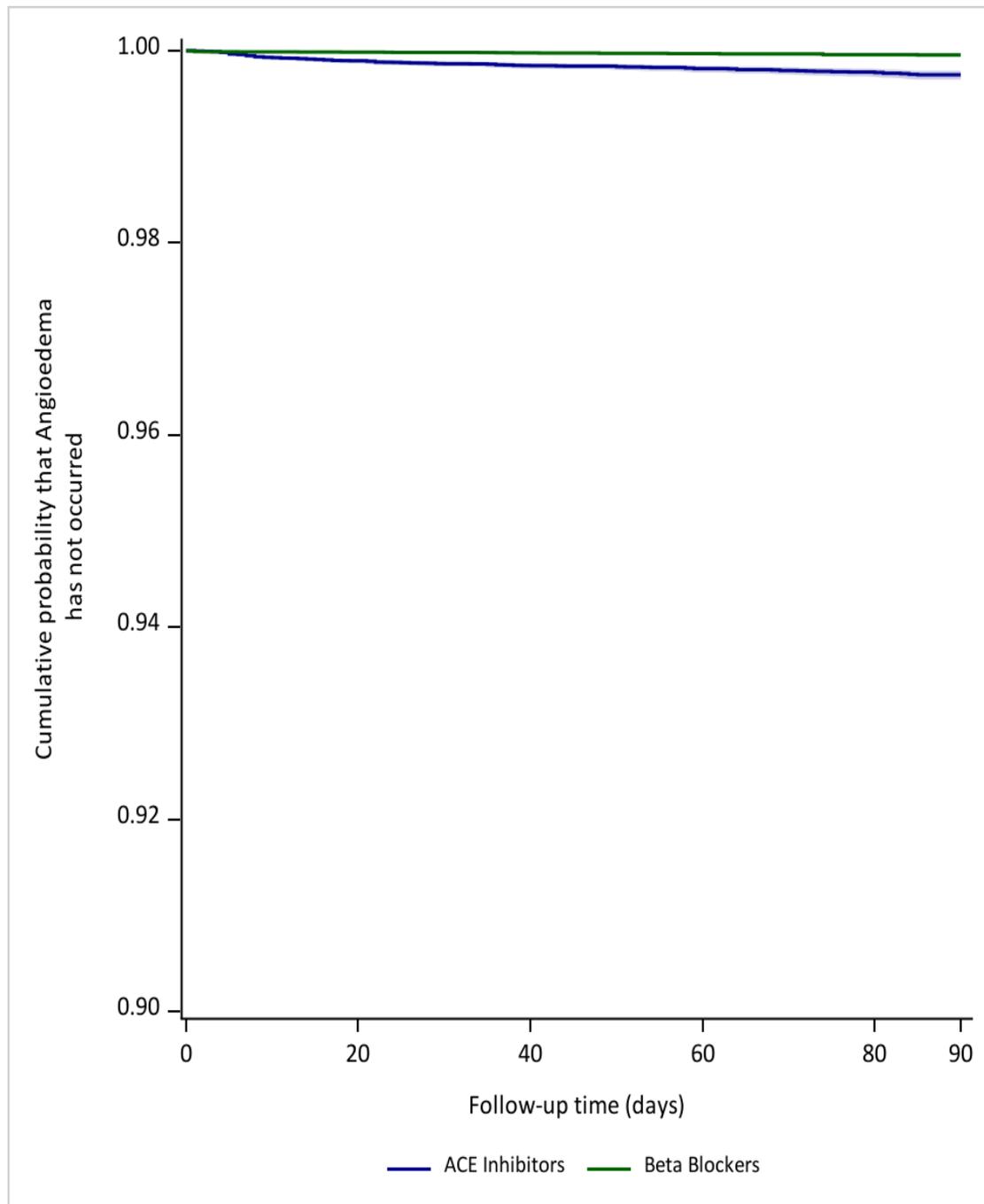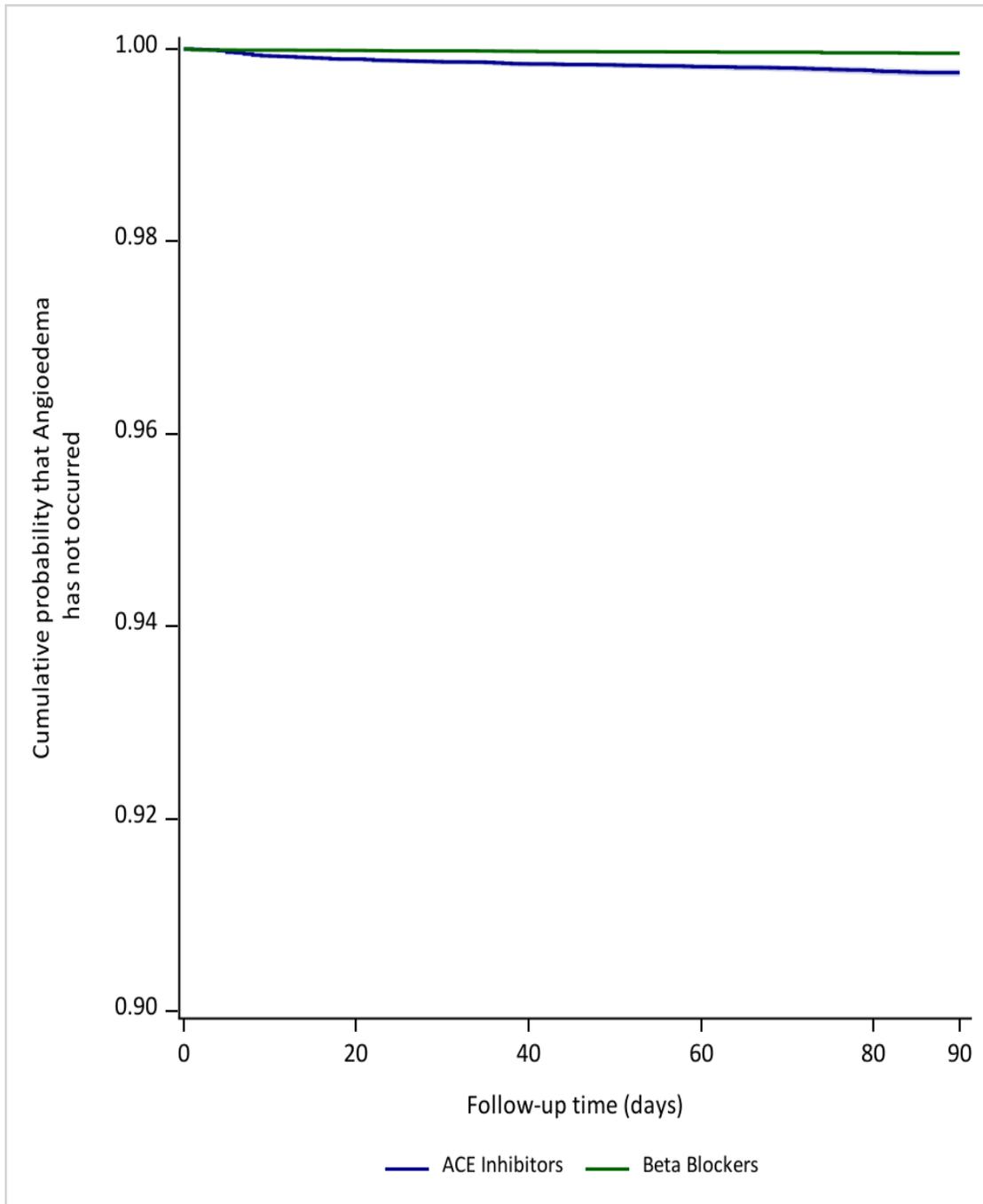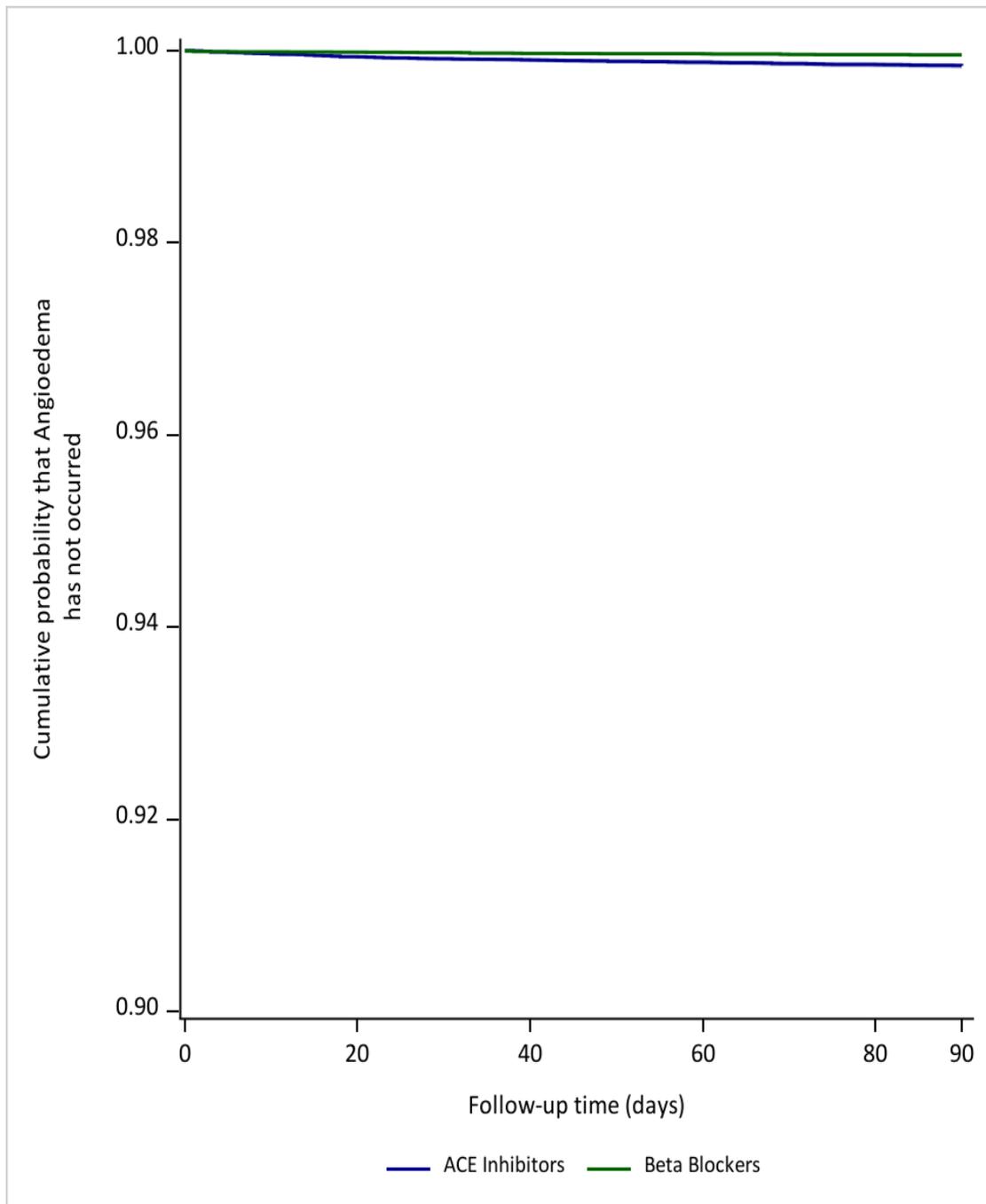
Figure 4j. Aggregated Unadjusted Kaplan-Meier Estimate and 95% Confidence Interval of Angioedema Not Occurring Among New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) from the Whole Population in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2018Q3
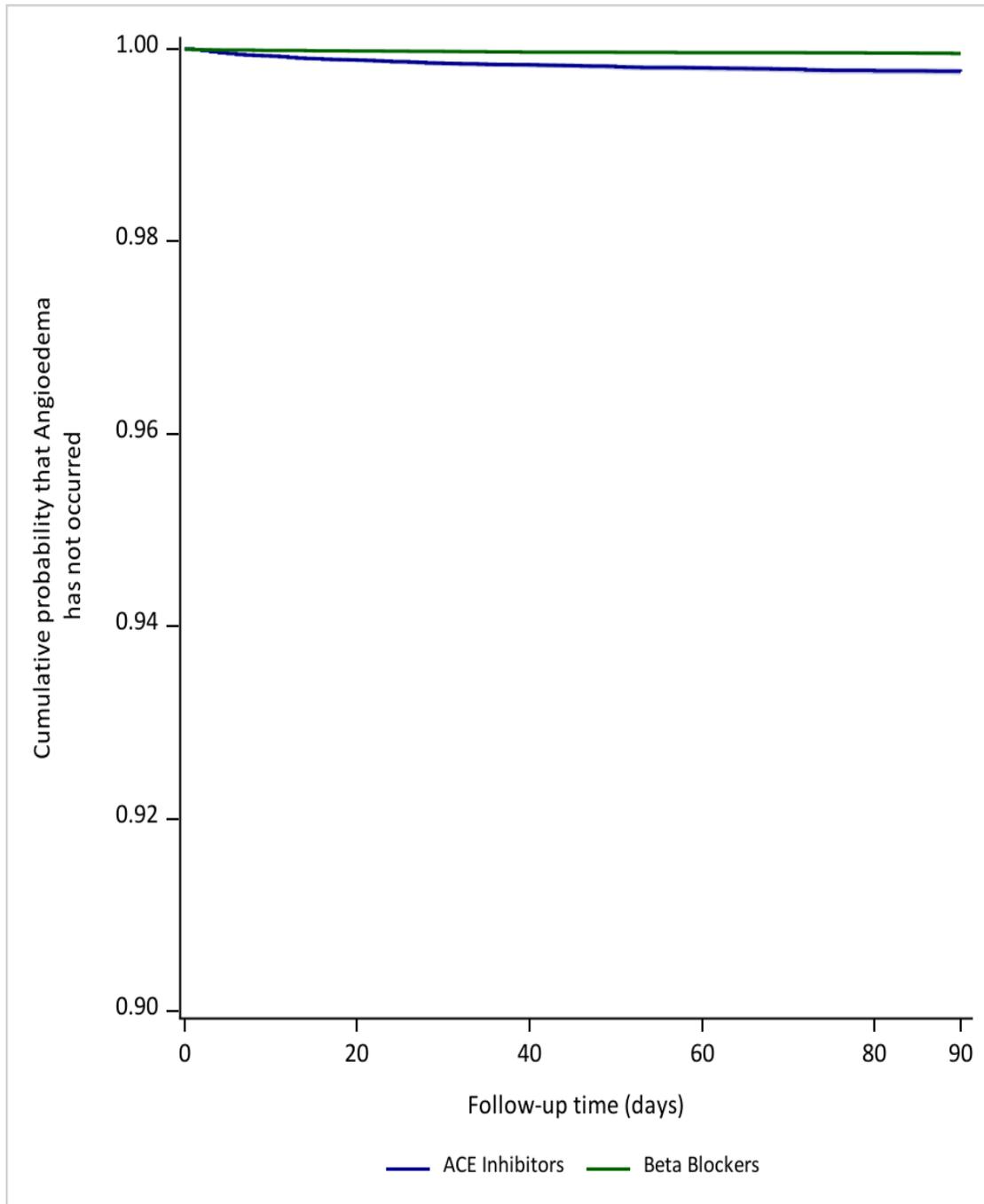
Figure 4k. Aggregated Adjusted Kaplan-Meier Estimate and 95% Confidence Interval of Angioedema Not Occurring Among New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) from the Conditional Matched Population in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2018Q3
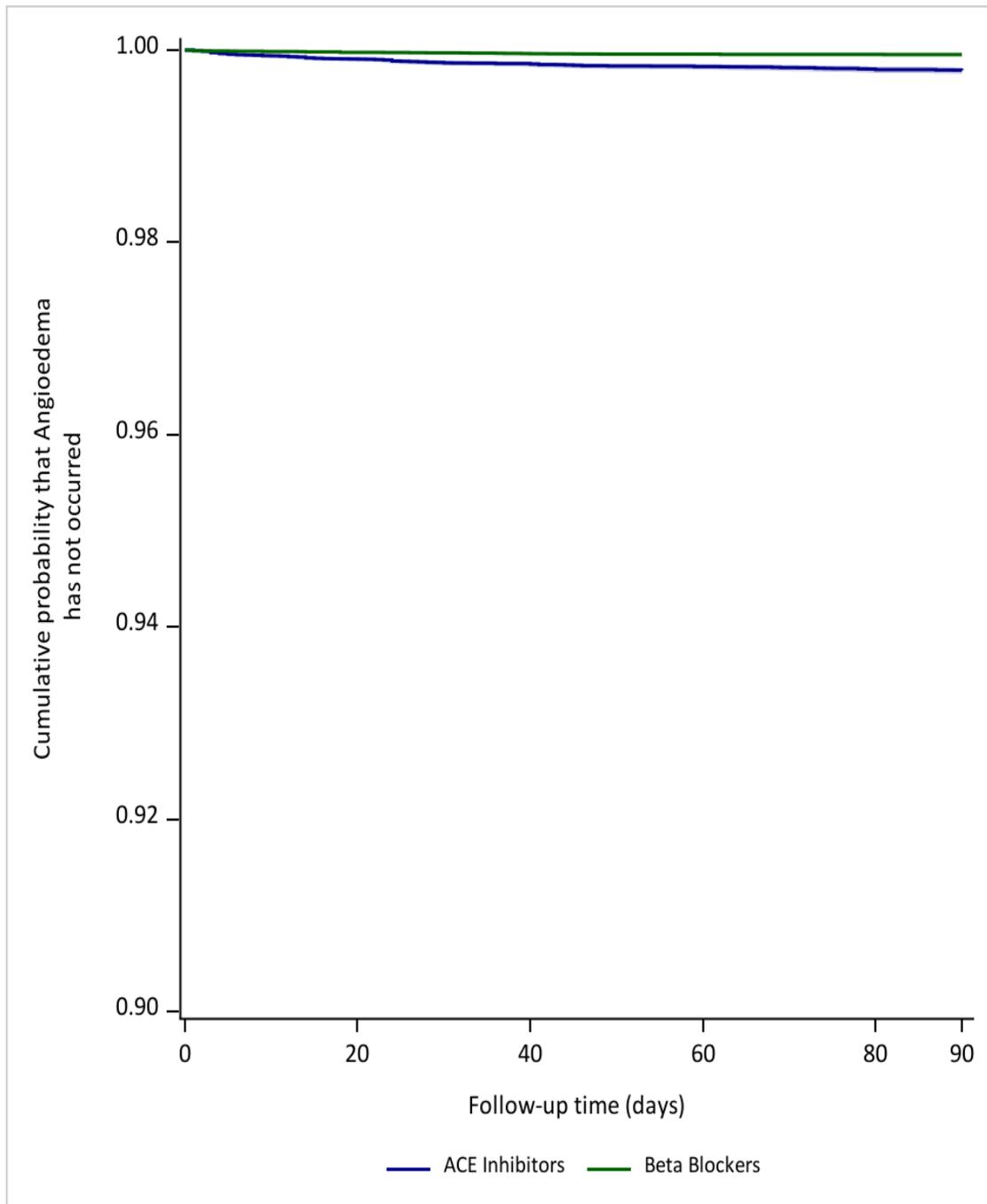
Figure 4l. Aggregated Adjusted Kaplan-Meier Estimate and 95% Confidence Interval of Angioedema Not Occurring Among New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) from the Unconditional Matched Population in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2018Q3
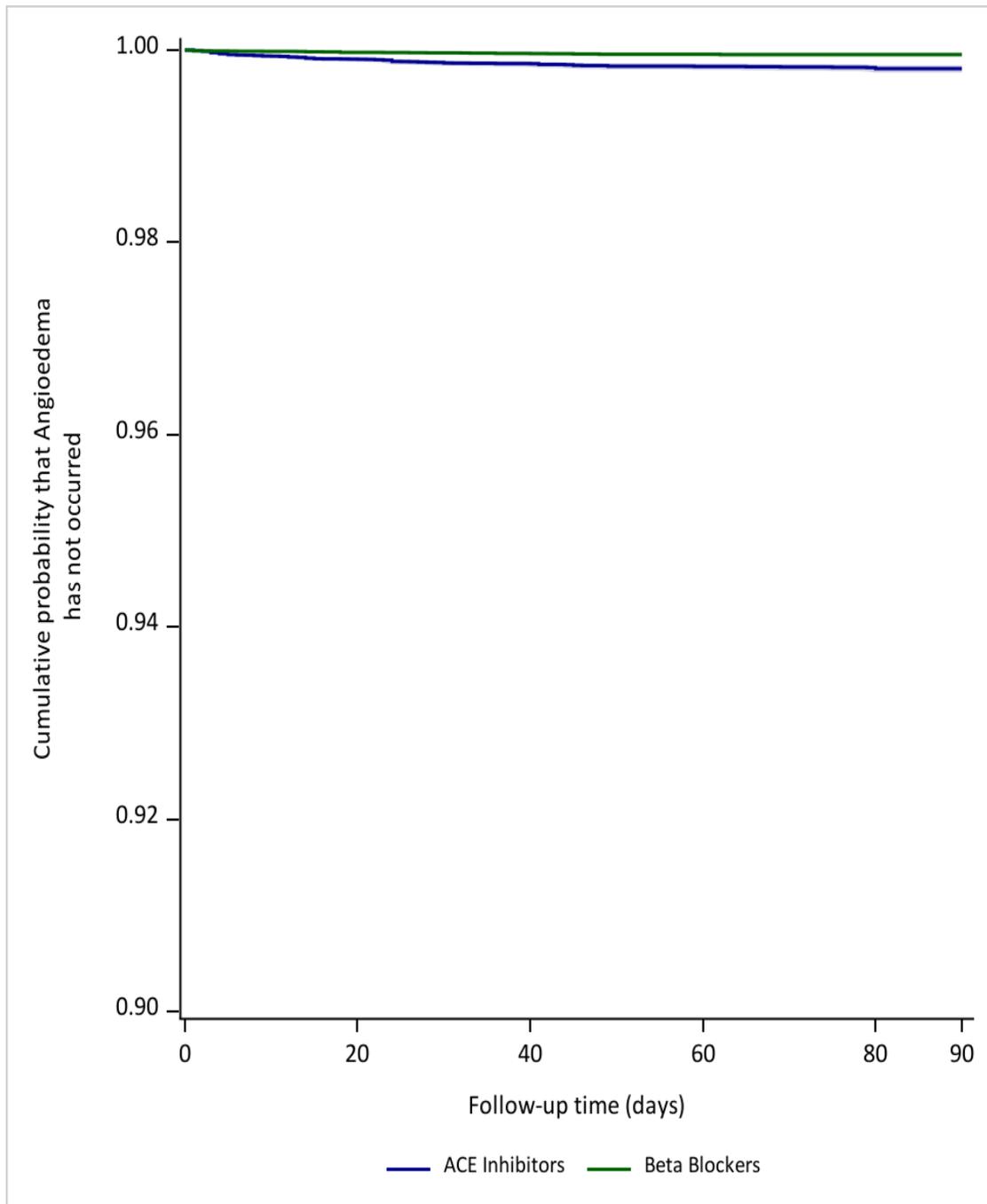
Figure 4n. Aggregated Adjusted Kaplan-Meier Estimate and 95% Confidence Interval of Angioedema Not Occurring Among New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) from the Conditional Matched Population in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2018Q4
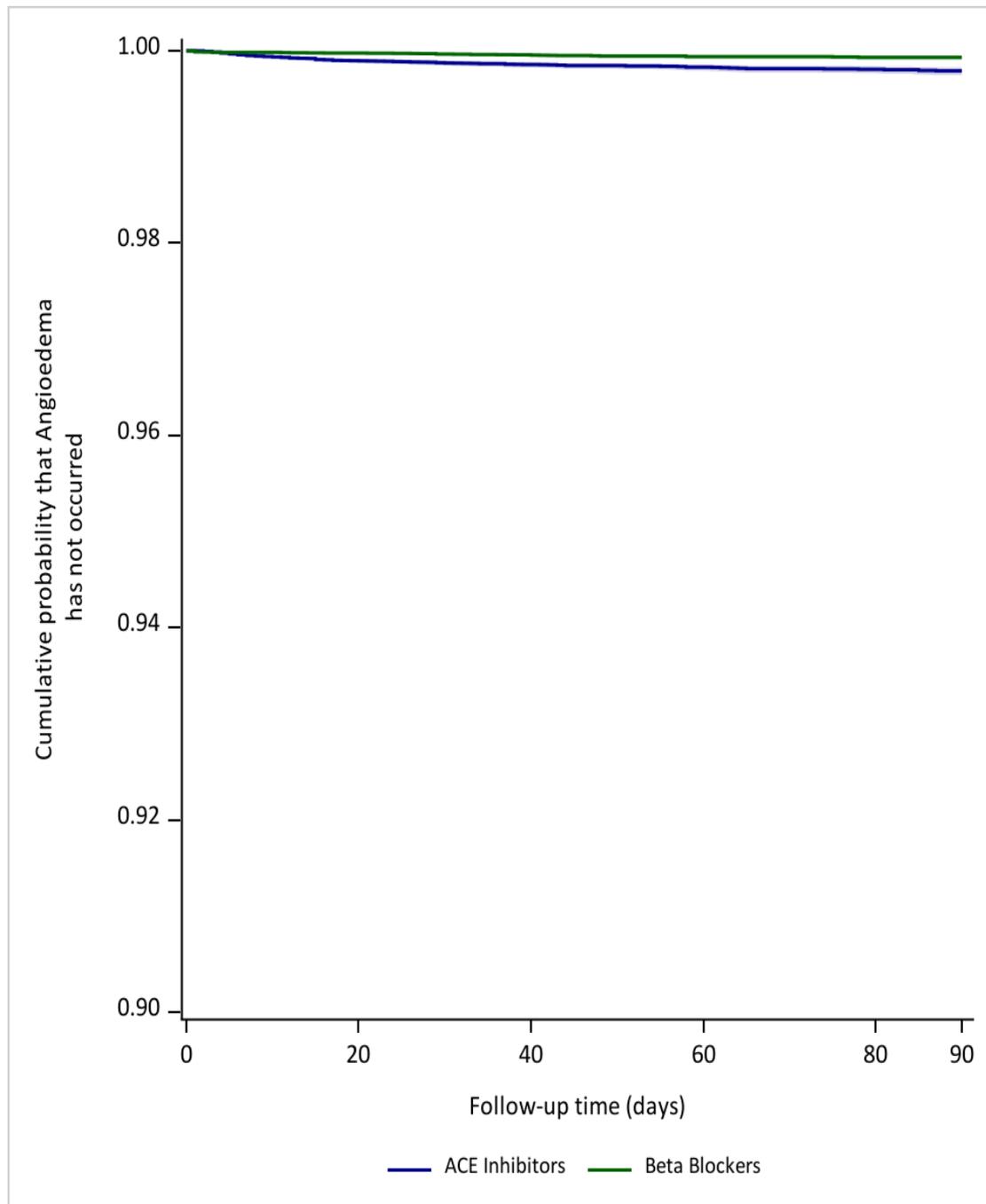
Figure 4o. Aggregated Adjusted Kaplan-Meier Estimate and 95% Confidence Interval of Angioedema Not Occurring Among New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) from the Unconditional Matched Population in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2018Q4
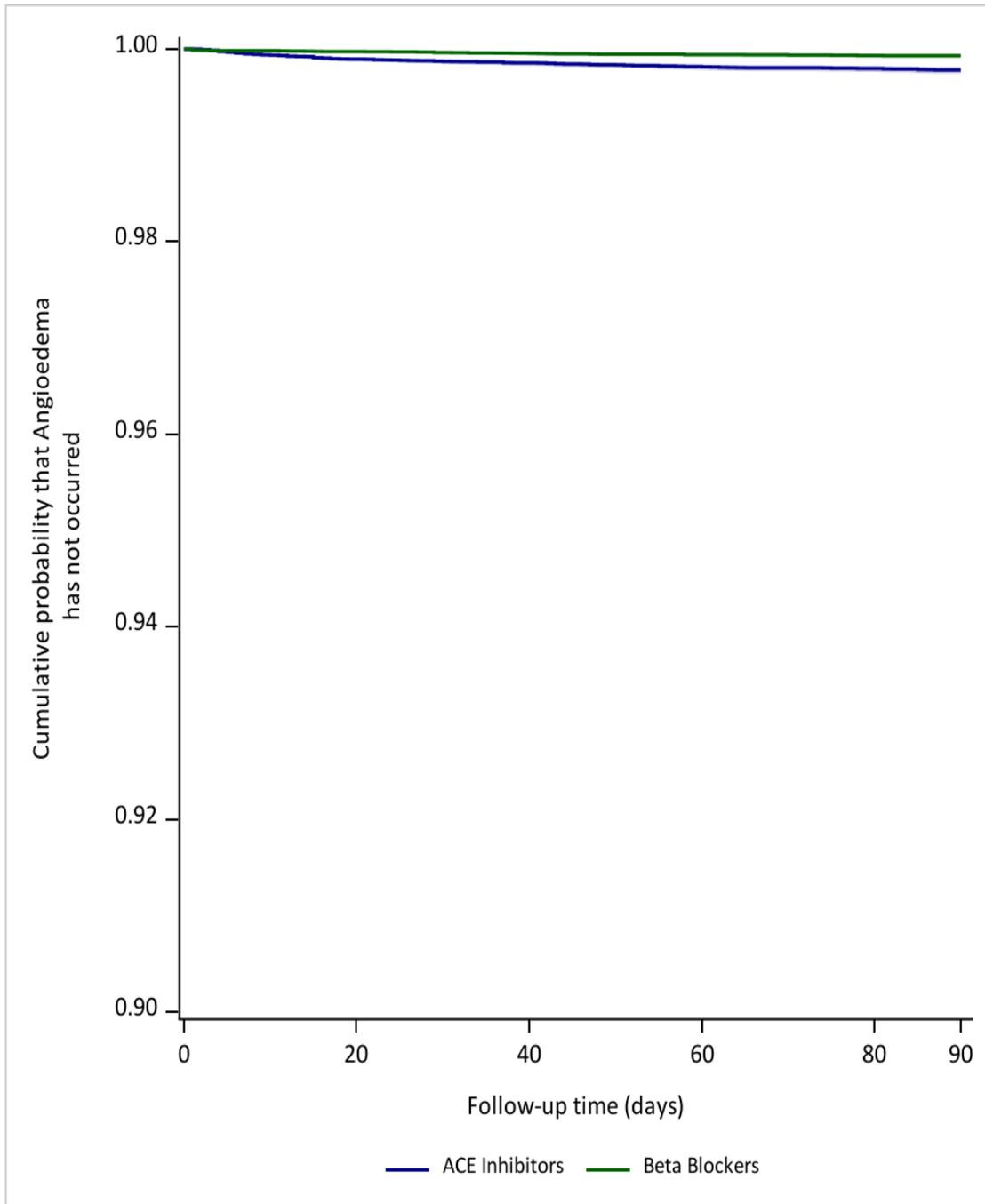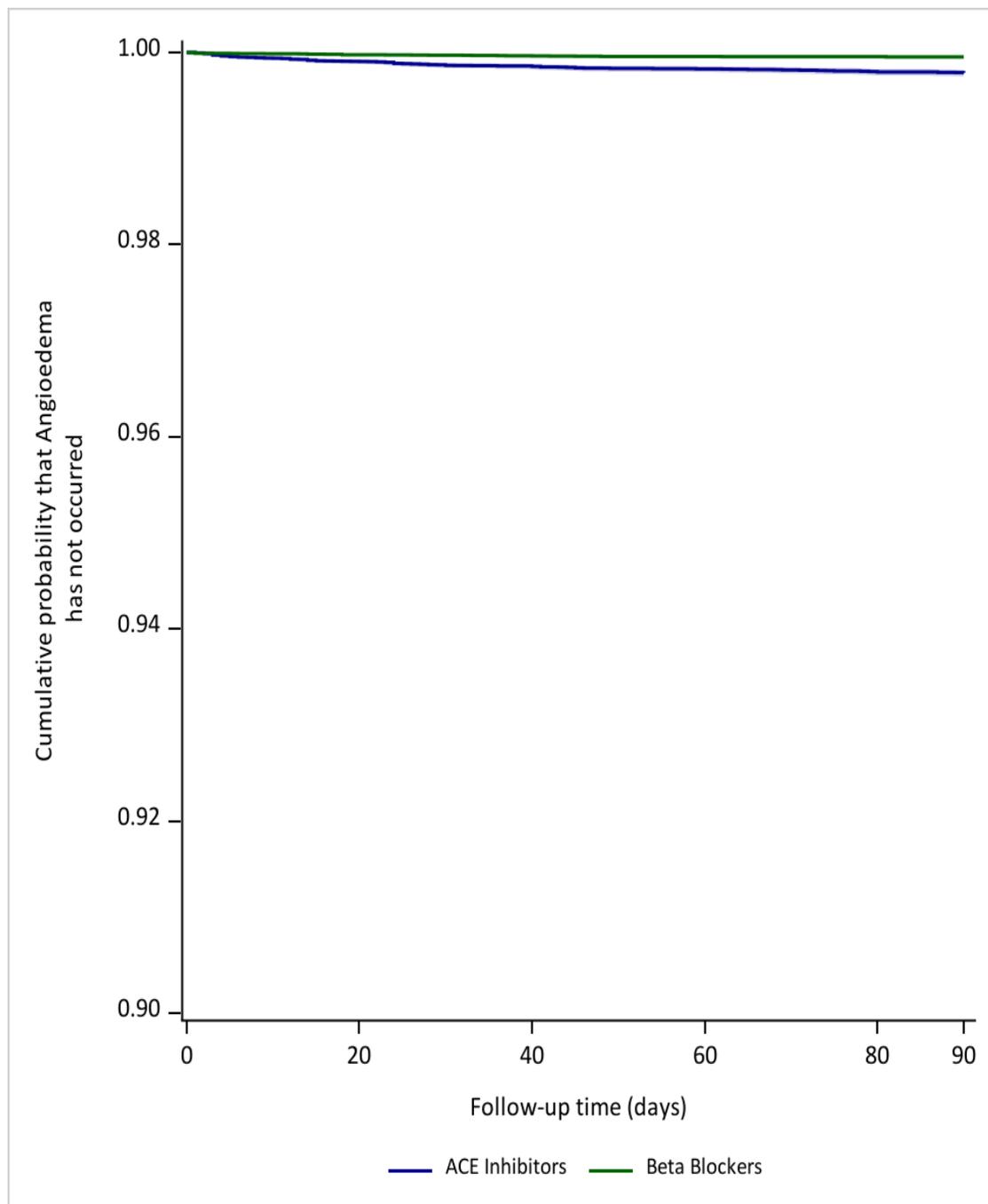
Figure 4p. Aggregated Unadjusted Kaplan-Meier Estimate and 95% Confidence Interval of Angioedema Not Occurring Among New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) from the Whole Population in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2019Q1
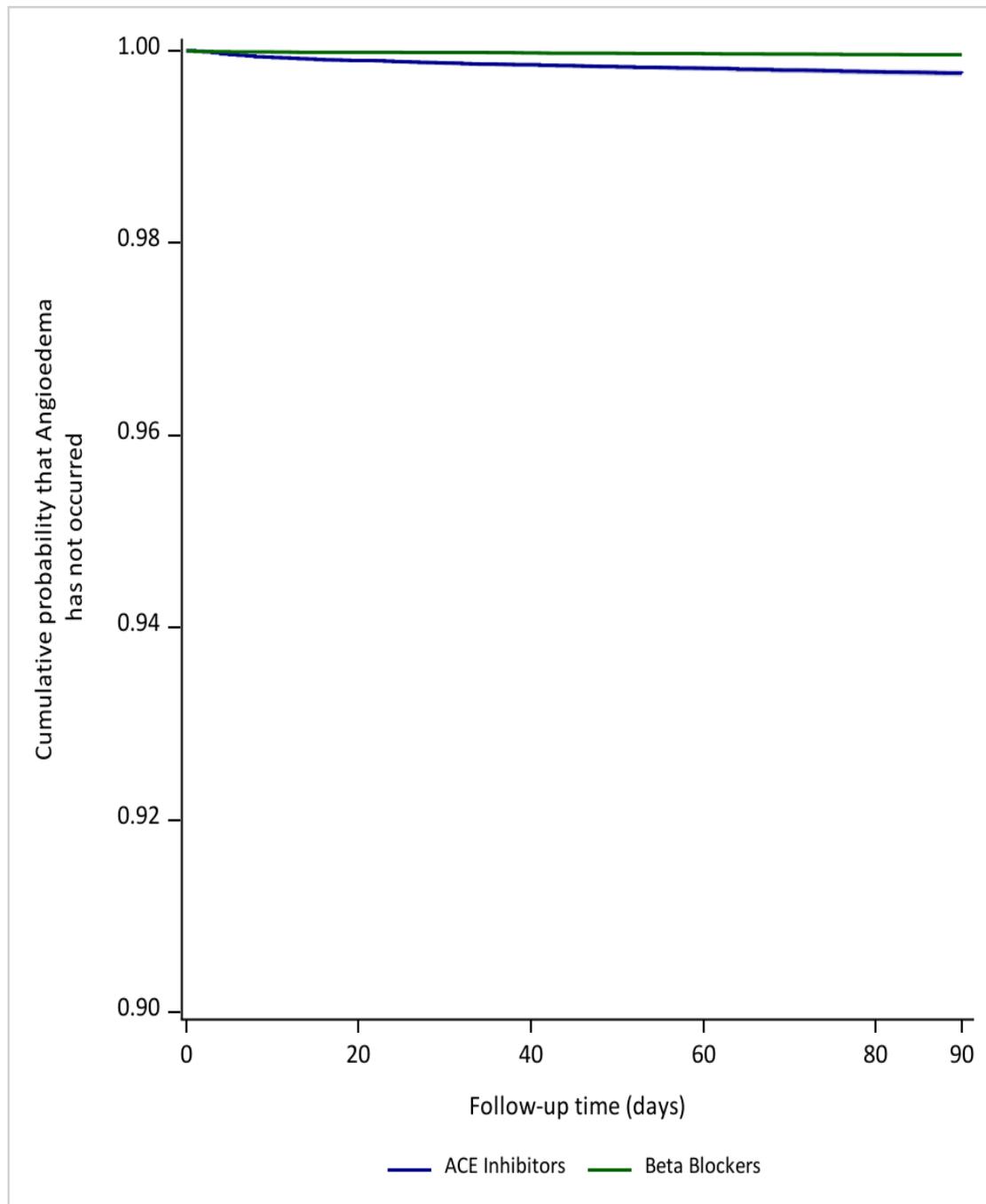
Figure 4q. Aggregated Adjusted Kaplan-Meier Estimate and 95% Confidence Interval of Angioedema Not Occurring Among New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) from the Conditional Matched Population in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2019Q1
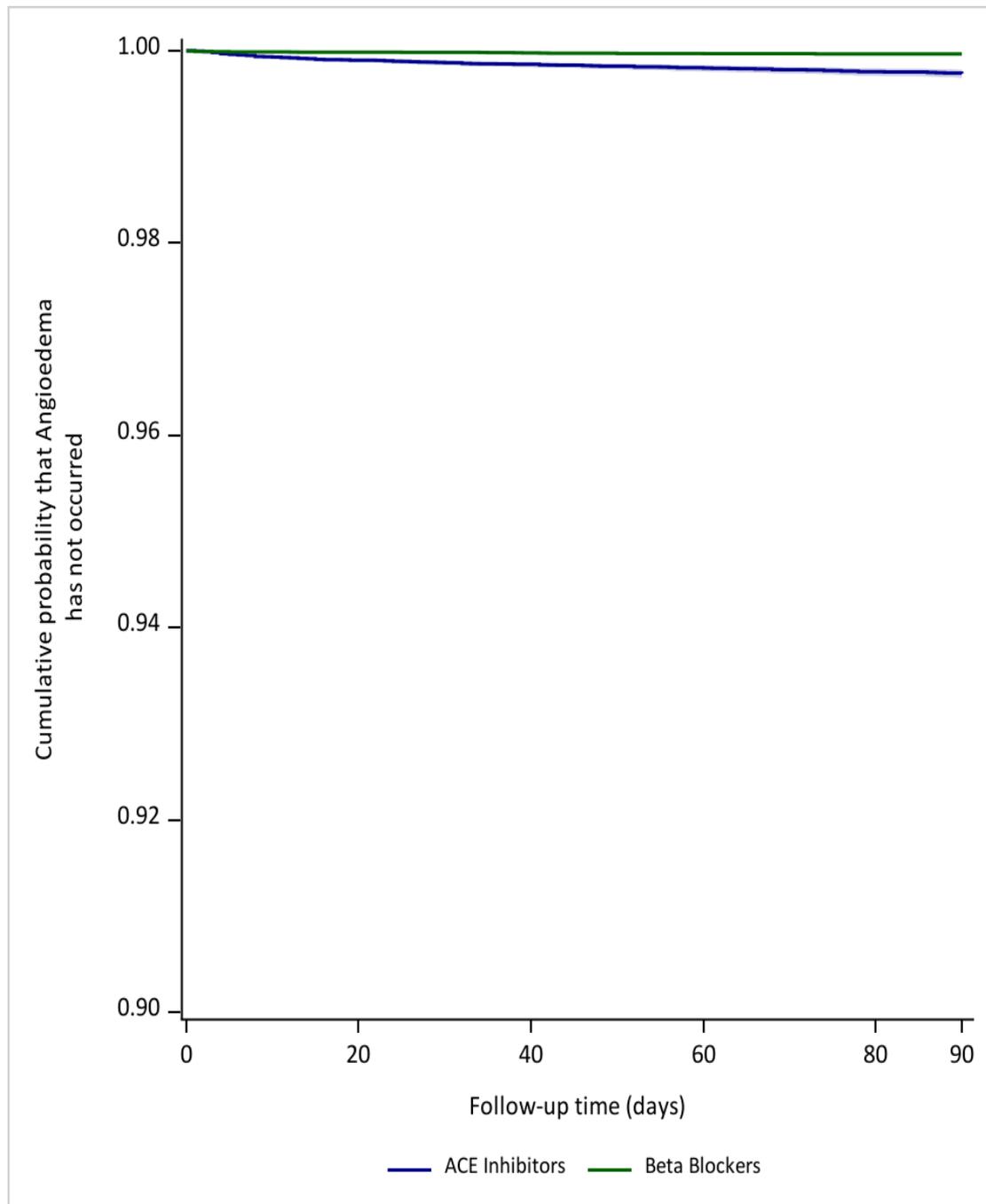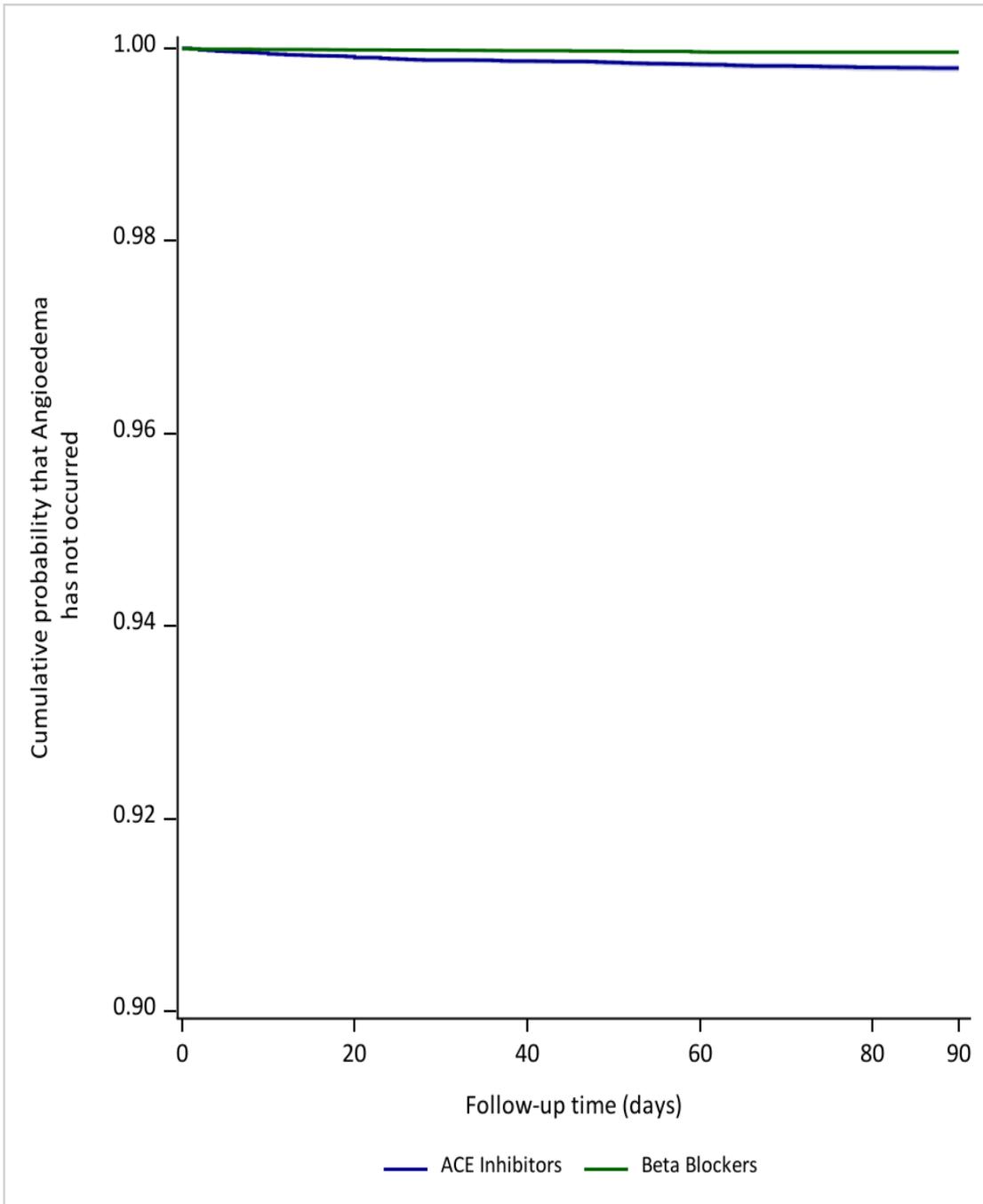
Figure 4r. Aggregated Adjusted Kaplan-Meier Estimate and 95% Confidence Interval of Angioedema Not Occurring Among New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) from the Unconditional Matched Population in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2019Q1
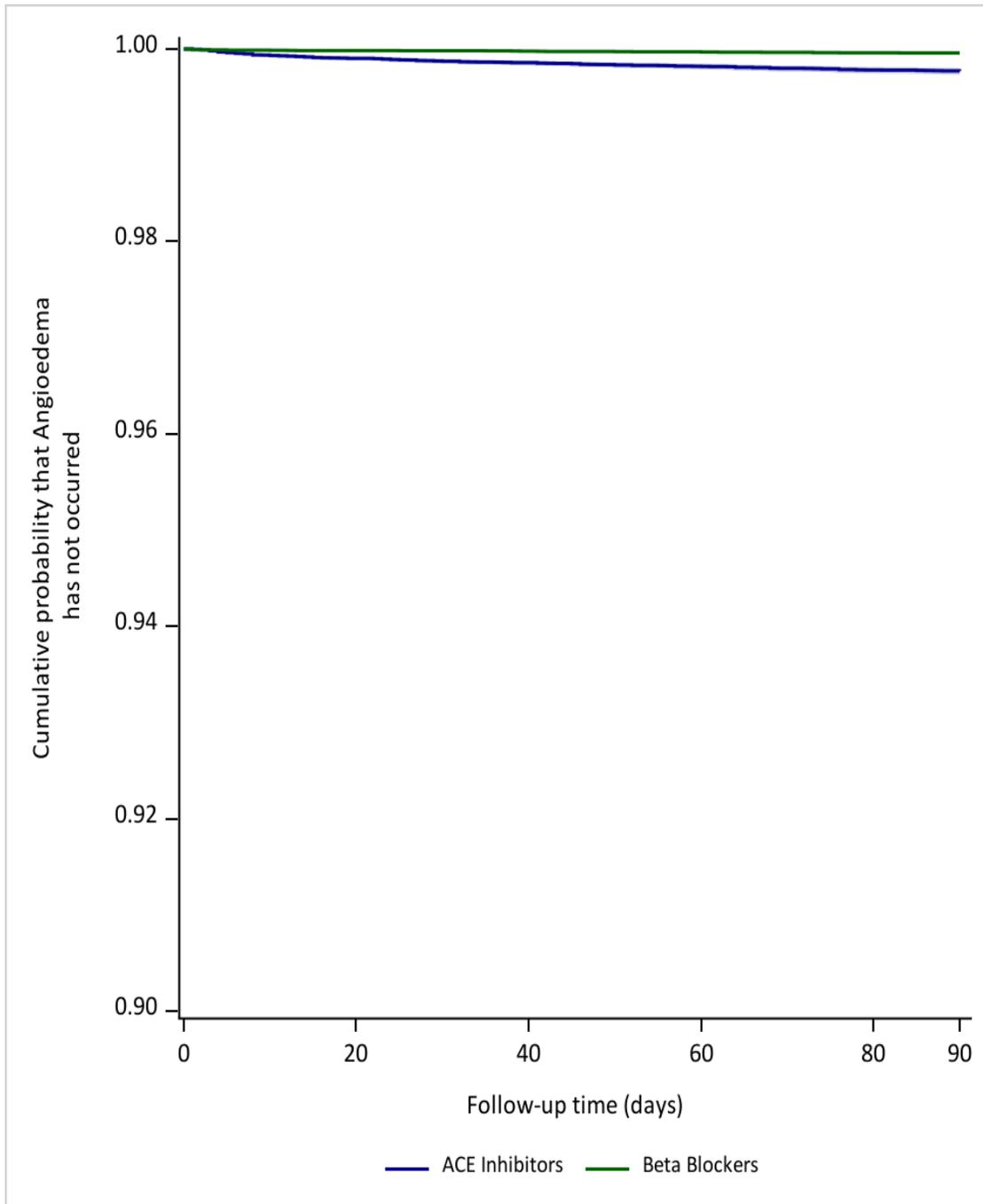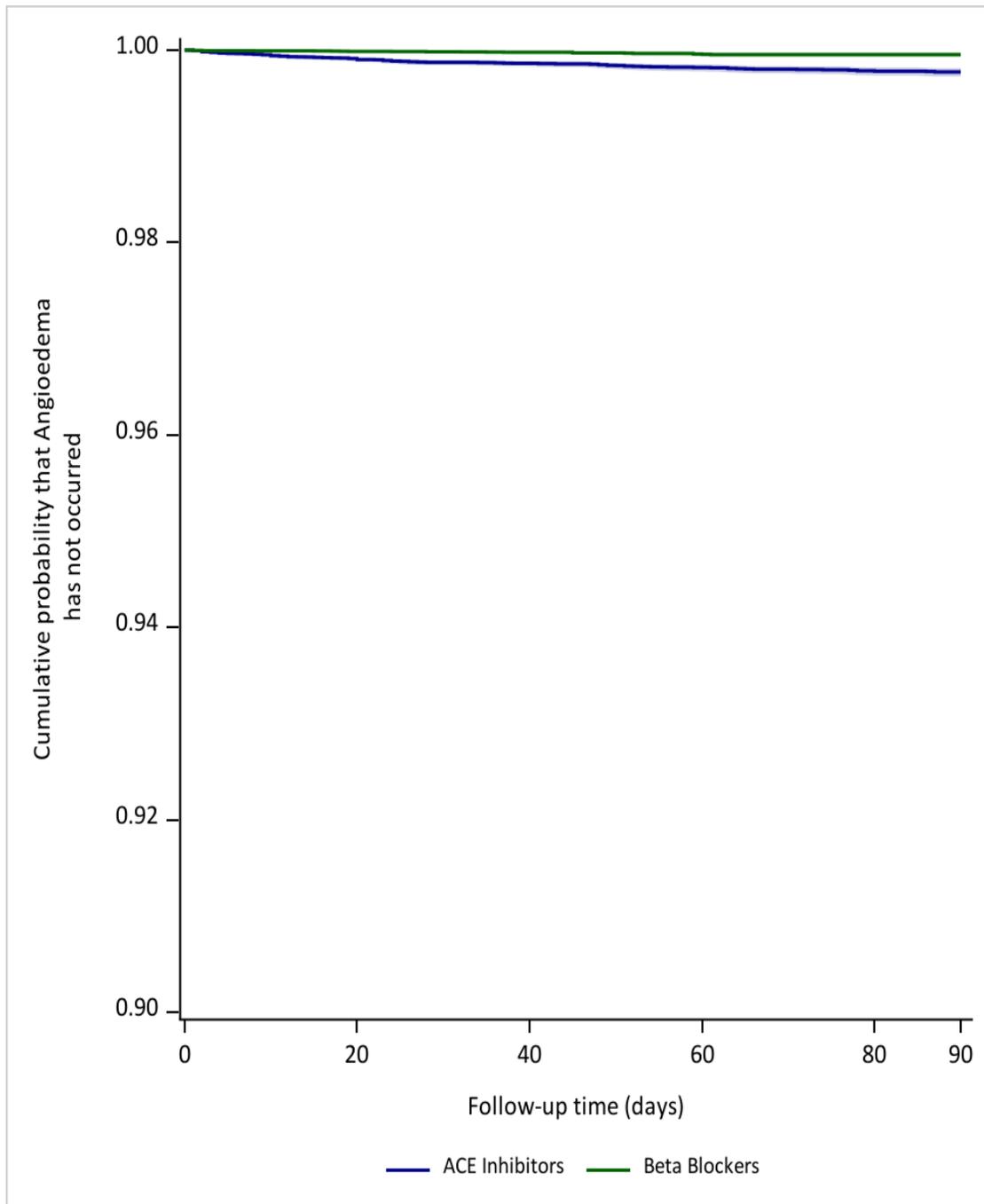
Figure 4s. Aggregated Unadjusted Kaplan-Meier Estimate and 95% Confidence Interval of Angioedema Not Occurring Among New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) from the Whole Population in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2019Q2
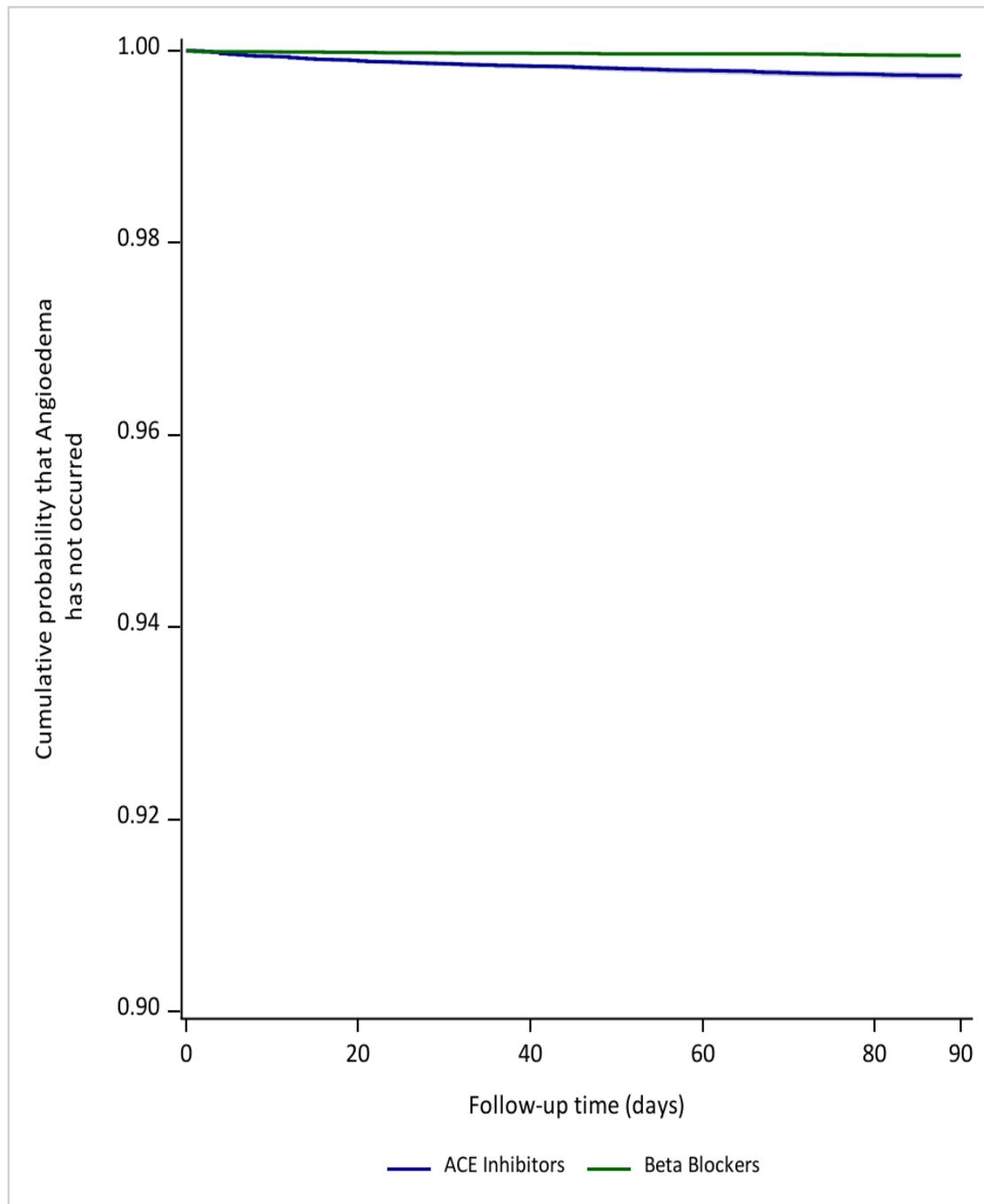
Figure 4t. Aggregated Adjusted Kaplan-Meier Estimate and 95% Confidence Interval of Angioedema Not Occurring Among New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) from the Conditional Matched Population in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2019Q2
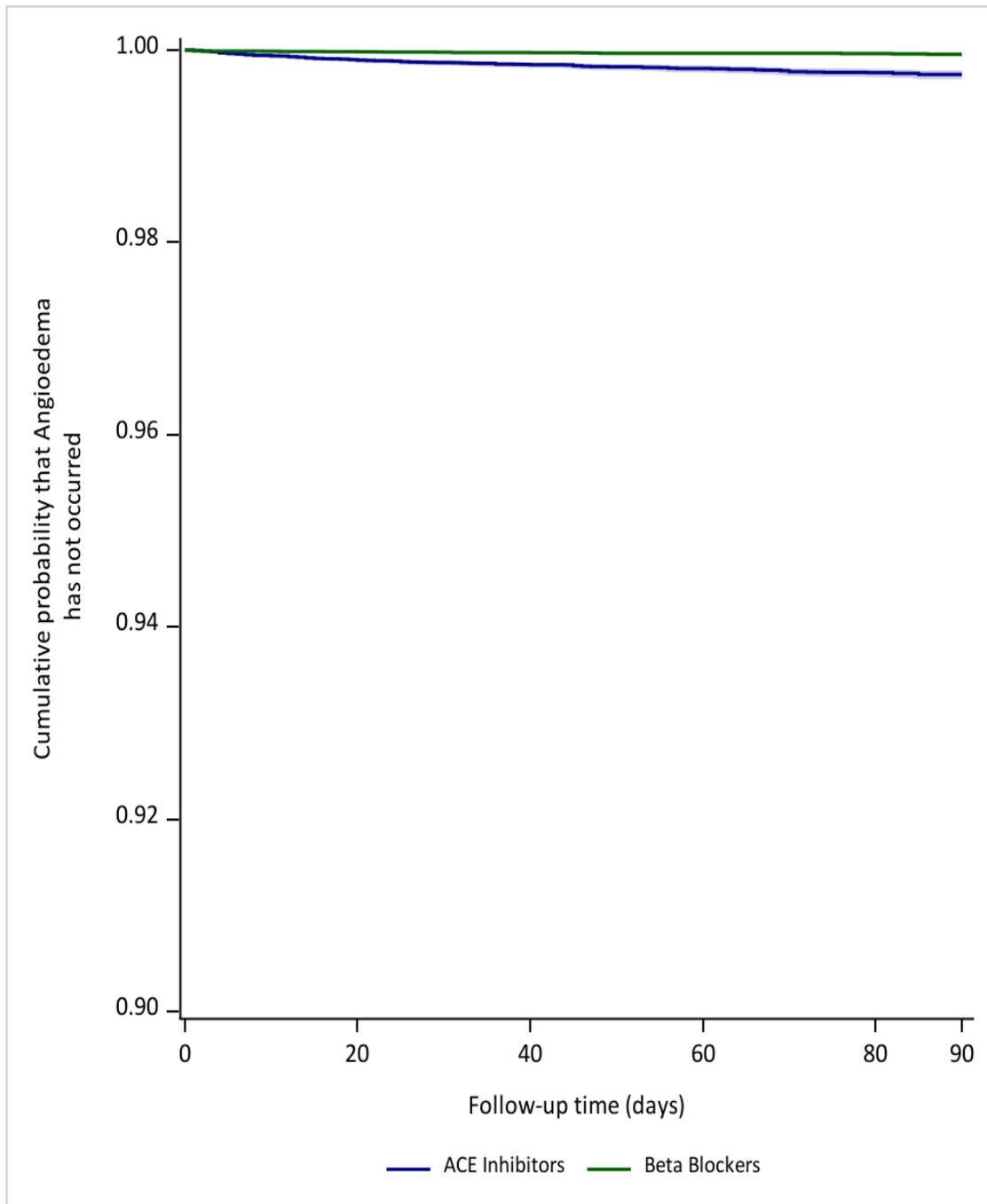
Figure 4u. Aggregated Adjusted Kaplan-Meier Estimate and 95% Confidence Interval of Angioedema Not Occurring Among New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) from the Unconditional Matched Population in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2019Q2
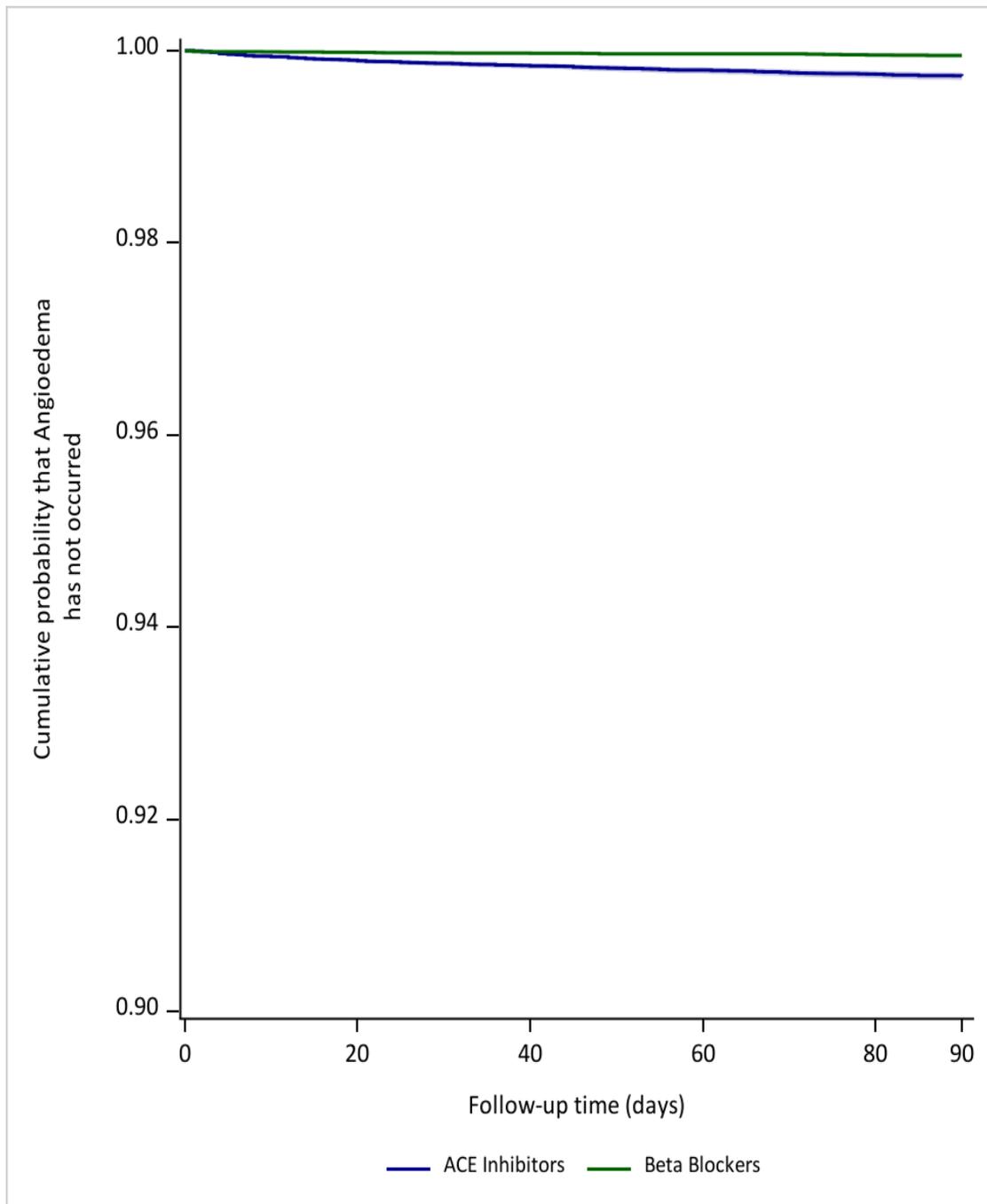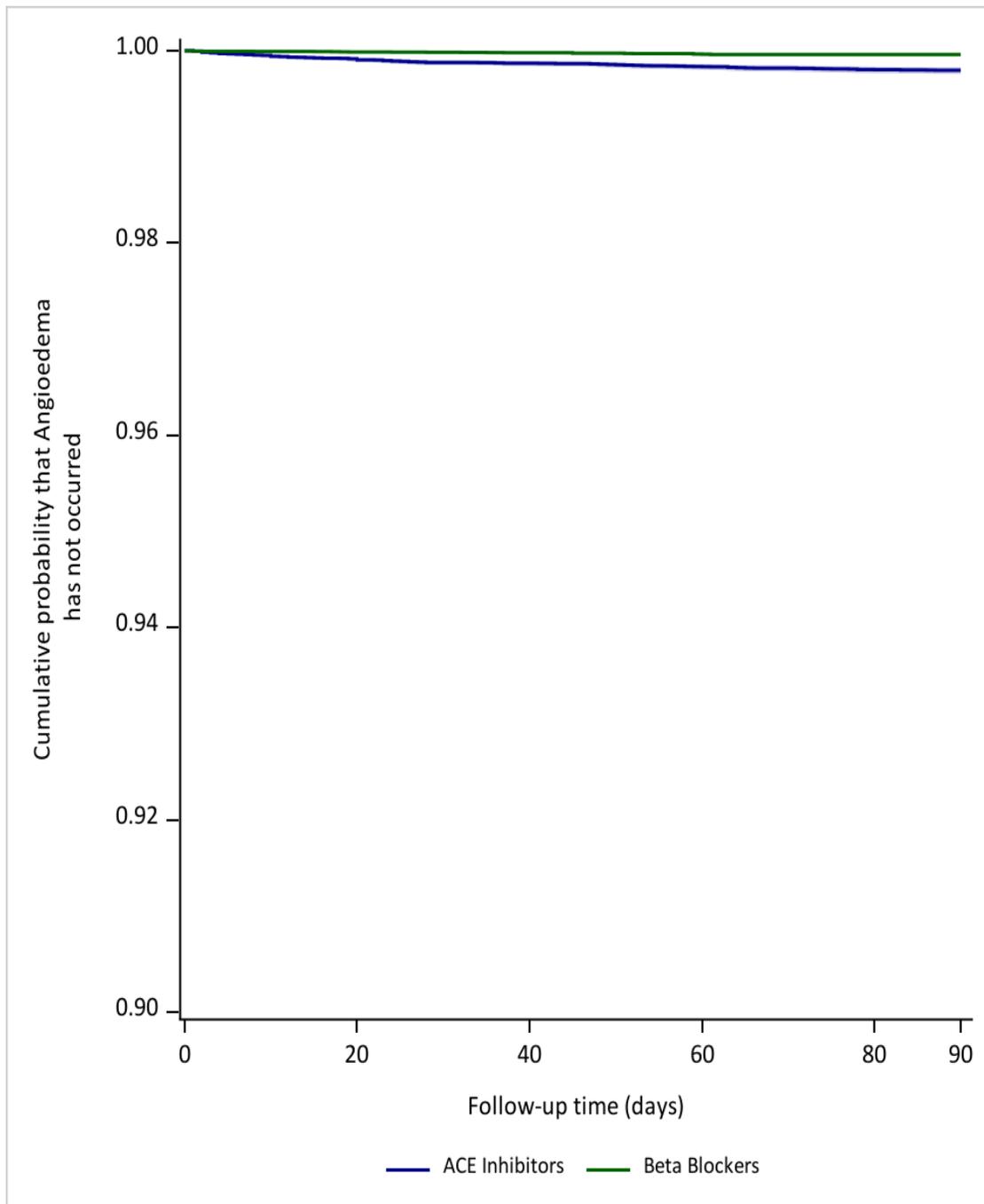
Figure 4v. Aggregated Unadjusted Kaplan-Meier Estimate and 95% Confidence Interval of Angioedema Not Occurring Among New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) from the Whole Population in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2019Q3
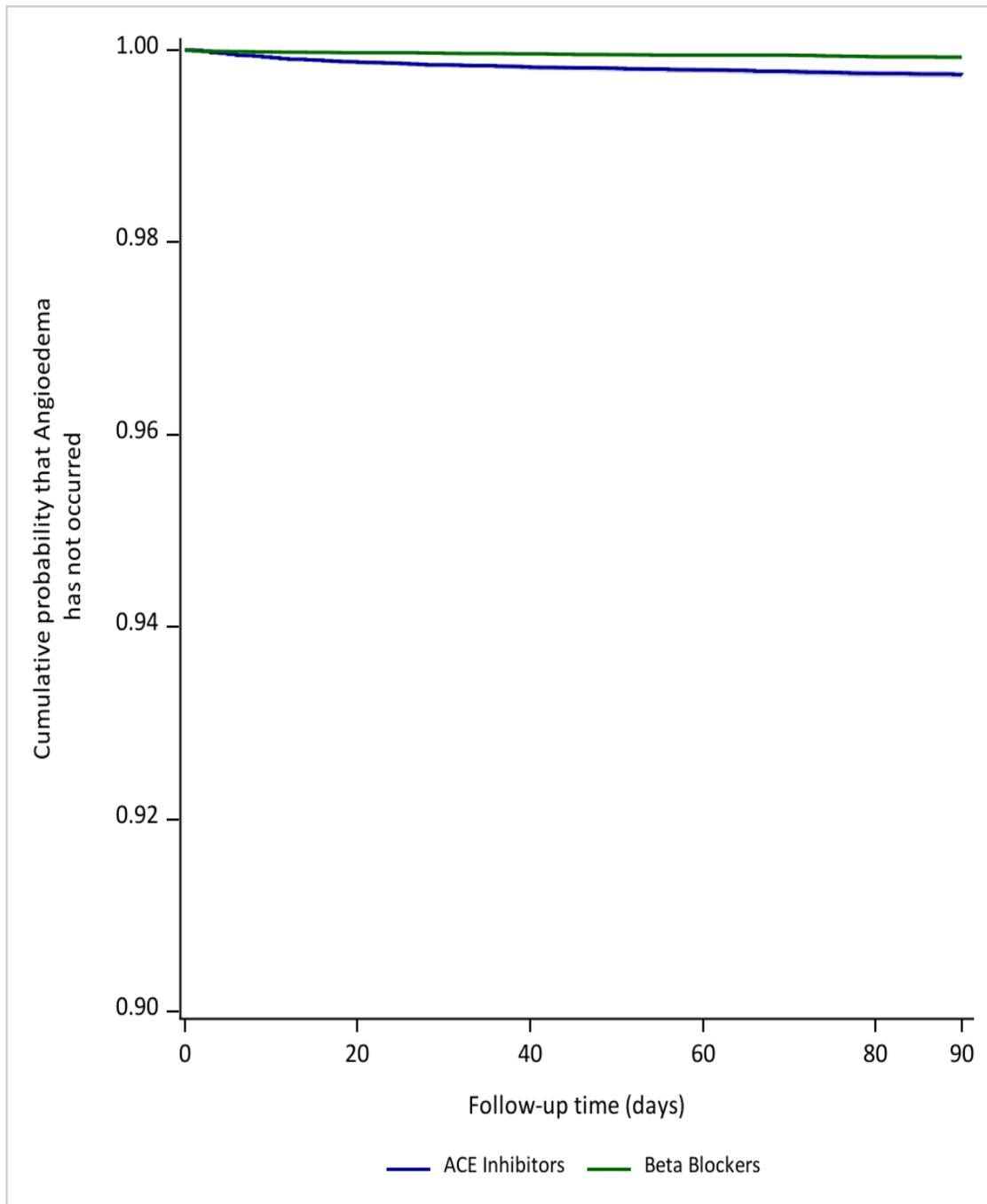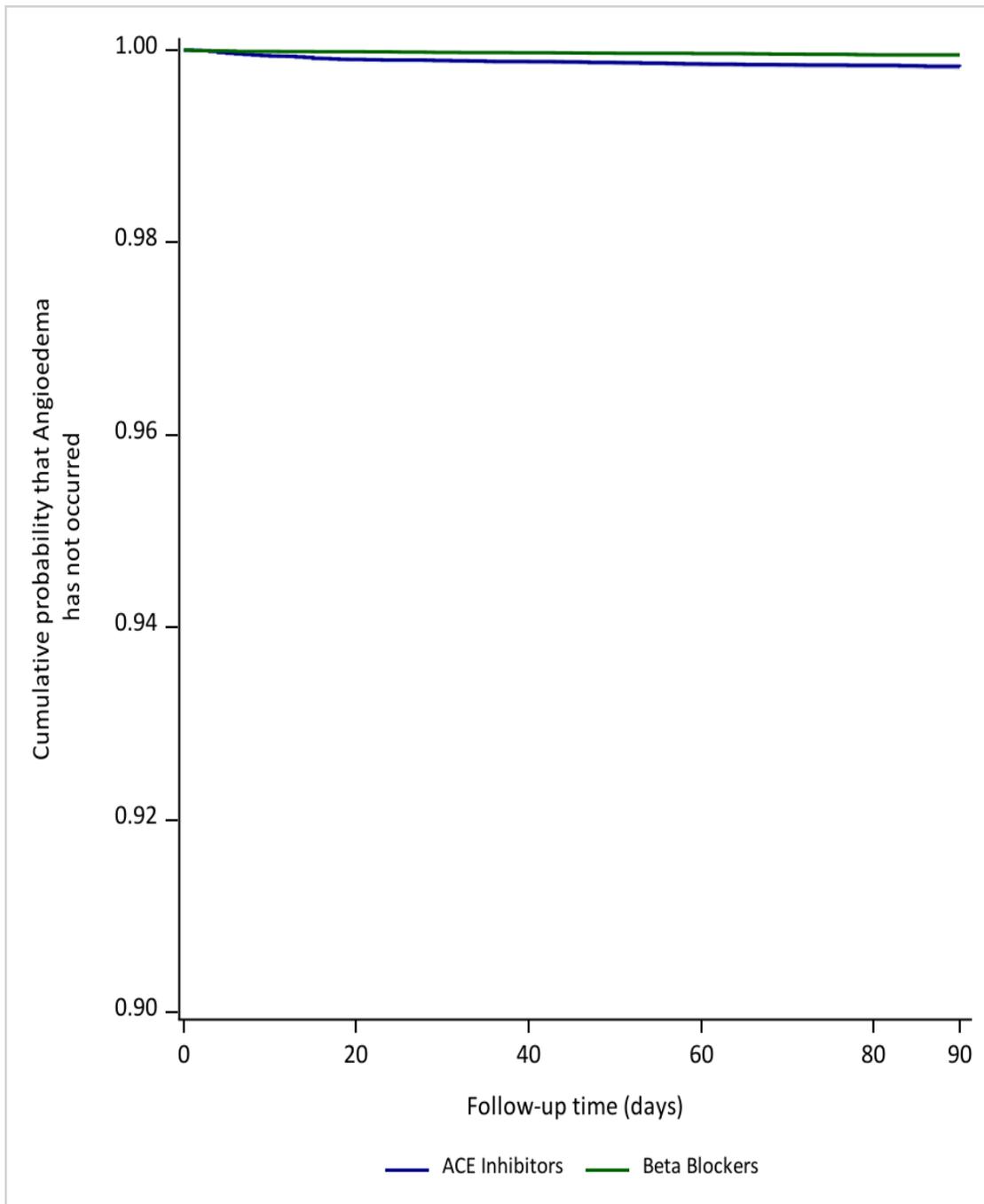
Figure 4w. Aggregated Adjusted Kaplan-Meier Estimate and 95% Confidence Interval of Angioedema Not Occurring Among New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) from the Conditional Matched Population in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2019Q3
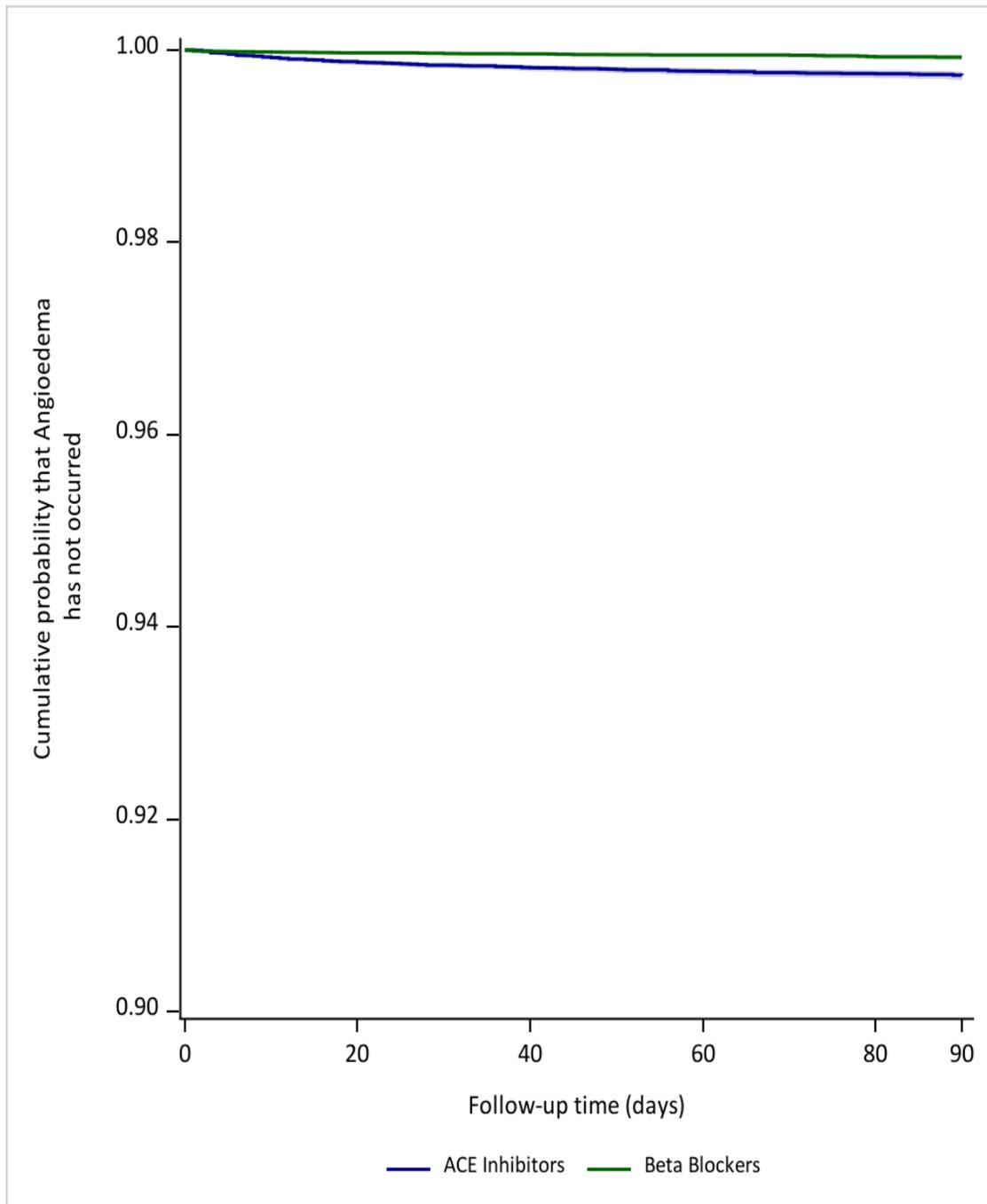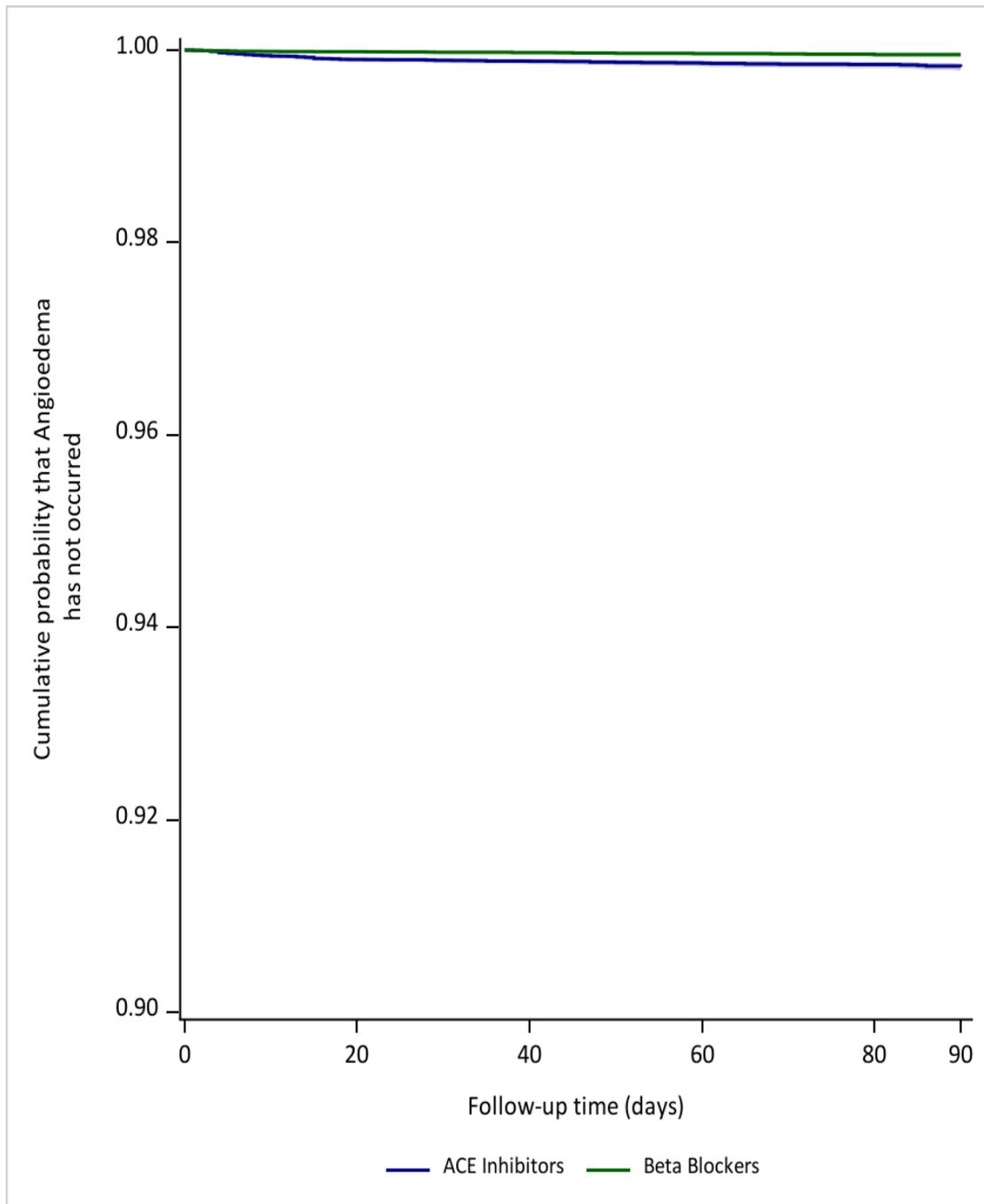
Figure 4x. Aggregated Adjusted Kaplan-Meier Estimate and 95% Confidence Interval of Angioedema Not Occurring Among New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) from the Unconditional Matched Population in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2019Q3
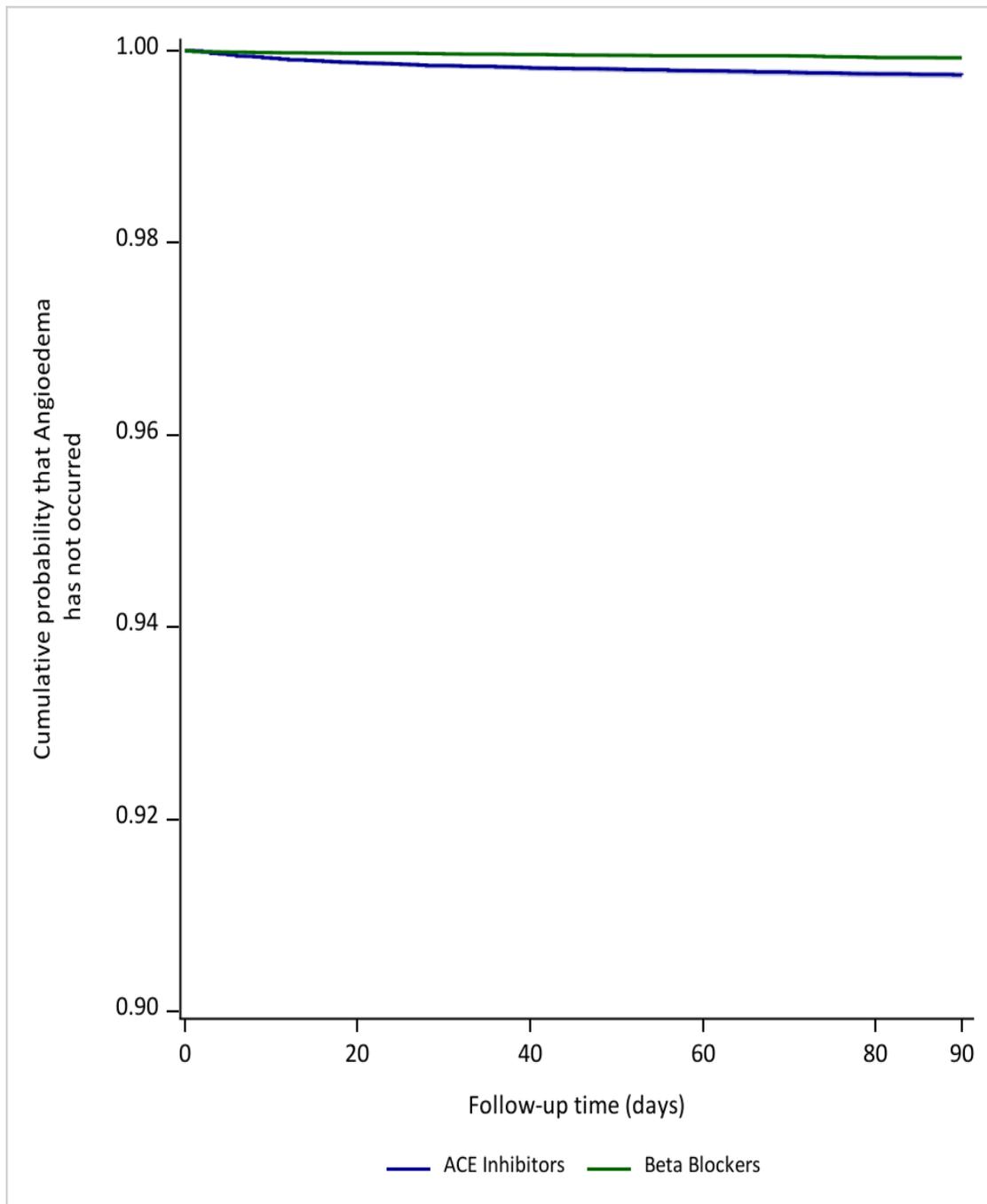
Figure 4y. Aggregated Unadjusted Kaplan-Meier Estimate and 95% Confidence Interval of Angioedema Not Occurring Among New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) from the Whole Population in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2019Q4
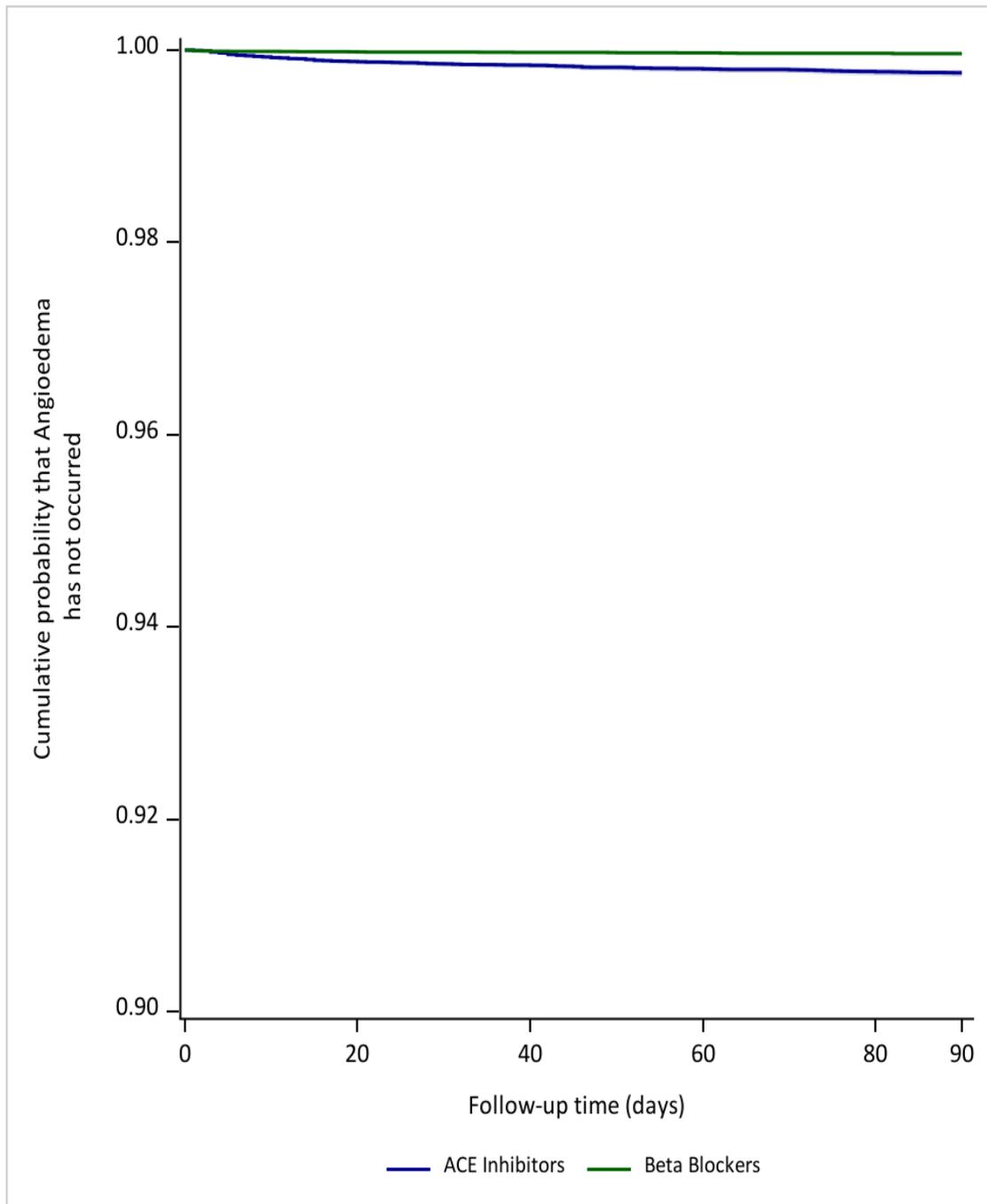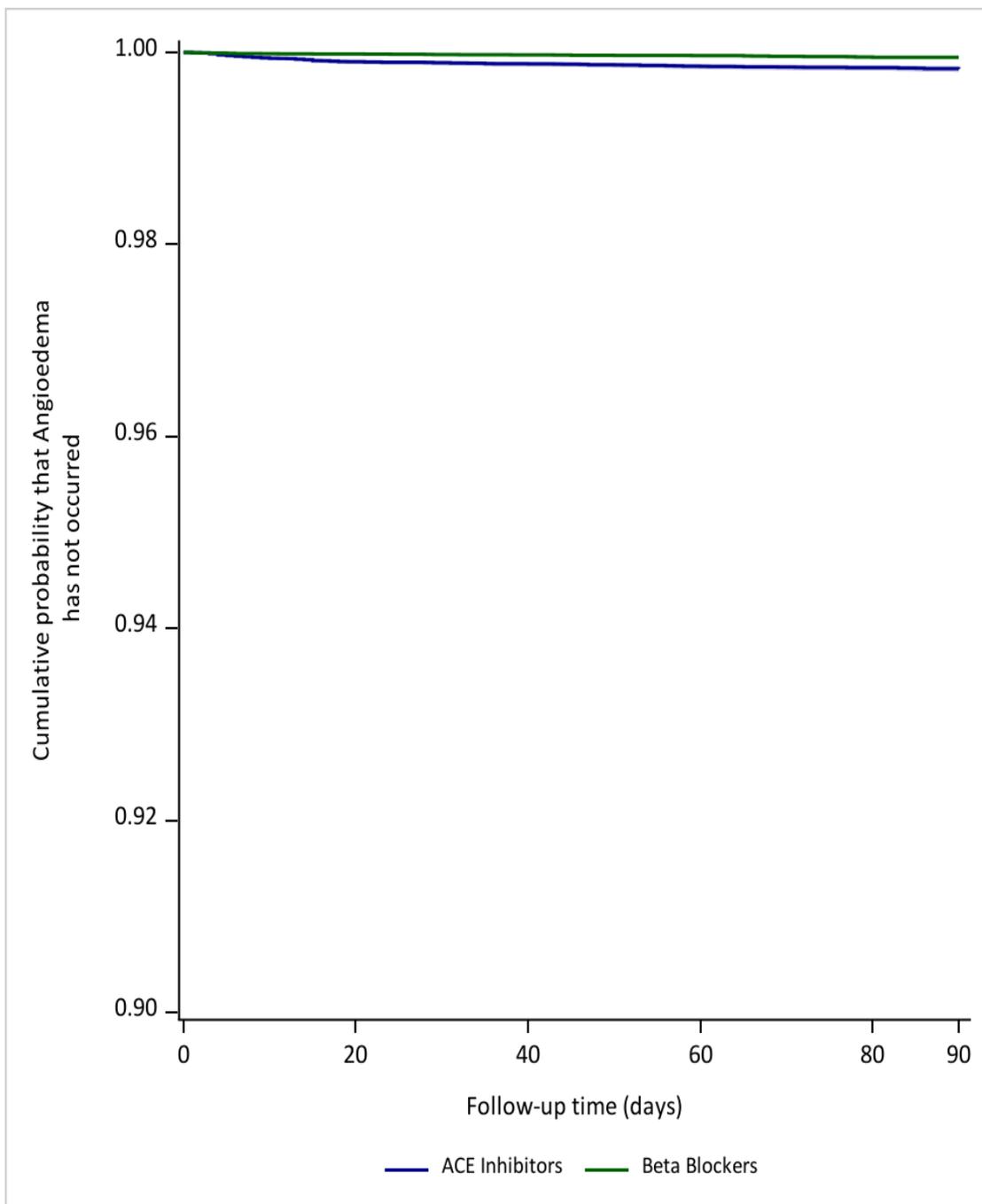
Figure 4z. Aggregated Adjusted Kaplan-Meier Estimate and 95% Confidence Interval of Angioedema Not Occurring Among New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) from the Conditional Matched Population in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2019Q4
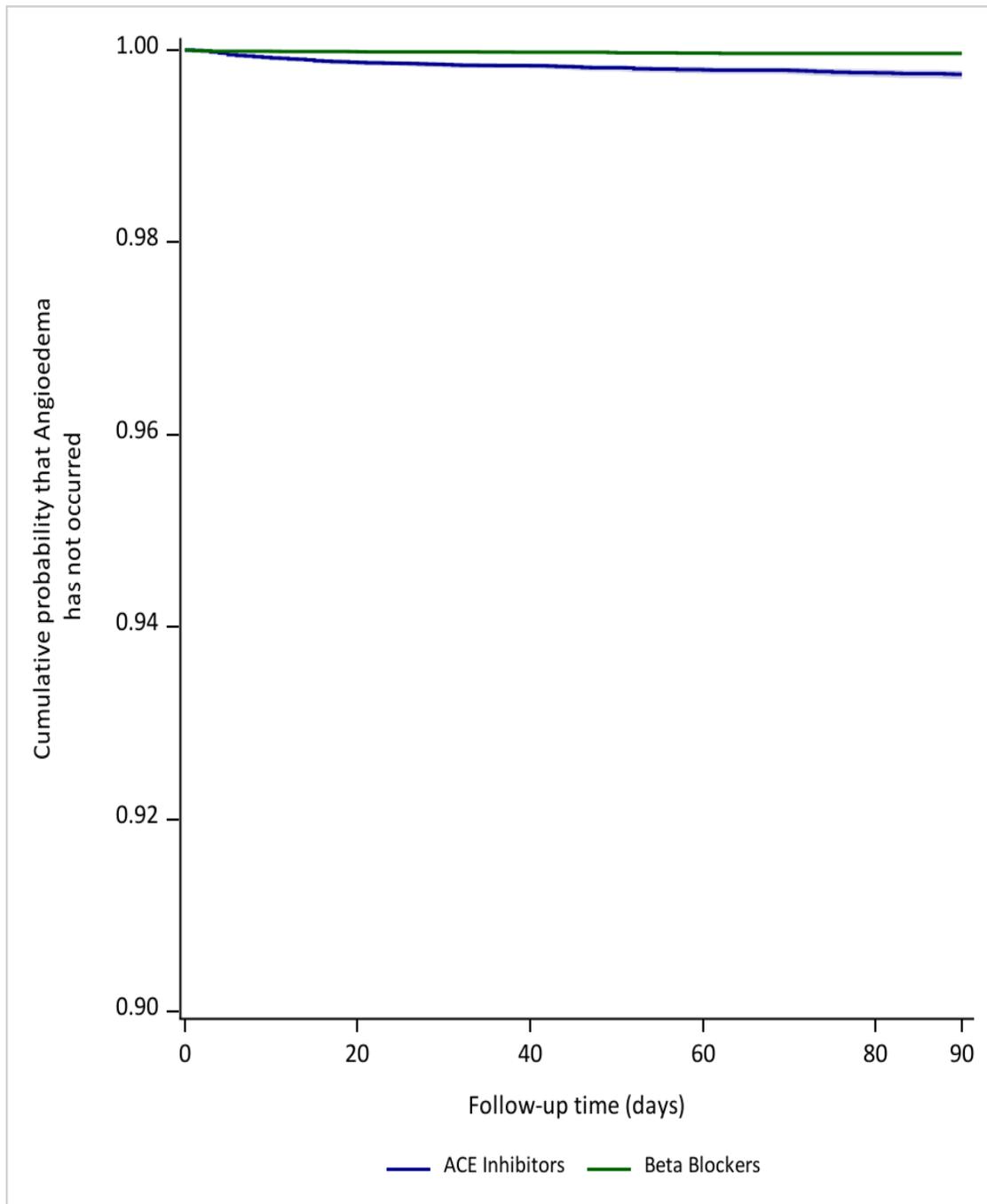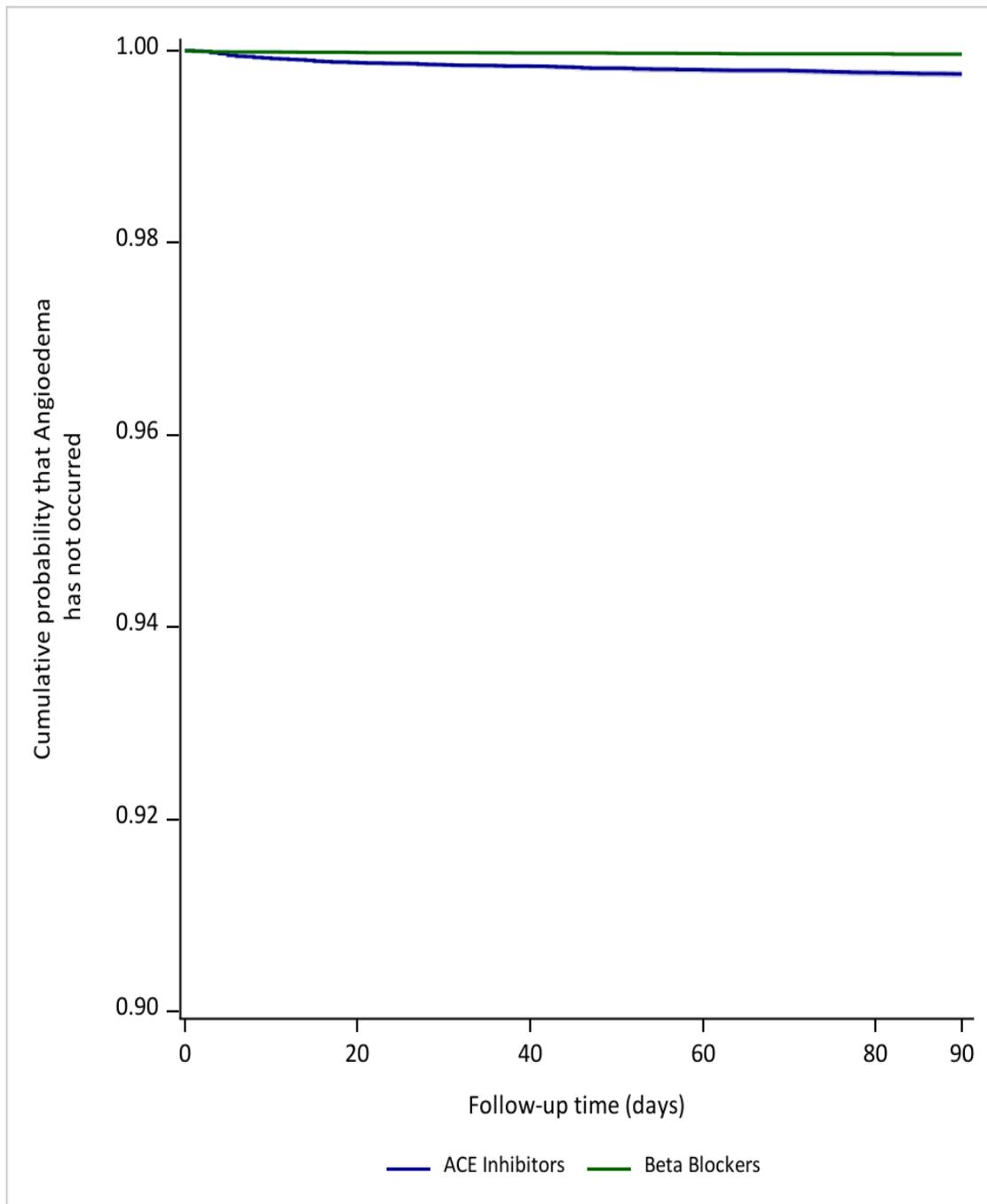
Figure 4ab. Aggregated Unadjusted Kaplan-Meier Estimate and 95% Confidence Interval of Angioedema Not Occurring Among New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) from the Whole Population in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2020Q1
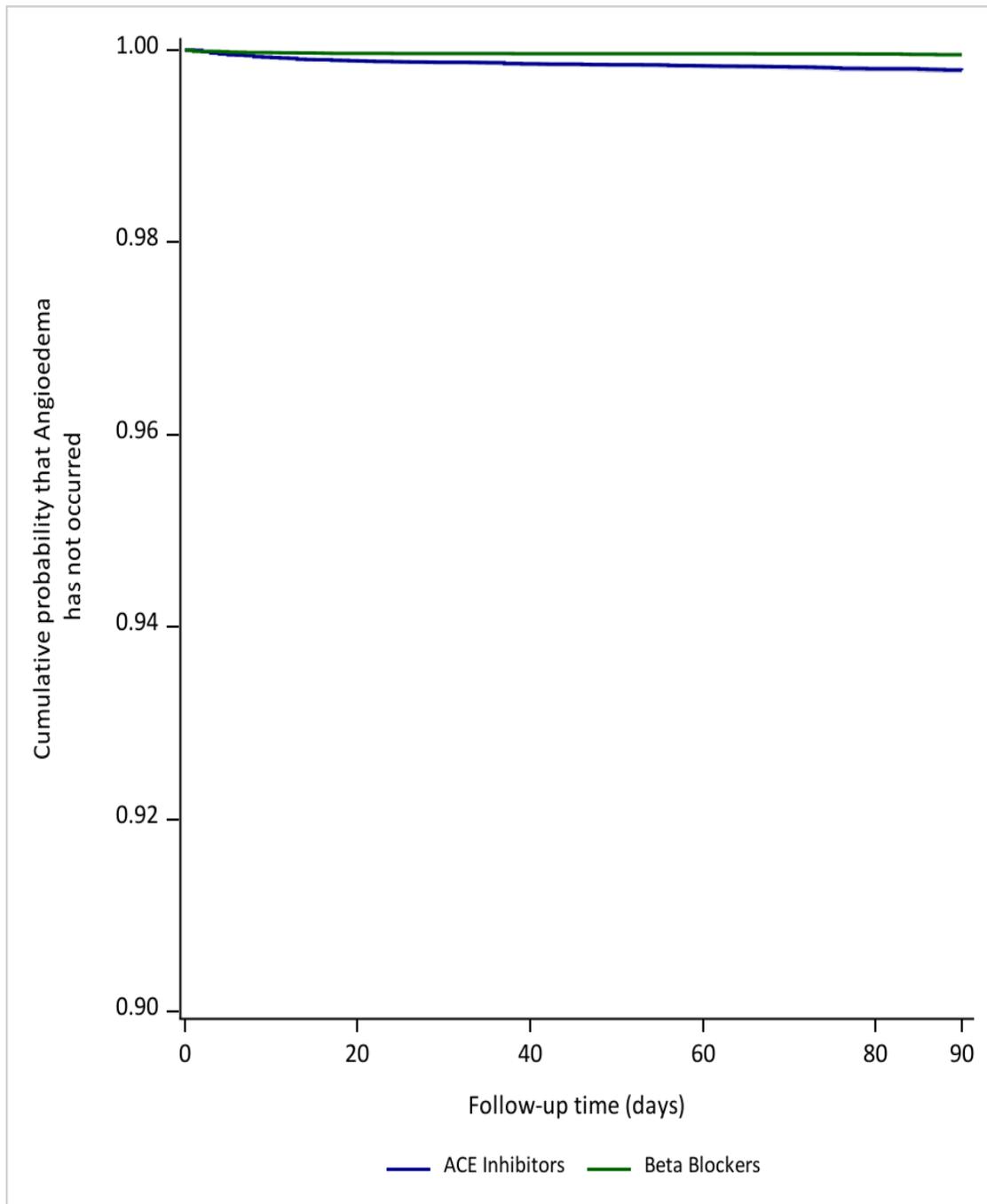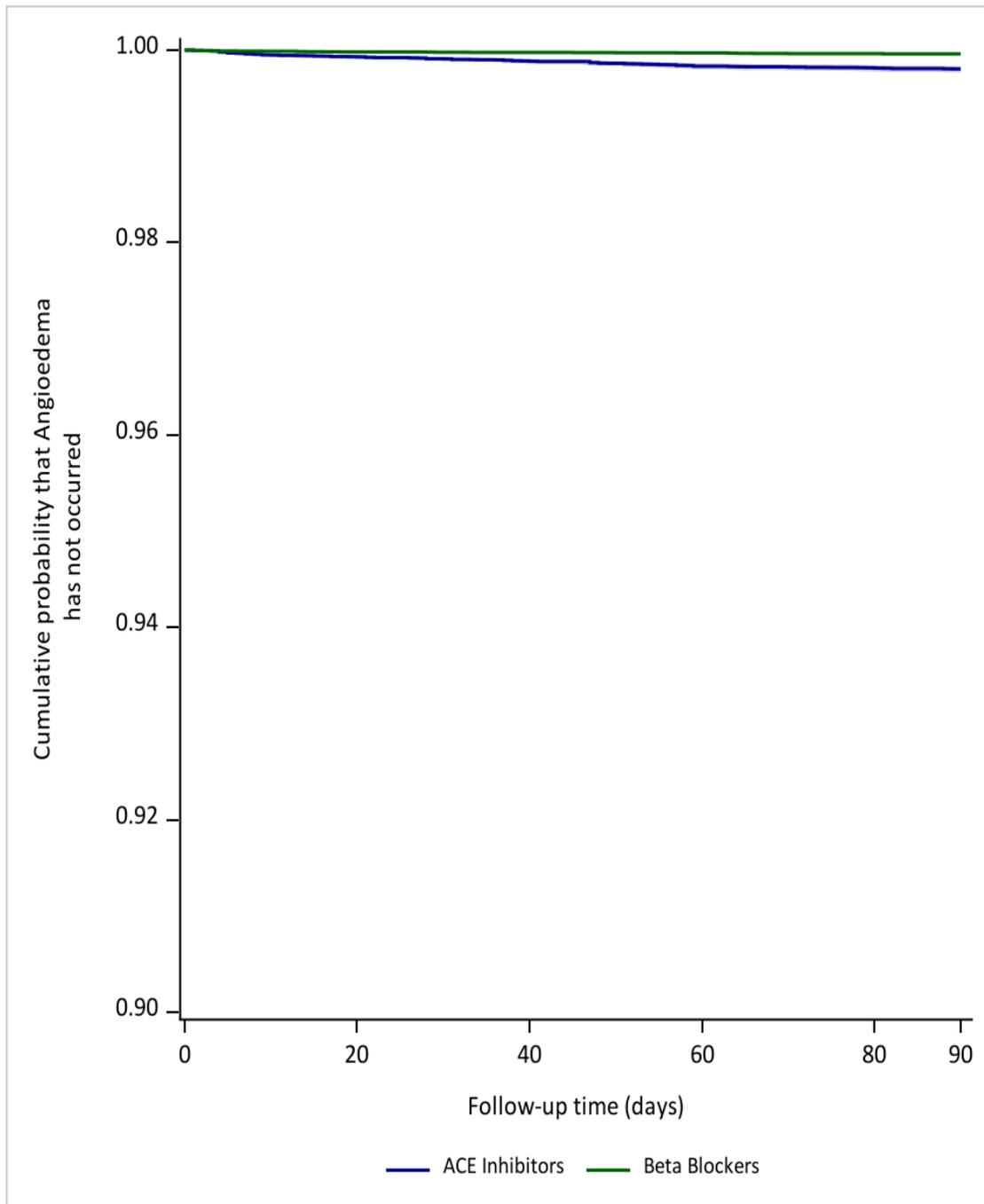
Figure 4ac. Aggregated Adjusted Kaplan-Meier Estimate and 95% Confidence Interval of Angioedema Not Occurring Among New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) from the Conditional Matched Population in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2020Q1
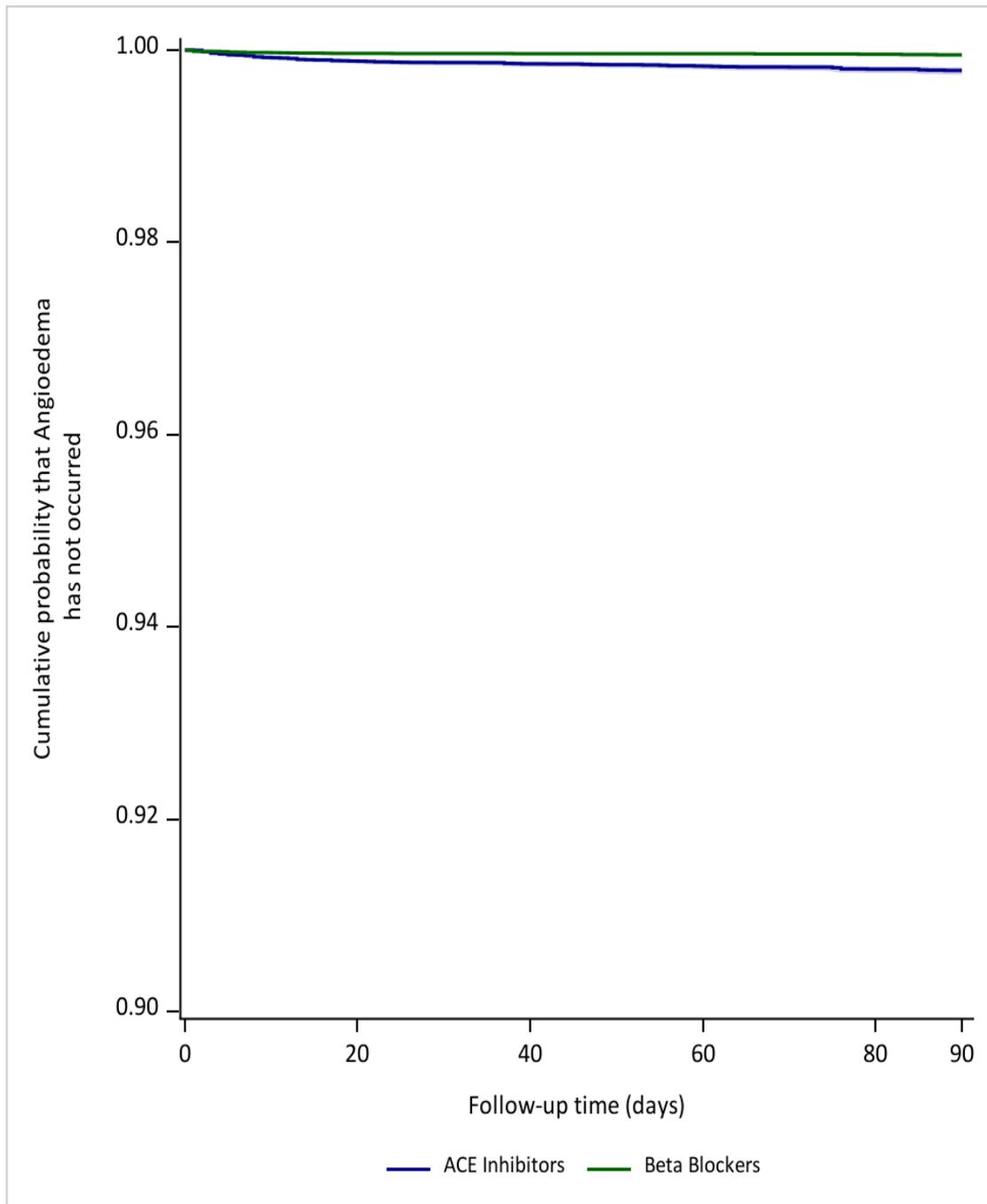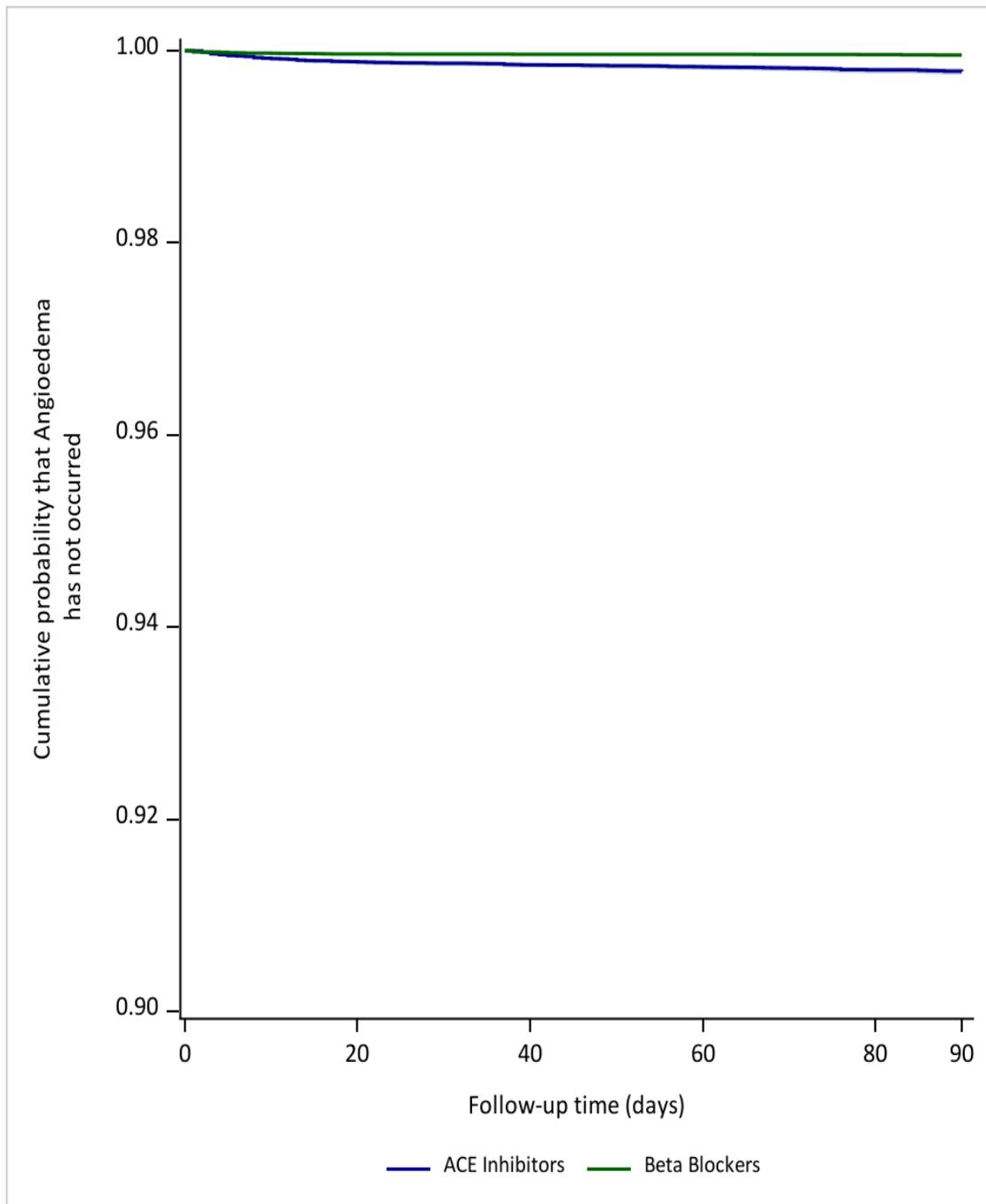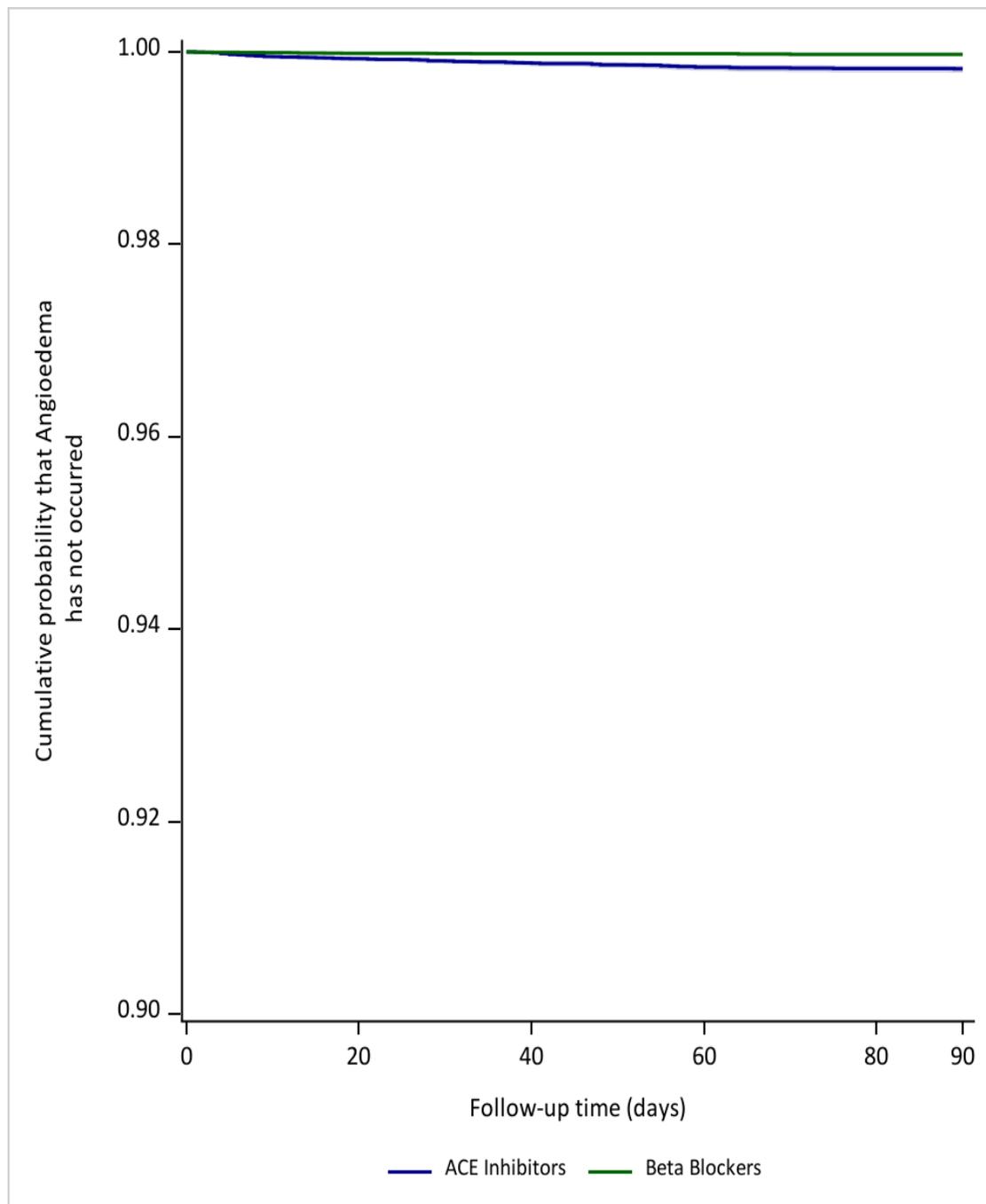
Figure 4ae. Aggregated Unadjusted Kaplan-Meier Estimate and 95% Confidence Interval of Angioedema Not Occurring Among New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) from the Whole Population in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2020Q2
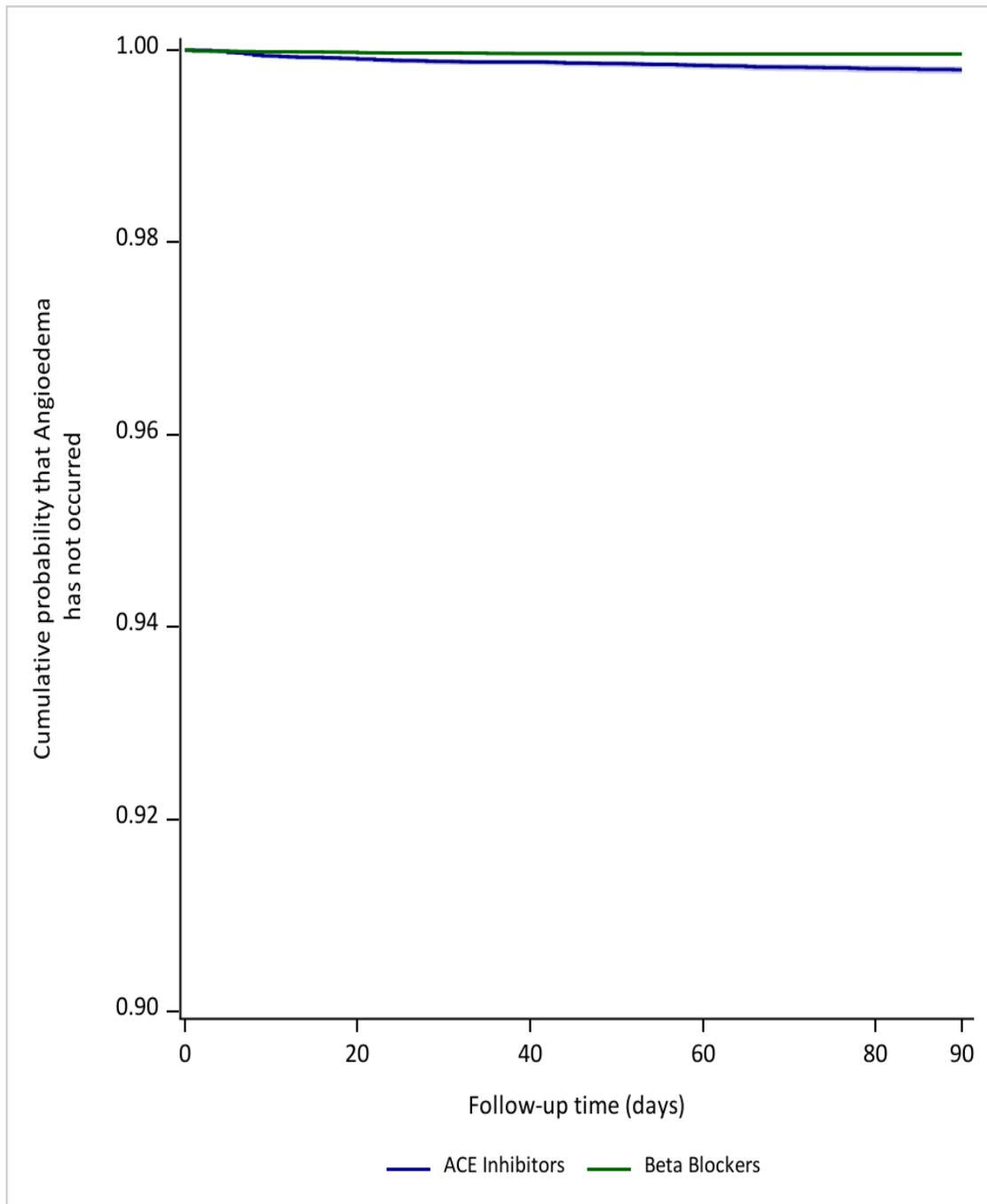
Figure 4af. Aggregated Adjusted Kaplan-Meier Estimate and 95% Confidence Interval of Angioedema Not Occurring Among New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) from the Conditional Matched Population in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2020Q2
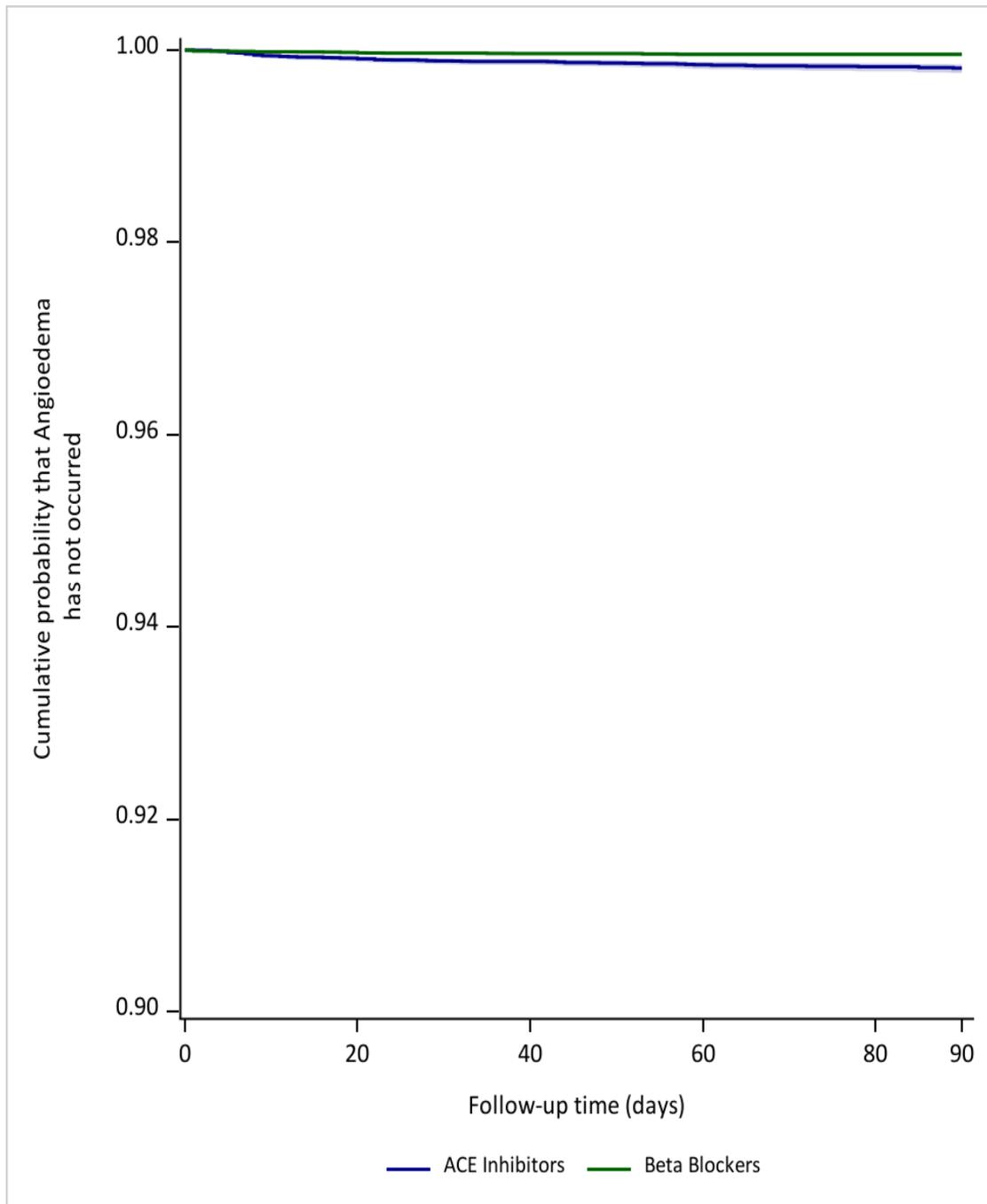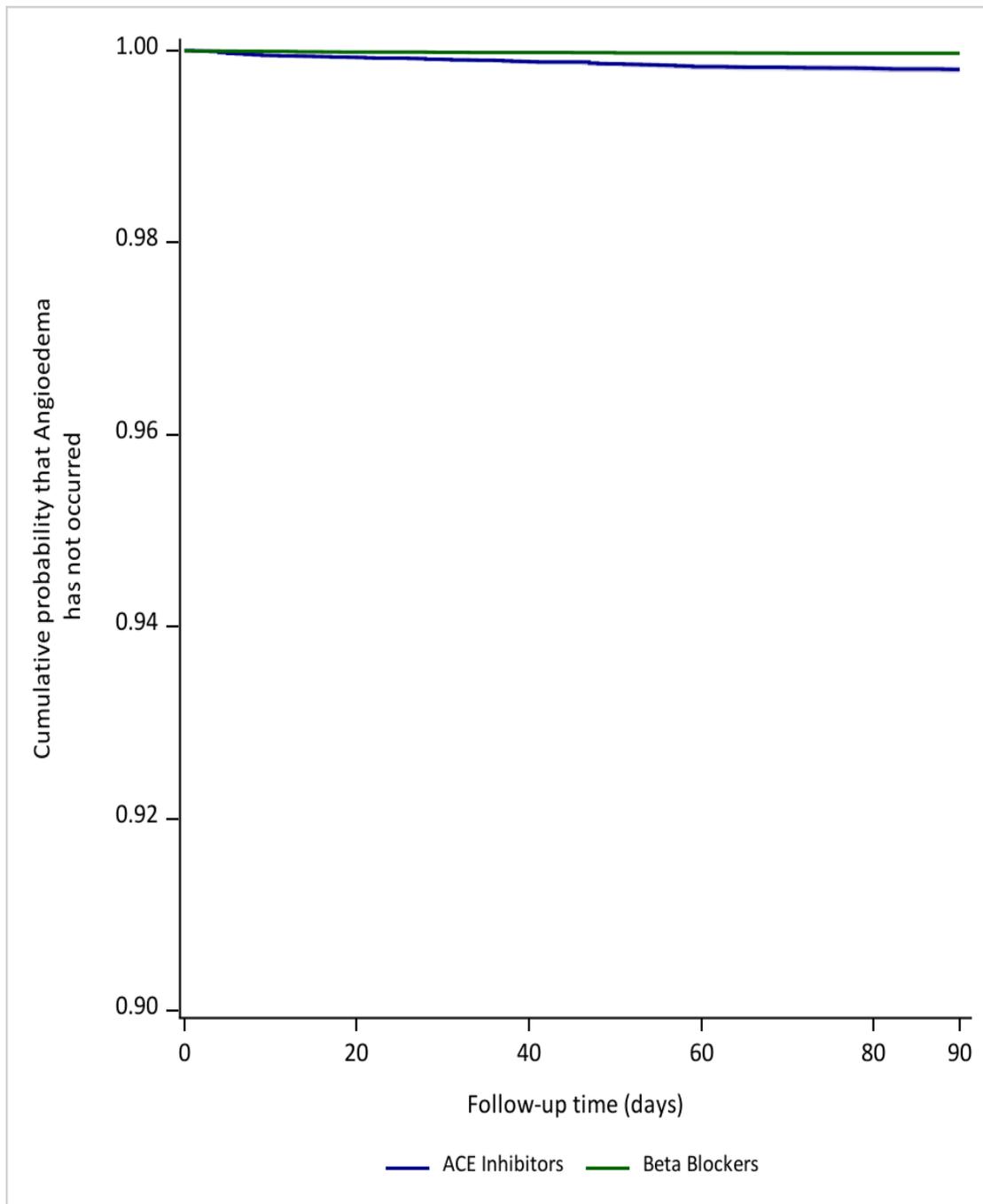
Figure 4ag. Aggregated Adjusted Kaplan-Meier Estimate and 95% Confidence Interval of Angioedema Not Occurring Among New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) from the Unconditional Matched Population in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2020Q2
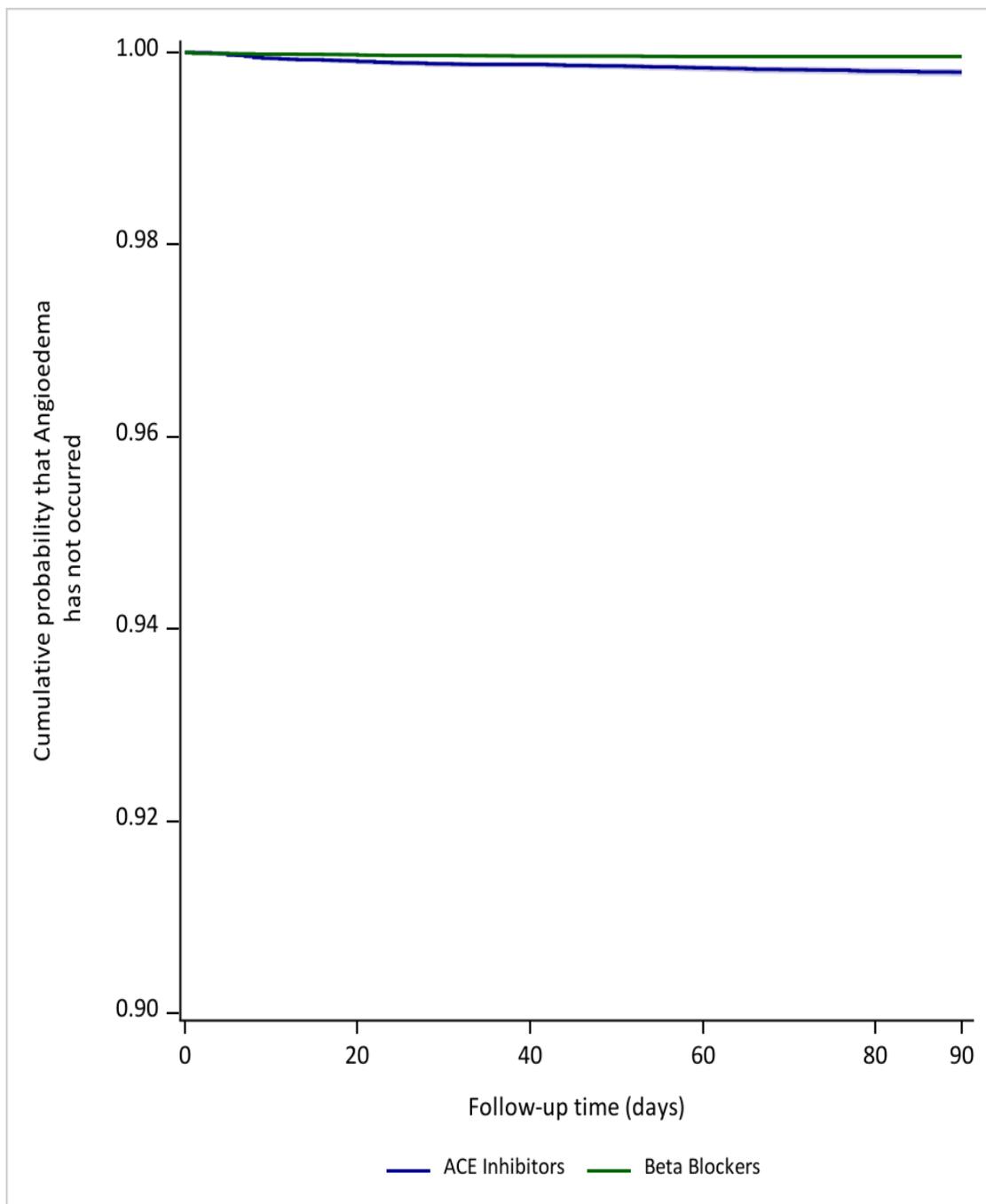
Figure 4ah. Aggregated Unadjusted Kaplan-Meier Estimate and 95% Confidence Interval of Angioedema Not Occurring Among New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) from the Whole Population in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2020Q3
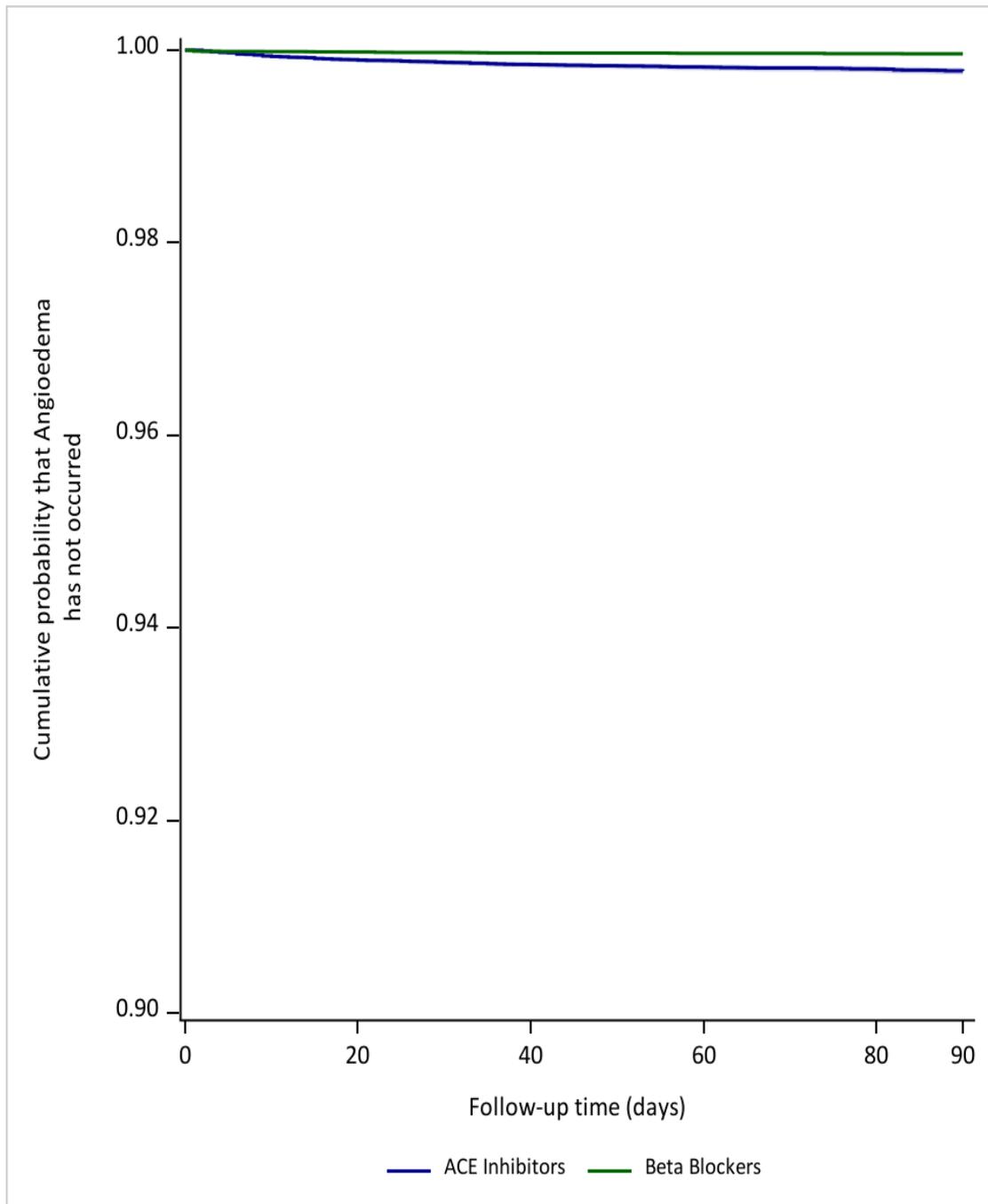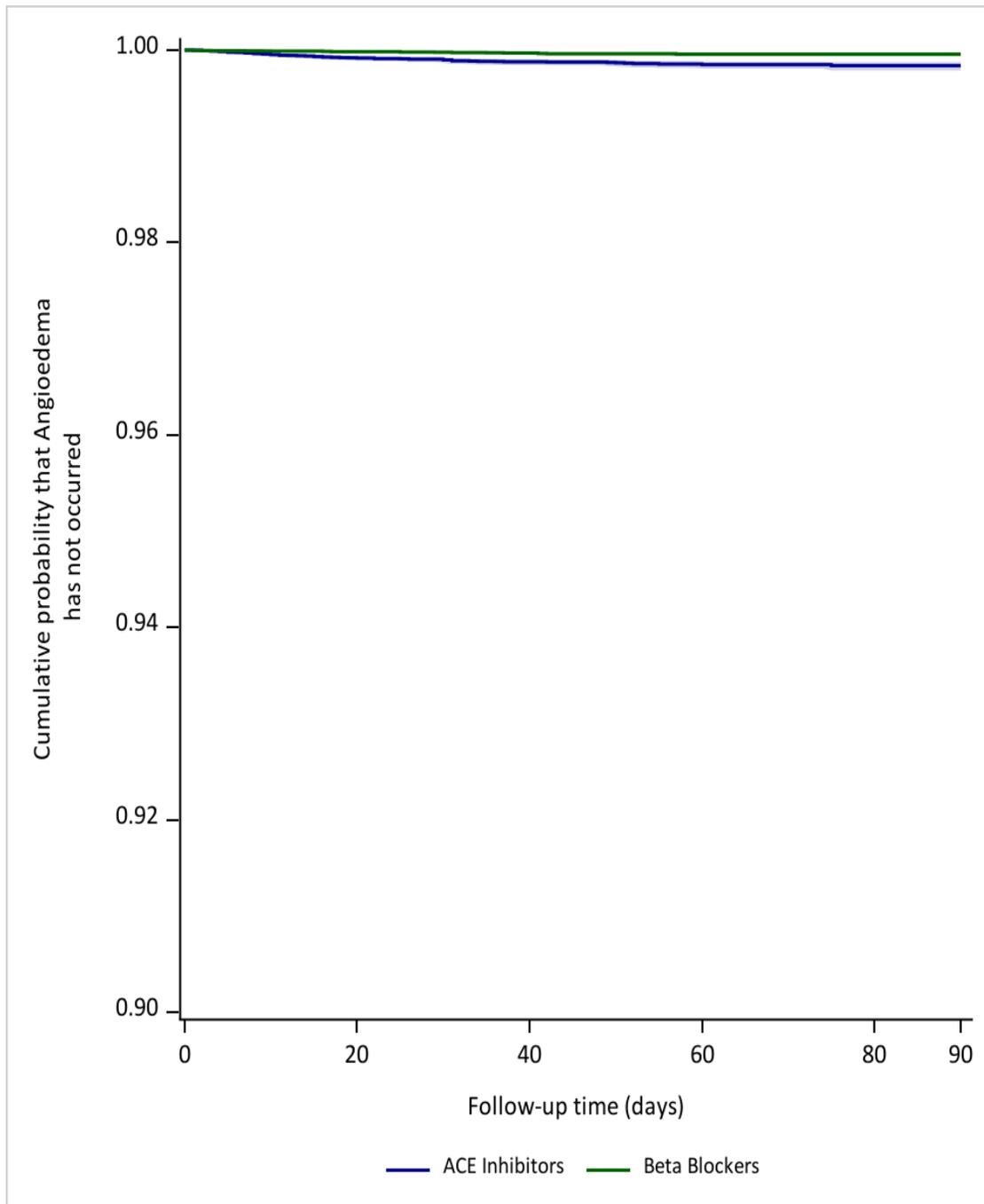
Figure 4ai. Aggregated Adjusted Kaplan-Meier Estimate and 95% Confidence Interval of Angioedema Not Occurring Among New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) from the Conditional Matched Population in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2020Q3
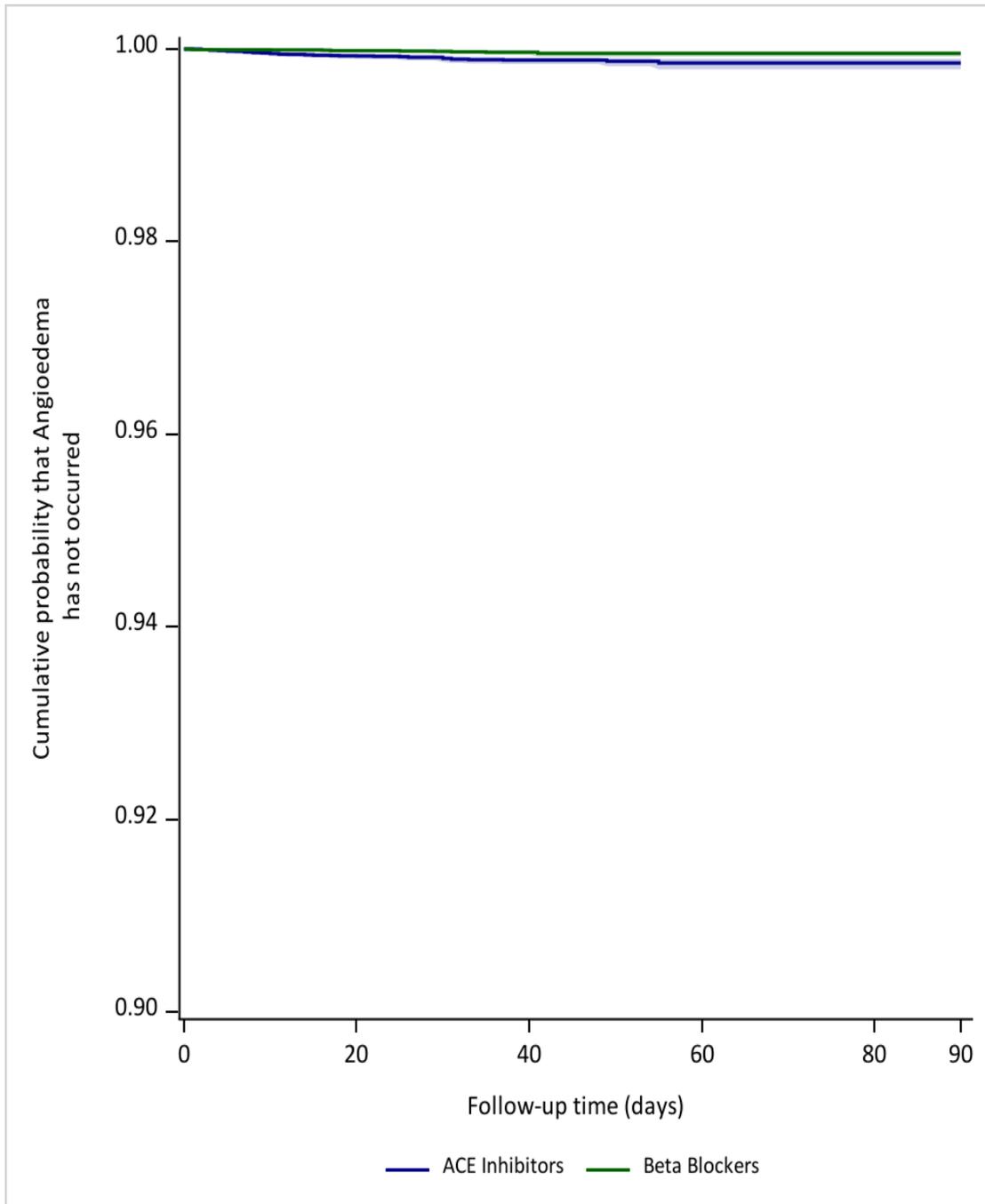
Figure 4aj. Aggregated Adjusted Kaplan-Meier Estimate and 95% Confidence Interval of Angioedema Not Occurring Among New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) from the Unconditional Matched Population in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2020Q3

