



Modular Program Report

The following report(s) provides findings from an FDA-initiated query using its Mini-Sentinel pilot. While Mini-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 Mini-Sentinel, and seeking to better understand the capabilities of the Mini-Sentinel pilot.

Data obtained through Mini-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 the Mini-Sentinel pilot in the public domain as soon as possible. Any public health actions taken by FDA regarding products involved in Mini-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

<u>Request Description</u>	FDA requested use of Modular Program (MP) #3 (version 2.4) to investigate gastrointestinal (GIH) or intracerebral hemorrhage (ICH) events (see Appendix for list of diagnosis codes) following new use of dabigatran or warfarin among patients with a pre-existing condition of atrial fibrillation (ICD-9-CM code 427.31). The query was run against the Mini-Sentinel Distributed Database (MSDD) for the period 10/19/2010 to 12/31/2011 (query period). The package was distributed to Data Partners on August 1, 2012.
	Results provide counts of dispensings, total days supplied, and treatment episodes among new users of dabigatran and warfarin, eligible members (denominator), and member days among patients with a pre-existing condition of atrial fibrillation. Total days supplied are from the MSCDM outpatient pharmacy table for records identified using National Drug Codes (NDCs) (for oral route, e.g., tablet, capsule). Counts of new gastrointestinal (GIH) or intracerebral hemorrhage (ICH) events and days at risk during exposure to dabigatran and warfarin are also presented. Events were considered new if the user did not have the event of interest in the 183 days before the first dispensing. Events found in the inpatient (IP) and emergent (ED) care settings were included. The query period was October 19, 2010 to December 31, 2011.
<u>Request ID</u>	mpr41
<u>Requester</u>	FDA/CDER

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Notes:	Please contact the Mini-Sentinel Operations Center (MSOC_Requests@harvardpilgrim.org) for questions and to provide comments/suggestions for future enhancements to this document.

Modular Program Specifications for Query ID MPR41 Part 1

Modular Program #3 (version 2.4) was used to investigate gastrointestinal (GIH) or intracerebral hemorrhage (ICH) events (see Appendix) following new use of dabigatran or warfarin among patients with a pre-existing condition of atrial fibrillation (ICD-9-CM 427.31). The query period was from October 19, 2010 to December 31, 2011. The enrollment gap was set at 45 days; the episode gap (for drug/exposure) was set to 10 days; the episode extension period was set to 10 days, and both the minimum episode duration and minimum days supplied were set to one day. Age groups were split as follows: 0-40, 41-54, 55-64, 65-74, 75-84, and 85+ years. In total, 12 different scenarios were examined in this report with differing exposures of interest, incidence criteria, washout/pre-existing condition lookback period, and event/outcome. See below for a description of each of these scenarios.

Scenario	Drug/Exposure				Pre-Existing Condition						Event/Outcome					
	Incident exposure	Incident w/ respect to:	Washout (days)	Incidence Type*	Pre-Existing Condition	Code Type	Lookback Period	Lookback Type	Care Setting	Principal Dx	Event/ Outcome	Washout (days)	Incidence Type**	Care Setting	Principal Dx	Blackout Period
1	Dabigatran	Dabigatran, Warfarin	183	Single	Atrial fibrillation	DX	183	Fixed	All	NO	GIH	183	Mult	ED, IP	NO	0
2	Dabigatran	Dabigatran, Warfarin	183	Single	Atrial fibrillation	DX	183	Fixed	All	NO	ICH	183	Mult	ED, IP	NO	0
3	Dabigatran	Dabigatran, Warfarin	183	Single	Atrial fibrillation	DX	183	Fixed	All	NO	GIH or ICH	183	Mult	ED, IP	NO	0
4	Warfarin	Dabigatran, Warfarin	183	Single	Atrial fibrillation	DX	183	Fixed	All	NO	GIH	183	Mult	ED, IP	NO	0
5	Warfarin	Dabigatran, Warfarin	183	Single	Atrial fibrillation	DX	183	Fixed	All	NO	ICH	183	Mult	ED, IP	NO	0
6	Warfarin	Dabigatran, Warfarin	183	Single	Atrial fibrillation	DX	183	Fixed	All	NO	GIH or ICH	183	Mult	ED, IP	NO	0
7	Dabigatran	Dabigatran	183	Single	Atrial fibrillation	DX	183	Fixed	All	NO	GIH	183	Mult	ED, IP	NO	0
8	Dabigatran	Dabigatran	183	Single	Atrial fibrillation	DX	183	Fixed	All	NO	ICH	183	Mult	ED, IP	NO	0
9	Dabigatran	Dabigatran	183	Single	Atrial fibrillation	DX	183	Fixed	All	NO	GIH or ICH	183	Mult	ED, IP	NO	0
10	Warfarin	Warfarin	183	Single	Atrial fibrillation	DX	183	Fixed	All	NO	GIH	183	Mult	ED, IP	NO	0
11	Warfarin	Warfarin	183	Single	Atrial fibrillation	DX	183	Fixed	All	NO	ICH	183	Mult	ED, IP	NO	0
12	Warfarin	Warfarin	183	Single	Atrial fibrillation	DX	183	Fixed	All	NO	GIH or ICH	183	Mult	ED, IP	NO	0
13	Dabigatran	Dabigatran, Warfarin	365	Single	Atrial fibrillation	DX	365	Fixed	All	NO	GIH	183	Mult	ED, IP	NO	0
14	Dabigatran	Dabigatran, Warfarin	365	Single	Atrial fibrillation	DX	365	Fixed	All	NO	ICH	183	Mult	ED, IP	NO	0
15	Dabigatran	Dabigatran, Warfarin	365	Single	Atrial fibrillation	DX	365	Fixed	All	NO	GIH or ICH	183	Mult	ED, IP	NO	0
16	Warfarin	Dabigatran, Warfarin	365	Single	Atrial fibrillation	DX	365	Fixed	All	NO	GIH	183	Mult	ED, IP	NO	0
17	Warfarin	Dabigatran, Warfarin	365	Single	Atrial fibrillation	DX	365	Fixed	All	NO	ICH	183	Mult	ED, IP	NO	0
18	Warfarin	Dabigatran, Warfarin	365	Single	Atrial fibrillation	DX	365	Fixed	All	NO	GIH or ICH	183	Mult	ED, IP	NO	0
19	Dabigatran	Dabigatran	365	Single	Atrial fibrillation	DX	365	Fixed	All	NO	GIH	183	Mult	ED, IP	NO	0
20	Dabigatran	Dabigatran	365	Single	Atrial fibrillation	DX	365	Fixed	All	NO	ICH	183	Mult	ED, IP	NO	0