Figure 4ak. Aggregated Unadjusted Kaplan-Meier Estimate and 95% Confidence Interval of Angioedema Not Occurring Among New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) from the Whole Population in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2020Q4
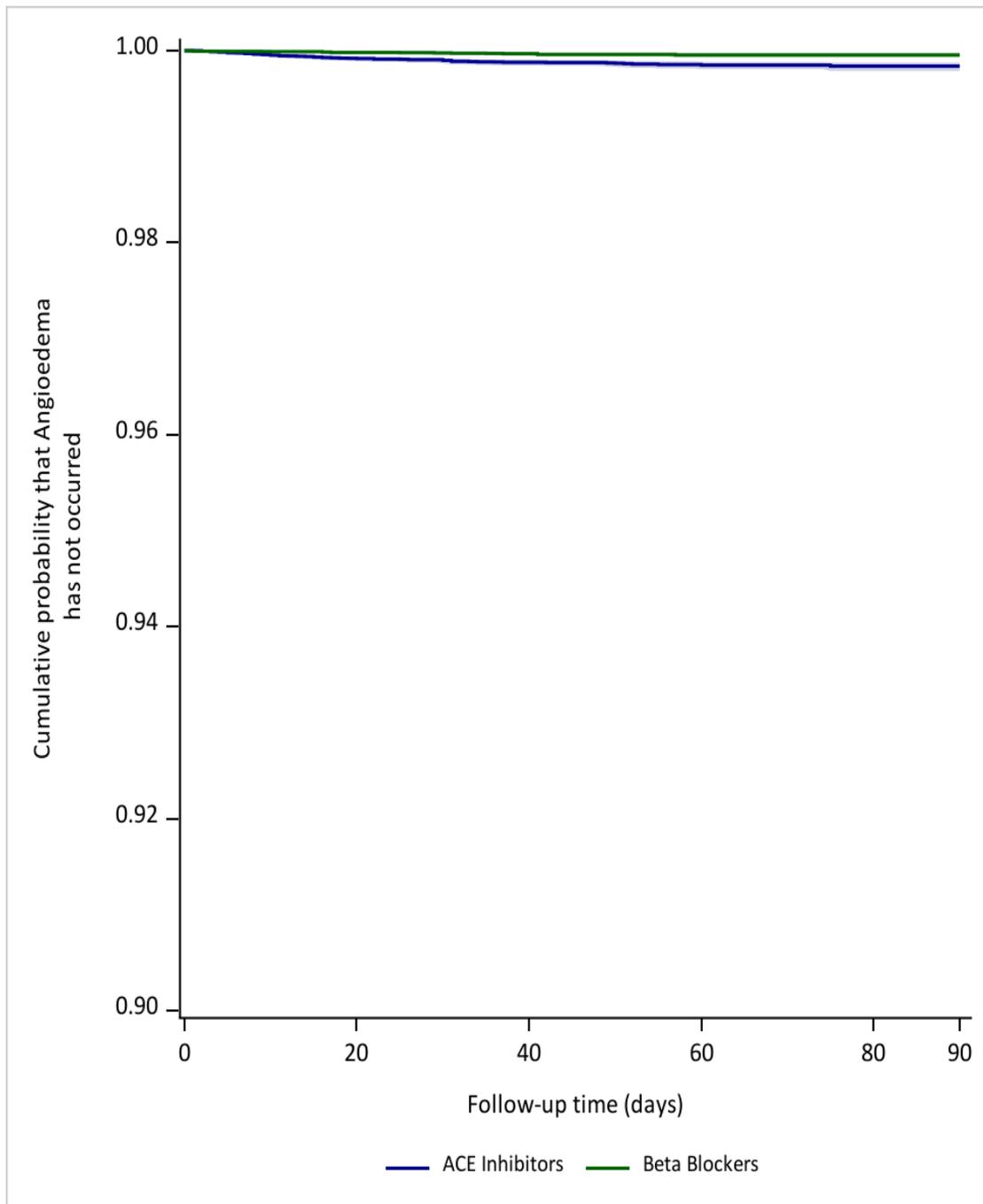
Figure 4al. Aggregated Adjusted Kaplan-Meier Estimate and 95% Confidence Interval of Angioedema Not Occurring Among New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) from the Conditional Matched Population in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2020Q4

Figure 4an. Aggregated Unadjusted Kaplan-Meier Estimate and 95% Confidence Interval of Angioedema Not Occurring Among New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) from the Whole Population in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2021Q1
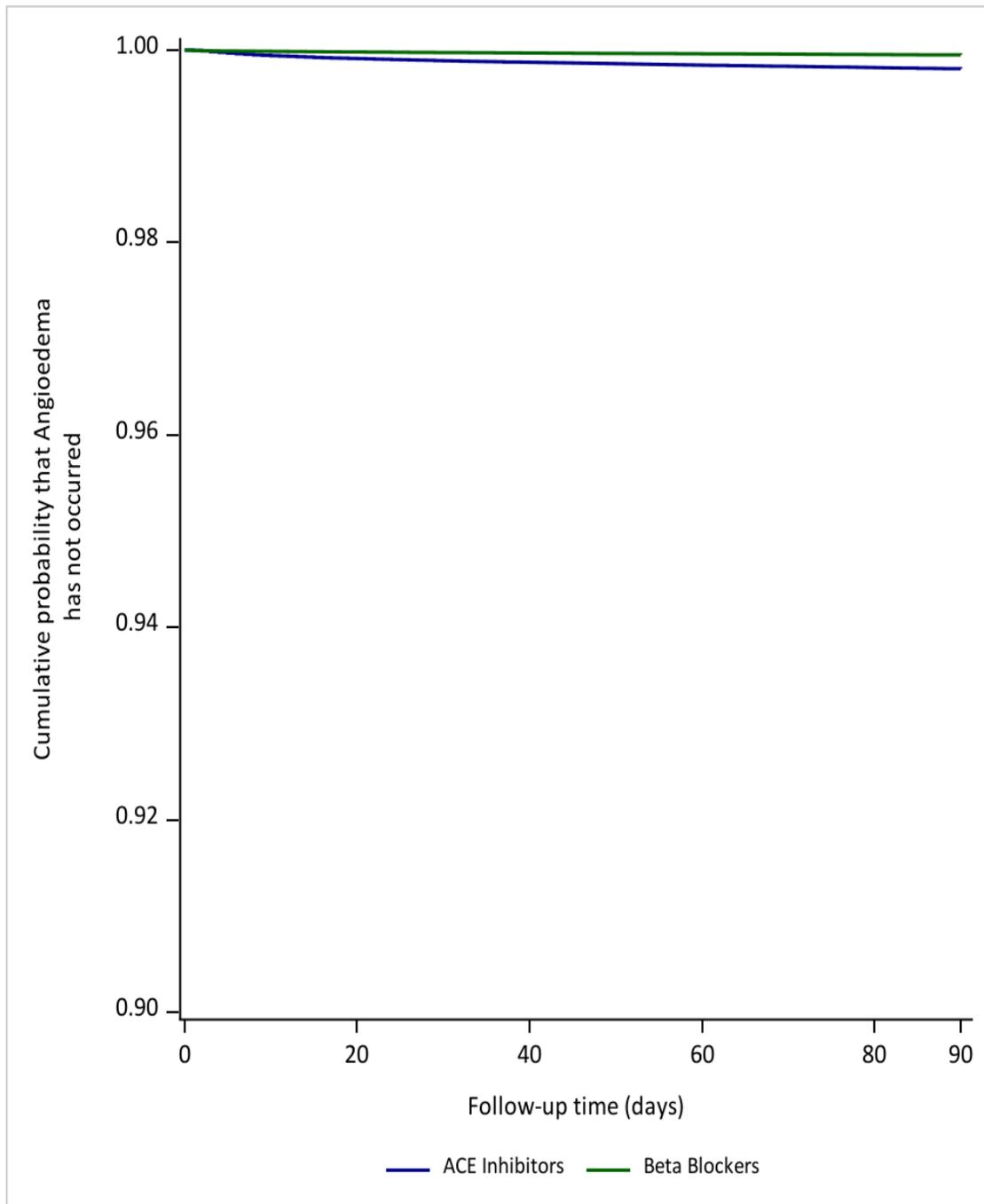
Figure 4ao. Aggregated Adjusted Kaplan-Meier Estimate and 95% Confidence Interval of Angioedema Not Occurring Among New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) from the Conditional Matched Population in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2021Q1
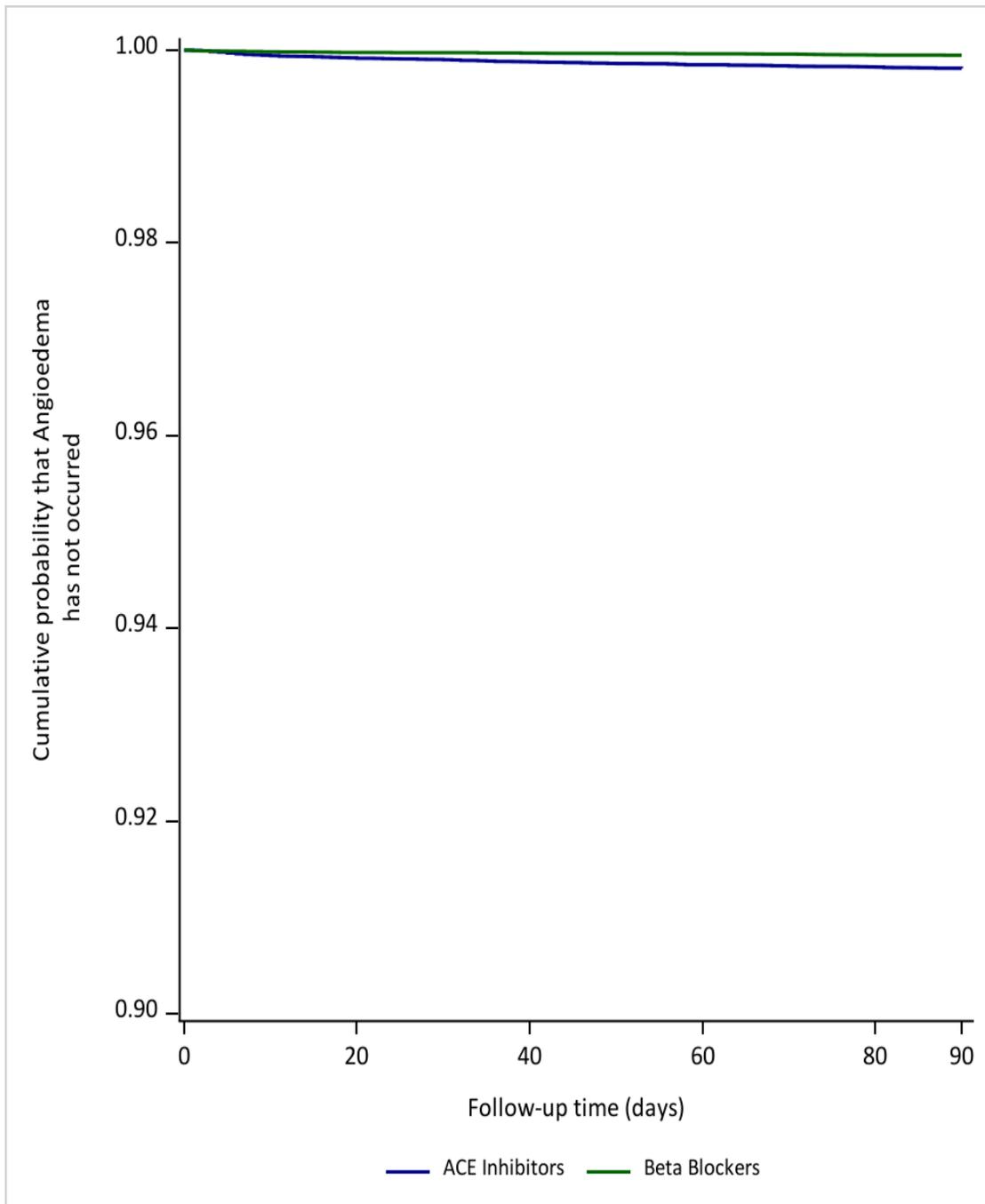
Figure 4ap. Aggregated Adjusted Kaplan-Meier Estimate and 95% Confidence Interval of Angioedema Not Occurring Among New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) from the Unconditional Matched Population in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2021Q1

Figure 4aq. Aggregated Unadjusted Kaplan-Meier Estimate and 95% Confidence Interval of Angioedema Not Occurring Among New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) from the Whole Population in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2021Q2
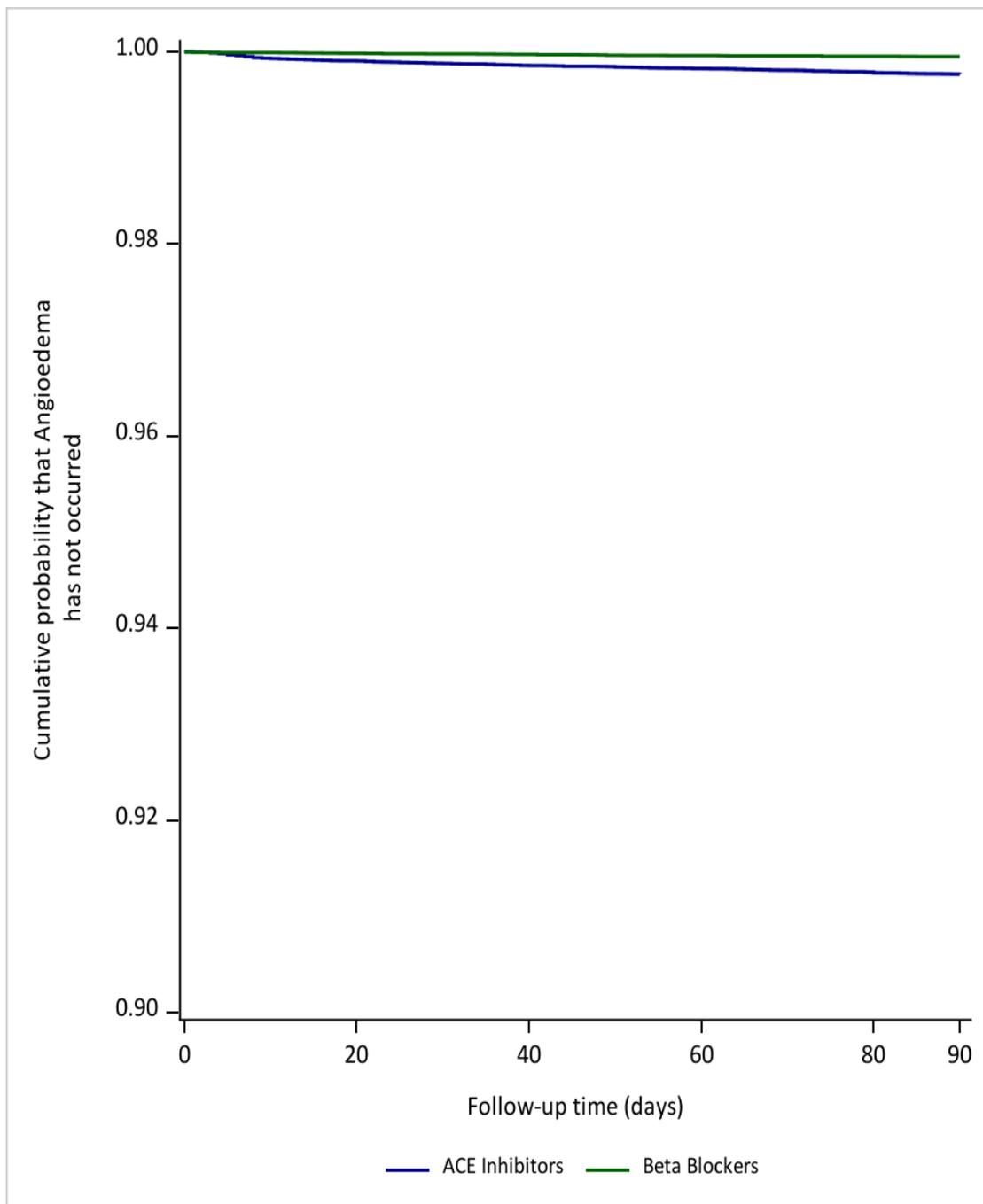
Figure 4as. Aggregated Adjusted Kaplan-Meier Estimate and 95% Confidence Interval of Angioedema Not Occurring Among New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) from the Unconditional Matched Population in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2021Q2

Figure 4at. Aggregated Unadjusted Kaplan-Meier Estimate and 95% Confidence Interval of Angioedema Not Occurring Among New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) from the Whole Population in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2021Q3
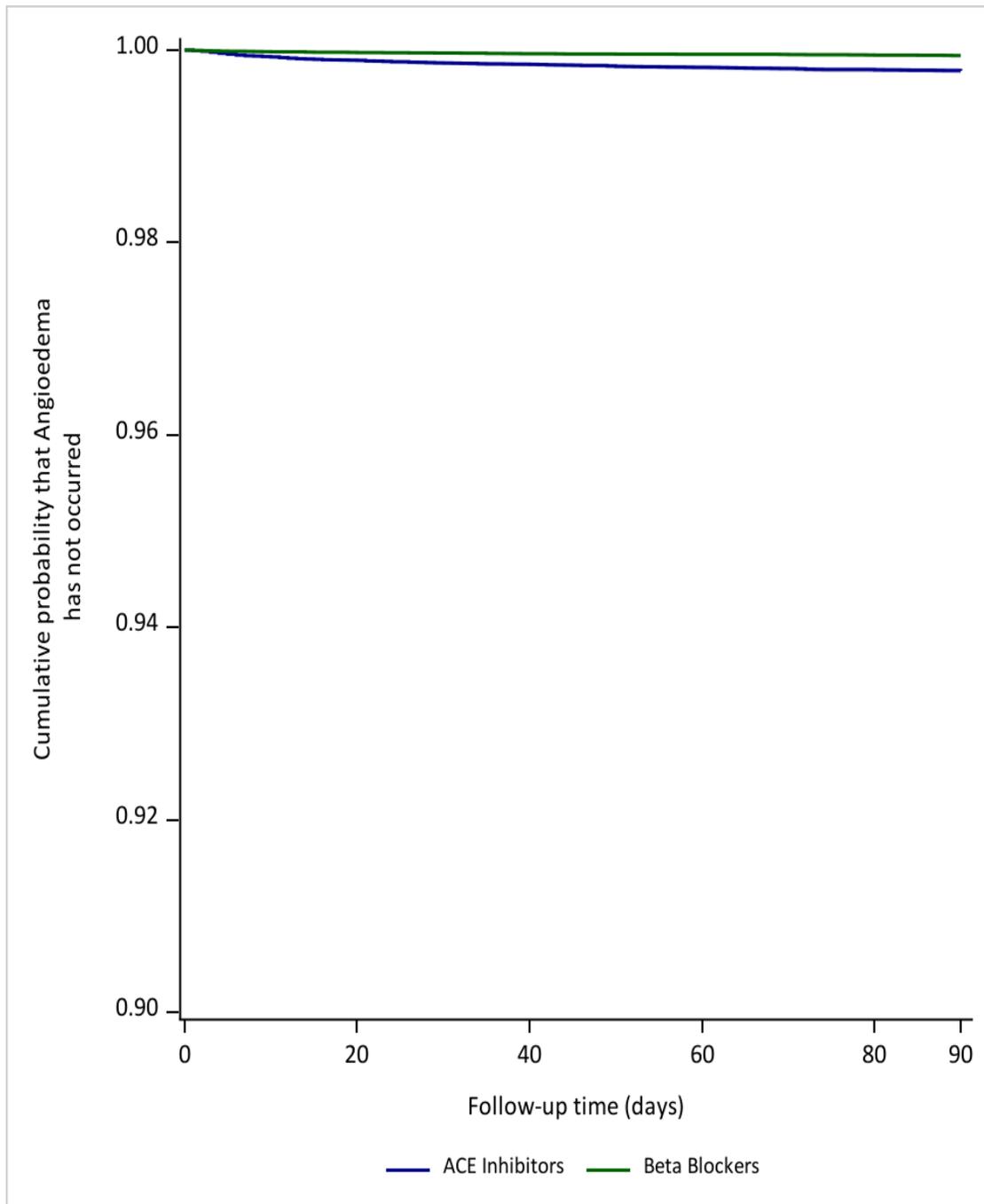
Figure 4au. Aggregated Adjusted Kaplan-Meier Estimate and 95% Confidence Interval of Angioedema Not Occurring
Among New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) from the Conditional Matched
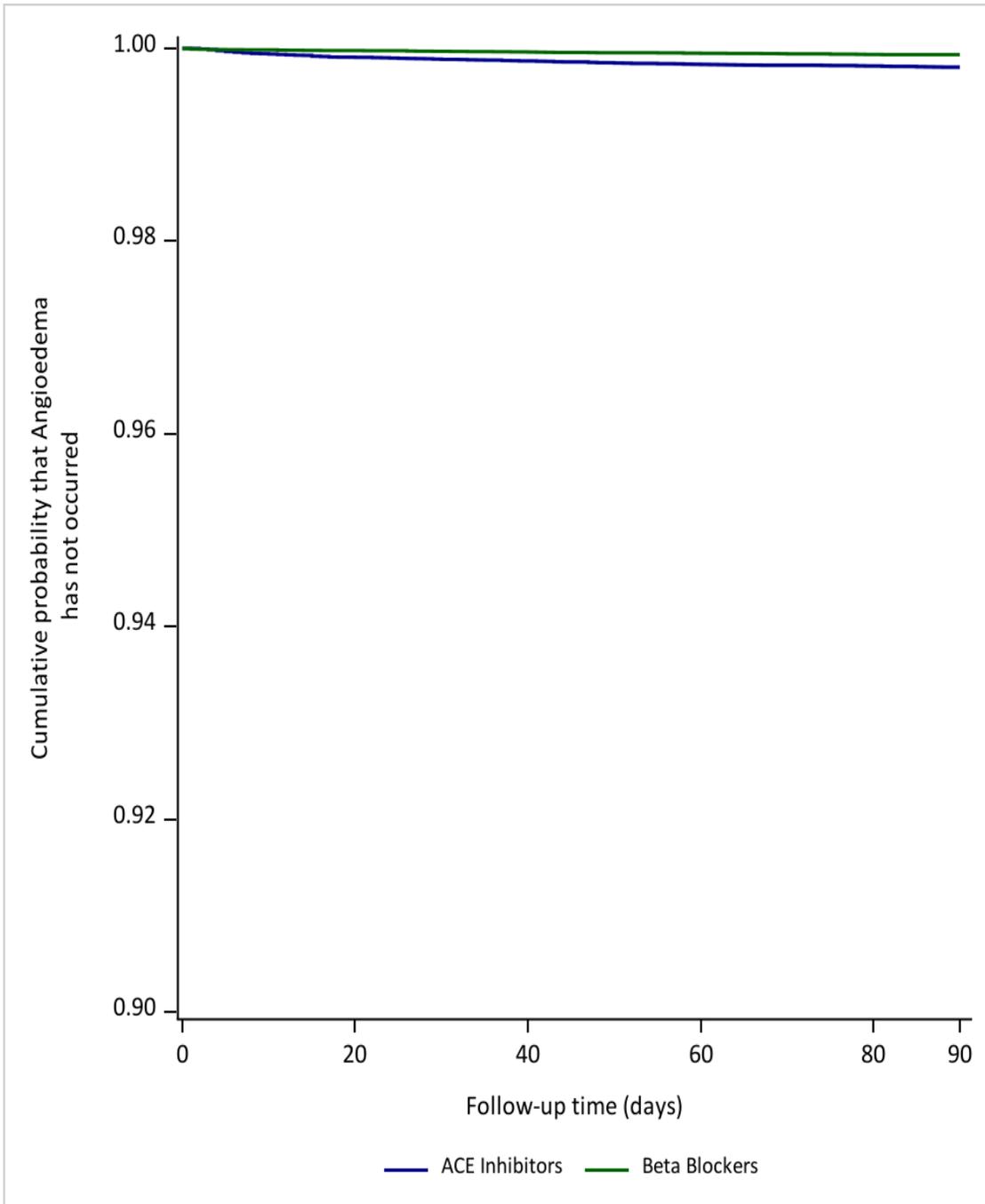Population in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2021Q3

Figure 4av. Aggregated Adjusted Kaplan-Meier Estimate and 95% Confidence Interval of Angioedema Not Occurring Among New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) from the Unconditional Matched Population in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2021Q3

Figure 4aw. Aggregated Unadjusted Kaplan-Meier Estimate and 95% Confidence Interval of Angioedema Not Occurring Among New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) from the Whole Population in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2021Q4
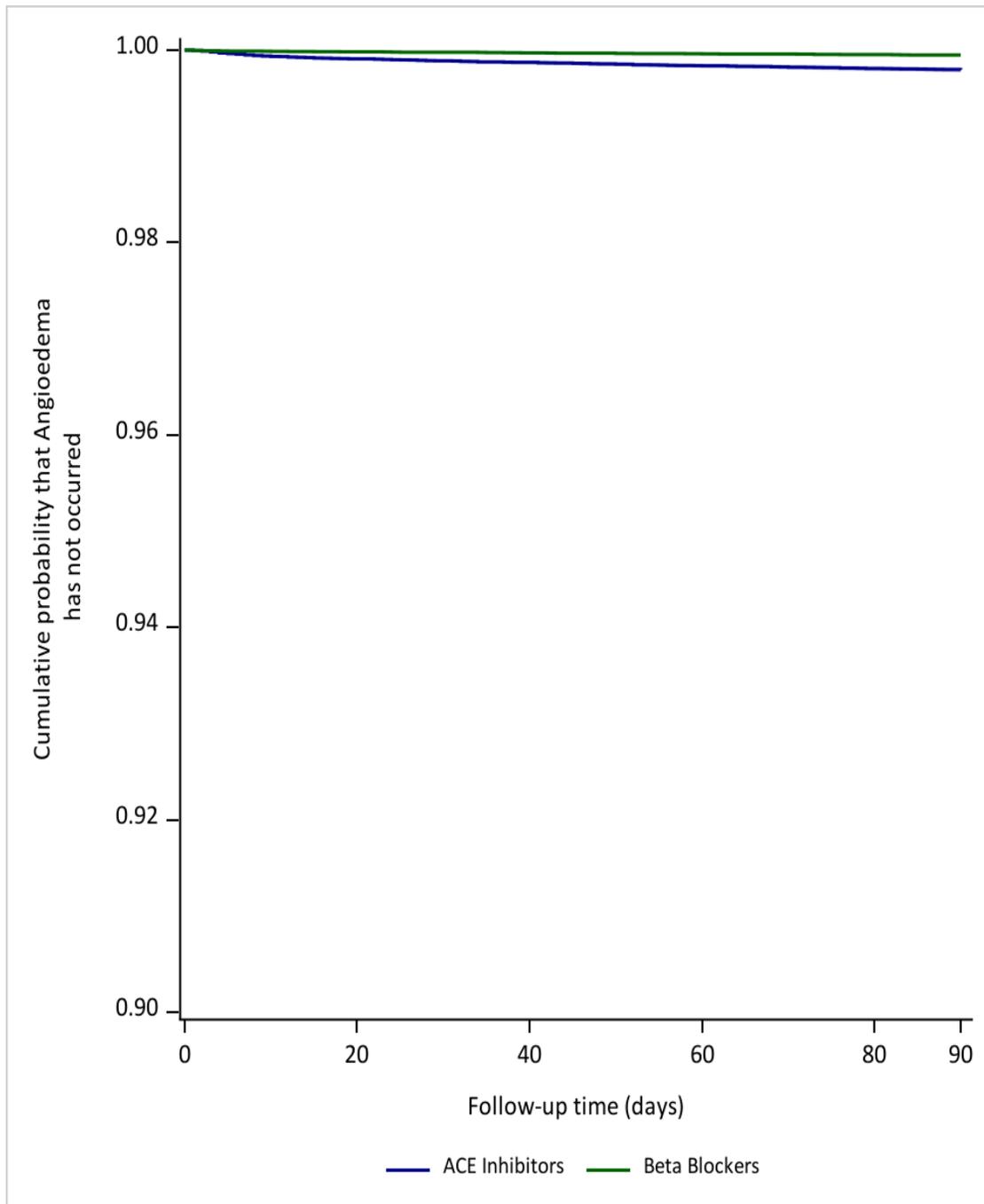
Figure 4ax. Aggregated Adjusted Kaplan-Meier Estimate and 95% Confidence Interval of Angioedema Not Occurring Among New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) from the Conditional Matched Population in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2021Q4
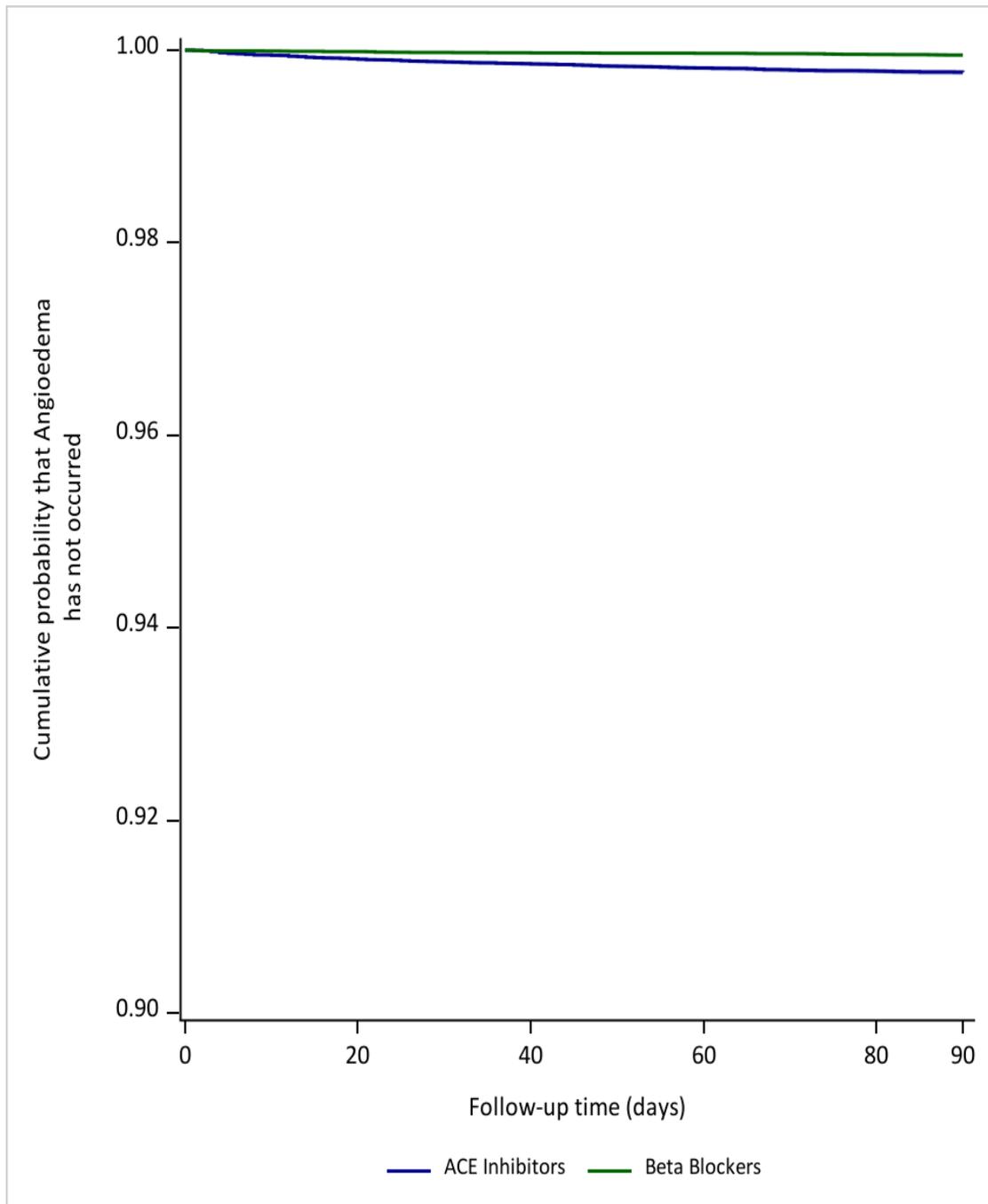
Figure 4ba. Aggregated Adjusted Kaplan-Meier Estimate and 95% Confidence Interval of Angioedema Not Occurring Among New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) from the Conditional Matched Population in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2022Q1

Figure 4bb. Aggregated Adjusted Kaplan-Meier Estimate and 95% Confidence Interval of Angioedema Not Occurring Among New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) from the Unconditional Matched Population in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2022Q1
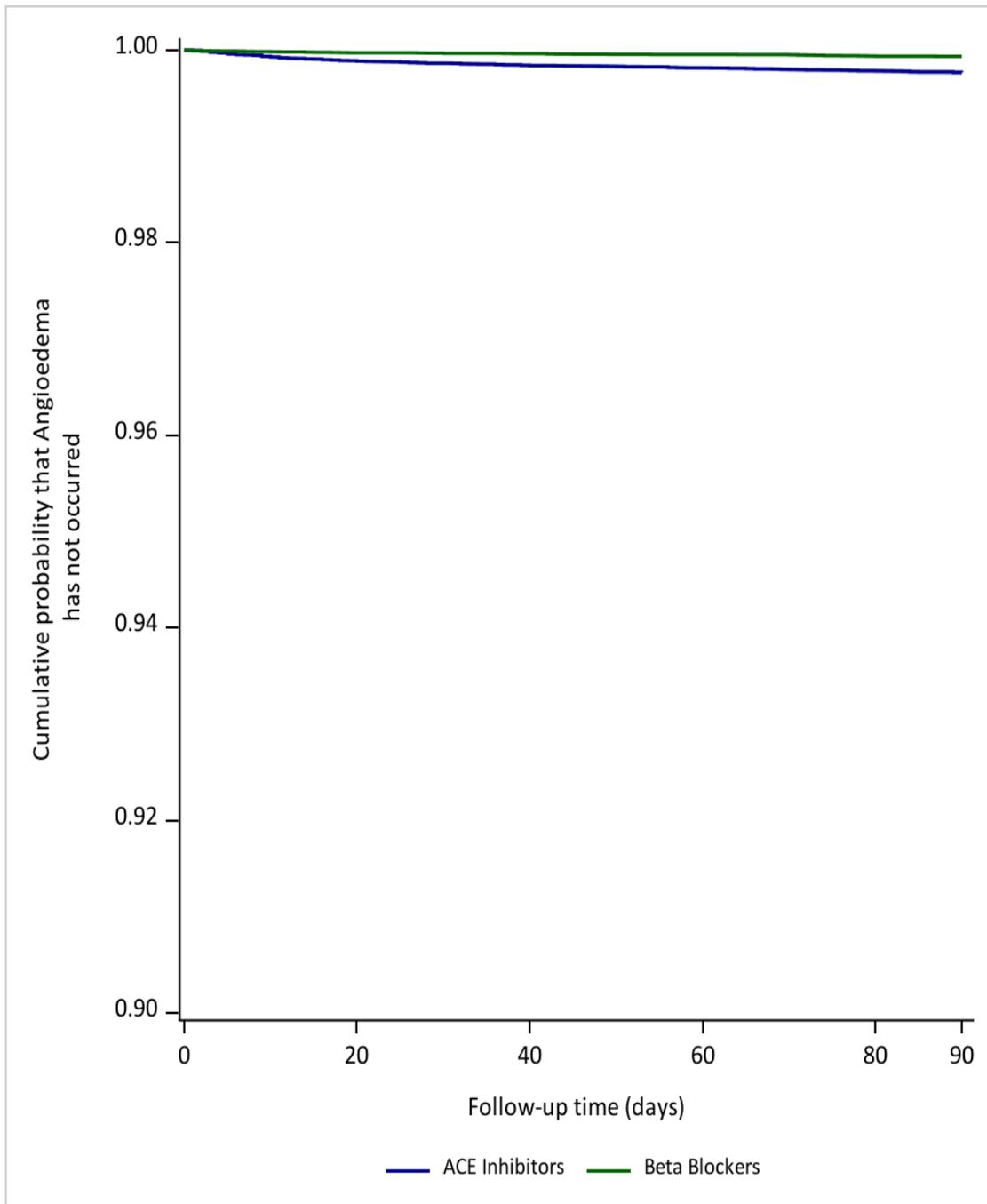
Figure 4bc. Aggregated Unadjusted Kaplan-Meier Estimate and 95% Confidence Interval of Angioedema Not Occurring Among New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) from the Whole Population in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2022Q2

Figure 4bd. Aggregated Adjusted Kaplan-Meier Estimate and 95% Confidence Interval of Angioedema Not Occurring Among New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Matching (PSM) from the Conditional Matched Population in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2022Q2
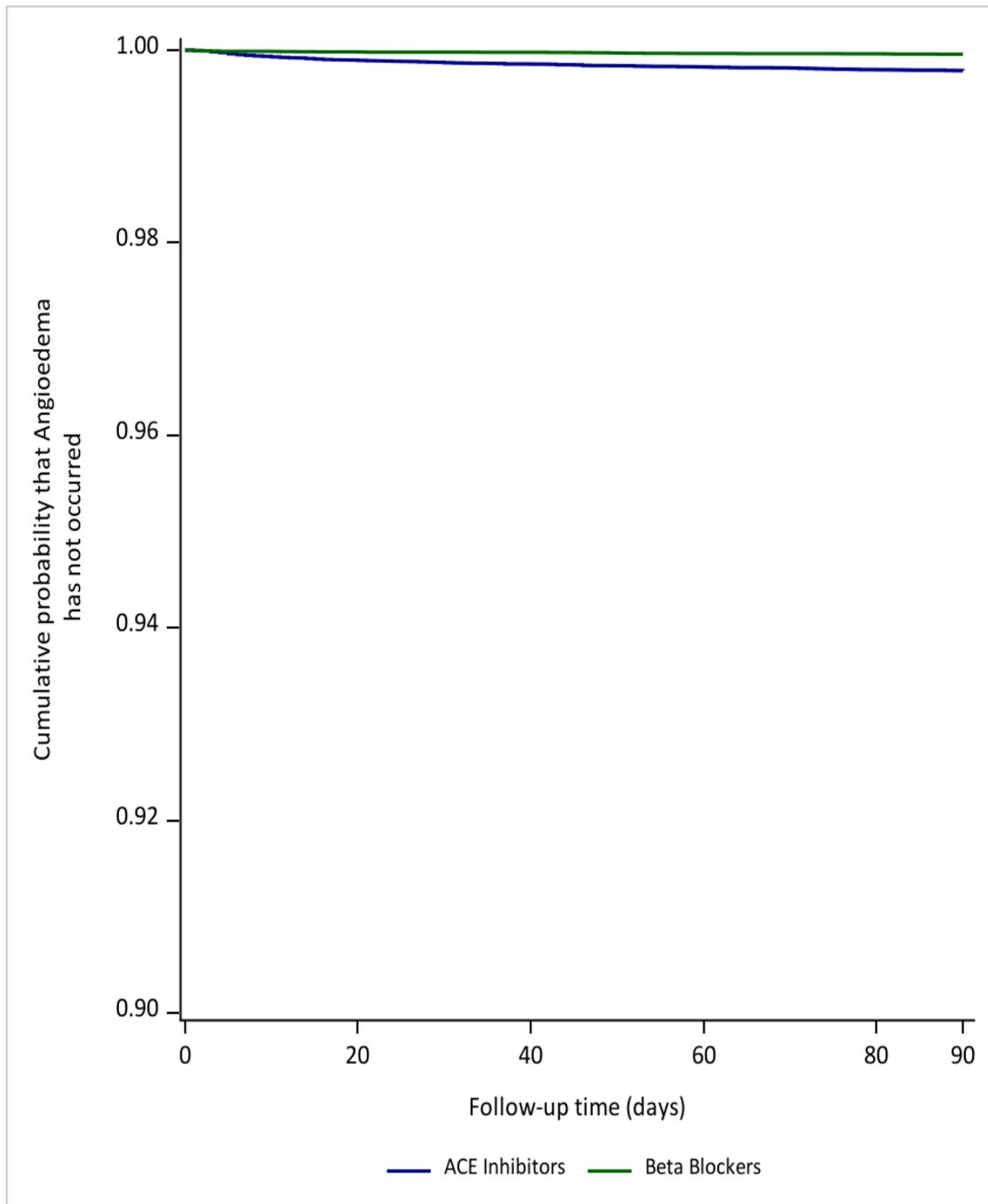
Figure 5a. Aggregated Unadjusted Kaplan-Meier Estimate and 95% Confidence Interval of Angioedema Not Occurring Among New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratification (PSS) from the Whole Population in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022
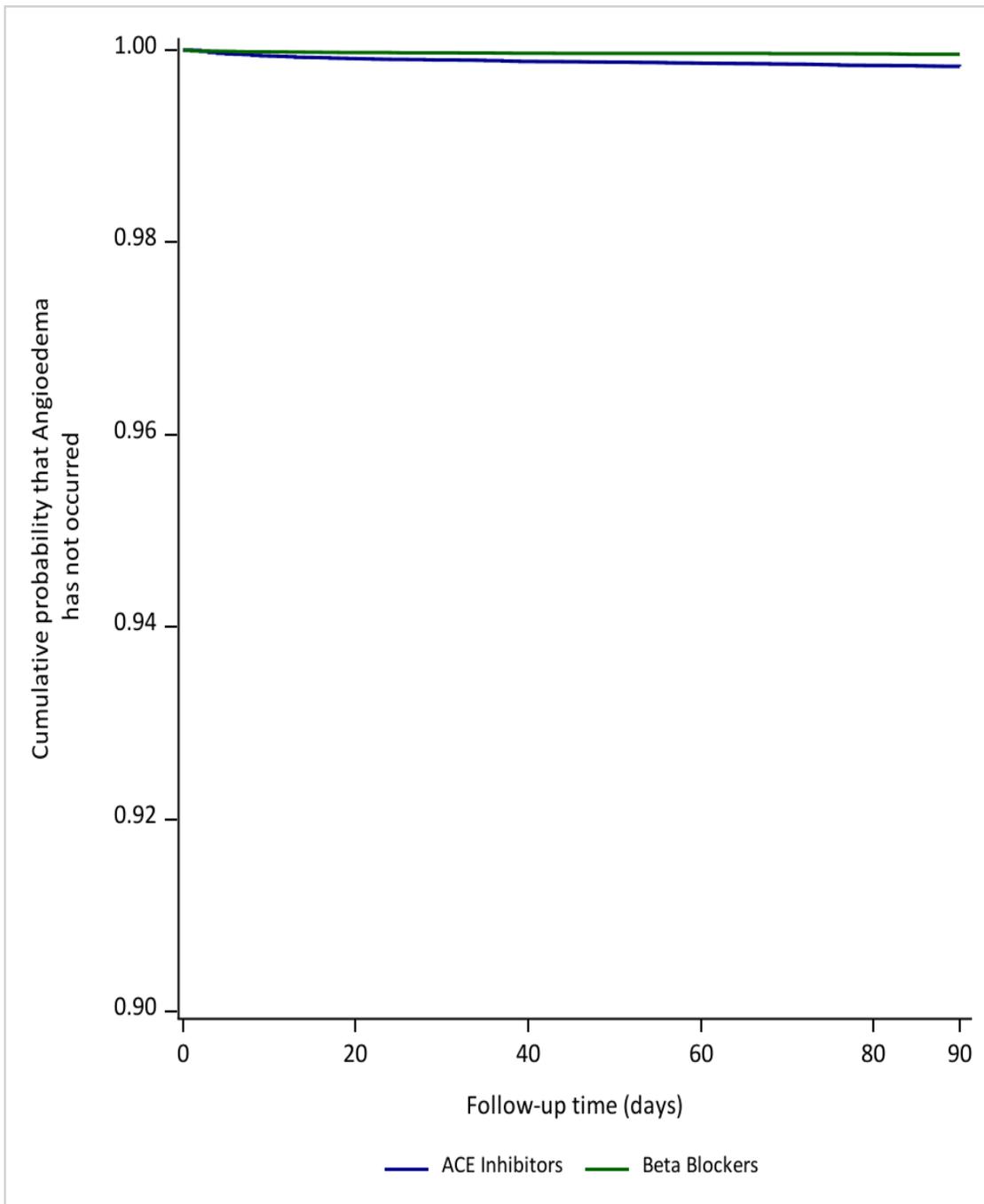
Figure 5b. Aggregated Unadjusted Kaplan-Meier Estimate and 95% Confidence Interval of Angioedema Not Occurring Among New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratification (PSS) from the Whole Population in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2018Q1

Figure 5c. Aggregated Unadjusted Kaplan-Meier Estimate and 95% Confidence Interval of Angioedema Not Occurring Among New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratification (PSS) from the Whole Population in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2018Q2
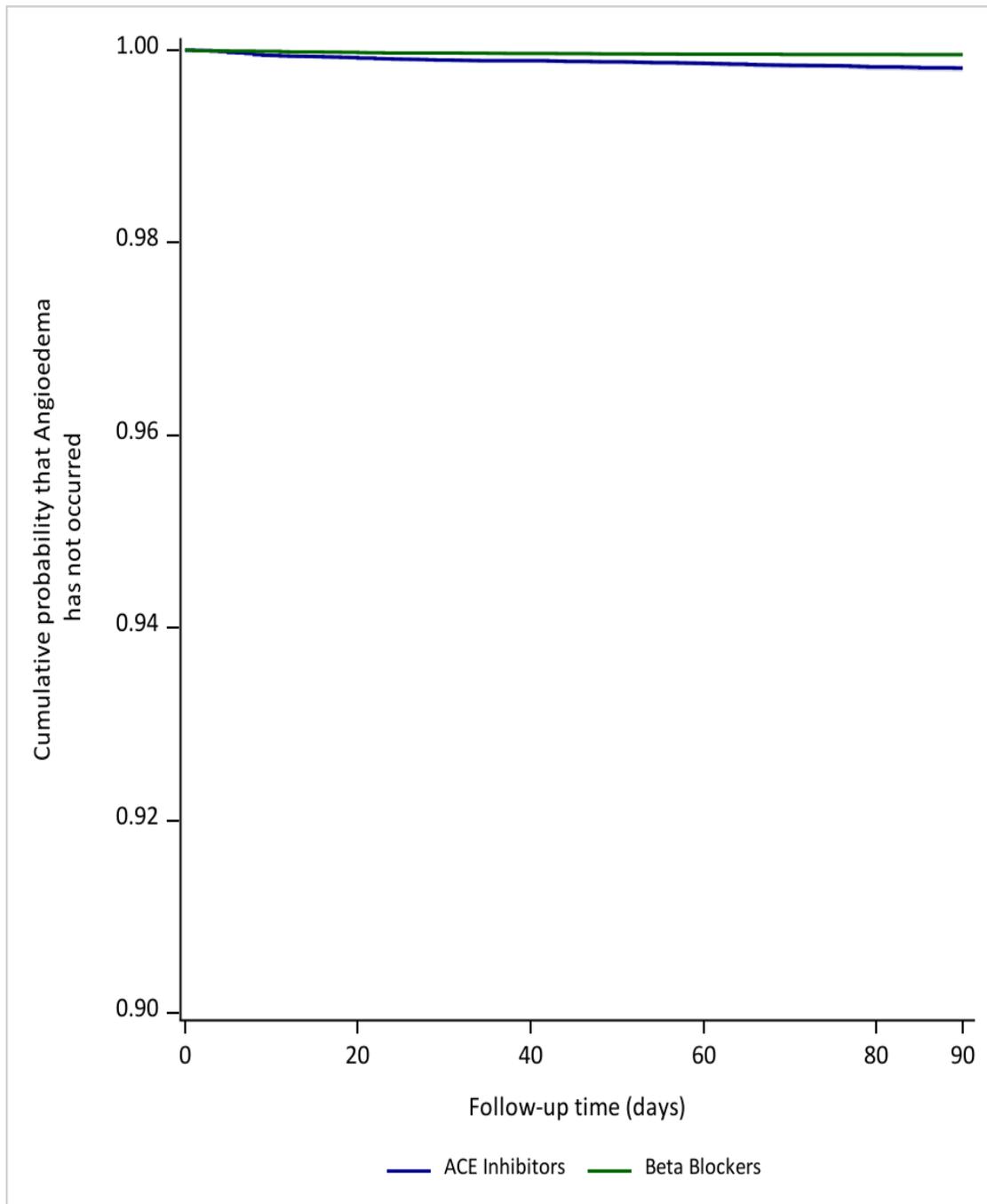
Figure 5d. Aggregated Unadjusted Kaplan-Meier Estimate and 95% Confidence Interval of Angioedema Not Occurring Among New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratification (PSS) from the Whole Population in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2018Q3

Figure 5e. Aggregated Unadjusted Kaplan-Meier Estimate and 95% Confidence Interval of Angioedema Not Occurring Among New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratification (PSS) from the Whole Population in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2018Q4
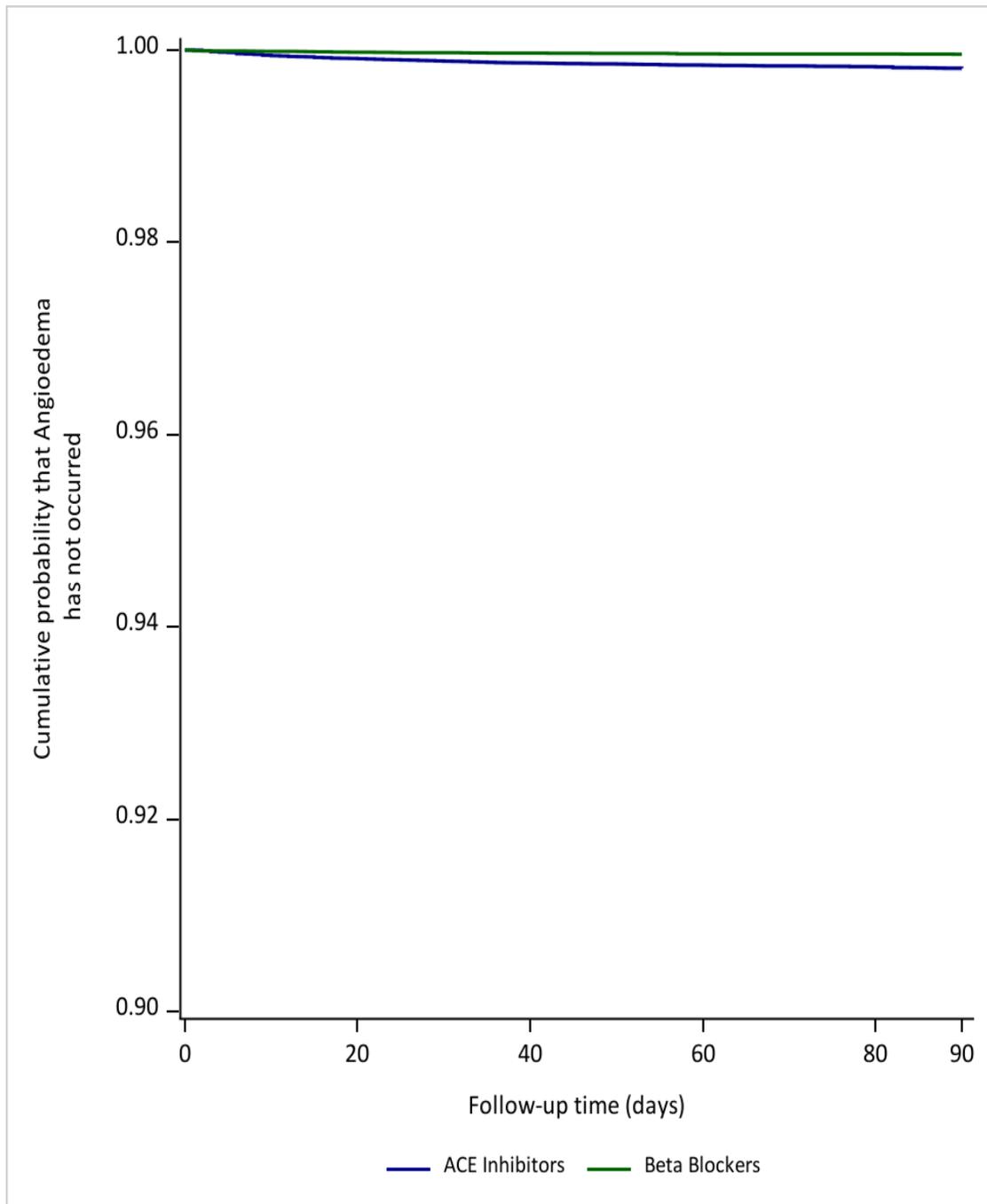
Figure 5f. Aggregated Unadjusted Kaplan-Meier Estimate and 95% Confidence Interval of Angioedema Not Occurring Among New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratification (PSS) from the Whole Population in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2019Q1
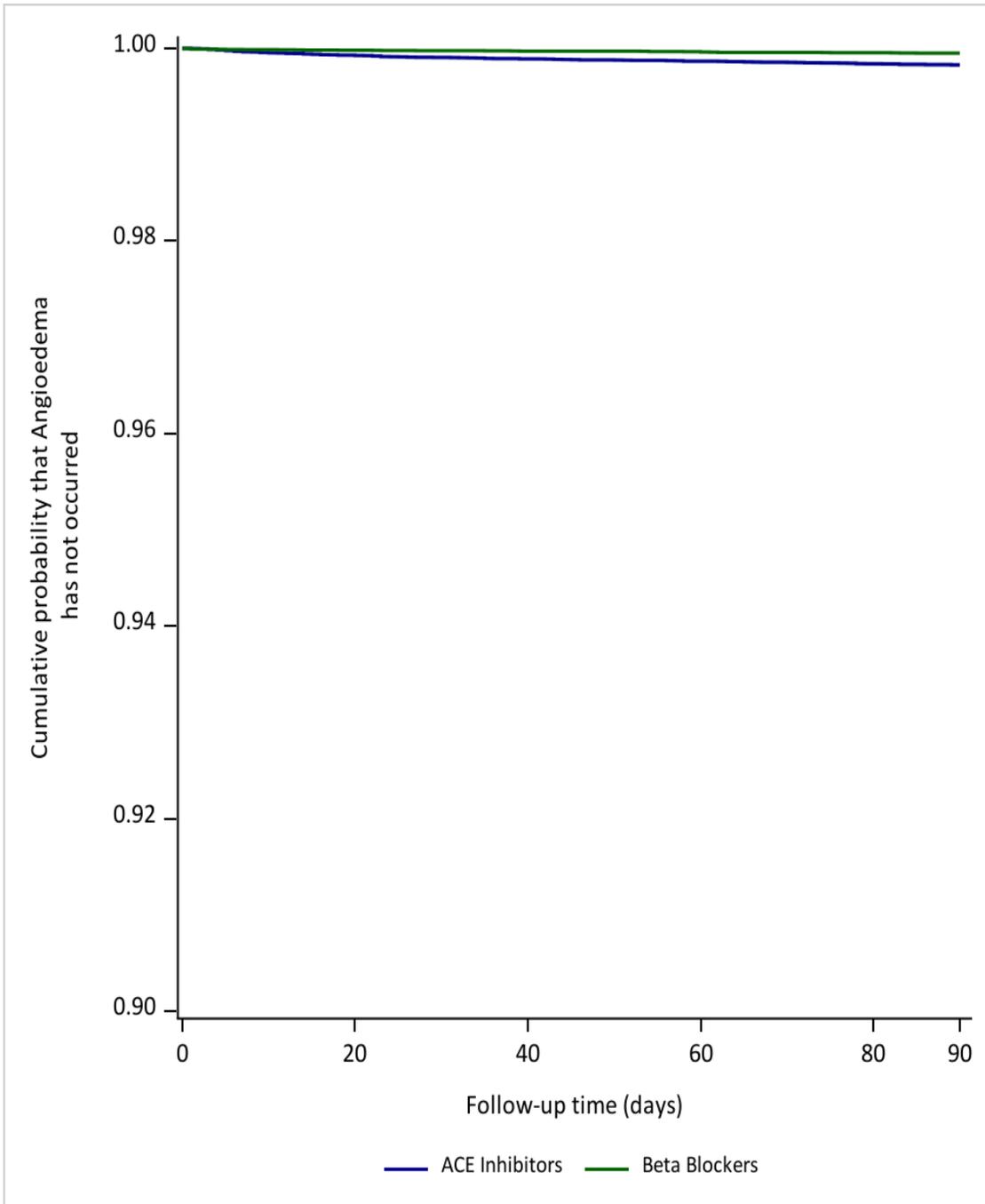
Figure 5g. Aggregated Unadjusted Kaplan-Meier Estimate and 95% Confidence Interval of Angioedema Not Occurring Among New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratification (PSS) from the Whole Population in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2019Q2

Figure 5h. Aggregated Unadjusted Kaplan-Meier Estimate and 95% Confidence Interval of Angioedema Not Occurring Among New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratification (PSS) from the Whole Population in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2019Q3
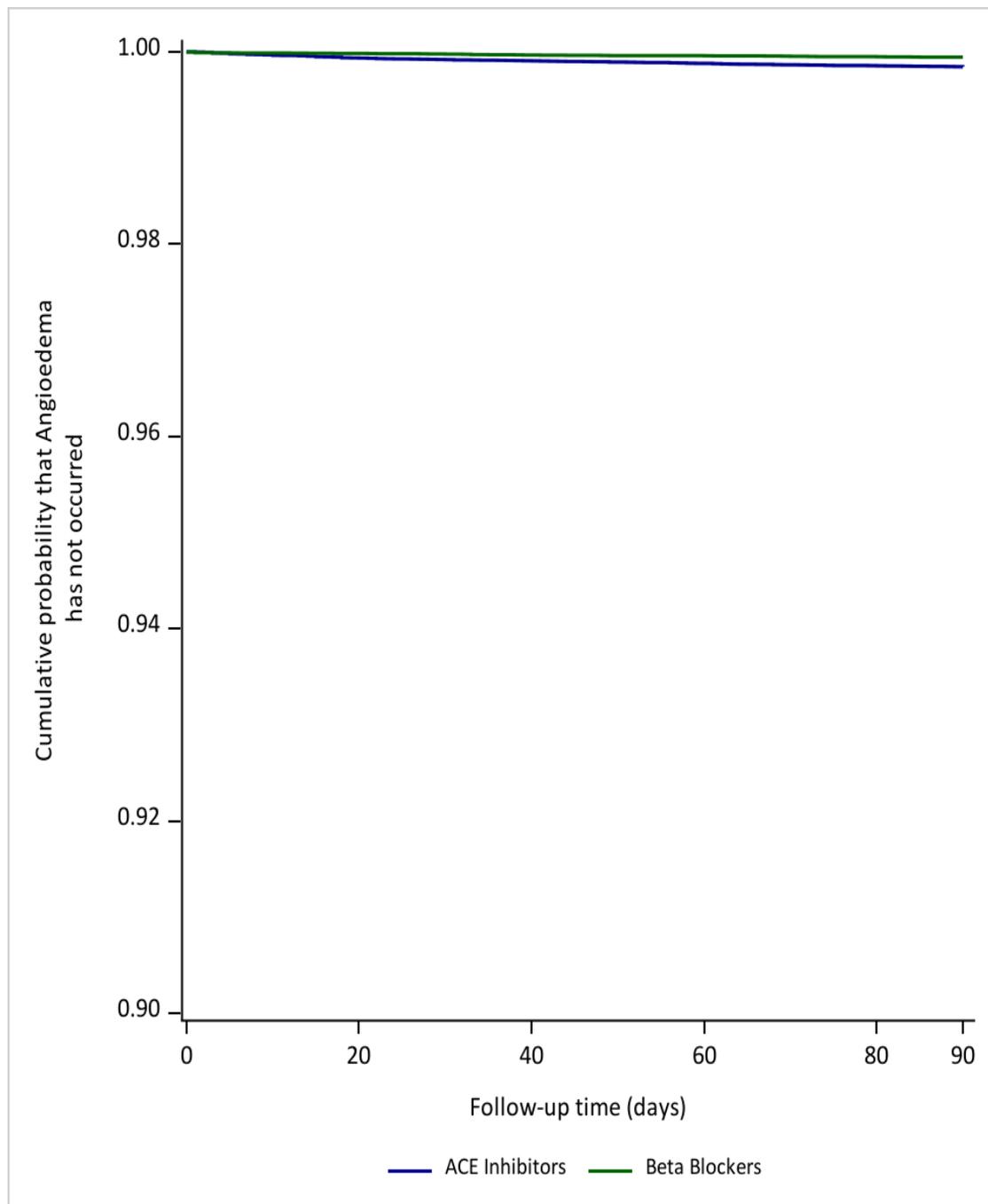
Figure 5i. Aggregated Unadjusted Kaplan-Meier Estimate and 95% Confidence Interval of Angioedema Not Occurring Among New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratification (PSS) from the Whole Population in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2019Q4

Figure 5j. Aggregated Unadjusted Kaplan-Meier Estimate and 95% Confidence Interval of Angioedema Not Occurring Among New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratification (PSS) from the Whole Population in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2020Q1
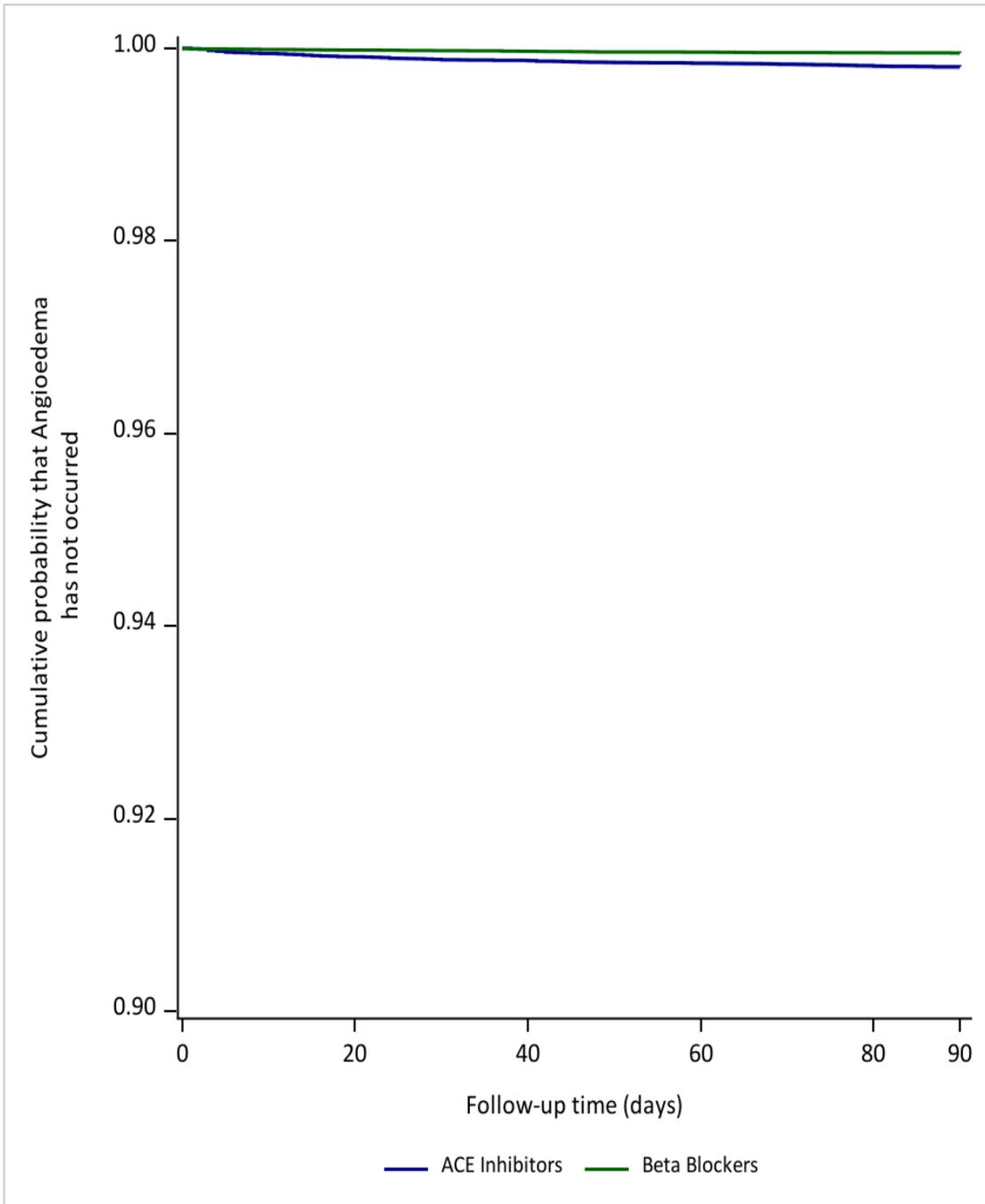
Figure 5k. Aggregated Unadjusted Kaplan-Meier Estimate and 95% Confidence Interval of Angioedema Not Occurring Among New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratification (PSS) from the Whole Population in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2020Q2
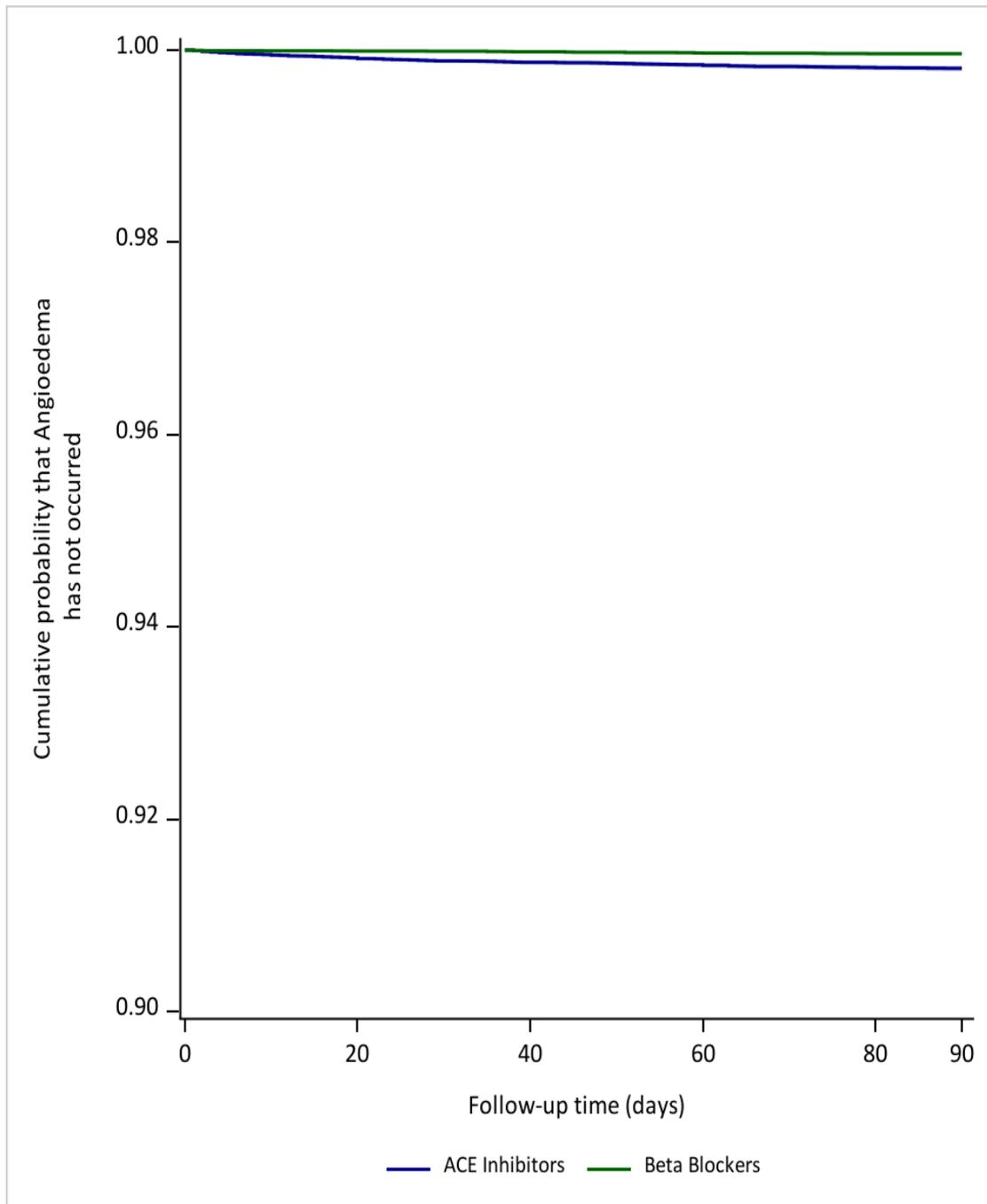
Figure 5l. Aggregated Unadjusted Kaplan-Meier Estimate and 95% Confidence Interval of Angioedema Not Occurring Among New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratification (PSS) from the Whole Population in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2020Q3

Figure 5m. Aggregated Unadjusted Kaplan-Meier Estimate and 95% Confidence Interval of Angioedema Not Occurring Among New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratification (PSS) from the Whole Population in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2020Q4
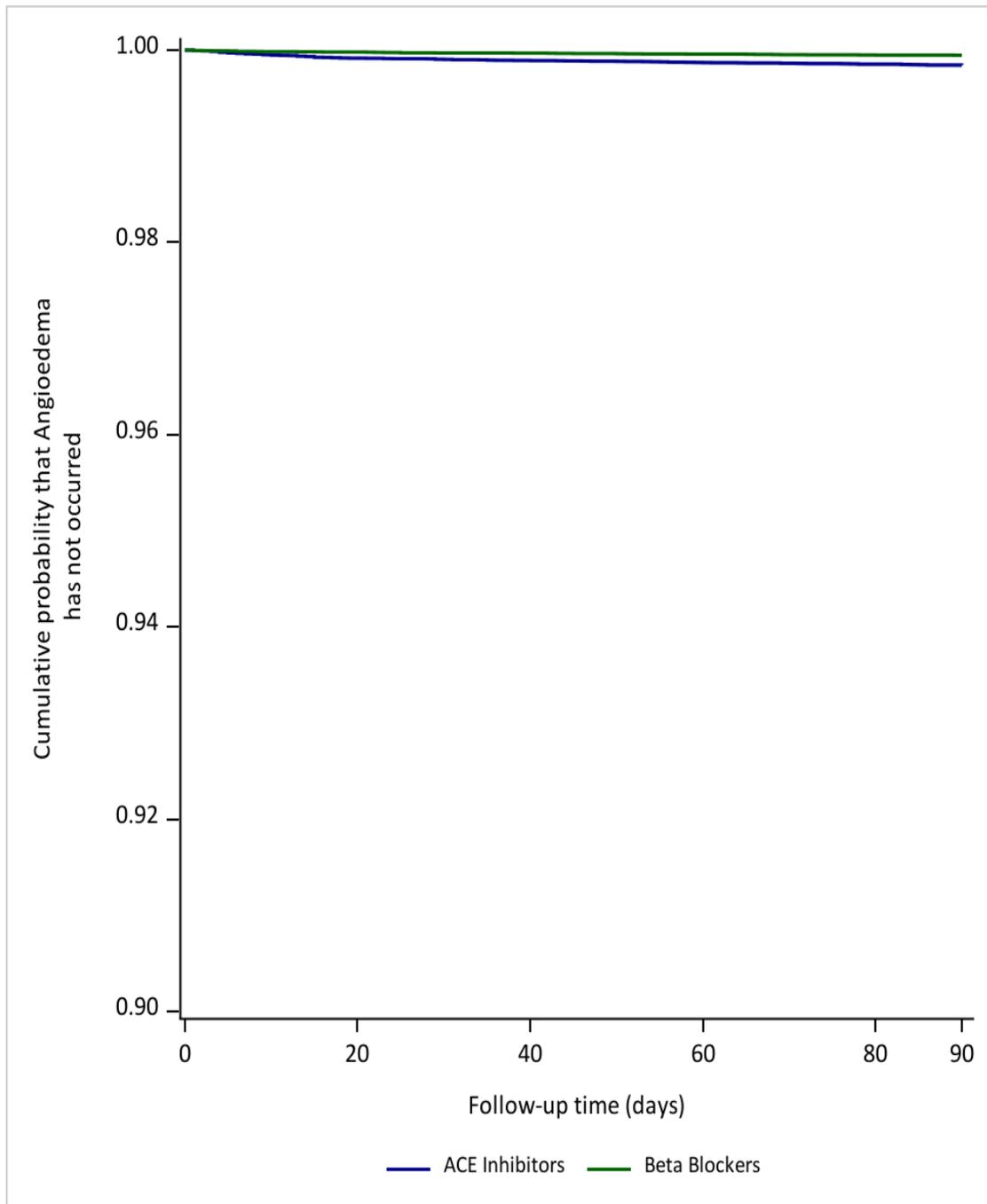
Figure 5n. Aggregated Unadjusted Kaplan-Meier Estimate and 95% Confidence Interval of Angioedema Not Occurring Among New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratification (PSS) from the Whole Population in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2021Q1

Figure 5o. Aggregated Unadjusted Kaplan-Meier Estimate and 95% Confidence Interval of Angioedema Not Occurring Among New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratification (PSS) from the Whole Population in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2021Q2
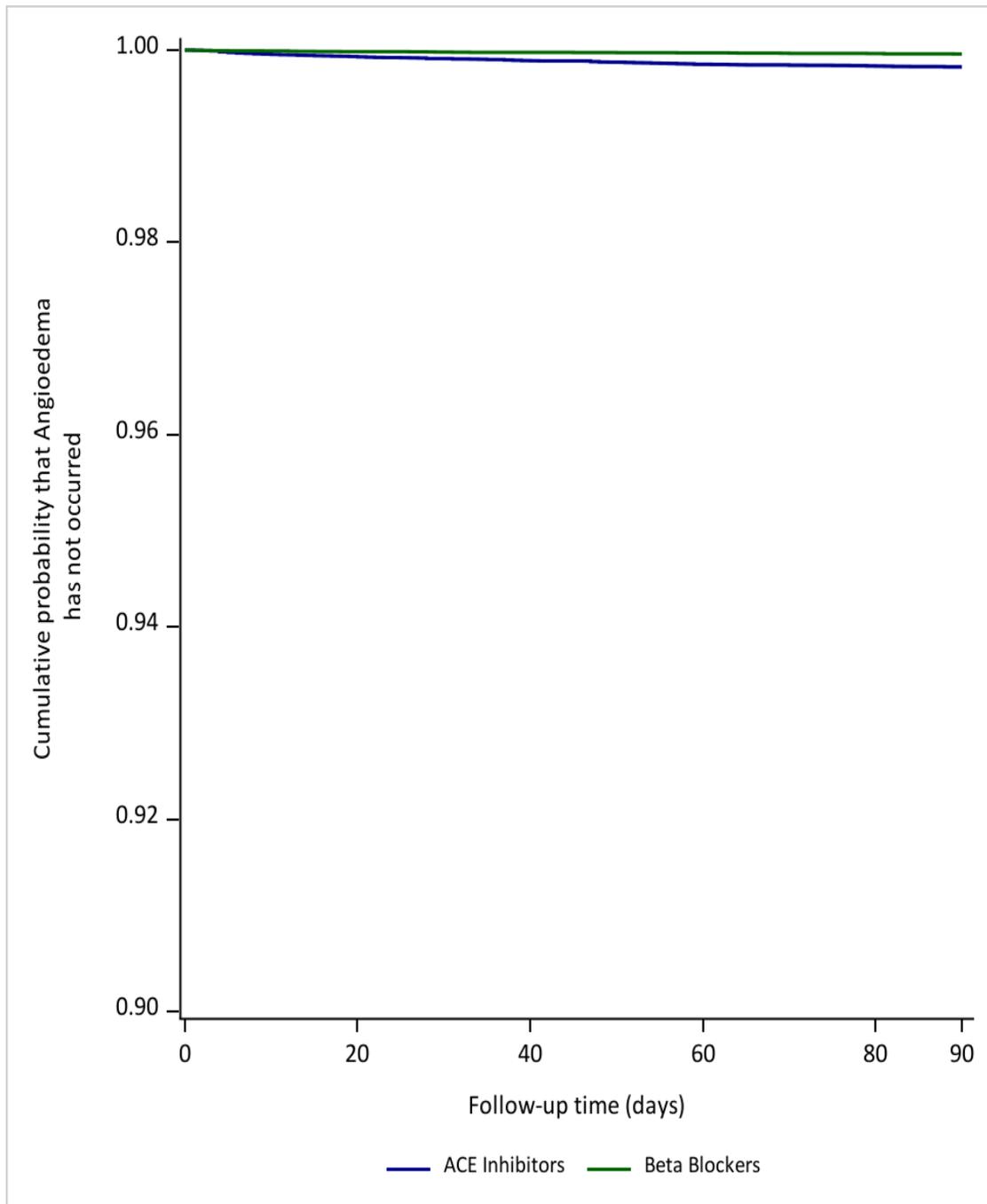
Figure 5q. Aggregated Unadjusted Kaplan-Meier Estimate and 95% Confidence Interval of Angioedema Not Occurring Among New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratification (PSS) from the Whole Population in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2021Q4

Figure 5r. Aggregated Unadjusted Kaplan-Meier Estimate and 95% Confidence Interval of Angioedema Not Occurring Among New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratification (PSS) from the Whole Population in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2022Q1

Figure 5s. Aggregated Unadjusted Kaplan-Meier Estimate and 95% Confidence Interval of Angioedema Not Occurring Among New Users of ACE Inhibitors vs Beta Blockers, Propensity Score Stratification (PSS) from the Whole Population in the Sentinel Distributed Database from January 1, 2018 to June 30, 2022, 2022Q2
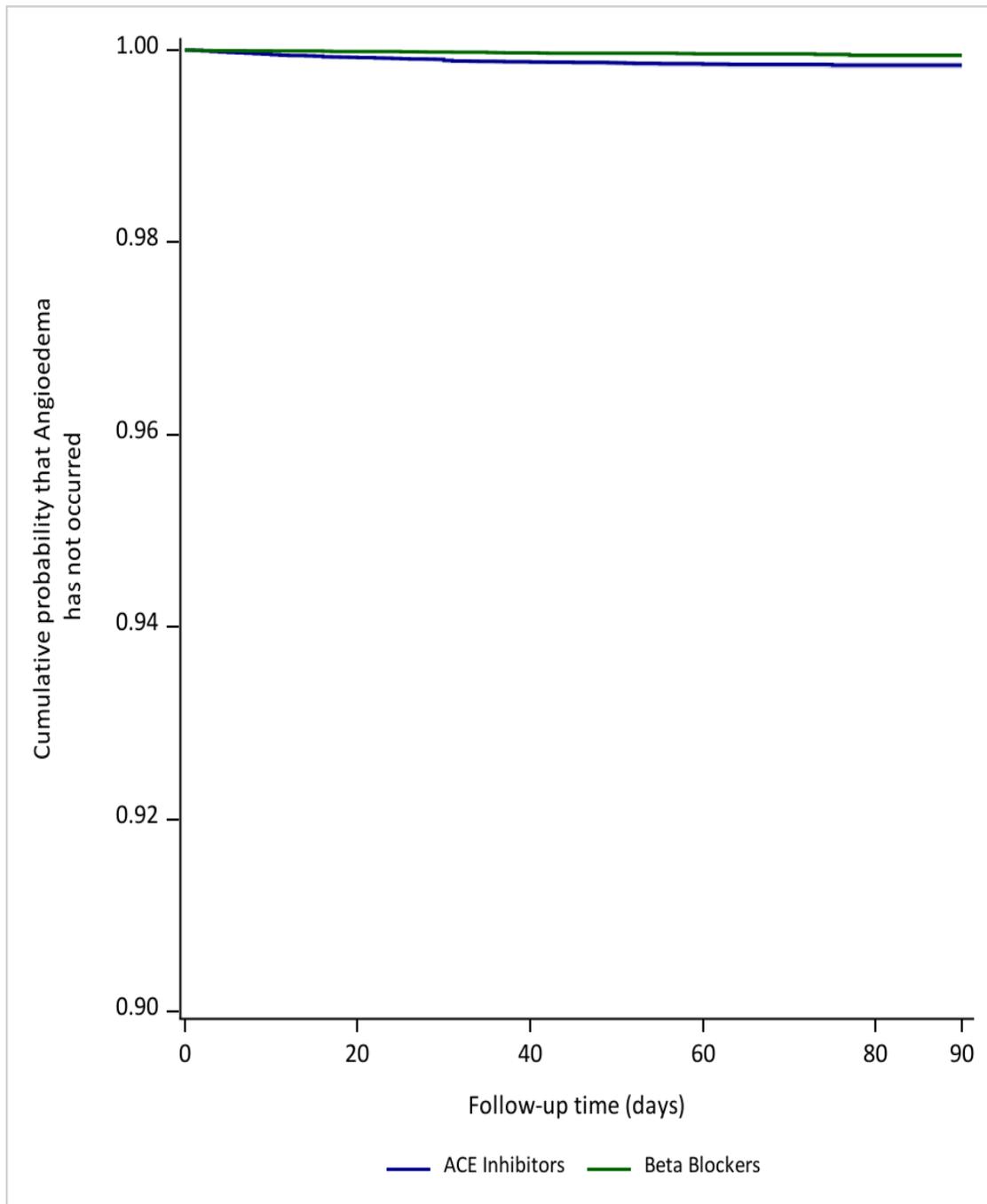
Appendix A. Dates of Available Data for Each Data Partner (DP) as of Request Distribution Date (October 24, 2023)

Masked DP ID	DP Start Date	DP End Date[1]
DP01	01/01/2008	12/31/2022
DP02	01/01/2006	02/28/2023
DP03	01/01/2010	12/31/2022
DP04	01/01/2008	04/30/2023
DP05	01/01/2007	01/31/2023

[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 Medical Products Used to Define Exposures in this Request

Generic Name	Brand Name
ACE Inhibitors	
amlodipine besylate/benazepril HCl	Lotrel
amlodipine besylate/benazepril HCl	amlodipine-benazepril
benazepril HCl	Lotensin
benazepril HCl	benazepril
benazepril HCl/hydrochlorothiazide	Lotensin HCT
benazepril HCl/hydrochlorothiazide	benazepril-hydrochlorothiazide
captopril	captopril
captopril/hydrochlorothiazide	captopril-hydrochlorothiazide
enalapril maleate	Epaned
enalapril maleate	Vasotec
enalapril maleate	enalapril maleate
enalapril maleate/hydrochlorothiazide	Vaseretic
enalapril maleate/hydrochlorothiazide	enalapril-hydrochlorothiazide
fosinopril sodium	fosinopril
fosinopril sodium/hydrochlorothiazide	fosinopril-hydrochlorothiazide
lisinopril	Prinivil
lisinopril	Qbrelis
lisinopril	Zestril
lisinopril	lisinopril
lisinopril/hydrochlorothiazide	Zestoretic
lisinopril/hydrochlorothiazide	lisinopril-hydrochlorothiazide
moexipril HCl	moexipril
moexipril HCl/hydrochlorothiazide	moexipril-hydrochlorothiazide
perindopril arginine/amlodipine besylate	Prestalia
perindopril erbumine	Aceon
perindopril erbumine	perindopril erbumine
quinapril HCl	Accupril
quinapril HCl	quinapril
quinapril HCl/hydrochlorothiazide	Accuretic
quinapril HCl/hydrochlorothiazide	quinapril-hydrochlorothiazide
ramipril	Altace
ramipril	ramipril
trandolapril	Mavik
trandolapril	trandolapril
trandolapril/verapamil HCl	Tarka
trandolapril/verapamil HCl	trandolapril-verapamil
Beta Blockers	

Appendix B. List of Generic and Brand Names of Medical Products Used to Define Exposures in this Request

Generic Name	Brand Name
acebutolol HCl	Sectral
acebutolol HCl	acebutolol
atenolol	Tenormin
atenolol	atenolol
atenolol/chlorthalidone	Tenoretic 100
atenolol/chlorthalidone	Tenoretic 50
atenolol/chlorthalidone	atenolol-chlorthalidone
betaxolol HCl	betaxolol
bisoprolol fumarate	Zebeta
bisoprolol fumarate	bisoprolol fumarate
bisoprolol fumarate/hydrochlorothiazide	Ziac
bisoprolol fumarate/hydrochlorothiazide	bisoprolol-hydrochlorothiazide
carvedilol	Coreg
carvedilol	carvedilol
carvedilol phosphate	Coreg CR
carvedilol phosphate	carvedilol phosphate
labetalol HCl	labetalol
metoprolol succinate	Kapspargo Sprinkle
metoprolol succinate	Toprol XL
metoprolol succinate	metoprolol succinate
metoprolol succinate/hydrochlorothiazide	Dutoprol
metoprolol succinate/hydrochlorothiazide	metoprolol su-hydrochlorothiaz
metoprolol tartrate	Lopressor
metoprolol tartrate	metoprolol tartrate
metoprolol tartrate/hydrochlorothiazide	metoprolol ta-hydrochlorothiaz
nadolol	Corgard
nadolol	nadolol
nadolol/bendroflumethiazide	Corzide
nadolol/bendroflumethiazide	nadolol-bendroflumethiazide
nebivolol HCl	Bystolic
nebivolol HCl	nebivolol
pindolol	pindolol
propranolol HCl	Inderal LA
propranolol HCl	Inderal XL
propranolol HCl	InnoPran XL
propranolol HCl	propranolol
propranolol HCl/hydrochlorothiazide	propranolol-hydrochlorothiazid
sotalol HCl	Betapace

Generic Name	Brand Name
sotalol HCl	Betapace AF
sotalol HCl	Sorine
sotalol HCl	Sotalol AF
sotalol HCl	Sotylize
sotalol HCl	sotalol
timolol maleate	timolol maleate

Appendix C. List of International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Codes Used to Define Outcomes in this Request

Code	Description	Code Category	Code Type
Angioedema (Outcome)			
T78.3XXA	Angioneurotic edema, initial encounter	Diagnosis	ICD-10-CM

Appendix D. List of International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Codes Used to Define Exposure Incidence Criteria in this Request

Code	Description	Code Category	Code Type
Angioedema (Exclusion)			
T78.3XXA	Angioneurotic edema, initial encounter	Diagnosis	ICD-10-CM
T78.3XXD	Angioneurotic edema, subsequent encounter	Diagnosis	ICD-10-CM
T78.3XXS	Angioneurotic edema, sequela	Diagnosis	ICD-10-CM

Generic Name	Brand Name
Angiotensin Receptor Blockers (ARBs)	
amlodipine besylate/olmesartan medoxomil	Azor
amlodipine besylate/olmesartan medoxomil	amlodipine-olmesartan
amlodipine besylate/valsartan	Exforge
amlodipine besylate/valsartan	amlodipine-valsartan
amlodipine besylate/valsartan/hydrochlorothiazide	Exforge HCT
amlodipine besylate/valsartan/hydrochlorothiazide	amlodipine-valsartan-hcthiazid
azilsartan medoxomil	Edarbi
azilsartan medoxomil/chlorthalidone	Edarbyclor
candesartan cilexetil	Atacand
candesartan cilexetil	candesartan
candesartan cilexetil/hydrochlorothiazide	Atacand HCT
candesartan cilexetil/hydrochlorothiazide	candesartan-hydrochlorothiazid
eprosartan mesylate	eprosartan
irbesartan	Avapro
irbesartan	irbesartan
irbesartan/hydrochlorothiazide	Avalide
irbesartan/hydrochlorothiazide	irbesartan-hydrochlorothiazide
losartan potassium	Cozaar
losartan potassium	losartan
losartan potassium/hydrochlorothiazide	Hyzaar
losartan potassium/hydrochlorothiazide	losartan-hydrochlorothiazide
nebivolol HCl/valsartan	Byvalson
olmesartan medoxomil	Benicar
olmesartan medoxomil	olmesartan
olmesartan medoxomil/amlodipine besylate/hydrochlorothiazide	Tribenzor
olmesartan medoxomil/amlodipine besylate/hydrochlorothiazide	olmesartan-amlodipin-hcthiazid
olmesartan medoxomil/hydrochlorothiazide	Benicar HCT
olmesartan medoxomil/hydrochlorothiazide	olmesartan-hydrochlorothiazide
sacubitril/valsartan	Entresto
telmisartan	Micardis
telmisartan	telmisartan
telmisartan/amlodipine besylate	Twynsta
telmisartan/amlodipine besylate	telmisartan-amlodipine
telmisartan/hydrochlorothiazide	Micardis HCT
telmisartan/hydrochlorothiazide	telmisartan-hydrochlorothiazid
valsartan	Diovan
valsartan	valsartan
valsartan/hydrochlorothiazide	Diovan HCT
valsartan/hydrochlorothiazide	valsartan-hydrochlorothiazide
ACE Inhibitors	
amlodipine besylate/benazepril HCl	Lotrel
amlodipine besylate/benazepril HCl	amlodipine-benazepril
benazepril HCl	Lotensin
benazepril HCl	benazepril

Generic Name	Brand Name
benazepril HCl/hydrochlorothiazide	Lotensin HCT
benazepril HCl/hydrochlorothiazide	benazepril-hydrochlorothiazide
captopril	captopril
captopril/hydrochlorothiazide	captopril-hydrochlorothiazide
enalapril maleate	Epaned
enalapril maleate	Vasotec
enalapril maleate	enalapril maleate
enalapril maleate/hydrochlorothiazide	Vaseretic
enalapril maleate/hydrochlorothiazide	enalapril-hydrochlorothiazide
fosinopril sodium	fosinopril
fosinopril sodium/hydrochlorothiazide	fosinopril-hydrochlorothiazide
lisinopril	Prinivil
lisinopril	Qbrelis
lisinopril	Zestril
lisinopril	lisinopril
lisinopril/hydrochlorothiazide	Zestoretic
lisinopril/hydrochlorothiazide	lisinopril-hydrochlorothiazide
moexipril HCl	moexipril
moexipril HCl/hydrochlorothiazide	moexipril-hydrochlorothiazide
perindopril arginine/amlodipine besylate	Prestalia
perindopril erbumine	Aceon
perindopril erbumine	perindopril erbumine
quinapril HCl	Accupril
quinapril HCl	quinapril
quinapril HCl/hydrochlorothiazide	Accuretic
quinapril HCl/hydrochlorothiazide	quinapril-hydrochlorothiazide
ramipril	Altace
ramipril	ramipril
trandolapril	Mavik
trandolapril	trandolapril
trandolapril/verapamil HCl	Tarka
trandolapril/verapamil HCl	trandolapril-verapamil
Beta Blockers	
acebutolol HCl	Sectral
acebutolol HCl	acebutolol
atenolol	Tenormin
atenolol	atenolol
atenolol/chlorthalidone	Tenoretic 100
atenolol/chlorthalidone	Tenoretic 50
atenolol/chlorthalidone	atenolol-chlorthalidone
betaxolol HCl	betaxolol
bisoprolol fumarate	Zebeta
bisoprolol fumarate	bisoprolol fumarate
bisoprolol fumarate/hydrochlorothiazide	Ziac
bisoprolol fumarate/hydrochlorothiazide	bisoprolol-hydrochlorothiazide
carvedilol	Coreg
carvedilol	carvedilol

Appendix E. List of Generic and Brand Names of Medical Products Used to Define Exposure Incidence Criteria in this Request

Generic Name	Brand Name
carvedilol phosphate	Coreg CR
carvedilol phosphate	carvedilol phosphate
labetalol HCl	labetalol
metoprolol succinate	Kapspargo Sprinkle
metoprolol succinate	Toprol XL
metoprolol succinate	metoprolol succinate
metoprolol succinate/hydrochlorothiazide	Dutoprol
metoprolol succinate/hydrochlorothiazide	metoprolol su-hydrochlorothiaz
metoprolol tartrate	Lopressor
metoprolol tartrate	metoprolol tartrate
metoprolol tartrate/hydrochlorothiazide	metoprolol ta-hydrochlorothiaz
nadolol	Corgard
nadolol	nadolol
nadolol/bendroflumethiazide	Corzide
nadolol/bendroflumethiazide	nadolol-bendroflumethiazide
nebivolol HCl	Bystolic
nebivolol HCl	nebivolol
pindolol	pindolol
propranolol HCl	Inderal LA
propranolol HCl	Inderal XL
propranolol HCl	InnoPran XL
propranolol HCl	propranolol
propranolol HCl/hydrochlorothiazide	propranolol-hydrochlorothiazid
sotalol HCl	Betapace
sotalol HCl	Betapace AF
sotalol HCl	Sorine
sotalol HCl	Sotalol AF
sotalol HCl	Sotylize
sotalol HCl	sotalol
timolol maleate	timolol maleate
Aliskiren	
aliskiren hemifumarate	Tekturna
aliskiren hemifumarate	aliskiren
aliskiren hemifumarate/hydrochlorothiazide	Tekturna HCT

Appendix F. List of Generic and Brand Names of Medical Products Used to Define Covariates in this Request

Generic Name	Brand Name
Non-Steroidal Anti-Inflammatory Drug (NSAID) Use	
amlodipine besylate/celecoxib	Consensi
celecoxib	Celebrex
celecoxib	Elyxyb
celecoxib	celecoxib
diclofenac potassium	Cambia
diclofenac potassium	Cataflam
diclofenac potassium	Lofena
diclofenac potassium	Zipsor
diclofenac potassium	diclofenac potassium
diclofenac sodium	Voltaren-XR
diclofenac sodium	diclofenac sodium
diclofenac sodium/misoprostol	Arthrotec 50
diclofenac sodium/misoprostol	Arthrotec 75
diclofenac sodium/misoprostol	diclofenac-misoprostol
diclofenac submicronized	Zorvolex
diclofenac submicronized	diclofenac submicronized
etodolac	Lodine
etodolac	etodolac
fenoprofen calcium	Fenortho
fenoprofen calcium	Nalfon
fenoprofen calcium	ProFeno
fenoprofen calcium	fenoprofen
flurbiprofen	flurbiprofen
hydrocodone/ibuprofen	Ibudone
hydrocodone/ibuprofen	Reprexain
hydrocodone/ibuprofen	Vicoprofen
hydrocodone/ibuprofen	Xylon 10
hydrocodone/ibuprofen	hydrocodone-ibuprofen
ibuprofen	IBU
ibuprofen	ibuprofen
ibuprofen/famotidine	Duexis
ibuprofen/famotidine	ibuprofen-famotidine
ibuprofen/glycerin	Ibupak
ibuprofen/oxycodone HCl	ibuprofen-oxycodone
indomethacin	Indocin
indomethacin	indomethacin

Appendix F. List of Generic and Brand Names of Medical Products Used to Define Covariates in this Request

Generic Name	Brand Name
indomethacin, submicronized	Tivorbex
indomethacin, submicronized	indomethacin submicronized
ketoprofen	ketoprofen
ketorolac tromethamine	ketorolac
meclofenamate sodium	meclofenamate
mefenamic acid	Ponstel
mefenamic acid	mefenamic acid
meloxicam	Mobic
meloxicam	Qmiiz ODT
meloxicam	meloxicam
meloxicam, submicronized	Vivlodex
meloxicam, submicronized	meloxicam submicronized
nabumetone	Relafen
nabumetone	Relafen DS
nabumetone	nabumetone
naproxen	EC-Naprosyn
naproxen	EC-Naproxen
naproxen	Naprosyn
naproxen	naproxen
naproxen sodium	Anaprox
naproxen sodium	Anaprox DS
naproxen sodium	Naprelan CR
naproxen sodium	naproxen sodium
naproxen/esomeprazole magnesium	Vimovo
naproxen/esomeprazole magnesium	naproxen-esomeprazole
oxaprozin	Daypro
oxaprozin	oxaprozin
piroxicam	Feldene
piroxicam	piroxicam
sulindac	sulindac
sumatriptan succinate/naproxen sodium	Treximet
sumatriptan succinate/naproxen sodium	sumatriptan-naproxen
tolmetin sodium	tolmetin
tramadol HCl/celecoxib	Seglentis

Code	Description	Code Category	Code Type
	Allergic Reaction		
B44.81	Allergic bronchopulmonary aspergillosis	Diagnosis	ICD-10-CM
J30.5	Allergic rhinitis due to food	Diagnosis	ICD-10-CM
K52.21	Food protein-induced enterocolitis syndrome	Diagnosis	ICD-10-CM
K52.22	Food protein-induced enteropathy	Diagnosis	ICD-10-CM
K52.29	Other allergic and dietetic gastroenteritis and colitis	Diagnosis	ICD-10-CM
L20.0	Besnier's prurigo	Diagnosis	ICD-10-CM
L20.81	Atopic neurodermatitis	Diagnosis	ICD-10-CM
L20.82	Flexural eczema	Diagnosis	ICD-10-CM
L20.84	Intrinsic (allergic) eczema	Diagnosis	ICD-10-CM
L20.89	Other atopic dermatitis	Diagnosis	ICD-10-CM
L20.9	Atopic dermatitis, unspecified	Diagnosis	ICD-10-CM
L23.0	Allergic contact dermatitis due to metals	Diagnosis	ICD-10-CM
L23.1	Allergic contact dermatitis due to adhesives	Diagnosis	ICD-10-CM
L23.2	Allergic contact dermatitis due to cosmetics	Diagnosis	ICD-10-CM
L23.3	Allergic contact dermatitis due to drugs in contact with skin	Diagnosis	ICD-10-CM
L23.4	Allergic contact dermatitis due to dyes	Diagnosis	ICD-10-CM
L23.5	Allergic contact dermatitis due to other chemical products	Diagnosis	ICD-10-CM
L23.6	Allergic contact dermatitis due to food in contact with the skin	Diagnosis	ICD-10-CM
L23.7	Allergic contact dermatitis due to plants, except food	Diagnosis	ICD-10-CM
L23.81	Allergic contact dermatitis due to animal (cat) (dog) dander	Diagnosis	ICD-10-CM
L23.89	Allergic contact dermatitis due to other agents	Diagnosis	ICD-10-CM
L23.9	Allergic contact dermatitis, unspecified cause	Diagnosis	ICD-10-CM
L24.0	Irritant contact dermatitis due to detergents	Diagnosis	ICD-10-CM
L24.1	Irritant contact dermatitis due to oils and greases	Diagnosis	ICD-10-CM
L24.2	Irritant contact dermatitis due to solvents	Diagnosis	ICD-10-CM
L24.3	Irritant contact dermatitis due to cosmetics	Diagnosis	ICD-10-CM
L24.4	Irritant contact dermatitis due to drugs in contact with skin	Diagnosis	ICD-10-CM
L24.5	Irritant contact dermatitis due to other chemical products	Diagnosis	ICD-10-CM
L24.6	Irritant contact dermatitis due to food in contact with skin	Diagnosis	ICD-10-CM
L24.7	Irritant contact dermatitis due to plants, except food	Diagnosis	ICD-10-CM
L24.81	Irritant contact dermatitis due to metals	Diagnosis	ICD-10-CM
L24.89	Irritant contact dermatitis due to other agents	Diagnosis	ICD-10-CM
L24.9	Irritant contact dermatitis, unspecified cause	Diagnosis	ICD-10-CM
L25.0	Unspecified contact dermatitis due to cosmetics	Diagnosis	ICD-10-CM
L25.1	Unspecified contact dermatitis due to drugs in contact with skin	Diagnosis	ICD-10-CM
L25.2	Unspecified contact dermatitis due to dyes	Diagnosis	ICD-10-CM
L25.3	Unspecified contact dermatitis due to other chemical products	Diagnosis	ICD-10-CM
L25.4	Unspecified contact dermatitis due to food in contact with skin	Diagnosis	ICD-10-CM
L25.5	Unspecified contact dermatitis due to plants, except food	Diagnosis	ICD-10-CM
L25.8	Unspecified contact dermatitis due to other agents	Diagnosis	ICD-10-CM
L25.9	Unspecified contact dermatitis, unspecified cause	Diagnosis	ICD-10-CM
L27.0	Generalized skin eruption due to drugs and medicaments taken internally	Diagnosis	ICD-10-CM
L27.1	Localized skin eruption due to drugs and medicaments taken internally	Diagnosis	ICD-10-CM
L27.2	Dermatitis due to ingested food	Diagnosis	ICD-10-CM
L27.8	Dermatitis due to other substances taken internally	Diagnosis	ICD-10-CM

Code	Description	Code Category	Code Type
L27.9	Dermatitis due to unspecified substance taken internally	Diagnosis	ICD-10-CM
L30.0	Nummular dermatitis	Diagnosis	ICD-10-CM
L30.2	Cutaneous autosensitization	Diagnosis	ICD-10-CM
L30.8	Other specified dermatitis	Diagnosis	ICD-10-CM
L30.9	Dermatitis, unspecified	Diagnosis	ICD-10-CM
L50.0	Allergic urticaria	Diagnosis	ICD-10-CM
L50.1	Idiopathic urticaria	Diagnosis	ICD-10-CM
L50.2	Urticaria due to cold and heat	Diagnosis	ICD-10-CM
L50.3	Dermatographic urticaria	Diagnosis	ICD-10-CM
L50.4	Vibratory urticaria	Diagnosis	ICD-10-CM
L50.5	Cholinergic urticaria	Diagnosis	ICD-10-CM
L50.6	Contact urticaria	Diagnosis	ICD-10-CM
L50.8	Other urticaria	Diagnosis	ICD-10-CM
L50.9	Urticaria, unspecified	Diagnosis	ICD-10-CM
L56.0	Drug phototoxic response	Diagnosis	ICD-10-CM
L56.1	Drug photoallergic response	Diagnosis	ICD-10-CM
L56.2	Photocontact dermatitis [berloque dermatitis]	Diagnosis	ICD-10-CM
L56.3	Solar urticaria	Diagnosis	ICD-10-CM
L56.4	Polymorphous light eruption	Diagnosis	ICD-10-CM
L56.8	Other specified acute skin changes due to ultraviolet radiation	Diagnosis	ICD-10-CM
L56.9	Acute skin change due to ultraviolet radiation, unspecified	Diagnosis	ICD-10-CM
L57.1	Actinic reticuloid	Diagnosis	ICD-10-CM
L57.5	Actinic granuloma	Diagnosis	ICD-10-CM
L57.8	Other skin changes due to chronic exposure to nonionizing radiation	Diagnosis	ICD-10-CM
L57.9	Skin changes due to chronic exposure to nonionizing radiation, unspecified	Diagnosis	ICD-10-CM
L58.0	Acute radiodermatitis	Diagnosis	ICD-10-CM
L58.1	Chronic radiodermatitis	Diagnosis	ICD-10-CM
L58.9	Radiodermatitis, unspecified	Diagnosis	ICD-10-CM
L59.0	Erythema ab igne [dermatitis ab igne]	Diagnosis	ICD-10-CM
L59.8	Other specified disorders of the skin and subcutaneous tissue related to radiation	Diagnosis	ICD-10-CM
L59.9	Disorder of the skin and subcutaneous tissue related to radiation, unspecified	Diagnosis	ICD-10-CM
T78.00XA	Anaphylactic reaction due to unspecified food, initial encounter	Diagnosis	ICD-10-CM
T78.01XA	Anaphylactic reaction due to peanuts, initial encounter	Diagnosis	ICD-10-CM
T78.02XA	Anaphylactic reaction due to shellfish (crustaceans), initial encounter	Diagnosis	ICD-10-CM
T78.03XA	Anaphylactic reaction due to other fish, initial encounter	Diagnosis	ICD-10-CM
T78.04XA	Anaphylactic reaction due to fruits and vegetables, initial encounter	Diagnosis	ICD-10-CM
T78.05XA	Anaphylactic reaction due to tree nuts and seeds, initial encounter	Diagnosis	ICD-10-CM
T78.06XA	Anaphylactic reaction due to food additives, initial encounter	Diagnosis	ICD-10-CM
T78.07XA	Anaphylactic reaction due to milk and dairy products, initial encounter	Diagnosis	ICD-10-CM
T78.08XA	Anaphylactic reaction due to eggs, initial encounter	Diagnosis	ICD-10-CM
T78.09XA	Anaphylactic reaction due to other food products, initial encounter	Diagnosis	ICD-10-CM
T78.1XXA	Other adverse food reactions, not elsewhere classified, initial encounter	Diagnosis	ICD-10-CM
T78.2XXA	Anaphylactic shock, unspecified, initial encounter	Diagnosis	ICD-10-CM
T78.40XA	Allergy, unspecified, initial encounter	Diagnosis	ICD-10-CM
T78.49XA	Other allergy, initial encounter	Diagnosis	ICD-10-CM

Code	Description	Code Category	Code Type
T88.6XXA	Anaphylactic reaction due to adverse effect of correct drug or medicament properly administered, initial encounter	Diagnosis	ICD-10-CM
Z01.82	Encounter for allergy testing	Diagnosis	ICD-10-CM
Z51.6	Encounter for desensitization to allergens	Diagnosis	ICD-10-CM
Z87.892	Personal history of anaphylaxis	Diagnosis	ICD-10-CM
Z88.0	Allergy status to penicillin	Diagnosis	ICD-10-CM
Z88.1	Allergy status to other antibiotic agents	Diagnosis	ICD-10-CM
Z88.2	Allergy status to sulfonamides	Diagnosis	ICD-10-CM
Z88.3	Allergy status to other anti-infective agents	Diagnosis	ICD-10-CM
Z88.4	Allergy status to anesthetic agent	Diagnosis	ICD-10-CM
Z88.5	Allergy status to narcotic agent	Diagnosis	ICD-10-CM
Z88.6	Allergy status to analgesic agent	Diagnosis	ICD-10-CM
Z88.7	Allergy status to serum and vaccine	Diagnosis	ICD-10-CM
Z88.8	Allergy status to other drugs, medicaments and biological substances	Diagnosis	ICD-10-CM
Z88.9	Allergy status to unspecified drugs, medicaments and biological substances	Diagnosis	ICD-10-CM
Z91.010	Allergy to peanuts	Diagnosis	ICD-10-CM
Z91.011	Allergy to milk products	Diagnosis	ICD-10-CM
Z91.012	Allergy to eggs	Diagnosis	ICD-10-CM
Z91.013	Allergy to seafood	Diagnosis	ICD-10-CM
Z91.018	Allergy to other foods	Diagnosis	ICD-10-CM
Z91.02	Food additives allergy status	Diagnosis	ICD-10-CM
Z91.030	Bee allergy status	Diagnosis	ICD-10-CM
Z91.038	Other insect allergy status	Diagnosis	ICD-10-CM
Z91.040	Latex allergy status	Diagnosis	ICD-10-CM
Z91.041	Radiographic dye allergy status	Diagnosis	ICD-10-CM
Z91.048	Other nonmedicinal substance allergy status	Diagnosis	ICD-10-CM
Z91.09	Other allergy status, other than to drugs and biological substances	Diagnosis	ICD-10-CM
Acquired Hypothyroidism			
E00.0	Congenital iodine-deficiency syndrome, neurological type	Diagnosis	ICD-10-CM
E00.1	Congenital iodine-deficiency syndrome, myxedematous type	Diagnosis	ICD-10-CM
E00.2	Congenital iodine-deficiency syndrome, mixed type	Diagnosis	ICD-10-CM
E00.9	Congenital iodine-deficiency syndrome, unspecified	Diagnosis	ICD-10-CM
E01.8	Other iodine-deficiency related thyroid disorders and allied conditions	Diagnosis	ICD-10-CM
E02	Subclinical iodine-deficiency hypothyroidism	Diagnosis	ICD-10-CM
E03.0	Congenital hypothyroidism with diffuse goiter	Diagnosis	ICD-10-CM
E03.1	Congenital hypothyroidism without goiter	Diagnosis	ICD-10-CM
E03.2	Hypothyroidism due to medicaments and other exogenous substances	Diagnosis	ICD-10-CM
E03.3	Postinfectious hypothyroidism	Diagnosis	ICD-10-CM
E03.4	Atrophy of thyroid (acquired)	Diagnosis	ICD-10-CM
E03.8	Other specified hypothyroidism	Diagnosis	ICD-10-CM
E03.9	Hypothyroidism, unspecified	Diagnosis	ICD-10-CM
E89.0	Postprocedural hypothyroidism	Diagnosis	ICD-10-CM
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

Code	Description	Code Category	Code Type
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
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
Alzheimers Disease & Related Disorders or Senile Dementia			
F01.50	Vascular dementia, unspecified severity, without behavioral disturbance, psychotic disturbance, mood disturbance, and anxiety	Diagnosis	ICD-10-CM
F01.51	Vascular dementia, unspecified severity, with behavioral disturbance	Diagnosis	ICD-10-CM
F02.80	Dementia in other diseases classified elsewhere, unspecified severity, without behavioral disturbance, psychotic disturbance, mood disturbance, and anxiety	Diagnosis	ICD-10-CM
F02.81	Dementia in other diseases classified elsewhere, unspecified severity, with behavioral disturbance	Diagnosis	ICD-10-CM
F03.90	Unspecified dementia, unspecified severity, without behavioral disturbance, psychotic disturbance, mood disturbance, and anxiety	Diagnosis	ICD-10-CM
F03.91	Unspecified dementia, unspecified severity, with behavioral disturbance	Diagnosis	ICD-10-CM
F04	Amnestic disorder due to known physiological condition	Diagnosis	ICD-10-CM
F05	Delirium due to known physiological condition	Diagnosis	ICD-10-CM
F06.1	Catatonic disorder due to known physiological condition	Diagnosis	ICD-10-CM
F06.8	Other specified mental disorders due to known physiological condition	Diagnosis	ICD-10-CM

Code	Description	Code Category	Code Type
G13.8	Systemic atrophy primarily affecting central nervous system in other diseases classified elsewhere	Diagnosis	ICD-10-CM
G30.0	Alzheimer's disease with early onset	Diagnosis	ICD-10-CM
G30.1	Alzheimer's disease with late onset	Diagnosis	ICD-10-CM
G30.8	Other Alzheimer's disease	Diagnosis	ICD-10-CM
G30.9	Alzheimer's disease, unspecified	Diagnosis	ICD-10-CM
G31.01	Pick's disease	Diagnosis	ICD-10-CM
G31.09	Other frontotemporal neurocognitive disorder	Diagnosis	ICD-10-CM
G31.1	Senile degeneration of brain, not elsewhere classified	Diagnosis	ICD-10-CM
G31.2	Degeneration of nervous system due to alcohol	Diagnosis	ICD-10-CM
G31.83	Neurocognitive disorder with Lewy bodies	Diagnosis	ICD-10-CM
G94	Other disorders of brain in diseases classified elsewhere	Diagnosis	ICD-10-CM
R41.81	Age-related cognitive decline	Diagnosis	ICD-10-CM
R54	Age-related physical debility	Diagnosis	ICD-10-CM
Anemia			
C94.6	Myelodysplastic disease, not elsewhere classified	Diagnosis	ICD-10-CM
D46.0	Refractory anemia without ring sideroblasts, so stated	Diagnosis	ICD-10-CM
D46.1	Refractory anemia with ring sideroblasts	Diagnosis	ICD-10-CM
D46.20	Refractory anemia with excess of blasts, unspecified	Diagnosis	ICD-10-CM
D46.21	Refractory anemia with excess of blasts 1	Diagnosis	ICD-10-CM
D46.22	Refractory anemia with excess of blasts 2	Diagnosis	ICD-10-CM
D46.4	Refractory anemia, unspecified	Diagnosis	ICD-10-CM
D46.9	Myelodysplastic syndrome, unspecified	Diagnosis	ICD-10-CM
D46.A	Refractory cytopenia with multilineage dysplasia	Diagnosis	ICD-10-CM
D46.B	Refractory cytopenia with multilineage dysplasia and ring sideroblasts	Diagnosis	ICD-10-CM
D46.C	Myelodysplastic syndrome with isolated del(5q) chromosomal abnormality	Diagnosis	ICD-10-CM
D46.Z	Other myelodysplastic syndromes	Diagnosis	ICD-10-CM
D47.4	Osteomyelofibrosis	Diagnosis	ICD-10-CM
D50.0	Iron deficiency anemia secondary to blood loss (chronic)	Diagnosis	ICD-10-CM
D50.1	Sideropenic dysphagia	Diagnosis	ICD-10-CM
D50.8	Other iron deficiency anemias	Diagnosis	ICD-10-CM
D50.9	Iron deficiency anemia, unspecified	Diagnosis	ICD-10-CM
D51.0	Vitamin B12 deficiency anemia due to intrinsic factor deficiency	Diagnosis	ICD-10-CM
D51.1	Vitamin B12 deficiency anemia due to selective vitamin B12 malabsorption with proteinuria	Diagnosis	ICD-10-CM
D51.2	Transcobalamin II deficiency	Diagnosis	ICD-10-CM
D51.3	Other dietary vitamin B12 deficiency anemia	Diagnosis	ICD-10-CM
D51.8	Other vitamin B12 deficiency anemias	Diagnosis	ICD-10-CM
D51.9	Vitamin B12 deficiency anemia, unspecified	Diagnosis	ICD-10-CM
D52.0	Dietary folate deficiency anemia	Diagnosis	ICD-10-CM
D52.1	Drug-induced folate deficiency anemia	Diagnosis	ICD-10-CM
D52.8	Other folate deficiency anemias	Diagnosis	ICD-10-CM
D52.9	Folate deficiency anemia, unspecified	Diagnosis	ICD-10-CM
D53.0	Protein deficiency anemia	Diagnosis	ICD-10-CM
D53.1	Other megaloblastic anemias, not elsewhere classified	Diagnosis	ICD-10-CM
D53.2	Scorbutic anemia	Diagnosis	ICD-10-CM

Code	Description	Code Category	Code Type
D53.8	Other specified nutritional anemias	Diagnosis	ICD-10-CM
D53.9	Nutritional anemia, unspecified	Diagnosis	ICD-10-CM
D55.0	Anemia due to glucose-6-phosphate dehydrogenase [G6PD] deficiency	Diagnosis	ICD-10-CM
D55.1	Anemia due to other disorders of glutathione metabolism	Diagnosis	ICD-10-CM
D55.2	Anemia due to disorders of glycolytic enzymes	Diagnosis	ICD-10-CM
D55.21	Anemia due to pyruvate kinase deficiency	Diagnosis	ICD-10-CM
D55.29	Anemia due to other disorders of glycolytic enzymes	Diagnosis	ICD-10-CM
D55.3	Anemia due to disorders of nucleotide metabolism	Diagnosis	ICD-10-CM
D55.8	Other anemias due to enzyme disorders	Diagnosis	ICD-10-CM
D55.9	Anemia due to enzyme disorder, unspecified	Diagnosis	ICD-10-CM
D56.0	Alpha thalassemia	Diagnosis	ICD-10-CM
D56.1	Beta thalassemia	Diagnosis	ICD-10-CM
D56.2	Delta-beta thalassemia	Diagnosis	ICD-10-CM
D56.3	Thalassemia minor	Diagnosis	ICD-10-CM
D56.4	Hereditary persistence of fetal hemoglobin [HPFH]	Diagnosis	ICD-10-CM
D56.5	Hemoglobin E-beta thalassemia	Diagnosis	ICD-10-CM
D56.8	Other thalassemias	Diagnosis	ICD-10-CM
D56.9	Thalassemia, unspecified	Diagnosis	ICD-10-CM
D57.00	Hb-SS disease with crisis, unspecified	Diagnosis	ICD-10-CM
D57.01	Hb-SS disease with acute chest syndrome	Diagnosis	ICD-10-CM
D57.02	Hb-SS disease with splenic sequestration	Diagnosis	ICD-10-CM
D57.03	Hb-SS disease with cerebral vascular involvement	Diagnosis	ICD-10-CM
D57.09	Hb-SS disease with crisis with other specified complication	Diagnosis	ICD-10-CM
D57.1	Sickle-cell disease without crisis	Diagnosis	ICD-10-CM
D57.20	Sickle-cell/Hb-C disease without crisis	Diagnosis	ICD-10-CM
D57.211	Sickle-cell/Hb-C disease with acute chest syndrome	Diagnosis	ICD-10-CM
D57.212	Sickle-cell/Hb-C disease with splenic sequestration	Diagnosis	ICD-10-CM
D57.213	Sickle-cell/Hb-C disease with cerebral vascular involvement	Diagnosis	ICD-10-CM
D57.218	Sickle-cell/Hb-C disease with crisis with other specified complication	Diagnosis	ICD-10-CM
D57.219	Sickle-cell/Hb-C disease with crisis, unspecified	Diagnosis	ICD-10-CM
D57.3	Sickle-cell trait	Diagnosis	ICD-10-CM
D57.40	Sickle-cell thalassemia without crisis	Diagnosis	ICD-10-CM
D57.411	Sickle-cell thalassemia with acute chest syndrome	Diagnosis	ICD-10-CM
D57.412	Sickle-cell thalassemia with splenic sequestration	Diagnosis	ICD-10-CM
D57.413	Sickle-cell thalassemia, unspecified, with cerebral vascular involvement	Diagnosis	ICD-10-CM
D57.418	Sickle-cell thalassemia, unspecified, with crisis with other specified complication	Diagnosis	ICD-10-CM
D57.419	Sickle-cell thalassemia with crisis, unspecified	Diagnosis	ICD-10-CM
D57.42	Sickle-cell thalassemia beta zero without crisis	Diagnosis	ICD-10-CM
D57.431	Sickle-cell thalassemia beta zero with acute chest syndrome	Diagnosis	ICD-10-CM
D57.432	Sickle-cell thalassemia beta zero with splenic sequestration	Diagnosis	ICD-10-CM
D57.433	Sickle-cell thalassemia beta zero with cerebral vascular involvement	Diagnosis	ICD-10-CM
D57.438	Sickle-cell thalassemia beta zero with crisis with other specified complication	Diagnosis	ICD-10-CM
D57.439	Sickle-cell thalassemia beta zero with crisis, unspecified	Diagnosis	ICD-10-CM
D57.44	Sickle-cell thalassemia beta plus without crisis	Diagnosis	ICD-10-CM
D57.451	Sickle-cell thalassemia beta plus with acute chest syndrome	Diagnosis	ICD-10-CM
D57.452	Sickle-cell thalassemia beta plus with splenic sequestration	Diagnosis	ICD-10-CM

Code	Description	Code Category	Code Type
D57.453	Sickle-cell thalassemia beta plus with cerebral vascular involvement	Diagnosis	ICD-10-CM
D57.458	Sickle-cell thalassemia beta plus with crisis with other specified complication	Diagnosis	ICD-10-CM
D57.459	Sickle-cell thalassemia beta plus with crisis, unspecified	Diagnosis	ICD-10-CM
D57.80	Other sickle-cell disorders without crisis	Diagnosis	ICD-10-CM
D57.811	Other sickle-cell disorders with acute chest syndrome	Diagnosis	ICD-10-CM
D57.812	Other sickle-cell disorders with splenic sequestration	Diagnosis	ICD-10-CM
D57.813	Other sickle-cell disorders with cerebral vascular involvement	Diagnosis	ICD-10-CM
D57.818	Other sickle-cell disorders with crisis with other specified complication	Diagnosis	ICD-10-CM
D57.819	Other sickle-cell disorders with crisis, unspecified	Diagnosis	ICD-10-CM
D58.0	Hereditary spherocytosis	Diagnosis	ICD-10-CM
D58.1	Hereditary elliptocytosis	Diagnosis	ICD-10-CM
D58.2	Other hemoglobinopathies	Diagnosis	ICD-10-CM
D58.8	Other specified hereditary hemolytic anemias	Diagnosis	ICD-10-CM
D58.9	Hereditary hemolytic anemia, unspecified	Diagnosis	ICD-10-CM
D59.0	Drug-induced autoimmune hemolytic anemia	Diagnosis	ICD-10-CM
D59.1	Other autoimmune hemolytic anemias	Diagnosis	ICD-10-CM
D59.10	Autoimmune hemolytic anemia, unspecified	Diagnosis	ICD-10-CM
D59.11	Warm autoimmune hemolytic anemia	Diagnosis	ICD-10-CM
D59.12	Cold autoimmune hemolytic anemia	Diagnosis	ICD-10-CM
D59.13	Mixed type autoimmune hemolytic anemia	Diagnosis	ICD-10-CM
D59.19	Other autoimmune hemolytic anemia	Diagnosis	ICD-10-CM
D59.2	Drug-induced nonautoimmune hemolytic anemia	Diagnosis	ICD-10-CM
D59.3	Hemolytic-uremic syndrome	Diagnosis	ICD-10-CM
D59.4	Other nonautoimmune hemolytic anemias	Diagnosis	ICD-10-CM
D59.5	Paroxysmal nocturnal hemoglobinuria [Marchiafava-Micheli]	Diagnosis	ICD-10-CM
D59.6	Hemoglobinuria due to hemolysis from other external causes	Diagnosis	ICD-10-CM
D59.8	Other acquired hemolytic anemias	Diagnosis	ICD-10-CM
D59.9	Acquired hemolytic anemia, unspecified	Diagnosis	ICD-10-CM
D60.0	Chronic acquired pure red cell aplasia	Diagnosis	ICD-10-CM
D60.1	Transient acquired pure red cell aplasia	Diagnosis	ICD-10-CM
D60.8	Other acquired pure red cell aplasias	Diagnosis	ICD-10-CM
D60.9	Acquired pure red cell aplasia, unspecified	Diagnosis	ICD-10-CM
D61.01	Constitutional (pure) red blood cell aplasia	Diagnosis	ICD-10-CM
D61.09	Other constitutional aplastic anemia	Diagnosis	ICD-10-CM
D61.1	Drug-induced aplastic anemia	Diagnosis	ICD-10-CM
D61.2	Aplastic anemia due to other external agents	Diagnosis	ICD-10-CM
D61.3	Idiopathic aplastic anemia	Diagnosis	ICD-10-CM
D61.810	Antineoplastic chemotherapy induced pancytopenia	Diagnosis	ICD-10-CM
D61.811	Other drug-induced pancytopenia	Diagnosis	ICD-10-CM
D61.818	Other pancytopenia	Diagnosis	ICD-10-CM
D61.82	Myelophthisis	Diagnosis	ICD-10-CM
D61.89	Other specified aplastic anemias and other bone marrow failure syndromes	Diagnosis	ICD-10-CM
D61.9	Aplastic anemia, unspecified	Diagnosis	ICD-10-CM
D62	Acute posthemorrhagic anemia	Diagnosis	ICD-10-CM
D63.0	Anemia in neoplastic disease	Diagnosis	ICD-10-CM
D63.1	Anemia in chronic kidney disease	Diagnosis	ICD-10-CM

Code	Description	Code Category	Code Type
D63.8	Anemia in other chronic diseases classified elsewhere	Diagnosis	ICD-10-CM
D64.0	Hereditary sideroblastic anemia	Diagnosis	ICD-10-CM
D64.1	Secondary sideroblastic anemia due to disease	Diagnosis	ICD-10-CM
D64.2	Secondary sideroblastic anemia due to drugs and toxins	Diagnosis	ICD-10-CM
D64.3	Other sideroblastic anemias	Diagnosis	ICD-10-CM
D64.4	Congenital dyserythropoietic anemia	Diagnosis	ICD-10-CM
D64.81	Anemia due to antineoplastic chemotherapy	Diagnosis	ICD-10-CM
D64.89	Other specified anemias	Diagnosis	ICD-10-CM
D64.9	Anemia, unspecified	Diagnosis	ICD-10-CM
D75.81	Myelofibrosis	Diagnosis	ICD-10-CM
Anemia			
J45.20	Mild intermittent asthma, uncomplicated	Diagnosis	ICD-10-CM
J45.21	Mild intermittent asthma with (acute) exacerbation	Diagnosis	ICD-10-CM
J45.22	Mild intermittent asthma with status asthmaticus	Diagnosis	ICD-10-CM
J45.30	Mild persistent asthma, uncomplicated	Diagnosis	ICD-10-CM
J45.31	Mild persistent asthma with (acute) exacerbation	Diagnosis	ICD-10-CM
J45.32	Mild persistent asthma with status asthmaticus	Diagnosis	ICD-10-CM
J45.40	Moderate persistent asthma, uncomplicated	Diagnosis	ICD-10-CM
J45.41	Moderate persistent asthma with (acute) exacerbation	Diagnosis	ICD-10-CM
J45.42	Moderate persistent asthma with status asthmaticus	Diagnosis	ICD-10-CM
J45.50	Severe persistent asthma, uncomplicated	Diagnosis	ICD-10-CM
J45.51	Severe persistent asthma with (acute) exacerbation	Diagnosis	ICD-10-CM
J45.52	Severe persistent asthma with status asthmaticus	Diagnosis	ICD-10-CM
J45.901	Unspecified asthma with (acute) exacerbation	Diagnosis	ICD-10-CM
J45.902	Unspecified asthma with status asthmaticus	Diagnosis	ICD-10-CM
J45.909	Unspecified asthma, uncomplicated	Diagnosis	ICD-10-CM
J45.990	Exercise induced bronchospasm	Diagnosis	ICD-10-CM
J45.991	Cough variant asthma	Diagnosis	ICD-10-CM
J45.998	Other asthma	Diagnosis	ICD-10-CM
Atrial Fibrillation			
I48.0	Paroxysmal atrial fibrillation	Diagnosis	ICD-10-CM
I48.1	Persistent atrial fibrillation	Diagnosis	ICD-10-CM
I48.11	Chronic atrial fibrillation, unspecified	Diagnosis	ICD-10-CM
I48.19	Longstanding persistent atrial fibrillation	Diagnosis	ICD-10-CM
I48.2	Chronic atrial fibrillation	Diagnosis	ICD-10-CM
I48.20	Chronic atrial fibrillation	Diagnosis	ICD-10-CM
I48.21	Other persistent atrial fibrillation	Diagnosis	ICD-10-CM
I48.3	Paroxysmal atrial fibrillation	Diagnosis	ICD-10-CM
I48.4	Atypical atrial flutter	Diagnosis	ICD-10-CM
I48.91	Unspecified atrial fibrillation	Diagnosis	ICD-10-CM
Benign Prostatic Hyperplasia			
N40.0	Benign prostatic hyperplasia without lower urinary tract symptoms	Diagnosis	ICD-10-CM
N40.1	Benign prostatic hyperplasia with lower urinary tract symptoms	Diagnosis	ICD-10-CM
N40.2	Nodular prostate without lower urinary tract symptoms	Diagnosis	ICD-10-CM
N40.3	Nodular prostate with lower urinary tract symptoms	Diagnosis	ICD-10-CM
N42.83	Cyst of prostate	Diagnosis	ICD-10-CM

Appendix G. List of International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Codes Used to Define Covariates in this Request

Code	Description	Code Category	Code Type
	Cataract		
E08.36	Diabetes mellitus due to underlying condition with diabetic cataract	Diagnosis	ICD-10-CM
E09.36	Drug or chemical induced diabetes mellitus with diabetic cataract	Diagnosis	ICD-10-CM
E10.36	Type 1 diabetes mellitus with diabetic cataract	Diagnosis	ICD-10-CM
E11.36	Type 2 diabetes mellitus with diabetic cataract	Diagnosis	ICD-10-CM
E13.36	Other specified diabetes mellitus with diabetic cataract	Diagnosis	ICD-10-CM
H25.011	Cortical age-related cataract, right eye	Diagnosis	ICD-10-CM
H25.012	Cortical age-related cataract, left eye	Diagnosis	ICD-10-CM
H25.013	Cortical age-related cataract, bilateral	Diagnosis	ICD-10-CM
H25.019	Cortical age-related cataract, unspecified eye	Diagnosis	ICD-10-CM
H25.031	Anterior subcapsular polar age-related cataract, right eye	Diagnosis	ICD-10-CM
H25.032	Anterior subcapsular polar age-related cataract, left eye	Diagnosis	ICD-10-CM
H25.033	Anterior subcapsular polar age-related cataract, bilateral	Diagnosis	ICD-10-CM
H25.039	Anterior subcapsular polar age-related cataract, unspecified eye	Diagnosis	ICD-10-CM
H25.041	Posterior subcapsular polar age-related cataract, right eye	Diagnosis	ICD-10-CM
H25.042	Posterior subcapsular polar age-related cataract, left eye	Diagnosis	ICD-10-CM
H25.043	Posterior subcapsular polar age-related cataract, bilateral	Diagnosis	ICD-10-CM
H25.049	Posterior subcapsular polar age-related cataract, unspecified eye	Diagnosis	ICD-10-CM
H25.091	Other age-related incipient cataract, right eye	Diagnosis	ICD-10-CM
H25.092	Other age-related incipient cataract, left eye	Diagnosis	ICD-10-CM
H25.093	Other age-related incipient cataract, bilateral	Diagnosis	ICD-10-CM
H25.099	Other age-related incipient cataract, unspecified eye	Diagnosis	ICD-10-CM
H25.10	Age-related nuclear cataract, unspecified eye	Diagnosis	ICD-10-CM
H25.11	Age-related nuclear cataract, right eye	Diagnosis	ICD-10-CM
H25.12	Age-related nuclear cataract, left eye	Diagnosis	ICD-10-CM
H25.13	Age-related nuclear cataract, bilateral	Diagnosis	ICD-10-CM
H25.20	Age-related cataract, morgagnian type, unspecified eye	Diagnosis	ICD-10-CM
H25.21	Age-related cataract, morgagnian type, right eye	Diagnosis	ICD-10-CM
H25.22	Age-related cataract, morgagnian type, left eye	Diagnosis	ICD-10-CM
H25.23	Age-related cataract, morgagnian type, bilateral	Diagnosis	ICD-10-CM
H25.811	Combined forms of age-related cataract, right eye	Diagnosis	ICD-10-CM
H25.812	Combined forms of age-related cataract, left eye	Diagnosis	ICD-10-CM
H25.813	Combined forms of age-related cataract, bilateral	Diagnosis	ICD-10-CM
H25.819	Combined forms of age-related cataract, unspecified eye	Diagnosis	ICD-10-CM
H25.89	Other age-related cataract	Diagnosis	ICD-10-CM
H25.9	Unspecified age-related cataract	Diagnosis	ICD-10-CM
H26.001	Unspecified infantile and juvenile cataract, right eye	Diagnosis	ICD-10-CM
H26.002	Unspecified infantile and juvenile cataract, left eye	Diagnosis	ICD-10-CM
H26.003	Unspecified infantile and juvenile cataract, bilateral	Diagnosis	ICD-10-CM
H26.009	Unspecified infantile and juvenile cataract, unspecified eye	Diagnosis	ICD-10-CM
H26.011	Infantile and juvenile cortical, lamellar, or zonular cataract, right eye	Diagnosis	ICD-10-CM
H26.012	Infantile and juvenile cortical, lamellar, or zonular cataract, left eye	Diagnosis	ICD-10-CM
H26.013	Infantile and juvenile cortical, lamellar, or zonular cataract, bilateral	Diagnosis	ICD-10-CM
H26.019	Infantile and juvenile cortical, lamellar, or zonular cataract, unspecified eye	Diagnosis	ICD-10-CM
H26.031	Infantile and juvenile nuclear cataract, right eye	Diagnosis	ICD-10-CM
H26.032	Infantile and juvenile nuclear cataract, left eye	Diagnosis	ICD-10-CM

Code	Description	Code Category	Code Type
H26.033	Infantile and juvenile nuclear cataract, bilateral	Diagnosis	ICD-10-CM
H26.039	Infantile and juvenile nuclear cataract, unspecified eye	Diagnosis	ICD-10-CM
H26.041	Anterior subcapsular polar infantile and juvenile cataract, right eye	Diagnosis	ICD-10-CM
H26.042	Anterior subcapsular polar infantile and juvenile cataract, left eye	Diagnosis	ICD-10-CM
H26.043	Anterior subcapsular polar infantile and juvenile cataract, bilateral	Diagnosis	ICD-10-CM
H26.049	Anterior subcapsular polar infantile and juvenile cataract, unspecified eye	Diagnosis	ICD-10-CM
H26.051	Posterior subcapsular polar infantile and juvenile cataract, right eye	Diagnosis	ICD-10-CM
H26.052	Posterior subcapsular polar infantile and juvenile cataract, left eye	Diagnosis	ICD-10-CM
H26.053	Posterior subcapsular polar infantile and juvenile cataract, bilateral	Diagnosis	ICD-10-CM
H26.059	Posterior subcapsular polar infantile and juvenile cataract, unspecified eye	Diagnosis	ICD-10-CM
H26.061	Combined forms of infantile and juvenile cataract, right eye	Diagnosis	ICD-10-CM
H26.062	Combined forms of infantile and juvenile cataract, left eye	Diagnosis	ICD-10-CM
H26.063	Combined forms of infantile and juvenile cataract, bilateral	Diagnosis	ICD-10-CM
H26.069	Combined forms of infantile and juvenile cataract, unspecified eye	Diagnosis	ICD-10-CM
H26.09	Other infantile and juvenile cataract	Diagnosis	ICD-10-CM
H26.101	Unspecified traumatic cataract, right eye	Diagnosis	ICD-10-CM
H26.102	Unspecified traumatic cataract, left eye	Diagnosis	ICD-10-CM
H26.103	Unspecified traumatic cataract, bilateral	Diagnosis	ICD-10-CM
H26.109	Unspecified traumatic cataract, unspecified eye	Diagnosis	ICD-10-CM
H26.111	Localized traumatic opacities, right eye	Diagnosis	ICD-10-CM
H26.112	Localized traumatic opacities, left eye	Diagnosis	ICD-10-CM
H26.113	Localized traumatic opacities, bilateral	Diagnosis	ICD-10-CM
H26.119	Localized traumatic opacities, unspecified eye	Diagnosis	ICD-10-CM
H26.121	Partially resolved traumatic cataract, right eye	Diagnosis	ICD-10-CM
H26.122	Partially resolved traumatic cataract, left eye	Diagnosis	ICD-10-CM
H26.123	Partially resolved traumatic cataract, bilateral	Diagnosis	ICD-10-CM
H26.129	Partially resolved traumatic cataract, unspecified eye	Diagnosis	ICD-10-CM
H26.131	Total traumatic cataract, right eye	Diagnosis	ICD-10-CM
H26.132	Total traumatic cataract, left eye	Diagnosis	ICD-10-CM
H26.133	Total traumatic cataract, bilateral	Diagnosis	ICD-10-CM
H26.139	Total traumatic cataract, unspecified eye	Diagnosis	ICD-10-CM
H26.20	Unspecified complicated cataract	Diagnosis	ICD-10-CM
H26.211	Cataract with neovascularization, right eye	Diagnosis	ICD-10-CM
H26.212	Cataract with neovascularization, left eye	Diagnosis	ICD-10-CM
H26.213	Cataract with neovascularization, bilateral	Diagnosis	ICD-10-CM
H26.219	Cataract with neovascularization, unspecified eye	Diagnosis	ICD-10-CM
H26.221	Cataract secondary to ocular disorders (degenerative) (inflammatory), right eye	Diagnosis	ICD-10-CM
H26.222	Cataract secondary to ocular disorders (degenerative) (inflammatory), left eye	Diagnosis	ICD-10-CM
H26.223	Cataract secondary to ocular disorders (degenerative) (inflammatory), bilateral	Diagnosis	ICD-10-CM
H26.229	Cataract secondary to ocular disorders (degenerative) (inflammatory), unspecified eye	Diagnosis	ICD-10-CM
H26.30	Drug-induced cataract, unspecified eye	Diagnosis	ICD-10-CM
H26.31	Drug-induced cataract, right eye	Diagnosis	ICD-10-CM
H26.32	Drug-induced cataract, left eye	Diagnosis	ICD-10-CM
H26.33	Drug-induced cataract, bilateral	Diagnosis	ICD-10-CM
H26.40	Unspecified secondary cataract	Diagnosis	ICD-10-CM

Code	Description	Code Category	Code Type
H26.411	Soemmering's ring, right eye	Diagnosis	ICD-10-CM
H26.412	Soemmering's ring, left eye	Diagnosis	ICD-10-CM
H26.413	Soemmering's ring, bilateral	Diagnosis	ICD-10-CM
H26.419	Soemmering's ring, unspecified eye	Diagnosis	ICD-10-CM
H26.491	Other secondary cataract, right eye	Diagnosis	ICD-10-CM
H26.492	Other secondary cataract, left eye	Diagnosis	ICD-10-CM
H26.493	Other secondary cataract, bilateral	Diagnosis	ICD-10-CM
H26.499	Other secondary cataract, unspecified eye	Diagnosis	ICD-10-CM
H26.8	Other specified cataract	Diagnosis	ICD-10-CM
H26.9	Unspecified cataract	Diagnosis	ICD-10-CM
Q12.0	Congenital cataract	Diagnosis	ICD-10-CM
Z96.1	Presence of intraocular lens	Diagnosis	ICD-10-CM
Chronic Kidney Disease			
A18.11	Tuberculosis of kidney and ureter	Diagnosis	ICD-10-CM
A52.75	Syphilis of kidney and ureter	Diagnosis	ICD-10-CM
B52.0	Plasmodium malariae malaria with nephropathy	Diagnosis	ICD-10-CM
C64.1	Malignant neoplasm of right kidney, except renal pelvis	Diagnosis	ICD-10-CM
C64.2	Malignant neoplasm of left kidney, except renal pelvis	Diagnosis	ICD-10-CM
C64.9	Malignant neoplasm of unspecified kidney, except renal pelvis	Diagnosis	ICD-10-CM
C68.9	Malignant neoplasm of urinary organ, unspecified	Diagnosis	ICD-10-CM
D30.00	Benign neoplasm of unspecified kidney	Diagnosis	ICD-10-CM
D30.01	Benign neoplasm of right kidney	Diagnosis	ICD-10-CM
D30.02	Benign neoplasm of left kidney	Diagnosis	ICD-10-CM
D41.00	Neoplasm of uncertain behavior of unspecified kidney	Diagnosis	ICD-10-CM
D41.01	Neoplasm of uncertain behavior of right kidney	Diagnosis	ICD-10-CM
D41.02	Neoplasm of uncertain behavior of left kidney	Diagnosis	ICD-10-CM
D41.10	Neoplasm of uncertain behavior of unspecified renal pelvis	Diagnosis	ICD-10-CM
D41.11	Neoplasm of uncertain behavior of right renal pelvis	Diagnosis	ICD-10-CM
D41.12	Neoplasm of uncertain behavior of left renal pelvis	Diagnosis	ICD-10-CM
D41.20	Neoplasm of uncertain behavior of unspecified ureter	Diagnosis	ICD-10-CM
D41.21	Neoplasm of uncertain behavior of right ureter	Diagnosis	ICD-10-CM
D41.22	Neoplasm of uncertain behavior of left ureter	Diagnosis	ICD-10-CM
D59.3	Hemolytic-uremic syndrome	Diagnosis	ICD-10-CM
E08.21	Diabetes mellitus due to underlying condition with diabetic nephropathy	Diagnosis	ICD-10-CM
E08.22	Diabetes mellitus due to underlying condition with diabetic chronic kidney disease	Diagnosis	ICD-10-CM
E08.29	Diabetes mellitus due to underlying condition with other diabetic kidney complication	Diagnosis	ICD-10-CM
E08.65	Diabetes mellitus due to underlying condition with hyperglycemia	Diagnosis	ICD-10-CM
E09.21	Drug or chemical induced diabetes mellitus with diabetic nephropathy	Diagnosis	ICD-10-CM
E09.22	Drug or chemical induced diabetes mellitus with diabetic chronic kidney disease	Diagnosis	ICD-10-CM
E09.29	Drug or chemical induced diabetes mellitus with other diabetic kidney complication	Diagnosis	ICD-10-CM
E10.21	Type 1 diabetes mellitus with diabetic nephropathy	Diagnosis	ICD-10-CM
E10.22	Type 1 diabetes mellitus with diabetic chronic kidney disease	Diagnosis	ICD-10-CM
E10.29	Type 1 diabetes mellitus with other diabetic kidney complication	Diagnosis	ICD-10-CM
E10.65	Type 1 diabetes mellitus with hyperglycemia	Diagnosis	ICD-10-CM
E11.21	Type 2 diabetes mellitus with diabetic nephropathy	Diagnosis	ICD-10-CM

Code	Description	Code Category	Code Type
E11.22	Type 2 diabetes mellitus with diabetic chronic kidney disease	Diagnosis	ICD-10-CM
E11.29	Type 2 diabetes mellitus with other diabetic kidney complication	Diagnosis	ICD-10-CM
E11.65	Type 2 diabetes mellitus with hyperglycemia	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
E74.8	Other specified disorders of carbohydrate metabolism	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
I70.1	Atherosclerosis of renal artery	Diagnosis	ICD-10-CM
I72.2	Aneurysm of renal artery	Diagnosis	ICD-10-CM
K76.7	Hepatorenal syndrome	Diagnosis	ICD-10-CM
M10.30	Gout due to renal impairment, unspecified site	Diagnosis	ICD-10-CM
M10.311	Gout due to renal impairment, right shoulder	Diagnosis	ICD-10-CM
M10.312	Gout due to renal impairment, left shoulder	Diagnosis	ICD-10-CM
M10.319	Gout due to renal impairment, unspecified shoulder	Diagnosis	ICD-10-CM
M10.321	Gout due to renal impairment, right elbow	Diagnosis	ICD-10-CM
M10.322	Gout due to renal impairment, left elbow	Diagnosis	ICD-10-CM
M10.329	Gout due to renal impairment, unspecified elbow	Diagnosis	ICD-10-CM
M10.331	Gout due to renal impairment, right wrist	Diagnosis	ICD-10-CM
M10.332	Gout due to renal impairment, left wrist	Diagnosis	ICD-10-CM
M10.339	Gout due to renal impairment, unspecified wrist	Diagnosis	ICD-10-CM
M10.341	Gout due to renal impairment, right hand	Diagnosis	ICD-10-CM
M10.342	Gout due to renal impairment, left hand	Diagnosis	ICD-10-CM
M10.349	Gout due to renal impairment, unspecified hand	Diagnosis	ICD-10-CM
M10.351	Gout due to renal impairment, right hip	Diagnosis	ICD-10-CM
M10.352	Gout due to renal impairment, left hip	Diagnosis	ICD-10-CM
M10.359	Gout due to renal impairment, unspecified hip	Diagnosis	ICD-10-CM
M10.361	Gout due to renal impairment, right knee	Diagnosis	ICD-10-CM
M10.362	Gout due to renal impairment, left knee	Diagnosis	ICD-10-CM
M10.369	Gout due to renal impairment, unspecified knee	Diagnosis	ICD-10-CM
M10.371	Gout due to renal impairment, right ankle and foot	Diagnosis	ICD-10-CM
M10.372	Gout due to renal impairment, left ankle and foot	Diagnosis	ICD-10-CM
M10.379	Gout due to renal impairment, unspecified ankle and foot	Diagnosis	ICD-10-CM
M10.38	Gout due to renal impairment, vertebrae	Diagnosis	ICD-10-CM
M10.39	Gout due to renal impairment, multiple sites	Diagnosis	ICD-10-CM

Code	Description	Code Category	Code Type
M32.14	Glomerular disease in systemic lupus erythematosus	Diagnosis	ICD-10-CM
M32.15	Tubulo-interstitial nephropathy in systemic lupus erythematosus	Diagnosis	ICD-10-CM
M35.04	Sicca syndrome with tubulo-interstitial nephropathy	Diagnosis	ICD-10-CM
M35.0A	Sjogren syndrome with glomerular disease	Diagnosis	ICD-10-CM
N00.0	Acute nephritic syndrome with minor glomerular abnormality	Diagnosis	ICD-10-CM
N00.1	Acute nephritic syndrome with focal and segmental glomerular lesions	Diagnosis	ICD-10-CM
N00.2	Acute nephritic syndrome with diffuse membranous glomerulonephritis	Diagnosis	ICD-10-CM
N00.3	Acute nephritic syndrome with diffuse mesangial proliferative glomerulonephritis	Diagnosis	ICD-10-CM
N00.4	Acute nephritic syndrome with diffuse endocapillary proliferative glomerulonephritis	Diagnosis	ICD-10-CM
N00.5	Acute nephritic syndrome with diffuse mesangiocapillary glomerulonephritis	Diagnosis	ICD-10-CM
N00.6	Acute nephritic syndrome with dense deposit disease	Diagnosis	ICD-10-CM
N00.7	Acute nephritic syndrome with diffuse crescentic glomerulonephritis	Diagnosis	ICD-10-CM
N00.8	Acute nephritic syndrome with other morphologic changes	Diagnosis	ICD-10-CM
N00.9	Acute nephritic syndrome with unspecified morphologic changes	Diagnosis	ICD-10-CM
N01.0	Rapidly progressive nephritic syndrome with minor glomerular abnormality	Diagnosis	ICD-10-CM
N01.1	Rapidly progressive nephritic syndrome with focal and segmental glomerular lesions	Diagnosis	ICD-10-CM
N01.2	Rapidly progressive nephritic syndrome with diffuse membranous glomerulonephritis	Diagnosis	ICD-10-CM
N01.3	Rapidly progressive nephritic syndrome with diffuse mesangial proliferative glomerulonephritis	Diagnosis	ICD-10-CM
N01.4	Rapidly progressive nephritic syndrome with diffuse endocapillary proliferative glomerulonephritis	Diagnosis	ICD-10-CM
N01.5	Rapidly progressive nephritic syndrome with diffuse mesangiocapillary glomerulonephritis	Diagnosis	ICD-10-CM
N01.6	Rapidly progressive nephritic syndrome with dense deposit disease	Diagnosis	ICD-10-CM
N01.7	Rapidly progressive nephritic syndrome with diffuse crescentic glomerulonephritis	Diagnosis	ICD-10-CM
N01.8	Rapidly progressive nephritic syndrome with other morphologic changes	Diagnosis	ICD-10-CM
N01.9	Rapidly progressive nephritic syndrome with unspecified morphologic changes	Diagnosis	ICD-10-CM
N01.A	Rapidly progressive nephritic syndrome with C3 glomerulonephritis	Diagnosis	ICD-10-CM
N02.0	Recurrent and persistent hematuria with minor glomerular abnormality	Diagnosis	ICD-10-CM
N02.1	Recurrent and persistent hematuria with focal and segmental glomerular lesions	Diagnosis	ICD-10-CM
N02.2	Recurrent and persistent hematuria with diffuse membranous glomerulonephritis	Diagnosis	ICD-10-CM
N02.3	Recurrent and persistent hematuria with diffuse mesangial proliferative glomerulonephritis	Diagnosis	ICD-10-CM
N02.4	Recurrent and persistent hematuria with diffuse endocapillary proliferative glomerulonephritis	Diagnosis	ICD-10-CM
N02.5	Recurrent and persistent hematuria with diffuse mesangiocapillary glomerulonephritis	Diagnosis	ICD-10-CM
N02.6	Recurrent and persistent hematuria with dense deposit disease	Diagnosis	ICD-10-CM
N02.7	Recurrent and persistent hematuria with diffuse crescentic glomerulonephritis	Diagnosis	ICD-10-CM
N02.8	Recurrent and persistent hematuria with other morphologic changes	Diagnosis	ICD-10-CM
N02.9	Recurrent and persistent hematuria with unspecified morphologic changes	Diagnosis	ICD-10-CM
N02.A	Recurrent and persistent hematuria with C3 glomerulonephritis	Diagnosis	ICD-10-CM
N03.0	Chronic nephritic syndrome with minor glomerular abnormality	Diagnosis	ICD-10-CM
N03.1	Chronic nephritic syndrome with focal and segmental glomerular lesions	Diagnosis	ICD-10-CM
N03.2	Chronic nephritic syndrome with diffuse membranous glomerulonephritis	Diagnosis	ICD-10-CM
N03.3	Chronic nephritic syndrome with diffuse mesangial proliferative glomerulonephritis	Diagnosis	ICD-10-CM

Code	Description	Code Category	Code Type
N03.4	Chronic nephritic syndrome with diffuse endocapillary proliferative glomerulonephritis	Diagnosis	ICD-10-CM
N03.5	Chronic nephritic syndrome with diffuse mesangiocapillary glomerulonephritis	Diagnosis	ICD-10-CM
N03.6	Chronic nephritic syndrome with dense deposit disease	Diagnosis	ICD-10-CM
N03.7	Chronic nephritic syndrome with diffuse crescentic glomerulonephritis	Diagnosis	ICD-10-CM
N03.8	Chronic nephritic syndrome with other morphologic changes	Diagnosis	ICD-10-CM
N03.9	Chronic nephritic syndrome with unspecified morphologic changes	Diagnosis	ICD-10-CM
N03.A	Chronic nephritic syndrome with C3 glomerulonephritis	Diagnosis	ICD-10-CM
N04.0	Nephrotic syndrome with minor glomerular abnormality	Diagnosis	ICD-10-CM
N04.1	Nephrotic syndrome with focal and segmental glomerular lesions	Diagnosis	ICD-10-CM
N04.2	Nephrotic syndrome with diffuse membranous glomerulonephritis	Diagnosis	ICD-10-CM
N04.3	Nephrotic syndrome with diffuse mesangial proliferative glomerulonephritis	Diagnosis	ICD-10-CM
N04.4	Nephrotic syndrome with diffuse endocapillary proliferative glomerulonephritis	Diagnosis	ICD-10-CM
N04.5	Nephrotic syndrome with diffuse mesangiocapillary glomerulonephritis	Diagnosis	ICD-10-CM
N04.6	Nephrotic syndrome with dense deposit disease	Diagnosis	ICD-10-CM
N04.7	Nephrotic syndrome with diffuse crescentic glomerulonephritis	Diagnosis	ICD-10-CM
N04.8	Nephrotic syndrome with other morphologic changes	Diagnosis	ICD-10-CM
N04.9	Nephrotic syndrome with unspecified morphologic changes	Diagnosis	ICD-10-CM
N04.A	Nephrotic syndrome with C3 glomerulonephritis	Diagnosis	ICD-10-CM
N05.0	Unspecified nephritic syndrome with minor glomerular abnormality	Diagnosis	ICD-10-CM
N05.1	Unspecified nephritic syndrome with focal and segmental glomerular lesions	Diagnosis	ICD-10-CM
N05.2	Unspecified nephritic syndrome with diffuse membranous glomerulonephritis	Diagnosis	ICD-10-CM
N05.3	Unspecified nephritic syndrome with diffuse mesangial proliferative glomerulonephritis	Diagnosis	ICD-10-CM
N05.4	Unspecified nephritic syndrome with diffuse endocapillary proliferative glomerulonephritis	Diagnosis	ICD-10-CM
N05.5	Unspecified nephritic syndrome with diffuse mesangiocapillary glomerulonephritis	Diagnosis	ICD-10-CM
N05.6	Unspecified nephritic syndrome with dense deposit disease	Diagnosis	ICD-10-CM
N05.7	Unspecified nephritic syndrome with diffuse crescentic glomerulonephritis	Diagnosis	ICD-10-CM
N05.8	Unspecified nephritic syndrome with other morphologic changes	Diagnosis	ICD-10-CM
N05.9	Unspecified nephritic syndrome with unspecified morphologic changes	Diagnosis	ICD-10-CM
N05.A	Unspecified nephritic syndrome with C3 glomerulonephritis	Diagnosis	ICD-10-CM
N06.0	Isolated proteinuria with minor glomerular abnormality	Diagnosis	ICD-10-CM
N06.1	Isolated proteinuria with focal and segmental glomerular lesions	Diagnosis	ICD-10-CM
N06.2	Isolated proteinuria with diffuse membranous glomerulonephritis	Diagnosis	ICD-10-CM
N06.3	Isolated proteinuria with diffuse mesangial proliferative glomerulonephritis	Diagnosis	ICD-10-CM
N06.4	Isolated proteinuria with diffuse endocapillary proliferative glomerulonephritis	Diagnosis	ICD-10-CM
N06.5	Isolated proteinuria with diffuse mesangiocapillary glomerulonephritis	Diagnosis	ICD-10-CM
N06.6	Isolated proteinuria with dense deposit disease	Diagnosis	ICD-10-CM
N06.7	Isolated proteinuria with diffuse crescentic glomerulonephritis	Diagnosis	ICD-10-CM
N06.8	Isolated proteinuria with other morphologic lesion	Diagnosis	ICD-10-CM
N06.9	Isolated proteinuria with unspecified morphologic lesion	Diagnosis	ICD-10-CM
N06.A	Isolated proteinuria with C3 glomerulonephritis	Diagnosis	ICD-10-CM
N07.0	Hereditary nephropathy, not elsewhere classified with minor glomerular abnormality	Diagnosis	ICD-10-CM
N07.1	Hereditary nephropathy, not elsewhere classified with focal and segmental glomerular lesions	Diagnosis	ICD-10-CM

Code	Description	Code Category	Code Type
N07.2	Hereditary nephropathy, not elsewhere classified with diffuse membranous glomerulonephritis	Diagnosis	ICD-10-CM
N07.3	Hereditary nephropathy, not elsewhere classified with diffuse mesangial proliferative glomerulonephritis	Diagnosis	ICD-10-CM
N07.4	Hereditary nephropathy, not elsewhere classified with diffuse endocapillary proliferative glomerulonephritis	Diagnosis	ICD-10-CM
N07.5	Hereditary nephropathy, not elsewhere classified with diffuse mesangiocapillary glomerulonephritis	Diagnosis	ICD-10-CM
N07.6	Hereditary nephropathy, not elsewhere classified with dense deposit disease	Diagnosis	ICD-10-CM
N07.7	Hereditary nephropathy, not elsewhere classified with diffuse crescentic glomerulonephritis	Diagnosis	ICD-10-CM
N07.8	Hereditary nephropathy, not elsewhere classified with other morphologic lesions	Diagnosis	ICD-10-CM
N07.9	Hereditary nephropathy, not elsewhere classified with unspecified morphologic lesions	Diagnosis	ICD-10-CM
N07.A	Hereditary nephropathy, not elsewhere classified with C3 glomerulonephritis	Diagnosis	ICD-10-CM
N08	Glomerular disorders in diseases classified elsewhere	Diagnosis	ICD-10-CM
N13.1	Hydronephrosis with ureteral stricture, not elsewhere classified	Diagnosis	ICD-10-CM
N13.2	Hydronephrosis with renal and ureteral calculous obstruction	Diagnosis	ICD-10-CM
N13.30	Unspecified hydronephrosis	Diagnosis	ICD-10-CM
N13.39	Other hydronephrosis	Diagnosis	ICD-10-CM
N14.0	Analgesic nephropathy	Diagnosis	ICD-10-CM
N14.1	Nephropathy induced by other drugs, medicaments and biological substances	Diagnosis	ICD-10-CM
N14.2	Nephropathy induced by unspecified drug, medicament or biological substance	Diagnosis	ICD-10-CM
N14.3	Nephropathy induced by heavy metals	Diagnosis	ICD-10-CM
N14.4	Toxic nephropathy, not elsewhere classified	Diagnosis	ICD-10-CM
N15.0	Balkan nephropathy	Diagnosis	ICD-10-CM
N15.8	Other specified renal tubulo-interstitial diseases	Diagnosis	ICD-10-CM
N15.9	Renal tubulo-interstitial disease, unspecified	Diagnosis	ICD-10-CM
N16	Renal tubulo-interstitial disorders in diseases classified elsewhere	Diagnosis	ICD-10-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
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
N18.30	Chronic kidney disease, stage 3 unspecified	Diagnosis	ICD-10-CM
N18.31	Chronic kidney disease, stage 3a	Diagnosis	ICD-10-CM
N18.32	Chronic kidney disease, stage 3b	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
N25.0	Renal osteodystrophy	Diagnosis	ICD-10-CM

Code	Description	Code Category	Code Type
N25.1	Nephrogenic diabetes insipidus	Diagnosis	ICD–10–CM
N25.81	Secondary hyperparathyroidism of renal origin	Diagnosis	ICD–10–CM
N25.89	Other disorders resulting from impaired renal tubular function	Diagnosis	ICD–10–CM
N25.9	Disorder resulting from impaired renal tubular function, unspecified	Diagnosis	ICD–10–CM
N26.1	Atrophy of kidney (terminal)	Diagnosis	ICD–10–CM
N26.9	Renal sclerosis, unspecified	Diagnosis	ICD–10–CM
N99.0	Postprocedural (acute) (chronic) kidney failure	Diagnosis	ICD–10–CM
Q61.02	Congenital multiple renal cysts	Diagnosis	ICD–10–CM
Q61.11	Cystic dilatation of collecting ducts	Diagnosis	ICD–10–CM
Q61.19	Other polycystic kidney, infantile type	Diagnosis	ICD–10–CM
Q61.2	Polycystic kidney, adult type	Diagnosis	ICD–10–CM
Q61.3	Polycystic kidney, unspecified	Diagnosis	ICD–10–CM
Q61.4	Renal dysplasia	Diagnosis	ICD–10–CM
Q61.5	Medullary cystic kidney	Diagnosis	ICD–10–CM
Q61.8	Other cystic kidney diseases	Diagnosis	ICD–10–CM
Q62.0	Congenital hydronephrosis	Diagnosis	ICD–10–CM
Q62.10	Congenital occlusion of ureter, unspecified	Diagnosis	ICD–10–CM
Q62.11	Congenital occlusion of ureteropelvic junction	Diagnosis	ICD–10–CM
Q62.12	Congenital occlusion of ureterovesical orifice	Diagnosis	ICD–10–CM
Q62.2	Congenital megaureter	Diagnosis	ICD–10–CM
Q62.31	Congenital ureterocele, orthotopic	Diagnosis	ICD–10–CM
Q62.32	Cecoureterocele	Diagnosis	ICD–10–CM
Q62.39	Other obstructive defects of renal pelvis and ureter	Diagnosis	ICD–10–CM
R94.4	Abnormal results of kidney function studies	Diagnosis	ICD–10–CM
Chronic obstructive pulmonary disease & bronchiectasis			
J40	Bronchitis, not specified as acute or chronic	Diagnosis	ICD–10–CM
J41.0	Simple chronic bronchitis	Diagnosis	ICD–10–CM
J41.1	Mucopurulent chronic bronchitis	Diagnosis	ICD–10–CM
J41.8	Mixed simple and mucopurulent chronic bronchitis	Diagnosis	ICD–10–CM
J42	Unspecified chronic bronchitis	Diagnosis	ICD–10–CM
J43.0	Unilateral pulmonary emphysema [MacLeod's syndrome]	Diagnosis	ICD–10–CM
J43.1	Panlobular emphysema	Diagnosis	ICD–10–CM
J43.2	Centrilobular emphysema	Diagnosis	ICD–10–CM
J43.8	Other emphysema	Diagnosis	ICD–10–CM
J43.9	Emphysema, unspecified	Diagnosis	ICD–10–CM
J44.0	Chronic obstructive pulmonary disease with acute lower respiratory infection	Diagnosis	ICD–10–CM
J44.1	Chronic obstructive pulmonary disease with (acute) exacerbation	Diagnosis	ICD–10–CM
J44.9	Chronic obstructive pulmonary disease, unspecified	Diagnosis	ICD–10–CM
J47.0	Bronchiectasis with acute lower respiratory infection	Diagnosis	ICD–10–CM
J47.1	Bronchiectasis with (acute) exacerbation	Diagnosis	ICD–10–CM
J47.9	Bronchiectasis, uncomplicated	Diagnosis	ICD–10–CM
J98.2	Interstitial emphysema	Diagnosis	ICD–10–CM
J98.3	Compensatory emphysema	Diagnosis	ICD–10–CM
Depression			
F06.31	Mood disorder due to known physiological condition with depressive features	Diagnosis	ICD–10–CM

Code	Description	Code Category	Code Type
F06.32	Mood disorder due to known physiological condition with major depressive-like episode	Diagnosis	ICD-10-CM
F31.0	Bipolar disorder, current episode hypomanic	Diagnosis	ICD-10-CM
F31.10	Bipolar disorder, current episode manic without psychotic features, unspecified	Diagnosis	ICD-10-CM
F31.11	Bipolar disorder, current episode manic without psychotic features, mild	Diagnosis	ICD-10-CM
F31.12	Bipolar disorder, current episode manic without psychotic features, moderate	Diagnosis	ICD-10-CM
F31.13	Bipolar disorder, current episode manic without psychotic features, severe	Diagnosis	ICD-10-CM
F31.2	Bipolar disorder, current episode manic severe with psychotic features	Diagnosis	ICD-10-CM
F31.30	Bipolar disorder, current episode depressed, mild or moderate severity, unspecified	Diagnosis	ICD-10-CM
F31.31	Bipolar disorder, current episode depressed, mild	Diagnosis	ICD-10-CM
F31.32	Bipolar disorder, current episode depressed, moderate	Diagnosis	ICD-10-CM
F31.4	Bipolar disorder, current episode depressed, severe, without psychotic features	Diagnosis	ICD-10-CM
F31.5	Bipolar disorder, current episode depressed, severe, with psychotic features	Diagnosis	ICD-10-CM
F31.60	Bipolar disorder, current episode mixed, unspecified	Diagnosis	ICD-10-CM
F31.61	Bipolar disorder, current episode mixed, mild	Diagnosis	ICD-10-CM
F31.62	Bipolar disorder, current episode mixed, moderate	Diagnosis	ICD-10-CM
F31.63	Bipolar disorder, current episode mixed, severe, without psychotic features	Diagnosis	ICD-10-CM
F31.64	Bipolar disorder, current episode mixed, severe, with psychotic features	Diagnosis	ICD-10-CM
F31.71	Bipolar disorder, in partial remission, most recent episode hypomanic	Diagnosis	ICD-10-CM
F31.73	Bipolar disorder, in partial remission, most recent episode manic	Diagnosis	ICD-10-CM
F31.75	Bipolar disorder, in partial remission, most recent episode depressed	Diagnosis	ICD-10-CM
F31.76	Bipolar disorder, in full remission, most recent episode depressed	Diagnosis	ICD-10-CM
F31.77	Bipolar disorder, in partial remission, most recent episode mixed	Diagnosis	ICD-10-CM
F31.78	Bipolar disorder, in full remission, most recent episode mixed	Diagnosis	ICD-10-CM
F31.81	Bipolar II disorder	Diagnosis	ICD-10-CM
F31.89	Other bipolar disorder	Diagnosis	ICD-10-CM
F31.9	Bipolar disorder, unspecified	Diagnosis	ICD-10-CM
F32.0	Major depressive disorder, single episode, mild	Diagnosis	ICD-10-CM
F32.1	Major depressive disorder, single episode, moderate	Diagnosis	ICD-10-CM
F32.2	Major depressive disorder, single episode, severe without psychotic features	Diagnosis	ICD-10-CM
F32.3	Major depressive disorder, single episode, severe with psychotic features	Diagnosis	ICD-10-CM
F32.4	Major depressive disorder, single episode, in partial remission	Diagnosis	ICD-10-CM
F32.5	Major depressive disorder, single episode, in full remission	Diagnosis	ICD-10-CM
F32.8	Other depressive episodes	Diagnosis	ICD-10-CM
F32.89	Other specified depressive episodes	Diagnosis	ICD-10-CM
F32.9	Major depressive disorder, single episode, unspecified	Diagnosis	ICD-10-CM
F32.A	Depression, unspecified	Diagnosis	ICD-10-CM
F33.0	Major depressive disorder, recurrent, mild	Diagnosis	ICD-10-CM
F33.1	Major depressive disorder, recurrent, moderate	Diagnosis	ICD-10-CM
F33.2	Major depressive disorder, recurrent severe without psychotic features	Diagnosis	ICD-10-CM
F33.3	Major depressive disorder, recurrent, severe with psychotic symptoms	Diagnosis	ICD-10-CM
F33.40	Major depressive disorder, recurrent, in remission, unspecified	Diagnosis	ICD-10-CM
F33.41	Major depressive disorder, recurrent, in partial remission	Diagnosis	ICD-10-CM
F33.42	Major depressive disorder, recurrent, in full remission	Diagnosis	ICD-10-CM
F33.8	Other recurrent depressive disorders	Diagnosis	ICD-10-CM
F33.9	Major depressive disorder, recurrent, unspecified	Diagnosis	ICD-10-CM

Code	Description	Code Category	Code Type
F34.0	Cyclothymic disorder	Diagnosis	ICD-10-CM
F34.1	Dysthymic disorder	Diagnosis	ICD-10-CM
F43.21	Adjustment disorder with depressed mood	Diagnosis	ICD-10-CM
F43.23	Adjustment disorder with mixed anxiety and depressed mood	Diagnosis	ICD-10-CM
Diabetes			
E10.10	Type 1 diabetes mellitus with ketoacidosis without coma	Diagnosis	ICD-10-CM
E10.11	Type 1 diabetes mellitus with ketoacidosis with coma	Diagnosis	ICD-10-CM
E10.21	Type 1 diabetes mellitus with diabetic nephropathy	Diagnosis	ICD-10-CM
E10.22	Type 1 diabetes mellitus with diabetic chronic kidney disease	Diagnosis	ICD-10-CM
E10.29	Type 1 diabetes mellitus with other diabetic kidney 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
E10.3211	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

Code	Description	Code Category	Code Type
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
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

Code	Description	Code Category	Code Type
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
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
E10.40	Type 1 diabetes mellitus with diabetic neuropathy, unspecified	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
E10.51	Type 1 diabetes mellitus with diabetic peripheral angiopathy without gangrene	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
E10.610	Type 1 diabetes mellitus with diabetic neuropathic arthropathy	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
E10.641	Type 1 diabetes mellitus with hypoglycemia with coma	Diagnosis	ICD-10-CM
E10.649	Type 1 diabetes mellitus with hypoglycemia without coma	Diagnosis	ICD-10-CM
E10.65	Type 1 diabetes mellitus with hyperglycemia	Diagnosis	ICD-10-CM
E10.69	Type 1 diabetes mellitus with other specified complication	Diagnosis	ICD-10-CM

Code	Description	Code Category	Code Type
E10.8	Type 1 diabetes mellitus with unspecified complications	Diagnosis	ICD-10-CM
E10.9	Type 1 diabetes mellitus without complications	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
E11.21	Type 2 diabetes mellitus with diabetic nephropathy	Diagnosis	ICD-10-CM
E11.22	Type 2 diabetes mellitus with diabetic chronic kidney disease	Diagnosis	ICD-10-CM
E11.29	Type 2 diabetes mellitus with other diabetic kidney complication	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
E11.3211	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
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

Code	Description	Code Category	Code Type
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
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

Code	Description	Code Category	Code Type
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
E11.36	Type 2 diabetes mellitus with diabetic cataract	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
E11.39	Type 2 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
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
E11.51	Type 2 diabetes mellitus with diabetic peripheral angiopathy without gangrene	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
E11.610	Type 2 diabetes mellitus with diabetic neuropathic arthropathy	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
E11.641	Type 2 diabetes mellitus with hypoglycemia with coma	Diagnosis	ICD-10-CM
E11.649	Type 2 diabetes mellitus with hypoglycemia without coma	Diagnosis	ICD-10-CM
E11.65	Type 2 diabetes mellitus with hyperglycemia	Diagnosis	ICD-10-CM
E11.69	Type 2 diabetes mellitus with other specified complication	Diagnosis	ICD-10-CM
E11.8	Type 2 diabetes mellitus with unspecified complications	Diagnosis	ICD-10-CM
E11.9	Type 2 diabetes mellitus without complications	Diagnosis	ICD-10-CM

Code	Description	Code Category	Code Type
	Glaucoma		
H40.001	Preglaucoma, unspecified, right eye	Diagnosis	ICD-10-CM
H40.002	Preglaucoma, unspecified, left eye	Diagnosis	ICD-10-CM
H40.003	Preglaucoma, unspecified, bilateral	Diagnosis	ICD-10-CM
H40.009	Preglaucoma, unspecified, unspecified eye	Diagnosis	ICD-10-CM
H40.011	Open angle with borderline findings, low risk, right eye	Diagnosis	ICD-10-CM
H40.012	Open angle with borderline findings, low risk, left eye	Diagnosis	ICD-10-CM
H40.013	Open angle with borderline findings, low risk, bilateral	Diagnosis	ICD-10-CM
H40.019	Open angle with borderline findings, low risk, unspecified eye	Diagnosis	ICD-10-CM
H40.021	Open angle with borderline findings, high risk, right eye	Diagnosis	ICD-10-CM
H40.022	Open angle with borderline findings, high risk, left eye	Diagnosis	ICD-10-CM
H40.023	Open angle with borderline findings, high risk, bilateral	Diagnosis	ICD-10-CM
H40.029	Open angle with borderline findings, high risk, unspecified eye	Diagnosis	ICD-10-CM
H40.031	Anatomical narrow angle, right eye	Diagnosis	ICD-10-CM
H40.032	Anatomical narrow angle, left eye	Diagnosis	ICD-10-CM
H40.033	Anatomical narrow angle, bilateral	Diagnosis	ICD-10-CM
H40.039	Anatomical narrow angle, unspecified eye	Diagnosis	ICD-10-CM
H40.041	Steroid responder, right eye	Diagnosis	ICD-10-CM
H40.042	Steroid responder, left eye	Diagnosis	ICD-10-CM
H40.043	Steroid responder, bilateral	Diagnosis	ICD-10-CM
H40.049	Steroid responder, unspecified eye	Diagnosis	ICD-10-CM
H40.051	Ocular hypertension, right eye	Diagnosis	ICD-10-CM
H40.052	Ocular hypertension, left eye	Diagnosis	ICD-10-CM
H40.053	Ocular hypertension, bilateral	Diagnosis	ICD-10-CM
H40.059	Ocular hypertension, unspecified eye	Diagnosis	ICD-10-CM
H40.10X0	Unspecified open-angle glaucoma, stage unspecified	Diagnosis	ICD-10-CM
H40.10X1	Unspecified open-angle glaucoma, mild stage	Diagnosis	ICD-10-CM
H40.10X2	Unspecified open-angle glaucoma, moderate stage	Diagnosis	ICD-10-CM
H40.10X3	Unspecified open-angle glaucoma, severe stage	Diagnosis	ICD-10-CM
H40.10X4	Unspecified open-angle glaucoma, indeterminate stage	Diagnosis	ICD-10-CM
H40.1110	Primary open-angle glaucoma, right eye, stage unspecified	Diagnosis	ICD-10-CM
H40.1111	Primary open-angle glaucoma, right eye, mild stage	Diagnosis	ICD-10-CM
H40.1112	Primary open-angle glaucoma, right eye, moderate stage	Diagnosis	ICD-10-CM
H40.1113	Primary open-angle glaucoma, right eye, severe stage	Diagnosis	ICD-10-CM
H40.1114	Primary open-angle glaucoma, right eye, indeterminate stage	Diagnosis	ICD-10-CM
H40.1120	Primary open-angle glaucoma, left eye, stage unspecified	Diagnosis	ICD-10-CM
H40.1121	Primary open-angle glaucoma, left eye, mild stage	Diagnosis	ICD-10-CM
H40.1122	Primary open-angle glaucoma, left eye, moderate stage	Diagnosis	ICD-10-CM
H40.1123	Primary open-angle glaucoma, left eye, severe stage	Diagnosis	ICD-10-CM
H40.1124	Primary open-angle glaucoma, left eye, indeterminate stage	Diagnosis	ICD-10-CM
H40.1130	Primary open-angle glaucoma, bilateral, stage unspecified	Diagnosis	ICD-10-CM
H40.1131	Primary open-angle glaucoma, bilateral, mild stage	Diagnosis	ICD-10-CM
H40.1132	Primary open-angle glaucoma, bilateral, moderate stage	Diagnosis	ICD-10-CM
H40.1133	Primary open-angle glaucoma, bilateral, severe stage	Diagnosis	ICD-10-CM
H40.1134	Primary open-angle glaucoma, bilateral, indeterminate stage	Diagnosis	ICD-10-CM
H40.1190	Primary open-angle glaucoma, unspecified eye, stage unspecified	Diagnosis	ICD-10-CM

Code	Description	Code Category	Code Type
H40.1191	Primary open-angle glaucoma, unspecified eye, mild stage	Diagnosis	ICD-10-CM
H40.1192	Primary open-angle glaucoma, unspecified eye, moderate stage	Diagnosis	ICD-10-CM
H40.1193	Primary open-angle glaucoma, unspecified eye, severe stage	Diagnosis	ICD-10-CM
H40.1194	Primary open-angle glaucoma, unspecified eye, indeterminate stage	Diagnosis	ICD-10-CM
H40.11X0	Primary open-angle glaucoma, stage unspecified	Diagnosis	ICD-10-CM
H40.11X1	Primary open-angle glaucoma, mild stage	Diagnosis	ICD-10-CM
H40.11X2	Primary open-angle glaucoma, moderate stage	Diagnosis	ICD-10-CM
H40.11X3	Primary open-angle glaucoma, severe stage	Diagnosis	ICD-10-CM
H40.11X4	Primary open-angle glaucoma, indeterminate stage	Diagnosis	ICD-10-CM
H40.1210	Low-tension glaucoma, right eye, stage unspecified	Diagnosis	ICD-10-CM
H40.1211	Low-tension glaucoma, right eye, mild stage	Diagnosis	ICD-10-CM
H40.1212	Low-tension glaucoma, right eye, moderate stage	Diagnosis	ICD-10-CM
H40.1213	Low-tension glaucoma, right eye, severe stage	Diagnosis	ICD-10-CM
H40.1214	Low-tension glaucoma, right eye, indeterminate stage	Diagnosis	ICD-10-CM
H40.1220	Low-tension glaucoma, left eye, stage unspecified	Diagnosis	ICD-10-CM
H40.1221	Low-tension glaucoma, left eye, mild stage	Diagnosis	ICD-10-CM
H40.1222	Low-tension glaucoma, left eye, moderate stage	Diagnosis	ICD-10-CM
H40.1223	Low-tension glaucoma, left eye, severe stage	Diagnosis	ICD-10-CM
H40.1224	Low-tension glaucoma, left eye, indeterminate stage	Diagnosis	ICD-10-CM
H40.1230	Low-tension glaucoma, bilateral, stage unspecified	Diagnosis	ICD-10-CM
H40.1231	Low-tension glaucoma, bilateral, mild stage	Diagnosis	ICD-10-CM
H40.1232	Low-tension glaucoma, bilateral, moderate stage	Diagnosis	ICD-10-CM
H40.1233	Low-tension glaucoma, bilateral, severe stage	Diagnosis	ICD-10-CM
H40.1234	Low-tension glaucoma, bilateral, indeterminate stage	Diagnosis	ICD-10-CM
H40.1290	Low-tension glaucoma, unspecified eye, stage unspecified	Diagnosis	ICD-10-CM
H40.1291	Low-tension glaucoma, unspecified eye, mild stage	Diagnosis	ICD-10-CM
H40.1292	Low-tension glaucoma, unspecified eye, moderate stage	Diagnosis	ICD-10-CM
H40.1293	Low-tension glaucoma, unspecified eye, severe stage	Diagnosis	ICD-10-CM
H40.1294	Low-tension glaucoma, unspecified eye, indeterminate stage	Diagnosis	ICD-10-CM
H40.1310	Pigmentary glaucoma, right eye, stage unspecified	Diagnosis	ICD-10-CM
H40.1311	Pigmentary glaucoma, right eye, mild stage	Diagnosis	ICD-10-CM
H40.1312	Pigmentary glaucoma, right eye, moderate stage	Diagnosis	ICD-10-CM
H40.1313	Pigmentary glaucoma, right eye, severe stage	Diagnosis	ICD-10-CM
H40.1314	Pigmentary glaucoma, right eye, indeterminate stage	Diagnosis	ICD-10-CM
H40.1320	Pigmentary glaucoma, left eye, stage unspecified	Diagnosis	ICD-10-CM
H40.1321	Pigmentary glaucoma, left eye, mild stage	Diagnosis	ICD-10-CM
H40.1322	Pigmentary glaucoma, left eye, moderate stage	Diagnosis	ICD-10-CM
H40.1323	Pigmentary glaucoma, left eye, severe stage	Diagnosis	ICD-10-CM
H40.1324	Pigmentary glaucoma, left eye, indeterminate stage	Diagnosis	ICD-10-CM
H40.1330	Pigmentary glaucoma, bilateral, stage unspecified	Diagnosis	ICD-10-CM
H40.1331	Pigmentary glaucoma, bilateral, mild stage	Diagnosis	ICD-10-CM
H40.1332	Pigmentary glaucoma, bilateral, moderate stage	Diagnosis	ICD-10-CM
H40.1333	Pigmentary glaucoma, bilateral, severe stage	Diagnosis	ICD-10-CM
H40.1334	Pigmentary glaucoma, bilateral, indeterminate stage	Diagnosis	ICD-10-CM
H40.1390	Pigmentary glaucoma, unspecified eye, stage unspecified	Diagnosis	ICD-10-CM
H40.1391	Pigmentary glaucoma, unspecified eye, mild stage	Diagnosis	ICD-10-CM

Code	Description	Code Category	Code Type
H40.1392	Pigmentary glaucoma, unspecified eye, moderate stage	Diagnosis	ICD-10-CM
H40.1393	Pigmentary glaucoma, unspecified eye, severe stage	Diagnosis	ICD-10-CM
H40.1394	Pigmentary glaucoma, unspecified eye, indeterminate stage	Diagnosis	ICD-10-CM
H40.1410	Capsular glaucoma with pseudoexfoliation of lens, right eye, stage unspecified	Diagnosis	ICD-10-CM
H40.1411	Capsular glaucoma with pseudoexfoliation of lens, right eye, mild stage	Diagnosis	ICD-10-CM
H40.1412	Capsular glaucoma with pseudoexfoliation of lens, right eye, moderate stage	Diagnosis	ICD-10-CM
H40.1413	Capsular glaucoma with pseudoexfoliation of lens, right eye, severe stage	Diagnosis	ICD-10-CM
H40.1414	Capsular glaucoma with pseudoexfoliation of lens, right eye, indeterminate stage	Diagnosis	ICD-10-CM
H40.1420	Capsular glaucoma with pseudoexfoliation of lens, left eye, stage unspecified	Diagnosis	ICD-10-CM
H40.1421	Capsular glaucoma with pseudoexfoliation of lens, left eye, mild stage	Diagnosis	ICD-10-CM
H40.1422	Capsular glaucoma with pseudoexfoliation of lens, left eye, moderate stage	Diagnosis	ICD-10-CM
H40.1423	Capsular glaucoma with pseudoexfoliation of lens, left eye, severe stage	Diagnosis	ICD-10-CM
H40.1424	Capsular glaucoma with pseudoexfoliation of lens, left eye, indeterminate stage	Diagnosis	ICD-10-CM
H40.1430	Capsular glaucoma with pseudoexfoliation of lens, bilateral, stage unspecified	Diagnosis	ICD-10-CM
H40.1431	Capsular glaucoma with pseudoexfoliation of lens, bilateral, mild stage	Diagnosis	ICD-10-CM
H40.1432	Capsular glaucoma with pseudoexfoliation of lens, bilateral, moderate stage	Diagnosis	ICD-10-CM
H40.1433	Capsular glaucoma with pseudoexfoliation of lens, bilateral, severe stage	Diagnosis	ICD-10-CM
H40.1434	Capsular glaucoma with pseudoexfoliation of lens, bilateral, indeterminate stage	Diagnosis	ICD-10-CM
H40.1490	Capsular glaucoma with pseudoexfoliation of lens, unspecified eye, stage unspecified	Diagnosis	ICD-10-CM
H40.1491	Capsular glaucoma with pseudoexfoliation of lens, unspecified eye, mild stage	Diagnosis	ICD-10-CM
H40.1492	Capsular glaucoma with pseudoexfoliation of lens, unspecified eye, moderate stage	Diagnosis	ICD-10-CM
H40.1493	Capsular glaucoma with pseudoexfoliation of lens, unspecified eye, severe stage	Diagnosis	ICD-10-CM
H40.1494	Capsular glaucoma with pseudoexfoliation of lens, unspecified eye, indeterminate stage	Diagnosis	ICD-10-CM
H40.151	Residual stage of open-angle glaucoma, right eye	Diagnosis	ICD-10-CM
H40.152	Residual stage of open-angle glaucoma, left eye	Diagnosis	ICD-10-CM
H40.153	Residual stage of open-angle glaucoma, bilateral	Diagnosis	ICD-10-CM
H40.159	Residual stage of open-angle glaucoma, unspecified eye	Diagnosis	ICD-10-CM
H40.20X0	Unspecified primary angle-closure glaucoma, stage unspecified	Diagnosis	ICD-10-CM
H40.20X1	Unspecified primary angle-closure glaucoma, mild stage	Diagnosis	ICD-10-CM
H40.20X2	Unspecified primary angle-closure glaucoma, moderate stage	Diagnosis	ICD-10-CM
H40.20X3	Unspecified primary angle-closure glaucoma, severe stage	Diagnosis	ICD-10-CM
H40.20X4	Unspecified primary angle-closure glaucoma, indeterminate stage	Diagnosis	ICD-10-CM
H40.211	Acute angle-closure glaucoma, right eye	Diagnosis	ICD-10-CM
H40.212	Acute angle-closure glaucoma, left eye	Diagnosis	ICD-10-CM
H40.213	Acute angle-closure glaucoma, bilateral	Diagnosis	ICD-10-CM
H40.219	Acute angle-closure glaucoma, unspecified eye	Diagnosis	ICD-10-CM
H40.2210	Chronic angle-closure glaucoma, right eye, stage unspecified	Diagnosis	ICD-10-CM
H40.2211	Chronic angle-closure glaucoma, right eye, mild stage	Diagnosis	ICD-10-CM
H40.2212	Chronic angle-closure glaucoma, right eye, moderate stage	Diagnosis	ICD-10-CM
H40.2213	Chronic angle-closure glaucoma, right eye, severe stage	Diagnosis	ICD-10-CM
H40.2214	Chronic angle-closure glaucoma, right eye, indeterminate stage	Diagnosis	ICD-10-CM
H40.2220	Chronic angle-closure glaucoma, left eye, stage unspecified	Diagnosis	ICD-10-CM
H40.2221	Chronic angle-closure glaucoma, left eye, mild stage	Diagnosis	ICD-10-CM
H40.2222	Chronic angle-closure glaucoma, left eye, moderate stage	Diagnosis	ICD-10-CM
H40.2223	Chronic angle-closure glaucoma, left eye, severe stage	Diagnosis	ICD-10-CM

Code	Description	Code Category	Code Type
H40.2224	Chronic angle-closure glaucoma, left eye, indeterminate stage	Diagnosis	ICD-10-CM
H40.2230	Chronic angle-closure glaucoma, bilateral, stage unspecified	Diagnosis	ICD-10-CM
H40.2231	Chronic angle-closure glaucoma, bilateral, mild stage	Diagnosis	ICD-10-CM
H40.2232	Chronic angle-closure glaucoma, bilateral, moderate stage	Diagnosis	ICD-10-CM
H40.2233	Chronic angle-closure glaucoma, bilateral, severe stage	Diagnosis	ICD-10-CM
H40.2234	Chronic angle-closure glaucoma, bilateral, indeterminate stage	Diagnosis	ICD-10-CM
H40.2290	Chronic angle-closure glaucoma, unspecified eye, stage unspecified	Diagnosis	ICD-10-CM
H40.2291	Chronic angle-closure glaucoma, unspecified eye, mild stage	Diagnosis	ICD-10-CM
H40.2292	Chronic angle-closure glaucoma, unspecified eye, moderate stage	Diagnosis	ICD-10-CM
H40.2293	Chronic angle-closure glaucoma, unspecified eye, severe stage	Diagnosis	ICD-10-CM
H40.2294	Chronic angle-closure glaucoma, unspecified eye, indeterminate stage	Diagnosis	ICD-10-CM
H40.231	Intermittent angle-closure glaucoma, right eye	Diagnosis	ICD-10-CM
H40.232	Intermittent angle-closure glaucoma, left eye	Diagnosis	ICD-10-CM
H40.233	Intermittent angle-closure glaucoma, bilateral	Diagnosis	ICD-10-CM
H40.239	Intermittent angle-closure glaucoma, unspecified eye	Diagnosis	ICD-10-CM
H40.241	Residual stage of angle-closure glaucoma, right eye	Diagnosis	ICD-10-CM
H40.242	Residual stage of angle-closure glaucoma, left eye	Diagnosis	ICD-10-CM
H40.243	Residual stage of angle-closure glaucoma, bilateral	Diagnosis	ICD-10-CM
H40.249	Residual stage of angle-closure glaucoma, unspecified eye	Diagnosis	ICD-10-CM
H40.30X0	Glaucoma secondary to eye trauma, unspecified eye, stage unspecified	Diagnosis	ICD-10-CM
H40.30X1	Glaucoma secondary to eye trauma, unspecified eye, mild stage	Diagnosis	ICD-10-CM
H40.30X2	Glaucoma secondary to eye trauma, unspecified eye, moderate stage	Diagnosis	ICD-10-CM
H40.30X3	Glaucoma secondary to eye trauma, unspecified eye, severe stage	Diagnosis	ICD-10-CM
H40.30X4	Glaucoma secondary to eye trauma, unspecified eye, indeterminate stage	Diagnosis	ICD-10-CM
H40.31X0	Glaucoma secondary to eye trauma, right eye, stage unspecified	Diagnosis	ICD-10-CM
H40.31X1	Glaucoma secondary to eye trauma, right eye, mild stage	Diagnosis	ICD-10-CM
H40.31X2	Glaucoma secondary to eye trauma, right eye, moderate stage	Diagnosis	ICD-10-CM
H40.31X3	Glaucoma secondary to eye trauma, right eye, severe stage	Diagnosis	ICD-10-CM
H40.31X4	Glaucoma secondary to eye trauma, right eye, indeterminate stage	Diagnosis	ICD-10-CM
H40.32X0	Glaucoma secondary to eye trauma, left eye, stage unspecified	Diagnosis	ICD-10-CM
H40.32X1	Glaucoma secondary to eye trauma, left eye, mild stage	Diagnosis	ICD-10-CM
H40.32X2	Glaucoma secondary to eye trauma, left eye, moderate stage	Diagnosis	ICD-10-CM
H40.32X3	Glaucoma secondary to eye trauma, left eye, severe stage	Diagnosis	ICD-10-CM
H40.32X4	Glaucoma secondary to eye trauma, left eye, indeterminate stage	Diagnosis	ICD-10-CM
H40.33X0	Glaucoma secondary to eye trauma, bilateral, stage unspecified	Diagnosis	ICD-10-CM
H40.33X1	Glaucoma secondary to eye trauma, bilateral, mild stage	Diagnosis	ICD-10-CM
H40.33X2	Glaucoma secondary to eye trauma, bilateral, moderate stage	Diagnosis	ICD-10-CM
H40.33X3	Glaucoma secondary to eye trauma, bilateral, severe stage	Diagnosis	ICD-10-CM
H40.33X4	Glaucoma secondary to eye trauma, bilateral, indeterminate stage	Diagnosis	ICD-10-CM
H40.40X0	Glaucoma secondary to eye inflammation, unspecified eye, stage unspecified	Diagnosis	ICD-10-CM
H40.40X1	Glaucoma secondary to eye inflammation, unspecified eye, mild stage	Diagnosis	ICD-10-CM
H40.40X2	Glaucoma secondary to eye inflammation, unspecified eye, moderate stage	Diagnosis	ICD-10-CM
H40.40X3	Glaucoma secondary to eye inflammation, unspecified eye, severe stage	Diagnosis	ICD-10-CM
H40.40X4	Glaucoma secondary to eye inflammation, unspecified eye, indeterminate stage	Diagnosis	ICD-10-CM
H40.41X0	Glaucoma secondary to eye inflammation, right eye, stage unspecified	Diagnosis	ICD-10-CM
H40.41X1	Glaucoma secondary to eye inflammation, right eye, mild stage	Diagnosis	ICD-10-CM

Code	Description	Code Category	Code Type
H40.41X2	Glaucoma secondary to eye inflammation, right eye, moderate stage	Diagnosis	ICD-10-CM
H40.41X3	Glaucoma secondary to eye inflammation, right eye, severe stage	Diagnosis	ICD-10-CM
H40.41X4	Glaucoma secondary to eye inflammation, right eye, indeterminate stage	Diagnosis	ICD-10-CM
H40.42X0	Glaucoma secondary to eye inflammation, left eye, stage unspecified	Diagnosis	ICD-10-CM
H40.42X1	Glaucoma secondary to eye inflammation, left eye, mild stage	Diagnosis	ICD-10-CM
H40.42X2	Glaucoma secondary to eye inflammation, left eye, moderate stage	Diagnosis	ICD-10-CM
H40.42X3	Glaucoma secondary to eye inflammation, left eye, severe stage	Diagnosis	ICD-10-CM
H40.42X4	Glaucoma secondary to eye inflammation, left eye, indeterminate stage	Diagnosis	ICD-10-CM
H40.43X0	Glaucoma secondary to eye inflammation, bilateral, stage unspecified	Diagnosis	ICD-10-CM
H40.43X1	Glaucoma secondary to eye inflammation, bilateral, mild stage	Diagnosis	ICD-10-CM
H40.43X2	Glaucoma secondary to eye inflammation, bilateral, moderate stage	Diagnosis	ICD-10-CM
H40.43X3	Glaucoma secondary to eye inflammation, bilateral, severe stage	Diagnosis	ICD-10-CM
H40.43X4	Glaucoma secondary to eye inflammation, bilateral, indeterminate stage	Diagnosis	ICD-10-CM
H40.50X0	Glaucoma secondary to other eye disorders, unspecified eye, stage unspecified	Diagnosis	ICD-10-CM
H40.50X1	Glaucoma secondary to other eye disorders, unspecified eye, mild stage	Diagnosis	ICD-10-CM
H40.50X2	Glaucoma secondary to other eye disorders, unspecified eye, moderate stage	Diagnosis	ICD-10-CM
H40.50X3	Glaucoma secondary to other eye disorders, unspecified eye, severe stage	Diagnosis	ICD-10-CM
H40.50X4	Glaucoma secondary to other eye disorders, unspecified eye, indeterminate stage	Diagnosis	ICD-10-CM
H40.51X0	Glaucoma secondary to other eye disorders, right eye, stage unspecified	Diagnosis	ICD-10-CM
H40.51X1	Glaucoma secondary to other eye disorders, right eye, mild stage	Diagnosis	ICD-10-CM
H40.51X2	Glaucoma secondary to other eye disorders, right eye, moderate stage	Diagnosis	ICD-10-CM
H40.51X3	Glaucoma secondary to other eye disorders, right eye, severe stage	Diagnosis	ICD-10-CM
H40.51X4	Glaucoma secondary to other eye disorders, right eye, indeterminate stage	Diagnosis	ICD-10-CM
H40.52X0	Glaucoma secondary to other eye disorders, left eye, stage unspecified	Diagnosis	ICD-10-CM
H40.52X1	Glaucoma secondary to other eye disorders, left eye, mild stage	Diagnosis	ICD-10-CM
H40.52X2	Glaucoma secondary to other eye disorders, left eye, moderate stage	Diagnosis	ICD-10-CM
H40.52X3	Glaucoma secondary to other eye disorders, left eye, severe stage	Diagnosis	ICD-10-CM
H40.52X4	Glaucoma secondary to other eye disorders, left eye, indeterminate stage	Diagnosis	ICD-10-CM
H40.53X0	Glaucoma secondary to other eye disorders, bilateral, stage unspecified	Diagnosis	ICD-10-CM
H40.53X1	Glaucoma secondary to other eye disorders, bilateral, mild stage	Diagnosis	ICD-10-CM
H40.53X2	Glaucoma secondary to other eye disorders, bilateral, moderate stage	Diagnosis	ICD-10-CM
H40.53X3	Glaucoma secondary to other eye disorders, bilateral, severe stage	Diagnosis	ICD-10-CM
H40.53X4	Glaucoma secondary to other eye disorders, bilateral, indeterminate stage	Diagnosis	ICD-10-CM
H40.60X0	Glaucoma secondary to drugs, unspecified eye, stage unspecified	Diagnosis	ICD-10-CM
H40.60X1	Glaucoma secondary to drugs, unspecified eye, mild stage	Diagnosis	ICD-10-CM
H40.60X2	Glaucoma secondary to drugs, unspecified eye, moderate stage	Diagnosis	ICD-10-CM
H40.60X3	Glaucoma secondary to drugs, unspecified eye, severe stage	Diagnosis	ICD-10-CM
H40.60X4	Glaucoma secondary to drugs, unspecified eye, indeterminate stage	Diagnosis	ICD-10-CM
H40.61X0	Glaucoma secondary to drugs, right eye, stage unspecified	Diagnosis	ICD-10-CM
H40.61X1	Glaucoma secondary to drugs, right eye, mild stage	Diagnosis	ICD-10-CM
H40.61X2	Glaucoma secondary to drugs, right eye, moderate stage	Diagnosis	ICD-10-CM
H40.61X3	Glaucoma secondary to drugs, right eye, severe stage	Diagnosis	ICD-10-CM
H40.61X4	Glaucoma secondary to drugs, right eye, indeterminate stage	Diagnosis	ICD-10-CM
H40.62X0	Glaucoma secondary to drugs, left eye, stage unspecified	Diagnosis	ICD-10-CM
H40.62X1	Glaucoma secondary to drugs, left eye, mild stage	Diagnosis	ICD-10-CM
H40.62X2	Glaucoma secondary to drugs, left eye, moderate stage	Diagnosis	ICD-10-CM

Code	Description	Code Category	Code Type
H40.62X3	Glaucoma secondary to drugs, left eye, severe stage	Diagnosis	ICD-10-CM
H40.62X4	Glaucoma secondary to drugs, left eye, indeterminate stage	Diagnosis	ICD-10-CM
H40.63X0	Glaucoma secondary to drugs, bilateral, stage unspecified	Diagnosis	ICD-10-CM
H40.63X1	Glaucoma secondary to drugs, bilateral, mild stage	Diagnosis	ICD-10-CM
H40.63X2	Glaucoma secondary to drugs, bilateral, moderate stage	Diagnosis	ICD-10-CM
H40.63X3	Glaucoma secondary to drugs, bilateral, severe stage	Diagnosis	ICD-10-CM
H40.63X4	Glaucoma secondary to drugs, bilateral, indeterminate stage	Diagnosis	ICD-10-CM
H40.811	Glaucoma with increased episcleral venous pressure, right eye	Diagnosis	ICD-10-CM
H40.812	Glaucoma with increased episcleral venous pressure, left eye	Diagnosis	ICD-10-CM
H40.813	Glaucoma with increased episcleral venous pressure, bilateral	Diagnosis	ICD-10-CM
H40.819	Glaucoma with increased episcleral venous pressure, unspecified eye	Diagnosis	ICD-10-CM
H40.821	Hypersecretion glaucoma, right eye	Diagnosis	ICD-10-CM
H40.822	Hypersecretion glaucoma, left eye	Diagnosis	ICD-10-CM
H40.823	Hypersecretion glaucoma, bilateral	Diagnosis	ICD-10-CM
H40.829	Hypersecretion glaucoma, unspecified eye	Diagnosis	ICD-10-CM
H40.831	Aqueous misdirection, right eye	Diagnosis	ICD-10-CM
H40.832	Aqueous misdirection, left eye	Diagnosis	ICD-10-CM
H40.833	Aqueous misdirection, bilateral	Diagnosis	ICD-10-CM
H40.839	Aqueous misdirection, unspecified eye	Diagnosis	ICD-10-CM
H40.89	Other specified glaucoma	Diagnosis	ICD-10-CM
H40.9	Unspecified glaucoma	Diagnosis	ICD-10-CM
H42	Glaucoma in diseases classified elsewhere	Diagnosis	ICD-10-CM
H44.511	Absolute glaucoma, right eye	Diagnosis	ICD-10-CM
H44.512	Absolute glaucoma, left eye	Diagnosis	ICD-10-CM
H44.513	Absolute glaucoma, bilateral	Diagnosis	ICD-10-CM
H44.519	Absolute glaucoma, unspecified eye	Diagnosis	ICD-10-CM
H47.231	Glaucomatous optic atrophy, right eye	Diagnosis	ICD-10-CM
H47.232	Glaucomatous optic atrophy, left eye	Diagnosis	ICD-10-CM
H47.233	Glaucomatous optic atrophy, bilateral	Diagnosis	ICD-10-CM
H47.239	Glaucomatous optic atrophy, unspecified eye	Diagnosis	ICD-10-CM
Q15.0	Congenital glaucoma	Diagnosis	ICD-10-CM
Chronic obstructive pulmonary disease & bronchiectasis			
I09.81	Rheumatic heart failure	Diagnosis	ICD-10-CM
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
I42.0	Dilated cardiomyopathy	Diagnosis	ICD-10-CM
I42.5	Other restrictive cardiomyopathy	Diagnosis	ICD-10-CM
I42.6	Alcoholic cardiomyopathy	Diagnosis	ICD-10-CM
I42.7	Cardiomyopathy due to drug and external agent	Diagnosis	ICD-10-CM
I42.8	Other cardiomyopathies	Diagnosis	ICD-10-CM
I43	Cardiomyopathy in diseases classified elsewhere	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

Code	Description	Code Category	Code Type
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
P29.0	Neonatal cardiac failure	Diagnosis	ICD-10-CM
Hip/Pelvic Fracture			
M80.051A	Age-related osteoporosis with current pathological fracture, right femur, initial encounter for fracture	Diagnosis	ICD-10-CM
M80.052A	Age-related osteoporosis with current pathological fracture, left femur, initial encounter for fracture	Diagnosis	ICD-10-CM
M80.059A	Age-related osteoporosis with current pathological fracture, unspecified femur, initial encounter for fracture	Diagnosis	ICD-10-CM
M80.851A	Other osteoporosis with current pathological fracture, right femur, initial encounter for fracture	Diagnosis	ICD-10-CM
M80.852A	Other osteoporosis with current pathological fracture, left femur, initial encounter for fracture	Diagnosis	ICD-10-CM
M80.859A	Other osteoporosis with current pathological fracture, unspecified femur, initial encounter for fracture	Diagnosis	ICD-10-CM
M84.350A	Stress fracture, pelvis, initial encounter for fracture	Diagnosis	ICD-10-CM
M84.351A	Stress fracture, right femur, initial encounter for fracture	Diagnosis	ICD-10-CM
M84.352A	Stress fracture, left femur, initial encounter for fracture	Diagnosis	ICD-10-CM
M84.353A	Stress fracture, unspecified femur, initial encounter for fracture	Diagnosis	ICD-10-CM
M84.359A	Stress fracture, hip, unspecified, initial encounter for fracture	Diagnosis	ICD-10-CM

Code	Description	Code Category	Code Type
M84.451A	Pathological fracture, right femur, initial encounter for fracture	Diagnosis	ICD-10-CM
M84.452A	Pathological fracture, left femur, initial encounter for fracture	Diagnosis	ICD-10-CM
M84.453A	Pathological fracture, unspecified femur, initial encounter for fracture	Diagnosis	ICD-10-CM
M84.459A	Pathological fracture, hip, unspecified, initial encounter for fracture	Diagnosis	ICD-10-CM
M84.550A	Pathological fracture in neoplastic disease, pelvis, initial encounter for fracture	Diagnosis	ICD-10-CM
M84.551A	Pathological fracture in neoplastic disease, right femur, initial encounter for fracture	Diagnosis	ICD-10-CM
M84.552A	Pathological fracture in neoplastic disease, left femur, initial encounter for fracture	Diagnosis	ICD-10-CM
M84.553A	Pathological fracture in neoplastic disease, unspecified femur, initial encounter for fracture	Diagnosis	ICD-10-CM
M84.559A	Pathological fracture in neoplastic disease, hip, unspecified, initial encounter for fracture	Diagnosis	ICD-10-CM
M84.650A	Pathological fracture in other disease, pelvis, initial encounter for fracture	Diagnosis	ICD-10-CM
M84.651A	Pathological fracture in other disease, right femur, initial encounter for fracture	Diagnosis	ICD-10-CM
M84.652A	Pathological fracture in other disease, left femur, initial encounter for fracture	Diagnosis	ICD-10-CM
M84.653A	Pathological fracture in other disease, unspecified femur, initial encounter for fracture	Diagnosis	ICD-10-CM
M84.659A	Pathological fracture in other disease, hip, unspecified, initial encounter for fracture	Diagnosis	ICD-10-CM
M97.01XA	Periprosthetic fracture around internal prosthetic right hip joint, initial encounter	Diagnosis	ICD-10-CM
M97.02XA	Periprosthetic fracture around internal prosthetic left hip joint, initial encounter	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

Code	Description	Code Category	Code Type
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
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

Code	Description	Code Category	Code Type
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
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

Code	Description	Code Category	Code Type
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
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

Code	Description	Code Category	Code Type
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
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

Code	Description	Code Category	Code Type
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
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

Code	Description	Code Category	Code Type
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
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
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

Code	Description	Code Category	Code Type
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

Code	Description	Code Category	Code Type
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
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

Code	Description	Code Category	Code Type
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
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

Code	Description	Code Category	Code Type
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
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

Code	Description	Code Category	Code Type
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
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

Code	Description	Code Category	Code Type
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
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

Code	Description	Code Category	Code Type
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
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

Code	Description	Code Category	Code Type
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

Code	Description	Code Category	Code Type
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
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
Hyperlipidemia			
E78.0	Pure hypercholesterolemia	Diagnosis	ICD-10-CM
E78.00	Pure hypercholesterolemia, unspecified	Diagnosis	ICD-10-CM
E78.01	Familial hypercholesterolemia	Diagnosis	ICD-10-CM
E78.1	Pure hyperglyceridemia	Diagnosis	ICD-10-CM
E78.2	Mixed hyperlipidemia	Diagnosis	ICD-10-CM
E78.3	Hyperchylomicronemia	Diagnosis	ICD-10-CM

Code	Description	Code Category	Code Type
E78.4	Other hyperlipidemia	Diagnosis	ICD-10-CM
E78.41	Elevated Lipoprotein(a)	Diagnosis	ICD-10-CM
E78.49	Other hyperlipidemia	Diagnosis	ICD-10-CM
E78.5	Hyperlipidemia, unspecified	Diagnosis	ICD-10-CM
Hypertension			
H35.031	Hypertensive retinopathy, right eye	Diagnosis	ICD-10-CM
H35.032	Hypertensive retinopathy, left eye	Diagnosis	ICD-10-CM
H35.033	Hypertensive retinopathy, bilateral	Diagnosis	ICD-10-CM
H35.039	Hypertensive retinopathy, unspecified eye	Diagnosis	ICD-10-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
I67.4	Hypertensive encephalopathy	Diagnosis	ICD-10-CM
N26.2	Page kidney	Diagnosis	ICD-10-CM
Ischemic Heart Disease			
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
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

Code	Description	Code Category	Code Type
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
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
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
I25.2	Old myocardial infarction	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
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

Appendix G. List of International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Codes Used to Define Covariates in this Request

Code	Description	Code Category	Code Type
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
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
Osteoporosis			

Code	Description	Code Category	Code Type
M80.00XA	Age-related osteoporosis with current pathological fracture, unspecified site, initial encounter for fracture	Diagnosis	ICD-10-CM
M80.011A	Age-related osteoporosis with current pathological fracture, right shoulder, initial encounter for fracture	Diagnosis	ICD-10-CM
M80.012A	Age-related osteoporosis with current pathological fracture, left shoulder, initial encounter for fracture	Diagnosis	ICD-10-CM
M80.019A	Age-related osteoporosis with current pathological fracture, unspecified shoulder, initial encounter for fracture	Diagnosis	ICD-10-CM
M80.021A	Age-related osteoporosis with current pathological fracture, right humerus, initial encounter for fracture	Diagnosis	ICD-10-CM
M80.022A	Age-related osteoporosis with current pathological fracture, left humerus, initial encounter for fracture	Diagnosis	ICD-10-CM
M80.029A	Age-related osteoporosis with current pathological fracture, unspecified humerus, initial encounter for fracture	Diagnosis	ICD-10-CM
M80.031A	Age-related osteoporosis with current pathological fracture, right forearm, initial encounter for fracture	Diagnosis	ICD-10-CM
M80.032A	Age-related osteoporosis with current pathological fracture, left forearm, initial encounter for fracture	Diagnosis	ICD-10-CM
M80.039A	Age-related osteoporosis with current pathological fracture, unspecified forearm, initial encounter for fracture	Diagnosis	ICD-10-CM
M80.041A	Age-related osteoporosis with current pathological fracture, right hand, initial encounter for fracture	Diagnosis	ICD-10-CM
M80.042A	Age-related osteoporosis with current pathological fracture, left hand, initial encounter for fracture	Diagnosis	ICD-10-CM
M80.049A	Age-related osteoporosis with current pathological fracture, unspecified hand, initial encounter for fracture	Diagnosis	ICD-10-CM
M80.051A	Age-related osteoporosis with current pathological fracture, right femur, initial encounter for fracture	Diagnosis	ICD-10-CM
M80.052A	Age-related osteoporosis with current pathological fracture, left femur, initial encounter for fracture	Diagnosis	ICD-10-CM
M80.059A	Age-related osteoporosis with current pathological fracture, unspecified femur, initial encounter for fracture	Diagnosis	ICD-10-CM
M80.061A	Age-related osteoporosis with current pathological fracture, right lower leg, initial encounter for fracture	Diagnosis	ICD-10-CM
M80.062A	Age-related osteoporosis with current pathological fracture, left lower leg, initial encounter for fracture	Diagnosis	ICD-10-CM
M80.069A	Age-related osteoporosis with current pathological fracture, unspecified lower leg, initial encounter for fracture	Diagnosis	ICD-10-CM
M80.071A	Age-related osteoporosis with current pathological fracture, right ankle and foot, initial encounter for fracture	Diagnosis	ICD-10-CM
M80.072A	Age-related osteoporosis with current pathological fracture, left ankle and foot, initial encounter for fracture	Diagnosis	ICD-10-CM
M80.079A	Age-related osteoporosis with current pathological fracture, unspecified ankle and foot, initial encounter for fracture	Diagnosis	ICD-10-CM
M80.08XA	Age-related osteoporosis with current pathological fracture, vertebra(e), initial encounter for fracture	Diagnosis	ICD-10-CM

Code	Description	Code Category	Code Type
M80.0AXA	Age-related osteoporosis with current pathological fracture, other site, initial encounter for fracture	Diagnosis	ICD-10-CM
M80.80XA	Other osteoporosis with current pathological fracture, unspecified site, initial encounter for fracture	Diagnosis	ICD-10-CM
M80.811A	Other osteoporosis with current pathological fracture, right shoulder, initial encounter for fracture	Diagnosis	ICD-10-CM
M80.812A	Other osteoporosis with current pathological fracture, left shoulder, initial encounter for fracture	Diagnosis	ICD-10-CM
M80.819A	Other osteoporosis with current pathological fracture, unspecified shoulder, initial encounter for fracture	Diagnosis	ICD-10-CM
M80.821A	Other osteoporosis with current pathological fracture, right humerus, initial encounter for fracture	Diagnosis	ICD-10-CM
M80.822A	Other osteoporosis with current pathological fracture, left humerus, initial encounter for fracture	Diagnosis	ICD-10-CM
M80.829A	Other osteoporosis with current pathological fracture, unspecified humerus, initial encounter for fracture	Diagnosis	ICD-10-CM
M80.831A	Other osteoporosis with current pathological fracture, right forearm, initial encounter for fracture	Diagnosis	ICD-10-CM
M80.832A	Other osteoporosis with current pathological fracture, left forearm, initial encounter for fracture	Diagnosis	ICD-10-CM
M80.839A	Other osteoporosis with current pathological fracture, unspecified forearm, initial encounter for fracture	Diagnosis	ICD-10-CM
M80.841A	Other osteoporosis with current pathological fracture, right hand, initial encounter for fracture	Diagnosis	ICD-10-CM
M80.842A	Other osteoporosis with current pathological fracture, left hand, initial encounter for fracture	Diagnosis	ICD-10-CM
M80.849A	Other osteoporosis with current pathological fracture, unspecified hand, initial encounter for fracture	Diagnosis	ICD-10-CM
M80.851A	Other osteoporosis with current pathological fracture, right femur, initial encounter for fracture	Diagnosis	ICD-10-CM
M80.852A	Other osteoporosis with current pathological fracture, left femur, initial encounter for fracture	Diagnosis	ICD-10-CM
M80.859A	Other osteoporosis with current pathological fracture, unspecified femur, initial encounter for fracture	Diagnosis	ICD-10-CM
M80.861A	Other osteoporosis with current pathological fracture, right lower leg, initial encounter for fracture	Diagnosis	ICD-10-CM
M80.862A	Other osteoporosis with current pathological fracture, left lower leg, initial encounter for fracture	Diagnosis	ICD-10-CM
M80.869A	Other osteoporosis with current pathological fracture, unspecified lower leg, initial encounter for fracture	Diagnosis	ICD-10-CM
M80.871A	Other osteoporosis with current pathological fracture, right ankle and foot, initial encounter for fracture	Diagnosis	ICD-10-CM
M80.872A	Other osteoporosis with current pathological fracture, left ankle and foot, initial encounter for fracture	Diagnosis	ICD-10-CM
M80.879A	Other osteoporosis with current pathological fracture, unspecified ankle and foot, initial encounter for fracture	Diagnosis	ICD-10-CM

Code	Description	Code Category	Code Type
M80.88XA	Other osteoporosis with current pathological fracture, vertebra(e), initial encounter for fracture	Diagnosis	ICD-10-CM
M80.8AXA	Other osteoporosis with current pathological fracture, other site, initial encounter for fracture	Diagnosis	ICD-10-CM
M81.0	Age-related osteoporosis without current pathological fracture	Diagnosis	ICD-10-CM
M81.6	Localized osteoporosis [Lequesne]	Diagnosis	ICD-10-CM
M81.8	Other osteoporosis without current pathological fracture	Diagnosis	ICD-10-CM
Rheumatoid Arthritis/Osteoarthritis			
L40.50	Arthropathic psoriasis, unspecified	Diagnosis	ICD-10-CM
L40.51	Distal interphalangeal psoriatic arthropathy	Diagnosis	ICD-10-CM
L40.54	Psoriatic juvenile arthropathy	Diagnosis	ICD-10-CM
L40.59	Other psoriatic arthropathy	Diagnosis	ICD-10-CM
M05.00	Felty's syndrome, unspecified site	Diagnosis	ICD-10-CM
M05.011	Felty's syndrome, right shoulder	Diagnosis	ICD-10-CM
M05.012	Felty's syndrome, left shoulder	Diagnosis	ICD-10-CM
M05.019	Felty's syndrome, unspecified shoulder	Diagnosis	ICD-10-CM
M05.021	Felty's syndrome, right elbow	Diagnosis	ICD-10-CM
M05.022	Felty's syndrome, left elbow	Diagnosis	ICD-10-CM
M05.029	Felty's syndrome, unspecified elbow	Diagnosis	ICD-10-CM
M05.031	Felty's syndrome, right wrist	Diagnosis	ICD-10-CM
M05.032	Felty's syndrome, left wrist	Diagnosis	ICD-10-CM
M05.039	Felty's syndrome, unspecified wrist	Diagnosis	ICD-10-CM
M05.041	Felty's syndrome, right hand	Diagnosis	ICD-10-CM
M05.042	Felty's syndrome, left hand	Diagnosis	ICD-10-CM
M05.049	Felty's syndrome, unspecified hand	Diagnosis	ICD-10-CM
M05.051	Felty's syndrome, right hip	Diagnosis	ICD-10-CM
M05.052	Felty's syndrome, left hip	Diagnosis	ICD-10-CM
M05.059	Felty's syndrome, unspecified hip	Diagnosis	ICD-10-CM
M05.061	Felty's syndrome, right knee	Diagnosis	ICD-10-CM
M05.062	Felty's syndrome, left knee	Diagnosis	ICD-10-CM
M05.069	Felty's syndrome, unspecified knee	Diagnosis	ICD-10-CM
M05.071	Felty's syndrome, right ankle and foot	Diagnosis	ICD-10-CM
M05.072	Felty's syndrome, left ankle and foot	Diagnosis	ICD-10-CM
M05.079	Felty's syndrome, unspecified ankle and foot	Diagnosis	ICD-10-CM
M05.09	Felty's syndrome, multiple sites	Diagnosis	ICD-10-CM
M05.10	Rheumatoid lung disease with rheumatoid arthritis of unspecified site	Diagnosis	ICD-10-CM
M05.111	Rheumatoid lung disease with rheumatoid arthritis of right shoulder	Diagnosis	ICD-10-CM
M05.112	Rheumatoid lung disease with rheumatoid arthritis of left shoulder	Diagnosis	ICD-10-CM
M05.119	Rheumatoid lung disease with rheumatoid arthritis of unspecified shoulder	Diagnosis	ICD-10-CM
M05.121	Rheumatoid lung disease with rheumatoid arthritis of right elbow	Diagnosis	ICD-10-CM
M05.122	Rheumatoid lung disease with rheumatoid arthritis of left elbow	Diagnosis	ICD-10-CM
M05.129	Rheumatoid lung disease with rheumatoid arthritis of unspecified elbow	Diagnosis	ICD-10-CM
M05.131	Rheumatoid lung disease with rheumatoid arthritis of right wrist	Diagnosis	ICD-10-CM
M05.132	Rheumatoid lung disease with rheumatoid arthritis of left wrist	Diagnosis	ICD-10-CM
M05.139	Rheumatoid lung disease with rheumatoid arthritis of unspecified wrist	Diagnosis	ICD-10-CM
M05.141	Rheumatoid lung disease with rheumatoid arthritis of right hand	Diagnosis	ICD-10-CM

Code	Description	Code Category	Code Type
M05.142	Rheumatoid lung disease with rheumatoid arthritis of left hand	Diagnosis	ICD-10-CM
M05.149	Rheumatoid lung disease with rheumatoid arthritis of unspecified hand	Diagnosis	ICD-10-CM
M05.151	Rheumatoid lung disease with rheumatoid arthritis of right hip	Diagnosis	ICD-10-CM
M05.152	Rheumatoid lung disease with rheumatoid arthritis of left hip	Diagnosis	ICD-10-CM
M05.159	Rheumatoid lung disease with rheumatoid arthritis of unspecified hip	Diagnosis	ICD-10-CM
M05.161	Rheumatoid lung disease with rheumatoid arthritis of right knee	Diagnosis	ICD-10-CM
M05.162	Rheumatoid lung disease with rheumatoid arthritis of left knee	Diagnosis	ICD-10-CM
M05.169	Rheumatoid lung disease with rheumatoid arthritis of unspecified knee	Diagnosis	ICD-10-CM
M05.171	Rheumatoid lung disease with rheumatoid arthritis of right ankle and foot	Diagnosis	ICD-10-CM
M05.172	Rheumatoid lung disease with rheumatoid arthritis of left ankle and foot	Diagnosis	ICD-10-CM
M05.179	Rheumatoid lung disease with rheumatoid arthritis of unspecified ankle and foot	Diagnosis	ICD-10-CM
M05.19	Rheumatoid lung disease with rheumatoid arthritis of multiple sites	Diagnosis	ICD-10-CM
M05.20	Rheumatoid vasculitis with rheumatoid arthritis of unspecified site	Diagnosis	ICD-10-CM
M05.211	Rheumatoid vasculitis with rheumatoid arthritis of right shoulder	Diagnosis	ICD-10-CM
M05.212	Rheumatoid vasculitis with rheumatoid arthritis of left shoulder	Diagnosis	ICD-10-CM
M05.219	Rheumatoid vasculitis with rheumatoid arthritis of unspecified shoulder	Diagnosis	ICD-10-CM
M05.221	Rheumatoid vasculitis with rheumatoid arthritis of right elbow	Diagnosis	ICD-10-CM
M05.222	Rheumatoid vasculitis with rheumatoid arthritis of left elbow	Diagnosis	ICD-10-CM
M05.229	Rheumatoid vasculitis with rheumatoid arthritis of unspecified elbow	Diagnosis	ICD-10-CM
M05.231	Rheumatoid vasculitis with rheumatoid arthritis of right wrist	Diagnosis	ICD-10-CM
M05.232	Rheumatoid vasculitis with rheumatoid arthritis of left wrist	Diagnosis	ICD-10-CM
M05.239	Rheumatoid vasculitis with rheumatoid arthritis of unspecified wrist	Diagnosis	ICD-10-CM
M05.241	Rheumatoid vasculitis with rheumatoid arthritis of right hand	Diagnosis	ICD-10-CM
M05.242	Rheumatoid vasculitis with rheumatoid arthritis of left hand	Diagnosis	ICD-10-CM
M05.249	Rheumatoid vasculitis with rheumatoid arthritis of unspecified hand	Diagnosis	ICD-10-CM
M05.251	Rheumatoid vasculitis with rheumatoid arthritis of right hip	Diagnosis	ICD-10-CM
M05.252	Rheumatoid vasculitis with rheumatoid arthritis of left hip	Diagnosis	ICD-10-CM
M05.259	Rheumatoid vasculitis with rheumatoid arthritis of unspecified hip	Diagnosis	ICD-10-CM
M05.261	Rheumatoid vasculitis with rheumatoid arthritis of right knee	Diagnosis	ICD-10-CM
M05.262	Rheumatoid vasculitis with rheumatoid arthritis of left knee	Diagnosis	ICD-10-CM
M05.269	Rheumatoid vasculitis with rheumatoid arthritis of unspecified knee	Diagnosis	ICD-10-CM
M05.271	Rheumatoid vasculitis with rheumatoid arthritis of right ankle and foot	Diagnosis	ICD-10-CM
M05.272	Rheumatoid vasculitis with rheumatoid arthritis of left ankle and foot	Diagnosis	ICD-10-CM
M05.279	Rheumatoid vasculitis with rheumatoid arthritis of unspecified ankle and foot	Diagnosis	ICD-10-CM
M05.29	Rheumatoid vasculitis with rheumatoid arthritis of multiple sites	Diagnosis	ICD-10-CM
M05.30	Rheumatoid heart disease with rheumatoid arthritis of unspecified site	Diagnosis	ICD-10-CM
M05.311	Rheumatoid heart disease with rheumatoid arthritis of right shoulder	Diagnosis	ICD-10-CM
M05.312	Rheumatoid heart disease with rheumatoid arthritis of left shoulder	Diagnosis	ICD-10-CM
M05.319	Rheumatoid heart disease with rheumatoid arthritis of unspecified shoulder	Diagnosis	ICD-10-CM
M05.321	Rheumatoid heart disease with rheumatoid arthritis of right elbow	Diagnosis	ICD-10-CM
M05.322	Rheumatoid heart disease with rheumatoid arthritis of left elbow	Diagnosis	ICD-10-CM
M05.329	Rheumatoid heart disease with rheumatoid arthritis of unspecified elbow	Diagnosis	ICD-10-CM
M05.331	Rheumatoid heart disease with rheumatoid arthritis of right wrist	Diagnosis	ICD-10-CM
M05.332	Rheumatoid heart disease with rheumatoid arthritis of left wrist	Diagnosis	ICD-10-CM
M05.339	Rheumatoid heart disease with rheumatoid arthritis of unspecified wrist	Diagnosis	ICD-10-CM
M05.341	Rheumatoid heart disease with rheumatoid arthritis of right hand	Diagnosis	ICD-10-CM

Code	Description	Code Category	Code Type
M05.342	Rheumatoid heart disease with rheumatoid arthritis of left hand	Diagnosis	ICD-10-CM
M05.349	Rheumatoid heart disease with rheumatoid arthritis of unspecified hand	Diagnosis	ICD-10-CM
M05.351	Rheumatoid heart disease with rheumatoid arthritis of right hip	Diagnosis	ICD-10-CM
M05.352	Rheumatoid heart disease with rheumatoid arthritis of left hip	Diagnosis	ICD-10-CM
M05.359	Rheumatoid heart disease with rheumatoid arthritis of unspecified hip	Diagnosis	ICD-10-CM
M05.361	Rheumatoid heart disease with rheumatoid arthritis of right knee	Diagnosis	ICD-10-CM
M05.362	Rheumatoid heart disease with rheumatoid arthritis of left knee	Diagnosis	ICD-10-CM
M05.369	Rheumatoid heart disease with rheumatoid arthritis of unspecified knee	Diagnosis	ICD-10-CM
M05.371	Rheumatoid heart disease with rheumatoid arthritis of right ankle and foot	Diagnosis	ICD-10-CM
M05.372	Rheumatoid heart disease with rheumatoid arthritis of left ankle and foot	Diagnosis	ICD-10-CM
M05.379	Rheumatoid heart disease with rheumatoid arthritis of unspecified ankle and foot	Diagnosis	ICD-10-CM
M05.39	Rheumatoid heart disease with rheumatoid arthritis of multiple sites	Diagnosis	ICD-10-CM
M05.40	Rheumatoid myopathy with rheumatoid arthritis of unspecified site	Diagnosis	ICD-10-CM
M05.411	Rheumatoid myopathy with rheumatoid arthritis of right shoulder	Diagnosis	ICD-10-CM
M05.412	Rheumatoid myopathy with rheumatoid arthritis of left shoulder	Diagnosis	ICD-10-CM
M05.419	Rheumatoid myopathy with rheumatoid arthritis of unspecified shoulder	Diagnosis	ICD-10-CM
M05.421	Rheumatoid myopathy with rheumatoid arthritis of right elbow	Diagnosis	ICD-10-CM
M05.422	Rheumatoid myopathy with rheumatoid arthritis of left elbow	Diagnosis	ICD-10-CM
M05.429	Rheumatoid myopathy with rheumatoid arthritis of unspecified elbow	Diagnosis	ICD-10-CM
M05.431	Rheumatoid myopathy with rheumatoid arthritis of right wrist	Diagnosis	ICD-10-CM
M05.432	Rheumatoid myopathy with rheumatoid arthritis of left wrist	Diagnosis	ICD-10-CM
M05.439	Rheumatoid myopathy with rheumatoid arthritis of unspecified wrist	Diagnosis	ICD-10-CM
M05.441	Rheumatoid myopathy with rheumatoid arthritis of right hand	Diagnosis	ICD-10-CM
M05.442	Rheumatoid myopathy with rheumatoid arthritis of left hand	Diagnosis	ICD-10-CM
M05.449	Rheumatoid myopathy with rheumatoid arthritis of unspecified hand	Diagnosis	ICD-10-CM
M05.451	Rheumatoid myopathy with rheumatoid arthritis of right hip	Diagnosis	ICD-10-CM
M05.452	Rheumatoid myopathy with rheumatoid arthritis of left hip	Diagnosis	ICD-10-CM
M05.459	Rheumatoid myopathy with rheumatoid arthritis of unspecified hip	Diagnosis	ICD-10-CM
M05.461	Rheumatoid myopathy with rheumatoid arthritis of right knee	Diagnosis	ICD-10-CM
M05.462	Rheumatoid myopathy with rheumatoid arthritis of left knee	Diagnosis	ICD-10-CM
M05.469	Rheumatoid myopathy with rheumatoid arthritis of unspecified knee	Diagnosis	ICD-10-CM
M05.471	Rheumatoid myopathy with rheumatoid arthritis of right ankle and foot	Diagnosis	ICD-10-CM
M05.472	Rheumatoid myopathy with rheumatoid arthritis of left ankle and foot	Diagnosis	ICD-10-CM
M05.479	Rheumatoid myopathy with rheumatoid arthritis of unspecified ankle and foot	Diagnosis	ICD-10-CM
M05.49	Rheumatoid myopathy with rheumatoid arthritis of multiple sites	Diagnosis	ICD-10-CM
M05.50	Rheumatoid polyneuropathy with rheumatoid arthritis of unspecified site	Diagnosis	ICD-10-CM
M05.511	Rheumatoid polyneuropathy with rheumatoid arthritis of right shoulder	Diagnosis	ICD-10-CM
M05.512	Rheumatoid polyneuropathy with rheumatoid arthritis of left shoulder	Diagnosis	ICD-10-CM
M05.519	Rheumatoid polyneuropathy with rheumatoid arthritis of unspecified shoulder	Diagnosis	ICD-10-CM
M05.521	Rheumatoid polyneuropathy with rheumatoid arthritis of right elbow	Diagnosis	ICD-10-CM
M05.522	Rheumatoid polyneuropathy with rheumatoid arthritis of left elbow	Diagnosis	ICD-10-CM
M05.529	Rheumatoid polyneuropathy with rheumatoid arthritis of unspecified elbow	Diagnosis	ICD-10-CM
M05.531	Rheumatoid polyneuropathy with rheumatoid arthritis of right wrist	Diagnosis	ICD-10-CM
M05.532	Rheumatoid polyneuropathy with rheumatoid arthritis of left wrist	Diagnosis	ICD-10-CM
M05.539	Rheumatoid polyneuropathy with rheumatoid arthritis of unspecified wrist	Diagnosis	ICD-10-CM
M05.541	Rheumatoid polyneuropathy with rheumatoid arthritis of right hand	Diagnosis	ICD-10-CM

Code	Description	Code Category	Code Type
M05.542	Rheumatoid polyneuropathy with rheumatoid arthritis of left hand	Diagnosis	ICD-10-CM
M05.549	Rheumatoid polyneuropathy with rheumatoid arthritis of unspecified hand	Diagnosis	ICD-10-CM
M05.551	Rheumatoid polyneuropathy with rheumatoid arthritis of right hip	Diagnosis	ICD-10-CM
M05.552	Rheumatoid polyneuropathy with rheumatoid arthritis of left hip	Diagnosis	ICD-10-CM
M05.559	Rheumatoid polyneuropathy with rheumatoid arthritis of unspecified hip	Diagnosis	ICD-10-CM
M05.561	Rheumatoid polyneuropathy with rheumatoid arthritis of right knee	Diagnosis	ICD-10-CM
M05.562	Rheumatoid polyneuropathy with rheumatoid arthritis of left knee	Diagnosis	ICD-10-CM
M05.569	Rheumatoid polyneuropathy with rheumatoid arthritis of unspecified knee	Diagnosis	ICD-10-CM
M05.571	Rheumatoid polyneuropathy with rheumatoid arthritis of right ankle and foot	Diagnosis	ICD-10-CM
M05.572	Rheumatoid polyneuropathy with rheumatoid arthritis of left ankle and foot	Diagnosis	ICD-10-CM
M05.579	Rheumatoid polyneuropathy with rheumatoid arthritis of unspecified ankle and foot	Diagnosis	ICD-10-CM
M05.59	Rheumatoid polyneuropathy with rheumatoid arthritis of multiple sites	Diagnosis	ICD-10-CM
M05.60	Rheumatoid arthritis of unspecified site with involvement of other organs and systems	Diagnosis	ICD-10-CM
M05.611	Rheumatoid arthritis of right shoulder with involvement of other organs and systems	Diagnosis	ICD-10-CM
M05.612	Rheumatoid arthritis of left shoulder with involvement of other organs and systems	Diagnosis	ICD-10-CM
M05.619	Rheumatoid arthritis of unspecified shoulder with involvement of other organs and systems	Diagnosis	ICD-10-CM
M05.621	Rheumatoid arthritis of right elbow with involvement of other organs and systems	Diagnosis	ICD-10-CM
M05.622	Rheumatoid arthritis of left elbow with involvement of other organs and systems	Diagnosis	ICD-10-CM
M05.629	Rheumatoid arthritis of unspecified elbow with involvement of other organs and systems	Diagnosis	ICD-10-CM
M05.631	Rheumatoid arthritis of right wrist with involvement of other organs and systems	Diagnosis	ICD-10-CM
M05.632	Rheumatoid arthritis of left wrist with involvement of other organs and systems	Diagnosis	ICD-10-CM
M05.639	Rheumatoid arthritis of unspecified wrist with involvement of other organs and systems	Diagnosis	ICD-10-CM
M05.641	Rheumatoid arthritis of right hand with involvement of other organs and systems	Diagnosis	ICD-10-CM
M05.642	Rheumatoid arthritis of left hand with involvement of other organs and systems	Diagnosis	ICD-10-CM
M05.649	Rheumatoid arthritis of unspecified hand with involvement of other organs and systems	Diagnosis	ICD-10-CM
M05.651	Rheumatoid arthritis of right hip with involvement of other organs and systems	Diagnosis	ICD-10-CM
M05.652	Rheumatoid arthritis of left hip with involvement of other organs and systems	Diagnosis	ICD-10-CM
M05.659	Rheumatoid arthritis of unspecified hip with involvement of other organs and systems	Diagnosis	ICD-10-CM
M05.661	Rheumatoid arthritis of right knee with involvement of other organs and systems	Diagnosis	ICD-10-CM
M05.662	Rheumatoid arthritis of left knee with involvement of other organs and systems	Diagnosis	ICD-10-CM
M05.669	Rheumatoid arthritis of unspecified knee with involvement of other organs and systems	Diagnosis	ICD-10-CM
M05.671	Rheumatoid arthritis of right ankle and foot with involvement of other organs and systems	Diagnosis	ICD-10-CM
M05.672	Rheumatoid arthritis of left ankle and foot with involvement of other organs and systems	Diagnosis	ICD-10-CM
M05.679	Rheumatoid arthritis of unspecified ankle and foot with involvement of other organs and systems	Diagnosis	ICD-10-CM
M05.69	Rheumatoid arthritis of multiple sites with involvement of other organs and systems	Diagnosis	ICD-10-CM
M05.70	Rheumatoid arthritis with rheumatoid factor of unspecified site without organ or systems involvement	Diagnosis	ICD-10-CM

Code	Description	Code Category	Code Type
M05.711	Rheumatoid arthritis with rheumatoid factor of right shoulder without organ or systems involvement	Diagnosis	ICD-10-CM
M05.712	Rheumatoid arthritis with rheumatoid factor of left shoulder without organ or systems involvement	Diagnosis	ICD-10-CM
M05.719	Rheumatoid arthritis with rheumatoid factor of unspecified shoulder without organ or systems involvement	Diagnosis	ICD-10-CM
M05.721	Rheumatoid arthritis with rheumatoid factor of right elbow without organ or systems involvement	Diagnosis	ICD-10-CM
M05.722	Rheumatoid arthritis with rheumatoid factor of left elbow without organ or systems involvement	Diagnosis	ICD-10-CM
M05.729	Rheumatoid arthritis with rheumatoid factor of unspecified elbow without organ or systems involvement	Diagnosis	ICD-10-CM
M05.731	Rheumatoid arthritis with rheumatoid factor of right wrist without organ or systems involvement	Diagnosis	ICD-10-CM
M05.732	Rheumatoid arthritis with rheumatoid factor of left wrist without organ or systems involvement	Diagnosis	ICD-10-CM
M05.739	Rheumatoid arthritis with rheumatoid factor of unspecified wrist without organ or systems involvement	Diagnosis	ICD-10-CM
M05.741	Rheumatoid arthritis with rheumatoid factor of right hand without organ or systems involvement	Diagnosis	ICD-10-CM
M05.742	Rheumatoid arthritis with rheumatoid factor of left hand without organ or systems involvement	Diagnosis	ICD-10-CM
M05.749	Rheumatoid arthritis with rheumatoid factor of unspecified hand without organ or systems involvement	Diagnosis	ICD-10-CM
M05.751	Rheumatoid arthritis with rheumatoid factor of right hip without organ or systems involvement	Diagnosis	ICD-10-CM
M05.752	Rheumatoid arthritis with rheumatoid factor of left hip without organ or systems involvement	Diagnosis	ICD-10-CM
M05.759	Rheumatoid arthritis with rheumatoid factor of unspecified hip without organ or systems involvement	Diagnosis	ICD-10-CM
M05.761	Rheumatoid arthritis with rheumatoid factor of right knee without organ or systems involvement	Diagnosis	ICD-10-CM
M05.762	Rheumatoid arthritis with rheumatoid factor of left knee without organ or systems involvement	Diagnosis	ICD-10-CM
M05.769	Rheumatoid arthritis with rheumatoid factor of unspecified knee without organ or systems involvement	Diagnosis	ICD-10-CM
M05.771	Rheumatoid arthritis with rheumatoid factor of right ankle and foot without organ or systems involvement	Diagnosis	ICD-10-CM
M05.772	Rheumatoid arthritis with rheumatoid factor of left ankle and foot without organ or systems involvement	Diagnosis	ICD-10-CM
M05.779	Rheumatoid arthritis with rheumatoid factor of unspecified ankle and foot without organ or systems involvement	Diagnosis	ICD-10-CM
M05.79	Rheumatoid arthritis with rheumatoid factor of multiple sites without organ or systems involvement	Diagnosis	ICD-10-CM
M05.7A	Rheumatoid arthritis with rheumatoid factor of other specified site without organ or systems involvement	Diagnosis	ICD-10-CM

Code	Description	Code Category	Code Type
M05.80	Other rheumatoid arthritis with rheumatoid factor of unspecified site	Diagnosis	ICD-10-CM
M05.811	Other rheumatoid arthritis with rheumatoid factor of right shoulder	Diagnosis	ICD-10-CM
M05.812	Other rheumatoid arthritis with rheumatoid factor of left shoulder	Diagnosis	ICD-10-CM
M05.819	Other rheumatoid arthritis with rheumatoid factor of unspecified shoulder	Diagnosis	ICD-10-CM
M05.821	Other rheumatoid arthritis with rheumatoid factor of right elbow	Diagnosis	ICD-10-CM
M05.822	Other rheumatoid arthritis with rheumatoid factor of left elbow	Diagnosis	ICD-10-CM
M05.829	Other rheumatoid arthritis with rheumatoid factor of unspecified elbow	Diagnosis	ICD-10-CM
M05.831	Other rheumatoid arthritis with rheumatoid factor of right wrist	Diagnosis	ICD-10-CM
M05.832	Other rheumatoid arthritis with rheumatoid factor of left wrist	Diagnosis	ICD-10-CM
M05.839	Other rheumatoid arthritis with rheumatoid factor of unspecified wrist	Diagnosis	ICD-10-CM
M05.841	Other rheumatoid arthritis with rheumatoid factor of right hand	Diagnosis	ICD-10-CM
M05.842	Other rheumatoid arthritis with rheumatoid factor of left hand	Diagnosis	ICD-10-CM
M05.849	Other rheumatoid arthritis with rheumatoid factor of unspecified hand	Diagnosis	ICD-10-CM
M05.851	Other rheumatoid arthritis with rheumatoid factor of right hip	Diagnosis	ICD-10-CM
M05.852	Other rheumatoid arthritis with rheumatoid factor of left hip	Diagnosis	ICD-10-CM
M05.859	Other rheumatoid arthritis with rheumatoid factor of unspecified hip	Diagnosis	ICD-10-CM
M05.861	Other rheumatoid arthritis with rheumatoid factor of right knee	Diagnosis	ICD-10-CM
M05.862	Other rheumatoid arthritis with rheumatoid factor of left knee	Diagnosis	ICD-10-CM
M05.869	Other rheumatoid arthritis with rheumatoid factor of unspecified knee	Diagnosis	ICD-10-CM
M05.871	Other rheumatoid arthritis with rheumatoid factor of right ankle and foot	Diagnosis	ICD-10-CM
M05.872	Other rheumatoid arthritis with rheumatoid factor of left ankle and foot	Diagnosis	ICD-10-CM
M05.879	Other rheumatoid arthritis with rheumatoid factor of unspecified ankle and foot	Diagnosis	ICD-10-CM
M05.89	Other rheumatoid arthritis with rheumatoid factor of multiple sites	Diagnosis	ICD-10-CM
M05.8A	Other rheumatoid arthritis with rheumatoid factor of other specified site	Diagnosis	ICD-10-CM
M05.9	Rheumatoid arthritis with rheumatoid factor, unspecified	Diagnosis	ICD-10-CM
M06.00	Rheumatoid arthritis without rheumatoid factor, unspecified site	Diagnosis	ICD-10-CM
M06.011	Rheumatoid arthritis without rheumatoid factor, right shoulder	Diagnosis	ICD-10-CM
M06.012	Rheumatoid arthritis without rheumatoid factor, left shoulder	Diagnosis	ICD-10-CM
M06.019	Rheumatoid arthritis without rheumatoid factor, unspecified shoulder	Diagnosis	ICD-10-CM
M06.021	Rheumatoid arthritis without rheumatoid factor, right elbow	Diagnosis	ICD-10-CM
M06.022	Rheumatoid arthritis without rheumatoid factor, left elbow	Diagnosis	ICD-10-CM
M06.029	Rheumatoid arthritis without rheumatoid factor, unspecified elbow	Diagnosis	ICD-10-CM
M06.031	Rheumatoid arthritis without rheumatoid factor, right wrist	Diagnosis	ICD-10-CM
M06.032	Rheumatoid arthritis without rheumatoid factor, left wrist	Diagnosis	ICD-10-CM
M06.039	Rheumatoid arthritis without rheumatoid factor, unspecified wrist	Diagnosis	ICD-10-CM
M06.041	Rheumatoid arthritis without rheumatoid factor, right hand	Diagnosis	ICD-10-CM
M06.042	Rheumatoid arthritis without rheumatoid factor, left hand	Diagnosis	ICD-10-CM
M06.049	Rheumatoid arthritis without rheumatoid factor, unspecified hand	Diagnosis	ICD-10-CM
M06.051	Rheumatoid arthritis without rheumatoid factor, right hip	Diagnosis	ICD-10-CM
M06.052	Rheumatoid arthritis without rheumatoid factor, left hip	Diagnosis	ICD-10-CM
M06.059	Rheumatoid arthritis without rheumatoid factor, unspecified hip	Diagnosis	ICD-10-CM
M06.061	Rheumatoid arthritis without rheumatoid factor, right knee	Diagnosis	ICD-10-CM
M06.062	Rheumatoid arthritis without rheumatoid factor, left knee	Diagnosis	ICD-10-CM
M06.069	Rheumatoid arthritis without rheumatoid factor, unspecified knee	Diagnosis	ICD-10-CM
M06.071	Rheumatoid arthritis without rheumatoid factor, right ankle and foot	Diagnosis	ICD-10-CM
M06.072	Rheumatoid arthritis without rheumatoid factor, left ankle and foot	Diagnosis	ICD-10-CM

Appendix G. List of International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Codes Used to Define Covariates in this Request

Code	Description	Code Category	Code Type
M06.079	Rheumatoid arthritis without rheumatoid factor, unspecified ankle and foot	Diagnosis	ICD-10-CM
M06.08	Rheumatoid arthritis without rheumatoid factor, vertebrae	Diagnosis	ICD-10-CM
M06.09	Rheumatoid arthritis without rheumatoid factor, multiple sites	Diagnosis	ICD-10-CM
M06.0A	Rheumatoid arthritis without rheumatoid factor, other specified site	Diagnosis	ICD-10-CM
M06.1	Adult-onset Still's disease	Diagnosis	ICD-10-CM
M06.20	Rheumatoid bursitis, unspecified site	Diagnosis	ICD-10-CM
M06.211	Rheumatoid bursitis, right shoulder	Diagnosis	ICD-10-CM
M06.212	Rheumatoid bursitis, left shoulder	Diagnosis	ICD-10-CM
M06.219	Rheumatoid bursitis, unspecified shoulder	Diagnosis	ICD-10-CM
M06.221	Rheumatoid bursitis, right elbow	Diagnosis	ICD-10-CM
M06.222	Rheumatoid bursitis, left elbow	Diagnosis	ICD-10-CM
M06.229	Rheumatoid bursitis, unspecified elbow	Diagnosis	ICD-10-CM
M06.231	Rheumatoid bursitis, right wrist	Diagnosis	ICD-10-CM
M06.232	Rheumatoid bursitis, left wrist	Diagnosis	ICD-10-CM
M06.239	Rheumatoid bursitis, unspecified wrist	Diagnosis	ICD-10-CM
M06.241	Rheumatoid bursitis, right hand	Diagnosis	ICD-10-CM
M06.242	Rheumatoid bursitis, left hand	Diagnosis	ICD-10-CM
M06.249	Rheumatoid bursitis, unspecified hand	Diagnosis	ICD-10-CM
M06.251	Rheumatoid bursitis, right hip	Diagnosis	ICD-10-CM
M06.252	Rheumatoid bursitis, left hip	Diagnosis	ICD-10-CM
M06.259	Rheumatoid bursitis, unspecified hip	Diagnosis	ICD-10-CM
M06.261	Rheumatoid bursitis, right knee	Diagnosis	ICD-10-CM
M06.262	Rheumatoid bursitis, left knee	Diagnosis	ICD-10-CM
M06.269	Rheumatoid bursitis, unspecified knee	Diagnosis	ICD-10-CM
M06.271	Rheumatoid bursitis, right ankle and foot	Diagnosis	ICD-10-CM
M06.272	Rheumatoid bursitis, left ankle and foot	Diagnosis	ICD-10-CM
M06.279	Rheumatoid bursitis, unspecified ankle and foot	Diagnosis	ICD-10-CM
M06.28	Rheumatoid bursitis, vertebrae	Diagnosis	ICD-10-CM
M06.29	Rheumatoid bursitis, multiple sites	Diagnosis	ICD-10-CM
M06.30	Rheumatoid nodule, unspecified site	Diagnosis	ICD-10-CM
M06.311	Rheumatoid nodule, right shoulder	Diagnosis	ICD-10-CM
M06.312	Rheumatoid nodule, left shoulder	Diagnosis	ICD-10-CM
M06.319	Rheumatoid nodule, unspecified shoulder	Diagnosis	ICD-10-CM
M06.321	Rheumatoid nodule, right elbow	Diagnosis	ICD-10-CM
M06.322	Rheumatoid nodule, left elbow	Diagnosis	ICD-10-CM
M06.329	Rheumatoid nodule, unspecified elbow	Diagnosis	ICD-10-CM
M06.331	Rheumatoid nodule, right wrist	Diagnosis	ICD-10-CM
M06.332	Rheumatoid nodule, left wrist	Diagnosis	ICD-10-CM
M06.339	Rheumatoid nodule, unspecified wrist	Diagnosis	ICD-10-CM
M06.341	Rheumatoid nodule, right hand	Diagnosis	ICD-10-CM
M06.342	Rheumatoid nodule, left hand	Diagnosis	ICD-10-CM
M06.349	Rheumatoid nodule, unspecified hand	Diagnosis	ICD-10-CM
M06.351	Rheumatoid nodule, right hip	Diagnosis	ICD-10-CM
M06.352	Rheumatoid nodule, left hip	Diagnosis	ICD-10-CM
M06.359	Rheumatoid nodule, unspecified hip	Diagnosis	ICD-10-CM
M06.361	Rheumatoid nodule, right knee	Diagnosis	ICD-10-CM

Code	Description	Code Category	Code Type
M06.362	Rheumatoid nodule, left knee	Diagnosis	ICD-10-CM
M06.369	Rheumatoid nodule, unspecified knee	Diagnosis	ICD-10-CM
M06.371	Rheumatoid nodule, right ankle and foot	Diagnosis	ICD-10-CM
M06.372	Rheumatoid nodule, left ankle and foot	Diagnosis	ICD-10-CM
M06.379	Rheumatoid nodule, unspecified ankle and foot	Diagnosis	ICD-10-CM
M06.38	Rheumatoid nodule, vertebrae	Diagnosis	ICD-10-CM
M06.39	Rheumatoid nodule, multiple sites	Diagnosis	ICD-10-CM
M06.80	Other specified rheumatoid arthritis, unspecified site	Diagnosis	ICD-10-CM
M06.811	Other specified rheumatoid arthritis, right shoulder	Diagnosis	ICD-10-CM
M06.812	Other specified rheumatoid arthritis, left shoulder	Diagnosis	ICD-10-CM
M06.819	Other specified rheumatoid arthritis, unspecified shoulder	Diagnosis	ICD-10-CM
M06.821	Other specified rheumatoid arthritis, right elbow	Diagnosis	ICD-10-CM
M06.822	Other specified rheumatoid arthritis, left elbow	Diagnosis	ICD-10-CM
M06.829	Other specified rheumatoid arthritis, unspecified elbow	Diagnosis	ICD-10-CM
M06.831	Other specified rheumatoid arthritis, right wrist	Diagnosis	ICD-10-CM
M06.832	Other specified rheumatoid arthritis, left wrist	Diagnosis	ICD-10-CM
M06.839	Other specified rheumatoid arthritis, unspecified wrist	Diagnosis	ICD-10-CM
M06.841	Other specified rheumatoid arthritis, right hand	Diagnosis	ICD-10-CM
M06.842	Other specified rheumatoid arthritis, left hand	Diagnosis	ICD-10-CM
M06.849	Other specified rheumatoid arthritis, unspecified hand	Diagnosis	ICD-10-CM
M06.851	Other specified rheumatoid arthritis, right hip	Diagnosis	ICD-10-CM
M06.852	Other specified rheumatoid arthritis, left hip	Diagnosis	ICD-10-CM
M06.859	Other specified rheumatoid arthritis, unspecified hip	Diagnosis	ICD-10-CM
M06.861	Other specified rheumatoid arthritis, right knee	Diagnosis	ICD-10-CM
M06.862	Other specified rheumatoid arthritis, left knee	Diagnosis	ICD-10-CM
M06.869	Other specified rheumatoid arthritis, unspecified knee	Diagnosis	ICD-10-CM
M06.871	Other specified rheumatoid arthritis, right ankle and foot	Diagnosis	ICD-10-CM
M06.872	Other specified rheumatoid arthritis, left ankle and foot	Diagnosis	ICD-10-CM
M06.879	Other specified rheumatoid arthritis, unspecified ankle and foot	Diagnosis	ICD-10-CM
M06.88	Other specified rheumatoid arthritis, vertebrae	Diagnosis	ICD-10-CM
M06.89	Other specified rheumatoid arthritis, multiple sites	Diagnosis	ICD-10-CM
M06.8A	Other specified rheumatoid arthritis, other specified site	Diagnosis	ICD-10-CM
M06.9	Rheumatoid arthritis, unspecified	Diagnosis	ICD-10-CM
M08.00	Unspecified juvenile rheumatoid arthritis of unspecified site	Diagnosis	ICD-10-CM
M08.011	Unspecified juvenile rheumatoid arthritis, right shoulder	Diagnosis	ICD-10-CM
M08.012	Unspecified juvenile rheumatoid arthritis, left shoulder	Diagnosis	ICD-10-CM
M08.019	Unspecified juvenile rheumatoid arthritis, unspecified shoulder	Diagnosis	ICD-10-CM
M08.021	Unspecified juvenile rheumatoid arthritis, right elbow	Diagnosis	ICD-10-CM
M08.022	Unspecified juvenile rheumatoid arthritis, left elbow	Diagnosis	ICD-10-CM
M08.029	Unspecified juvenile rheumatoid arthritis, unspecified elbow	Diagnosis	ICD-10-CM
M08.031	Unspecified juvenile rheumatoid arthritis, right wrist	Diagnosis	ICD-10-CM
M08.032	Unspecified juvenile rheumatoid arthritis, left wrist	Diagnosis	ICD-10-CM
M08.039	Unspecified juvenile rheumatoid arthritis, unspecified wrist	Diagnosis	ICD-10-CM
M08.041	Unspecified juvenile rheumatoid arthritis, right hand	Diagnosis	ICD-10-CM
M08.042	Unspecified juvenile rheumatoid arthritis, left hand	Diagnosis	ICD-10-CM
M08.049	Unspecified juvenile rheumatoid arthritis, unspecified hand	Diagnosis	ICD-10-CM

Code	Description	Code Category	Code Type
M08.051	Unspecified juvenile rheumatoid arthritis, right hip	Diagnosis	ICD-10-CM
M08.052	Unspecified juvenile rheumatoid arthritis, left hip	Diagnosis	ICD-10-CM
M08.059	Unspecified juvenile rheumatoid arthritis, unspecified hip	Diagnosis	ICD-10-CM
M08.061	Unspecified juvenile rheumatoid arthritis, right knee	Diagnosis	ICD-10-CM
M08.062	Unspecified juvenile rheumatoid arthritis, left knee	Diagnosis	ICD-10-CM
M08.069	Unspecified juvenile rheumatoid arthritis, unspecified knee	Diagnosis	ICD-10-CM
M08.071	Unspecified juvenile rheumatoid arthritis, right ankle and foot	Diagnosis	ICD-10-CM
M08.072	Unspecified juvenile rheumatoid arthritis, left ankle and foot	Diagnosis	ICD-10-CM
M08.079	Unspecified juvenile rheumatoid arthritis, unspecified ankle and foot	Diagnosis	ICD-10-CM
M08.08	Unspecified juvenile rheumatoid arthritis, vertebrae	Diagnosis	ICD-10-CM
M08.09	Unspecified juvenile rheumatoid arthritis, multiple sites	Diagnosis	ICD-10-CM
M08.0A	Unspecified juvenile rheumatoid arthritis, other specified site	Diagnosis	ICD-10-CM
M08.1	Juvenile ankylosing spondylitis	Diagnosis	ICD-10-CM
M08.20	Juvenile rheumatoid arthritis with systemic onset, unspecified site	Diagnosis	ICD-10-CM
M08.211	Juvenile rheumatoid arthritis with systemic onset, right shoulder	Diagnosis	ICD-10-CM
M08.212	Juvenile rheumatoid arthritis with systemic onset, left shoulder	Diagnosis	ICD-10-CM
M08.219	Juvenile rheumatoid arthritis with systemic onset, unspecified shoulder	Diagnosis	ICD-10-CM
M08.221	Juvenile rheumatoid arthritis with systemic onset, right elbow	Diagnosis	ICD-10-CM
M08.222	Juvenile rheumatoid arthritis with systemic onset, left elbow	Diagnosis	ICD-10-CM
M08.229	Juvenile rheumatoid arthritis with systemic onset, unspecified elbow	Diagnosis	ICD-10-CM
M08.231	Juvenile rheumatoid arthritis with systemic onset, right wrist	Diagnosis	ICD-10-CM
M08.232	Juvenile rheumatoid arthritis with systemic onset, left wrist	Diagnosis	ICD-10-CM
M08.239	Juvenile rheumatoid arthritis with systemic onset, unspecified wrist	Diagnosis	ICD-10-CM
M08.241	Juvenile rheumatoid arthritis with systemic onset, right hand	Diagnosis	ICD-10-CM
M08.242	Juvenile rheumatoid arthritis with systemic onset, left hand	Diagnosis	ICD-10-CM
M08.249	Juvenile rheumatoid arthritis with systemic onset, unspecified hand	Diagnosis	ICD-10-CM
M08.251	Juvenile rheumatoid arthritis with systemic onset, right hip	Diagnosis	ICD-10-CM
M08.252	Juvenile rheumatoid arthritis with systemic onset, left hip	Diagnosis	ICD-10-CM
M08.259	Juvenile rheumatoid arthritis with systemic onset, unspecified hip	Diagnosis	ICD-10-CM
M08.261	Juvenile rheumatoid arthritis with systemic onset, right knee	Diagnosis	ICD-10-CM
M08.262	Juvenile rheumatoid arthritis with systemic onset, left knee	Diagnosis	ICD-10-CM
M08.269	Juvenile rheumatoid arthritis with systemic onset, unspecified knee	Diagnosis	ICD-10-CM
M08.271	Juvenile rheumatoid arthritis with systemic onset, right ankle and foot	Diagnosis	ICD-10-CM
M08.272	Juvenile rheumatoid arthritis with systemic onset, left ankle and foot	Diagnosis	ICD-10-CM
M08.279	Juvenile rheumatoid arthritis with systemic onset, unspecified ankle and foot	Diagnosis	ICD-10-CM
M08.28	Juvenile rheumatoid arthritis with systemic onset, vertebrae	Diagnosis	ICD-10-CM
M08.29	Juvenile rheumatoid arthritis with systemic onset, multiple sites	Diagnosis	ICD-10-CM
M08.2A	Juvenile rheumatoid arthritis with systemic onset, other specified site	Diagnosis	ICD-10-CM
M08.3	Juvenile rheumatoid polyarthritis (seronegative)	Diagnosis	ICD-10-CM
M08.40	Pauciarticular juvenile rheumatoid arthritis, unspecified site	Diagnosis	ICD-10-CM
M08.411	Pauciarticular juvenile rheumatoid arthritis, right shoulder	Diagnosis	ICD-10-CM
M08.412	Pauciarticular juvenile rheumatoid arthritis, left shoulder	Diagnosis	ICD-10-CM
M08.419	Pauciarticular juvenile rheumatoid arthritis, unspecified shoulder	Diagnosis	ICD-10-CM
M08.421	Pauciarticular juvenile rheumatoid arthritis, right elbow	Diagnosis	ICD-10-CM
M08.422	Pauciarticular juvenile rheumatoid arthritis, left elbow	Diagnosis	ICD-10-CM
M08.429	Pauciarticular juvenile rheumatoid arthritis, unspecified elbow	Diagnosis	ICD-10-CM

Code	Description	Code Category	Code Type
M08.431	Pauciarticular juvenile rheumatoid arthritis, right wrist	Diagnosis	ICD-10-CM
M08.432	Pauciarticular juvenile rheumatoid arthritis, left wrist	Diagnosis	ICD-10-CM
M08.439	Pauciarticular juvenile rheumatoid arthritis, unspecified wrist	Diagnosis	ICD-10-CM
M08.441	Pauciarticular juvenile rheumatoid arthritis, right hand	Diagnosis	ICD-10-CM
M08.442	Pauciarticular juvenile rheumatoid arthritis, left hand	Diagnosis	ICD-10-CM
M08.449	Pauciarticular juvenile rheumatoid arthritis, unspecified hand	Diagnosis	ICD-10-CM
M08.451	Pauciarticular juvenile rheumatoid arthritis, right hip	Diagnosis	ICD-10-CM
M08.452	Pauciarticular juvenile rheumatoid arthritis, left hip	Diagnosis	ICD-10-CM
M08.459	Pauciarticular juvenile rheumatoid arthritis, unspecified hip	Diagnosis	ICD-10-CM
M08.461	Pauciarticular juvenile rheumatoid arthritis, right knee	Diagnosis	ICD-10-CM
M08.462	Pauciarticular juvenile rheumatoid arthritis, left knee	Diagnosis	ICD-10-CM
M08.469	Pauciarticular juvenile rheumatoid arthritis, unspecified knee	Diagnosis	ICD-10-CM
M08.471	Pauciarticular juvenile rheumatoid arthritis, right ankle and foot	Diagnosis	ICD-10-CM
M08.472	Pauciarticular juvenile rheumatoid arthritis, left ankle and foot	Diagnosis	ICD-10-CM
M08.479	Pauciarticular juvenile rheumatoid arthritis, unspecified ankle and foot	Diagnosis	ICD-10-CM
M08.48	Pauciarticular juvenile rheumatoid arthritis, vertebrae	Diagnosis	ICD-10-CM
M08.4A	Pauciarticular juvenile rheumatoid arthritis, other specified site	Diagnosis	ICD-10-CM
M08.80	Other juvenile arthritis, unspecified site	Diagnosis	ICD-10-CM
M08.811	Other juvenile arthritis, right shoulder	Diagnosis	ICD-10-CM
M08.812	Other juvenile arthritis, left shoulder	Diagnosis	ICD-10-CM
M08.819	Other juvenile arthritis, unspecified shoulder	Diagnosis	ICD-10-CM
M08.821	Other juvenile arthritis, right elbow	Diagnosis	ICD-10-CM
M08.822	Other juvenile arthritis, left elbow	Diagnosis	ICD-10-CM
M08.829	Other juvenile arthritis, unspecified elbow	Diagnosis	ICD-10-CM
M08.831	Other juvenile arthritis, right wrist	Diagnosis	ICD-10-CM
M08.832	Other juvenile arthritis, left wrist	Diagnosis	ICD-10-CM
M08.839	Other juvenile arthritis, unspecified wrist	Diagnosis	ICD-10-CM
M08.841	Other juvenile arthritis, right hand	Diagnosis	ICD-10-CM
M08.842	Other juvenile arthritis, left hand	Diagnosis	ICD-10-CM
M08.849	Other juvenile arthritis, unspecified hand	Diagnosis	ICD-10-CM
M08.851	Other juvenile arthritis, right hip	Diagnosis	ICD-10-CM
M08.852	Other juvenile arthritis, left hip	Diagnosis	ICD-10-CM
M08.859	Other juvenile arthritis, unspecified hip	Diagnosis	ICD-10-CM
M08.861	Other juvenile arthritis, right knee	Diagnosis	ICD-10-CM
M08.862	Other juvenile arthritis, left knee	Diagnosis	ICD-10-CM
M08.869	Other juvenile arthritis, unspecified knee	Diagnosis	ICD-10-CM
M08.871	Other juvenile arthritis, right ankle and foot	Diagnosis	ICD-10-CM
M08.872	Other juvenile arthritis, left ankle and foot	Diagnosis	ICD-10-CM
M08.879	Other juvenile arthritis, unspecified ankle and foot	Diagnosis	ICD-10-CM
M08.88	Other juvenile arthritis, other specified site	Diagnosis	ICD-10-CM
M08.89	Other juvenile arthritis, multiple sites	Diagnosis	ICD-10-CM
M08.90	Juvenile arthritis, unspecified, unspecified site	Diagnosis	ICD-10-CM
M08.911	Juvenile arthritis, unspecified, right shoulder	Diagnosis	ICD-10-CM
M08.912	Juvenile arthritis, unspecified, left shoulder	Diagnosis	ICD-10-CM
M08.919	Juvenile arthritis, unspecified, unspecified shoulder	Diagnosis	ICD-10-CM
M08.921	Juvenile arthritis, unspecified, right elbow	Diagnosis	ICD-10-CM

Code	Description	Code Category	Code Type
M08.922	Juvenile arthritis, unspecified, left elbow	Diagnosis	ICD-10-CM
M08.929	Juvenile arthritis, unspecified, unspecified elbow	Diagnosis	ICD-10-CM
M08.931	Juvenile arthritis, unspecified, right wrist	Diagnosis	ICD-10-CM
M08.932	Juvenile arthritis, unspecified, left wrist	Diagnosis	ICD-10-CM
M08.939	Juvenile arthritis, unspecified, unspecified wrist	Diagnosis	ICD-10-CM
M08.941	Juvenile arthritis, unspecified, right hand	Diagnosis	ICD-10-CM
M08.942	Juvenile arthritis, unspecified, left hand	Diagnosis	ICD-10-CM
M08.949	Juvenile arthritis, unspecified, unspecified hand	Diagnosis	ICD-10-CM
M08.951	Juvenile arthritis, unspecified, right hip	Diagnosis	ICD-10-CM
M08.952	Juvenile arthritis, unspecified, left hip	Diagnosis	ICD-10-CM
M08.959	Juvenile arthritis, unspecified, unspecified hip	Diagnosis	ICD-10-CM
M08.961	Juvenile arthritis, unspecified, right knee	Diagnosis	ICD-10-CM
M08.962	Juvenile arthritis, unspecified, left knee	Diagnosis	ICD-10-CM
M08.969	Juvenile arthritis, unspecified, unspecified knee	Diagnosis	ICD-10-CM
M08.971	Juvenile arthritis, unspecified, right ankle and foot	Diagnosis	ICD-10-CM
M08.972	Juvenile arthritis, unspecified, left ankle and foot	Diagnosis	ICD-10-CM
M08.979	Juvenile arthritis, unspecified, unspecified ankle and foot	Diagnosis	ICD-10-CM
M08.98	Juvenile arthritis, unspecified, vertebrae	Diagnosis	ICD-10-CM
M08.99	Juvenile arthritis, unspecified, multiple sites	Diagnosis	ICD-10-CM
M08.9A	Juvenile arthritis, unspecified, other specified site	Diagnosis	ICD-10-CM
M15.0	Primary generalized (osteo)arthritis	Diagnosis	ICD-10-CM
M15.1	Heberden's nodes (with arthropathy)	Diagnosis	ICD-10-CM
M15.2	Bouchard's nodes (with arthropathy)	Diagnosis	ICD-10-CM
M15.3	Secondary multiple arthritis	Diagnosis	ICD-10-CM
M15.4	Erosive (osteo)arthritis	Diagnosis	ICD-10-CM
M15.8	Other polyosteoarthritis	Diagnosis	ICD-10-CM
M15.9	Polyosteoarthritis, unspecified	Diagnosis	ICD-10-CM
M16.0	Bilateral primary osteoarthritis of hip	Diagnosis	ICD-10-CM
M16.10	Unilateral primary osteoarthritis, unspecified hip	Diagnosis	ICD-10-CM
M16.11	Unilateral primary osteoarthritis, right hip	Diagnosis	ICD-10-CM
M16.12	Unilateral primary osteoarthritis, left hip	Diagnosis	ICD-10-CM
M16.2	Bilateral osteoarthritis resulting from hip dysplasia	Diagnosis	ICD-10-CM
M16.30	Unilateral osteoarthritis resulting from hip dysplasia, unspecified hip	Diagnosis	ICD-10-CM
M16.31	Unilateral osteoarthritis resulting from hip dysplasia, right hip	Diagnosis	ICD-10-CM
M16.32	Unilateral osteoarthritis resulting from hip dysplasia, left hip	Diagnosis	ICD-10-CM
M16.4	Bilateral post-traumatic osteoarthritis of hip	Diagnosis	ICD-10-CM
M16.50	Unilateral post-traumatic osteoarthritis, unspecified hip	Diagnosis	ICD-10-CM
M16.51	Unilateral post-traumatic osteoarthritis, right hip	Diagnosis	ICD-10-CM
M16.52	Unilateral post-traumatic osteoarthritis, left hip	Diagnosis	ICD-10-CM
M16.6	Other bilateral secondary osteoarthritis of hip	Diagnosis	ICD-10-CM
M16.7	Other unilateral secondary osteoarthritis of hip	Diagnosis	ICD-10-CM
M16.9	Osteoarthritis of hip, unspecified	Diagnosis	ICD-10-CM
M17.0	Bilateral primary osteoarthritis of knee	Diagnosis	ICD-10-CM
M17.10	Unilateral primary osteoarthritis, unspecified knee	Diagnosis	ICD-10-CM
M17.11	Unilateral primary osteoarthritis, right knee	Diagnosis	ICD-10-CM
M17.12	Unilateral primary osteoarthritis, left knee	Diagnosis	ICD-10-CM

Code	Description	Code Category	Code Type
M17.2	Bilateral post-traumatic osteoarthritis of knee	Diagnosis	ICD-10-CM
M17.30	Unilateral post-traumatic osteoarthritis, unspecified knee	Diagnosis	ICD-10-CM
M17.31	Unilateral post-traumatic osteoarthritis, right knee	Diagnosis	ICD-10-CM
M17.32	Unilateral post-traumatic osteoarthritis, left knee	Diagnosis	ICD-10-CM
M17.4	Other bilateral secondary osteoarthritis of knee	Diagnosis	ICD-10-CM
M17.5	Other unilateral secondary osteoarthritis of knee	Diagnosis	ICD-10-CM
M17.9	Osteoarthritis of knee, unspecified	Diagnosis	ICD-10-CM
M18.0	Bilateral primary osteoarthritis of first carpometacarpal joints	Diagnosis	ICD-10-CM
M18.10	Unilateral primary osteoarthritis of first carpometacarpal joint, unspecified hand	Diagnosis	ICD-10-CM
M18.11	Unilateral primary osteoarthritis of first carpometacarpal joint, right hand	Diagnosis	ICD-10-CM
M18.12	Unilateral primary osteoarthritis of first carpometacarpal joint, left hand	Diagnosis	ICD-10-CM
M18.2	Bilateral post-traumatic osteoarthritis of first carpometacarpal joints	Diagnosis	ICD-10-CM
M18.30	Unilateral post-traumatic osteoarthritis of first carpometacarpal joint, unspecified hand	Diagnosis	ICD-10-CM
M18.31	Unilateral post-traumatic osteoarthritis of first carpometacarpal joint, right hand	Diagnosis	ICD-10-CM
M18.32	Unilateral post-traumatic osteoarthritis of first carpometacarpal joint, left hand	Diagnosis	ICD-10-CM
M18.4	Other bilateral secondary osteoarthritis of first carpometacarpal joints	Diagnosis	ICD-10-CM
M18.50	Other unilateral secondary osteoarthritis of first carpometacarpal joint, unspecified hand	Diagnosis	ICD-10-CM
M18.51	Other unilateral secondary osteoarthritis of first carpometacarpal joint, right hand	Diagnosis	ICD-10-CM
M18.52	Other unilateral secondary osteoarthritis of first carpometacarpal joint, left hand	Diagnosis	ICD-10-CM
M18.9	Osteoarthritis of first carpometacarpal joint, unspecified	Diagnosis	ICD-10-CM
M19.011	Primary osteoarthritis, right shoulder	Diagnosis	ICD-10-CM
M19.012	Primary osteoarthritis, left shoulder	Diagnosis	ICD-10-CM
M19.019	Primary osteoarthritis, unspecified shoulder	Diagnosis	ICD-10-CM
M19.021	Primary osteoarthritis, right elbow	Diagnosis	ICD-10-CM
M19.022	Primary osteoarthritis, left elbow	Diagnosis	ICD-10-CM
M19.029	Primary osteoarthritis, unspecified elbow	Diagnosis	ICD-10-CM
M19.031	Primary osteoarthritis, right wrist	Diagnosis	ICD-10-CM
M19.032	Primary osteoarthritis, left wrist	Diagnosis	ICD-10-CM
M19.039	Primary osteoarthritis, unspecified wrist	Diagnosis	ICD-10-CM
M19.041	Primary osteoarthritis, right hand	Diagnosis	ICD-10-CM
M19.042	Primary osteoarthritis, left hand	Diagnosis	ICD-10-CM
M19.049	Primary osteoarthritis, unspecified hand	Diagnosis	ICD-10-CM
M19.071	Primary osteoarthritis, right ankle and foot	Diagnosis	ICD-10-CM
M19.072	Primary osteoarthritis, left ankle and foot	Diagnosis	ICD-10-CM
M19.079	Primary osteoarthritis, unspecified ankle and foot	Diagnosis	ICD-10-CM
M19.09	Primary osteoarthritis, other specified site	Diagnosis	ICD-10-CM
M19.111	Post-traumatic osteoarthritis, right shoulder	Diagnosis	ICD-10-CM
M19.112	Post-traumatic osteoarthritis, left shoulder	Diagnosis	ICD-10-CM
M19.119	Post-traumatic osteoarthritis, unspecified shoulder	Diagnosis	ICD-10-CM
M19.121	Post-traumatic osteoarthritis, right elbow	Diagnosis	ICD-10-CM
M19.122	Post-traumatic osteoarthritis, left elbow	Diagnosis	ICD-10-CM
M19.129	Post-traumatic osteoarthritis, unspecified elbow	Diagnosis	ICD-10-CM
M19.131	Post-traumatic osteoarthritis, right wrist	Diagnosis	ICD-10-CM
M19.132	Post-traumatic osteoarthritis, left wrist	Diagnosis	ICD-10-CM

Code	Description	Code Category	Code Type
M19.139	Post-traumatic osteoarthritis, unspecified wrist	Diagnosis	ICD-10-CM
M19.141	Post-traumatic osteoarthritis, right hand	Diagnosis	ICD-10-CM
M19.142	Post-traumatic osteoarthritis, left hand	Diagnosis	ICD-10-CM
M19.149	Post-traumatic osteoarthritis, unspecified hand	Diagnosis	ICD-10-CM
M19.171	Post-traumatic osteoarthritis, right ankle and foot	Diagnosis	ICD-10-CM
M19.172	Post-traumatic osteoarthritis, left ankle and foot	Diagnosis	ICD-10-CM
M19.179	Post-traumatic osteoarthritis, unspecified ankle and foot	Diagnosis	ICD-10-CM
M19.19	Post-traumatic osteoarthritis, other specified site	Diagnosis	ICD-10-CM
M19.211	Secondary osteoarthritis, right shoulder	Diagnosis	ICD-10-CM
M19.212	Secondary osteoarthritis, left shoulder	Diagnosis	ICD-10-CM
M19.219	Secondary osteoarthritis, unspecified shoulder	Diagnosis	ICD-10-CM
M19.221	Secondary osteoarthritis, right elbow	Diagnosis	ICD-10-CM
M19.222	Secondary osteoarthritis, left elbow	Diagnosis	ICD-10-CM
M19.229	Secondary osteoarthritis, unspecified elbow	Diagnosis	ICD-10-CM
M19.231	Secondary osteoarthritis, right wrist	Diagnosis	ICD-10-CM
M19.232	Secondary osteoarthritis, left wrist	Diagnosis	ICD-10-CM
M19.239	Secondary osteoarthritis, unspecified wrist	Diagnosis	ICD-10-CM
M19.241	Secondary osteoarthritis, right hand	Diagnosis	ICD-10-CM
M19.242	Secondary osteoarthritis, left hand	Diagnosis	ICD-10-CM
M19.249	Secondary osteoarthritis, unspecified hand	Diagnosis	ICD-10-CM
M19.271	Secondary osteoarthritis, right ankle and foot	Diagnosis	ICD-10-CM
M19.272	Secondary osteoarthritis, left ankle and foot	Diagnosis	ICD-10-CM
M19.279	Secondary osteoarthritis, unspecified ankle and foot	Diagnosis	ICD-10-CM
M19.29	Secondary osteoarthritis, other specified site	Diagnosis	ICD-10-CM
M19.90	Unspecified osteoarthritis, unspecified site	Diagnosis	ICD-10-CM
M19.91	Primary osteoarthritis, unspecified site	Diagnosis	ICD-10-CM
M19.92	Post-traumatic osteoarthritis, unspecified site	Diagnosis	ICD-10-CM
M19.93	Secondary osteoarthritis, unspecified site	Diagnosis	ICD-10-CM
M45.0	Ankylosing spondylitis of multiple sites in spine	Diagnosis	ICD-10-CM
M45.1	Ankylosing spondylitis of occipito-atlanto-axial region	Diagnosis	ICD-10-CM
M45.2	Ankylosing spondylitis of cervical region	Diagnosis	ICD-10-CM
M45.3	Ankylosing spondylitis of cervicothoracic region	Diagnosis	ICD-10-CM
M45.4	Ankylosing spondylitis of thoracic region	Diagnosis	ICD-10-CM
M45.5	Ankylosing spondylitis of thoracolumbar region	Diagnosis	ICD-10-CM
M45.6	Ankylosing spondylitis lumbar region	Diagnosis	ICD-10-CM
M45.7	Ankylosing spondylitis of lumbosacral region	Diagnosis	ICD-10-CM
M45.8	Ankylosing spondylitis sacral and sacrococcygeal region	Diagnosis	ICD-10-CM
M45.9	Ankylosing spondylitis of unspecified sites in spine	Diagnosis	ICD-10-CM
M45.A0	Non-radiographic axial spondyloarthritis of unspecified sites in spine	Diagnosis	ICD-10-CM
M45.A1	Non-radiographic axial spondyloarthritis of occipito-atlanto-axial region	Diagnosis	ICD-10-CM
M45.A2	Non-radiographic axial spondyloarthritis of cervical region	Diagnosis	ICD-10-CM
M45.A3	Non-radiographic axial spondyloarthritis of cervicothoracic region	Diagnosis	ICD-10-CM
M45.A4	Non-radiographic axial spondyloarthritis of thoracic region	Diagnosis	ICD-10-CM
M45.A5	Non-radiographic axial spondyloarthritis of thoracolumbar region	Diagnosis	ICD-10-CM
M45.A6	Non-radiographic axial spondyloarthritis of lumbar region	Diagnosis	ICD-10-CM
M45.A7	Non-radiographic axial spondyloarthritis of lumbosacral region	Diagnosis	ICD-10-CM

Code	Description	Code Category	Code Type
M45.A8	Non-radiographic axial spondyloarthritis of sacral and sacrococcygeal region	Diagnosis	ICD-10-CM
M45.AB	Non-radiographic axial spondyloarthritis of multiple sites in spine	Diagnosis	ICD-10-CM
M46.80	Other specified inflammatory spondylopathies, site unspecified	Diagnosis	ICD-10-CM
M46.81	Other specified inflammatory spondylopathies, occipito-atlanto-axial region	Diagnosis	ICD-10-CM
M46.82	Other specified inflammatory spondylopathies, cervical region	Diagnosis	ICD-10-CM
M46.83	Other specified inflammatory spondylopathies, cervicothoracic region	Diagnosis	ICD-10-CM
M46.84	Other specified inflammatory spondylopathies, thoracic region	Diagnosis	ICD-10-CM
M46.85	Other specified inflammatory spondylopathies, thoracolumbar region	Diagnosis	ICD-10-CM
M46.86	Other specified inflammatory spondylopathies, lumbar region	Diagnosis	ICD-10-CM
M46.87	Other specified inflammatory spondylopathies, lumbosacral region	Diagnosis	ICD-10-CM
M46.88	Other specified inflammatory spondylopathies, sacral and sacrococcygeal region	Diagnosis	ICD-10-CM
M46.89	Other specified inflammatory spondylopathies, multiple sites in spine	Diagnosis	ICD-10-CM
M46.90	Unspecified inflammatory spondylopathy, site unspecified	Diagnosis	ICD-10-CM
M46.91	Unspecified inflammatory spondylopathy, occipito-atlanto-axial region	Diagnosis	ICD-10-CM
M46.92	Unspecified inflammatory spondylopathy, cervical region	Diagnosis	ICD-10-CM
M46.93	Unspecified inflammatory spondylopathy, cervicothoracic region	Diagnosis	ICD-10-CM
M46.94	Unspecified inflammatory spondylopathy, thoracic region	Diagnosis	ICD-10-CM
M46.95	Unspecified inflammatory spondylopathy, thoracolumbar region	Diagnosis	ICD-10-CM
M46.96	Unspecified inflammatory spondylopathy, lumbar region	Diagnosis	ICD-10-CM
M46.97	Unspecified inflammatory spondylopathy, lumbosacral region	Diagnosis	ICD-10-CM
M46.98	Unspecified inflammatory spondylopathy, sacral and sacrococcygeal region	Diagnosis	ICD-10-CM
M46.99	Unspecified inflammatory spondylopathy, multiple sites in spine	Diagnosis	ICD-10-CM
M47.011	Anterior spinal artery compression syndromes, occipito-atlanto-axial region	Diagnosis	ICD-10-CM
M47.012	Anterior spinal artery compression syndromes, cervical region	Diagnosis	ICD-10-CM
M47.013	Anterior spinal artery compression syndromes, cervicothoracic region	Diagnosis	ICD-10-CM
M47.014	Anterior spinal artery compression syndromes, thoracic region	Diagnosis	ICD-10-CM
M47.015	Anterior spinal artery compression syndromes, thoracolumbar region	Diagnosis	ICD-10-CM
M47.016	Anterior spinal artery compression syndromes, lumbar region	Diagnosis	ICD-10-CM
M47.019	Anterior spinal artery compression syndromes, site unspecified	Diagnosis	ICD-10-CM
M47.021	Vertebral artery compression syndromes, occipito-atlanto-axial region	Diagnosis	ICD-10-CM
M47.022	Vertebral artery compression syndromes, cervical region	Diagnosis	ICD-10-CM
M47.029	Vertebral artery compression syndromes, site unspecified	Diagnosis	ICD-10-CM
M47.10	Other spondylosis with myelopathy, site unspecified	Diagnosis	ICD-10-CM
M47.11	Other spondylosis with myelopathy, occipito-atlanto-axial region	Diagnosis	ICD-10-CM
M47.12	Other spondylosis with myelopathy, cervical region	Diagnosis	ICD-10-CM
M47.13	Other spondylosis with myelopathy, cervicothoracic region	Diagnosis	ICD-10-CM
M47.14	Other spondylosis with myelopathy, thoracic region	Diagnosis	ICD-10-CM
M47.15	Other spondylosis with myelopathy, thoracolumbar region	Diagnosis	ICD-10-CM
M47.16	Other spondylosis with myelopathy, lumbar region	Diagnosis	ICD-10-CM
M47.20	Other spondylosis with radiculopathy, site unspecified	Diagnosis	ICD-10-CM
M47.21	Other spondylosis with radiculopathy, occipito-atlanto-axial region	Diagnosis	ICD-10-CM
M47.22	Other spondylosis with radiculopathy, cervical region	Diagnosis	ICD-10-CM
M47.23	Other spondylosis with radiculopathy, cervicothoracic region	Diagnosis	ICD-10-CM
M47.24	Other spondylosis with radiculopathy, thoracic region	Diagnosis	ICD-10-CM
M47.25	Other spondylosis with radiculopathy, thoracolumbar region	Diagnosis	ICD-10-CM
M47.26	Other spondylosis with radiculopathy, lumbar region	Diagnosis	ICD-10-CM

Code	Description	Code Category	Code Type
M47.27	Other spondylosis with radiculopathy, lumbosacral region	Diagnosis	ICD-10-CM
M47.28	Other spondylosis with radiculopathy, sacral and sacrococcygeal region	Diagnosis	ICD-10-CM
M47.811	Spondylosis without myelopathy or radiculopathy, occipito-atlanto-axial region	Diagnosis	ICD-10-CM
M47.812	Spondylosis without myelopathy or radiculopathy, cervical region	Diagnosis	ICD-10-CM
M47.813	Spondylosis without myelopathy or radiculopathy, cervicothoracic region	Diagnosis	ICD-10-CM
M47.814	Spondylosis without myelopathy or radiculopathy, thoracic region	Diagnosis	ICD-10-CM
M47.815	Spondylosis without myelopathy or radiculopathy, thoracolumbar region	Diagnosis	ICD-10-CM
M47.816	Spondylosis without myelopathy or radiculopathy, lumbar region	Diagnosis	ICD-10-CM
M47.817	Spondylosis without myelopathy or radiculopathy, lumbosacral region	Diagnosis	ICD-10-CM
M47.818	Spondylosis without myelopathy or radiculopathy, sacral and sacrococcygeal region	Diagnosis	ICD-10-CM
M47.819	Spondylosis without myelopathy or radiculopathy, site unspecified	Diagnosis	ICD-10-CM
M47.891	Other spondylosis, occipito-atlanto-axial region	Diagnosis	ICD-10-CM
M47.892	Other spondylosis, cervical region	Diagnosis	ICD-10-CM
M47.893	Other spondylosis, cervicothoracic region	Diagnosis	ICD-10-CM
M47.894	Other spondylosis, thoracic region	Diagnosis	ICD-10-CM
M47.895	Other spondylosis, thoracolumbar region	Diagnosis	ICD-10-CM
M47.896	Other spondylosis, lumbar region	Diagnosis	ICD-10-CM
M47.897	Other spondylosis, lumbosacral region	Diagnosis	ICD-10-CM
M47.898	Other spondylosis, sacral and sacrococcygeal region	Diagnosis	ICD-10-CM
M47.899	Other spondylosis, site unspecified	Diagnosis	ICD-10-CM
M47.9	Spondylosis, unspecified	Diagnosis	ICD-10-CM
M48.8X1	Other specified spondylopathies, occipito-atlanto-axial region	Diagnosis	ICD-10-CM
M48.8X2	Other specified spondylopathies, cervical region	Diagnosis	ICD-10-CM
M48.8X3	Other specified spondylopathies, cervicothoracic region	Diagnosis	ICD-10-CM
M48.8X4	Other specified spondylopathies, thoracic region	Diagnosis	ICD-10-CM
M48.8X5	Other specified spondylopathies, thoracolumbar region	Diagnosis	ICD-10-CM
M48.8X6	Other specified spondylopathies, lumbar region	Diagnosis	ICD-10-CM
M48.8X7	Other specified spondylopathies, lumbosacral region	Diagnosis	ICD-10-CM
M48.8X8	Other specified spondylopathies, sacral and sacrococcygeal region	Diagnosis	ICD-10-CM
M48.8X9	Other specified spondylopathies, site unspecified	Diagnosis	ICD-10-CM
Stroke or Transient Ischemic Attack			
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
G45.3	Amaurosis fugax	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
G46.3	Brain stem stroke syndrome	Diagnosis	ICD-10-CM
G46.4	Cerebellar stroke syndrome	Diagnosis	ICD-10-CM
G46.5	Pure motor lacunar syndrome	Diagnosis	ICD-10-CM
G46.6	Pure sensory lacunar syndrome	Diagnosis	ICD-10-CM
G46.7	Other lacunar syndromes	Diagnosis	ICD-10-CM
G46.8	Other vascular syndromes of brain in cerebrovascular diseases	Diagnosis	ICD-10-CM

Code	Description	Code Category	Code Type
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
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
I60.20	Nontraumatic subarachnoid hemorrhage from unspecified anterior communicating artery	Diagnosis	ICD-10-CM
I60.21	Nontraumatic subarachnoid hemorrhage from right anterior communicating artery	Diagnosis	ICD-10-CM
I60.22	Nontraumatic subarachnoid hemorrhage from left 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
I62.9	Nontraumatic intracranial 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

Code	Description	Code Category	Code Type
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

Code	Description	Code Category	Code Type
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
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

Code	Description	Code Category	Code Type
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
I63.81	Other cerebral infarction due to occlusion or stenosis of small artery	Diagnosis	ICD-10-CM
I63.89	Other cerebral infarction	Diagnosis	ICD-10-CM
I63.9	Cerebral infarction, unspecified	Diagnosis	ICD-10-CM
I66.01	Occlusion and stenosis of right middle cerebral artery	Diagnosis	ICD-10-CM
I66.02	Occlusion and stenosis of left middle cerebral artery	Diagnosis	ICD-10-CM
I66.03	Occlusion and stenosis of bilateral middle cerebral arteries	Diagnosis	ICD-10-CM
I66.09	Occlusion and stenosis of unspecified middle cerebral artery	Diagnosis	ICD-10-CM
I66.11	Occlusion and stenosis of right anterior cerebral artery	Diagnosis	ICD-10-CM
I66.12	Occlusion and stenosis of left anterior cerebral artery	Diagnosis	ICD-10-CM
I66.13	Occlusion and stenosis of bilateral anterior cerebral arteries	Diagnosis	ICD-10-CM
I66.19	Occlusion and stenosis of unspecified anterior cerebral artery	Diagnosis	ICD-10-CM
I66.21	Occlusion and stenosis of right posterior cerebral artery	Diagnosis	ICD-10-CM
I66.22	Occlusion and stenosis of left posterior cerebral artery	Diagnosis	ICD-10-CM
I66.23	Occlusion and stenosis of bilateral posterior cerebral arteries	Diagnosis	ICD-10-CM
I66.29	Occlusion and stenosis of unspecified posterior cerebral artery	Diagnosis	ICD-10-CM
I66.3	Occlusion and stenosis of cerebellar arteries	Diagnosis	ICD-10-CM
I66.8	Occlusion and stenosis of other cerebral arteries	Diagnosis	ICD-10-CM
I66.9	Occlusion and stenosis of unspecified cerebral artery	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
I67.89	Other cerebrovascular disease	Diagnosis	ICD-10-CM
I97.810	Intraoperative cerebrovascular infarction during cardiac surgery	Diagnosis	ICD-10-CM
I97.811	Intraoperative cerebrovascular infarction during other surgery	Diagnosis	ICD-10-CM
I97.820	Postprocedural cerebrovascular infarction following cardiac surgery	Diagnosis	ICD-10-CM
I97.821	Postprocedural cerebrovascular infarction following other surgery	Diagnosis	ICD-10-CM
Breast Cancer			
C50.011	Malignant neoplasm of nipple and areola, right female breast	Diagnosis	ICD-10-CM
C50.012	Malignant neoplasm of nipple and areola, left female breast	Diagnosis	ICD-10-CM
C50.019	Malignant neoplasm of nipple and areola, unspecified female breast	Diagnosis	ICD-10-CM
C50.021	Malignant neoplasm of nipple and areola, right male breast	Diagnosis	ICD-10-CM
C50.022	Malignant neoplasm of nipple and areola, left male breast	Diagnosis	ICD-10-CM
C50.029	Malignant neoplasm of nipple and areola, unspecified male breast	Diagnosis	ICD-10-CM
C50.111	Malignant neoplasm of central portion of right female breast	Diagnosis	ICD-10-CM

Code	Description	Code Category	Code Type
C50.112	Malignant neoplasm of central portion of left female breast	Diagnosis	ICD-10-CM
C50.119	Malignant neoplasm of central portion of unspecified female breast	Diagnosis	ICD-10-CM
C50.121	Malignant neoplasm of central portion of right male breast	Diagnosis	ICD-10-CM
C50.122	Malignant neoplasm of central portion of left male breast	Diagnosis	ICD-10-CM
C50.129	Malignant neoplasm of central portion of unspecified male breast	Diagnosis	ICD-10-CM
C50.211	Malignant neoplasm of upper-inner quadrant of right female breast	Diagnosis	ICD-10-CM
C50.212	Malignant neoplasm of upper-inner quadrant of left female breast	Diagnosis	ICD-10-CM
C50.219	Malignant neoplasm of upper-inner quadrant of unspecified female breast	Diagnosis	ICD-10-CM
C50.221	Malignant neoplasm of upper-inner quadrant of right male breast	Diagnosis	ICD-10-CM
C50.222	Malignant neoplasm of upper-inner quadrant of left male breast	Diagnosis	ICD-10-CM
C50.229	Malignant neoplasm of upper-inner quadrant of unspecified male breast	Diagnosis	ICD-10-CM
C50.311	Malignant neoplasm of lower-inner quadrant of right female breast	Diagnosis	ICD-10-CM
C50.312	Malignant neoplasm of lower-inner quadrant of left female breast	Diagnosis	ICD-10-CM
C50.319	Malignant neoplasm of lower-inner quadrant of unspecified female breast	Diagnosis	ICD-10-CM
C50.321	Malignant neoplasm of lower-inner quadrant of right male breast	Diagnosis	ICD-10-CM
C50.322	Malignant neoplasm of lower-inner quadrant of left male breast	Diagnosis	ICD-10-CM
C50.329	Malignant neoplasm of lower-inner quadrant of unspecified male breast	Diagnosis	ICD-10-CM
C50.411	Malignant neoplasm of upper-outer quadrant of right female breast	Diagnosis	ICD-10-CM
C50.412	Malignant neoplasm of upper-outer quadrant of left female breast	Diagnosis	ICD-10-CM
C50.419	Malignant neoplasm of upper-outer quadrant of unspecified female breast	Diagnosis	ICD-10-CM
C50.421	Malignant neoplasm of upper-outer quadrant of right male breast	Diagnosis	ICD-10-CM
C50.422	Malignant neoplasm of upper-outer quadrant of left male breast	Diagnosis	ICD-10-CM
C50.429	Malignant neoplasm of upper-outer quadrant of unspecified male breast	Diagnosis	ICD-10-CM
C50.511	Malignant neoplasm of lower-outer quadrant of right female breast	Diagnosis	ICD-10-CM
C50.512	Malignant neoplasm of lower-outer quadrant of left female breast	Diagnosis	ICD-10-CM
C50.519	Malignant neoplasm of lower-outer quadrant of unspecified female breast	Diagnosis	ICD-10-CM
C50.521	Malignant neoplasm of lower-outer quadrant of right male breast	Diagnosis	ICD-10-CM
C50.522	Malignant neoplasm of lower-outer quadrant of left male breast	Diagnosis	ICD-10-CM
C50.529	Malignant neoplasm of lower-outer quadrant of unspecified male breast	Diagnosis	ICD-10-CM
C50.611	Malignant neoplasm of axillary tail of right female breast	Diagnosis	ICD-10-CM
C50.612	Malignant neoplasm of axillary tail of left female breast	Diagnosis	ICD-10-CM
C50.619	Malignant neoplasm of axillary tail of unspecified female breast	Diagnosis	ICD-10-CM
C50.621	Malignant neoplasm of axillary tail of right male breast	Diagnosis	ICD-10-CM
C50.622	Malignant neoplasm of axillary tail of left male breast	Diagnosis	ICD-10-CM
C50.629	Malignant neoplasm of axillary tail of unspecified male breast	Diagnosis	ICD-10-CM
C50.811	Malignant neoplasm of overlapping sites of right female breast	Diagnosis	ICD-10-CM
C50.812	Malignant neoplasm of overlapping sites of left female breast	Diagnosis	ICD-10-CM
C50.819	Malignant neoplasm of overlapping sites of unspecified female breast	Diagnosis	ICD-10-CM
C50.821	Malignant neoplasm of overlapping sites of right male breast	Diagnosis	ICD-10-CM
C50.822	Malignant neoplasm of overlapping sites of left male breast	Diagnosis	ICD-10-CM
C50.829	Malignant neoplasm of overlapping sites of unspecified male breast	Diagnosis	ICD-10-CM
C50.911	Malignant neoplasm of unspecified site of right female breast	Diagnosis	ICD-10-CM
C50.912	Malignant neoplasm of unspecified site of left female breast	Diagnosis	ICD-10-CM
C50.919	Malignant neoplasm of unspecified site of unspecified female breast	Diagnosis	ICD-10-CM
C50.921	Malignant neoplasm of unspecified site of right male breast	Diagnosis	ICD-10-CM
C50.922	Malignant neoplasm of unspecified site of left male breast	Diagnosis	ICD-10-CM

Code	Description	Code Category	Code Type
C50.929	Malignant neoplasm of unspecified site of unspecified male breast	Diagnosis	ICD-10-CM
D05.00	Lobular carcinoma in situ of unspecified breast	Diagnosis	ICD-10-CM
D05.01	Lobular carcinoma in situ of right breast	Diagnosis	ICD-10-CM
D05.02	Lobular carcinoma in situ of left breast	Diagnosis	ICD-10-CM
D05.10	Intraductal carcinoma in situ of unspecified breast	Diagnosis	ICD-10-CM
D05.11	Intraductal carcinoma in situ of right breast	Diagnosis	ICD-10-CM
D05.12	Intraductal carcinoma in situ of left breast	Diagnosis	ICD-10-CM
D05.80	Other specified type of carcinoma in situ of unspecified breast	Diagnosis	ICD-10-CM
D05.81	Other specified type of carcinoma in situ of right breast	Diagnosis	ICD-10-CM
D05.82	Other specified type of carcinoma in situ of left breast	Diagnosis	ICD-10-CM
D05.90	Unspecified type of carcinoma in situ of unspecified breast	Diagnosis	ICD-10-CM
D05.91	Unspecified type of carcinoma in situ of right breast	Diagnosis	ICD-10-CM
D05.92	Unspecified type of carcinoma in situ of left breast	Diagnosis	ICD-10-CM
Z17.0	Estrogen receptor positive status [ER+]	Diagnosis	ICD-10-CM
Z17.1	Estrogen receptor negative status [ER-]	Diagnosis	ICD-10-CM
Z19.1	Hormone sensitive malignancy status	Diagnosis	ICD-10-CM
Z19.2	Hormone resistant malignancy status	Diagnosis	ICD-10-CM
Z85.3	Personal history of malignant neoplasm of breast	Diagnosis	ICD-10-CM
Z86.000	Personal history of in-situ neoplasm of breast	Diagnosis	ICD-10-CM
Colorectal Cancer			
C18.0	Malignant neoplasm of cecum	Diagnosis	ICD-10-CM
C18.1	Malignant neoplasm of appendix	Diagnosis	ICD-10-CM
C18.2	Malignant neoplasm of ascending colon	Diagnosis	ICD-10-CM
C18.3	Malignant neoplasm of hepatic flexure	Diagnosis	ICD-10-CM
C18.4	Malignant neoplasm of transverse colon	Diagnosis	ICD-10-CM
C18.5	Malignant neoplasm of splenic flexure	Diagnosis	ICD-10-CM
C18.6	Malignant neoplasm of descending colon	Diagnosis	ICD-10-CM
C18.7	Malignant neoplasm of sigmoid colon	Diagnosis	ICD-10-CM
C18.8	Malignant neoplasm of overlapping sites of colon	Diagnosis	ICD-10-CM
C18.9	Malignant neoplasm of colon, unspecified	Diagnosis	ICD-10-CM
C19	Malignant neoplasm of rectosigmoid junction	Diagnosis	ICD-10-CM
C20	Malignant neoplasm of rectum	Diagnosis	ICD-10-CM
C49.A4	Gastrointestinal stromal tumor of large intestine	Diagnosis	ICD-10-CM
C49.A5	Gastrointestinal stromal tumor of rectum	Diagnosis	ICD-10-CM
D01.0	Carcinoma in situ of colon	Diagnosis	ICD-10-CM
D01.1	Carcinoma in situ of rectosigmoid junction	Diagnosis	ICD-10-CM
D01.2	Carcinoma in situ of rectum	Diagnosis	ICD-10-CM
Z85.030	Personal history of malignant carcinoid tumor of large intestine	Diagnosis	ICD-10-CM
Z85.038	Personal history of other malignant neoplasm of large intestine	Diagnosis	ICD-10-CM
Z85.040	Personal history of malignant carcinoid tumor of rectum	Diagnosis	ICD-10-CM
Z85.048	Personal history of other malignant neoplasm of rectum, rectosigmoid junction, and anus	Diagnosis	ICD-10-CM
Prostate Cancer			
C61	Malignant neoplasm of prostate	Diagnosis	ICD-10-CM
D07.5	Carcinoma in situ of prostate	Diagnosis	ICD-10-CM
Z85.46	Personal history of malignant neoplasm of prostate	Diagnosis	ICD-10-CM

Code	Description	Code Category	Code Type
	Lung Cancer		
C34.00	Malignant neoplasm of unspecified main bronchus	Diagnosis	ICD-10-CM
C34.01	Malignant neoplasm of right main bronchus	Diagnosis	ICD-10-CM
C34.02	Malignant neoplasm of left main bronchus	Diagnosis	ICD-10-CM
C34.10	Malignant neoplasm of upper lobe, unspecified bronchus or lung	Diagnosis	ICD-10-CM
C34.11	Malignant neoplasm of upper lobe, right bronchus or lung	Diagnosis	ICD-10-CM
C34.12	Malignant neoplasm of upper lobe, left bronchus or lung	Diagnosis	ICD-10-CM
C34.2	Malignant neoplasm of middle lobe, bronchus or lung	Diagnosis	ICD-10-CM
C34.30	Malignant neoplasm of lower lobe, unspecified bronchus or lung	Diagnosis	ICD-10-CM
C34.31	Malignant neoplasm of lower lobe, right bronchus or lung	Diagnosis	ICD-10-CM
C34.32	Malignant neoplasm of lower lobe, left bronchus or lung	Diagnosis	ICD-10-CM
C34.80	Malignant neoplasm of overlapping sites of unspecified bronchus and lung	Diagnosis	ICD-10-CM
C34.81	Malignant neoplasm of overlapping sites of right bronchus and lung	Diagnosis	ICD-10-CM
C34.82	Malignant neoplasm of overlapping sites of left bronchus and lung	Diagnosis	ICD-10-CM
C34.90	Malignant neoplasm of unspecified part of unspecified bronchus or lung	Diagnosis	ICD-10-CM
C34.91	Malignant neoplasm of unspecified part of right bronchus or lung	Diagnosis	ICD-10-CM
C34.92	Malignant neoplasm of unspecified part of left bronchus or lung	Diagnosis	ICD-10-CM
D02.20	Carcinoma in situ of unspecified bronchus and lung	Diagnosis	ICD-10-CM
D02.21	Carcinoma in situ of right bronchus and lung	Diagnosis	ICD-10-CM
D02.22	Carcinoma in situ of left bronchus and lung	Diagnosis	ICD-10-CM
Z85.110	Personal history of malignant carcinoid tumor of bronchus and lung	Diagnosis	ICD-10-CM
Z85.118	Personal history of other malignant neoplasm of bronchus and lung	Diagnosis	ICD-10-CM
	Endometrial Cancer		
C54.0	Malignant neoplasm of isthmus uteri	Diagnosis	ICD-10-CM
C54.1	Malignant neoplasm of endometrium	Diagnosis	ICD-10-CM
C54.2	Malignant neoplasm of myometrium	Diagnosis	ICD-10-CM
C54.3	Malignant neoplasm of fundus uteri	Diagnosis	ICD-10-CM
C54.8	Malignant neoplasm of overlapping sites of corpus uteri	Diagnosis	ICD-10-CM
C54.9	Malignant neoplasm of corpus uteri, unspecified	Diagnosis	ICD-10-CM
D07.0	Carcinoma in situ of endometrium	Diagnosis	ICD-10-CM
Z85.42	Personal history of malignant neoplasm of other parts of uterus	Diagnosis	ICD-10-CM
	Urologic Cancer		
C64.1	Malignant neoplasm of right kidney, except renal pelvis	Diagnosis	ICD-10-CM
C64.2	Malignant neoplasm of left kidney, except renal pelvis	Diagnosis	ICD-10-CM
C64.9	Malignant neoplasm of unspecified kidney, except renal pelvis	Diagnosis	ICD-10-CM
C65.1	Malignant neoplasm of right renal pelvis	Diagnosis	ICD-10-CM
C65.2	Malignant neoplasm of left renal pelvis	Diagnosis	ICD-10-CM
C65.9	Malignant neoplasm of unspecified renal pelvis	Diagnosis	ICD-10-CM
C66.1	Malignant neoplasm of right ureter	Diagnosis	ICD-10-CM
C66.2	Malignant neoplasm of left ureter	Diagnosis	ICD-10-CM
C66.9	Malignant neoplasm of unspecified ureter	Diagnosis	ICD-10-CM
C68.8	Malignant neoplasm of overlapping sites of urinary organs	Diagnosis	ICD-10-CM
C68.9	Malignant neoplasm of urinary organ, unspecified	Diagnosis	ICD-10-CM
D09.10	Carcinoma in situ of unspecified urinary organ	Diagnosis	ICD-10-CM
D09.19	Carcinoma in situ of other urinary organs	Diagnosis	ICD-10-CM
Z85.520	Personal history of malignant carcinoid tumor of kidney	Diagnosis	ICD-10-CM

Appendix G. List of International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Codes Used to Define Covariates in this Request

Code	Description	Code Category	Code Type
Z85.528	Personal history of other malignant neoplasm of kidney	Diagnosis	ICD-10-CM
Z85.53	Personal history of malignant neoplasm of renal pelvis	Diagnosis	ICD-10-CM
Z85.54	Personal history of malignant neoplasm of ureter	Diagnosis	ICD-10-CM
Z85.59	Personal history of malignant neoplasm of other urinary tract organ	Diagnosis	ICD-10-CM

Appendix H. Specifications Defining Parameters for this Request

SOC is using the CIDA tool [version 12.1.2] to replicate a known positive association between ACE inhibitors and angioedema with beta blockers as a comparator, in Market Scan and CMS data from pandemic years to understand how pandemic-related changes in healthcare utilization impact a known positive association. This is part 2, in which we introduce subgroup analysis by quarter-year.	

Query Period:	1/1/2018-6/30/2022
Coverage Requirement:	Medical & Drug Coverage
Pre-index enrollment requirement (ENRDAYS)**:**	183
Post-index enrollment requirement (REQDAYSAFTIND)**:**	N/A
Post-episode requirement for T2 analyses (REQDAYSAFTEPI)**:**	N/A
Enrollment gap:	45
Restrictions:	Demographic: M/F sex only
Age groups:	18-44, 45-64, and ≥ 65
Stratifications:	quarter-year
Censor output categorization:	N/A
Envelope macro:	Reclassify encounters during inpatient stay
Never-exposed cohort:	N/A
Distribution of index-defining codes:	N/A
Freeze data:	Yes

	RUN01	
Pre-index enrollment requirement	183	
Group	ACEi	BB
Drug/Exposure		
Index Exposure/Comparator	ACEi	Beta Blockers
Cohort Definition	First valid exposure episodes during query period	
Stockpiling	See stockpiling tab	
Build Episodes on Point Exposure?	No	
Treatment Episode Gap	14	
Exposure episode extension	14	
Minimum days supplied	1	
Incidence Criteria Care Setting	N/A	
Principal Diagnosis Position	N/A	
Forced supply to attach to dispensings	N/A	
Create Baseline Table?	Yes	
Inclusion/Exclusion Criteria		
Inclusion/Exclusion group	Aliskiren,	Aliskiren,
Type of criteria	Exclusion	
Evaluation Period Start	-183	
Evaluation Period End	-1	
Care Setting/PDX	N/A	
Principal Diagnosis Position	N/A	
Exclude evidence of days supply if inclusion/exclusion evaluation period includes dispensings	Evaluation period should search for evidence of days supply	
Number of instances the criteria should be found in the evaluation period	1	
Minimum Days Supplied	1	

Appendix H. Specifications Defining Parameters for this Request

Minimum cumulative dose	N/A	
Minimum average filled daily dose	N/A	
Maximum average filled daily dose	N/A	
Minimum current filled daily dose	N/A	
Maximum current filled daily dose	N/A	
Forced supply to attach to dispensings	N/A	
Inclusion/Exclusion group	Angioedema DX	
Type of criteria	Exclusion	
Evaluation Period Start	-183	
Evaluation Period End	-1	
Care Setting/PDX	Any	
Principal Diagnosis Position	Any	
Exclude evidence of days supply if inclusion/exclusion evaluation period	N/A	
Number of instances the criteria should be found in the evaluation period	1	
At Risk Time		
Minimum exposure episode duration	0	
Maximum exposure episode duration (MAXEPISDUR)	90	
Risk window interval start	0	
Censor treatment episode at evidence of:	DP end date; death; occurrence of aliskiren, ARBs, beta blockers; occurrence of angioedema; disenrollment	DP end date; death; occurrence of aliskiren, ARBs, ACEi; occurrence of angioedema; disenrollment
Blackout Period		
Event/Outcome		
Event/Outcome	Angioedema DX	
Care Setting	IP, ED, AV	
Principal Diagnosis Position	Any	
Exclude evidence of days supply if event washout includes dispensings	N/A	
Event de-duplication	De-duplicates occurrences of the same event code and code type on the same day	
Forced supply to attach to dispensings	N/A	
Propensity Score Model Parameters		
PS Model Label	ps_base	
Covariates	Age; sex; see also Covariates, Utilization, & Comorbidity tabs	
Firth Logistic Intercept Correct (FLIC) Method	No	
High-dimensional Propensity Score	No	
Output Kaplan Meier Plot	Yes	
PS Stratification		
Stratification Comparison Identifier	strat_base	
Percentiles	5	
PS Trimming Indicator	0 (Trim Non-Overlap)	
Percentile Distribution Indicator	O (Overall)	
PS Matching		
PS Comparison Identifier	fixed_base	

Appendix H. Specifications Defining Parameters for this Request

Ratio Type	Fixed ratio matching
Matching Ratio	1:1
Matching Caliper Settings	0.025
Analysis Type	Conditional and unconditional
Subgroup Analyses	
Stratifying variable	Quarter-year (Phase 2)
Subgroup Categories	Each 3-month period beginning January of a given calendar year (n = 18) (2018Q1, 2019Q1, etc.)
Firth Logistic Intercept Correct (FLIC) Method	No
Re-estimate Propensity Score within subgroup level	No
Should subgroup re-matching be restricted to the matched population	Yes

ICD-9-CM, HCPCS, and CPT codes are provided by Optum360. NDC codes are checked against First Data Bank's "National Drug Data File (NDDF®) Plus."

Type 2 design diagram: Cohort Def 1

Cohort entry date
ACE inhibitors vs. Beta Blockers

1/1/2018   Day 0   6/30/2022

Enrollment requirement: *M, D*   Pre-index: [-183, -1]

Allowed coverage gap

45 days

Exclusion criteria*   [-183, -1]

Capture evidence of *days' supply*

Episode length

Episode gap   14 days

Episode extension   14 days

Follow up period   [0,90]^

I

Covariates**   II: [-183, -1]
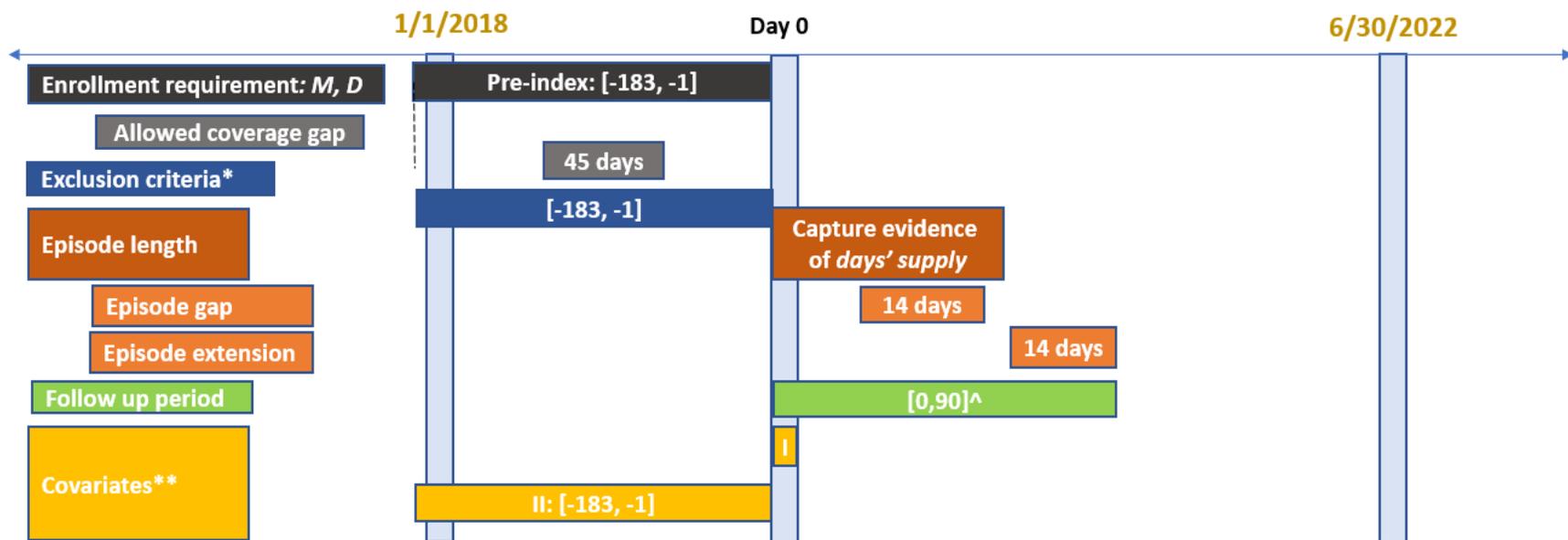
*Exclusion Criteria: Aliskiren, ARBs, ACE inhibitors/beta blockers; angioedema

^ The follow up period begins on the day of the index date and ends at the earliest occurrence of the end of at-risk time; angioedema; comparator drug, aliskiren, or ARBs; disenrollment; Data Partner end date; or death.

**Covariates: Window I: Age, sex, quarter-year

Window II: History of: allergic reaction, diabetes, heart failure, ischemic heart disease, NSAID use; Comorbidity Score; Drug Utilization (dispensings, unique generics); Medical Utilization (IP hospital stays, non-acute institutional stays, ED visits, AV visits, OA visits), CCW conditions (acquired hypothyroidism, acute myocardial infarction, Alzheimer's disease & related disorders or senile dementia, anemia, asthma, atrial fibrillation, benign prostatic hyperplasia, cancer (breast, colorectal, endometrial, lung, prostate), cataract, chronic kidney disease, chronic obstructive pulmonary disease & bronchiectasis, depression, glaucoma, hip/pelvic fracture, hyperlipidemia, hypertension, osteoporosis, rheumatoid arthritis/osteoarthritis, stroke/transient ischemic attack)