Modular Program Specifications for Query ID MPR41 Part 1

Modular Program #3 (version 2.4) was used to investigate gastrointestinal (GIH) or intracerebral hemorrhage (ICH) events (see Appendix) following new use of dabigatran or warfarin among patients with a pre-existing condition of atrial fibrillation (ICD-9-CM 427.31). The query period was from October 19, 2010 to December 31, 2011. The enrollment gap was set at 45 days; the episode gap (for drug/exposure) was set to 10 days; the episode extension period was set to 10 days, and both the minimum episode duration and minimum days supplied were set to one day. Age groups were split as follows: 0-40, 41-54, 55-64, 65-74, 75-84, and 85+ years. In total, 12 different scenarios were examined in this report with differing exposures of interest, incidence criteria, washout/pre-existing condition lookback period, and event/outcome. See below for a description of each of these scenarios.

Scenario	Drug/Exposure				Pre-Existing Condition						Event/Outcome					
	Incident exposure	Incident w/ respect to:	Washout (days)	Incidence Type*	Pre-Existing Condition	Code Type	Lookback Period	Lookback Type	Care Setting	Principal Dx	Event/Outcome	Washout (days)	Incidence Type**	Care Setting	Principal Dx	Blackout Period
21	Dabigatran	Dabigatran	365	Single	Atrial fibrillation	DX	365	Fixed	All	NO	GIH or ICH	183	Mult	ED, IP	NO	0
22	Warfarin	Warfarin	365	Single	Atrial fibrillation	DX	365	Fixed	All	NO	GIH	183	Mult	ED, IP	NO	0
23	Warfarin	Warfarin	365	Single	Atrial fibrillation	DX	365	Fixed	All	NO	ICH	183	Mult	ED, IP	NO	0
24	Warfarin	Warfarin	365	Single	Atrial fibrillation	DX	365	Fixed	All	NO	GIH or ICH	183	Mult	ED, IP	NO	0

NDC codes checked against First Data Bank's "National Drug Data File (NDDF®) Plus"

ICD-9-CM diagnosis and procedure codes checked against "Ingenix 2012 ICD-9-CM Data File" provided by OptumInsight

HCPCS codes checked against "Optum 2012 HCPCS Level II Data File" provided by OptumInsight

CPT codes checked against "Optum 2012 Current Procedure Codes & Relative Values Data File" provided by OptumInsight

*Single incidence type for the exposure will only consider the first incident episode for each user during the query period that satisfies the Washout Period criteria (183 or 365 days). There can be at most one episode per user.

**Mult incidence type for the event will only consider the first event for each episode that satisfies the Washout Period criteria of 183 days. There can be at most one event per episode and consequently, one event per user.

Glossary of Terms in Modular Program 3*

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).

Days at Risk - number of days supplied plus any episode gaps and exposure extension periods.

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.

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

Exposure Extension Period - number of days post treatment period in which the outcomes/events are counted for a treatment episode.

Incidence Type (drug/exposure)- *Minimum incidence type* will consider the first treatment episode in the query period as long as it is the first treatment episode in the user's entire available history. *Single* and *Multiple incidence types* will use the washout period to establish incidence, however *Single* will only consider the first treatment episode whereas *Multiple incidence type* will consider all qualifying incident treatment episodes.

Incidence Type (event/outcome)- *Minimum incidence type* considers the first event in a valid episode as long as it is the first event in the user's entire available history. *Multiple incidence type* uses the washout period to establish incidence and considers all qualifying incident treatment episodes. The program will only consider one event per episode, but the *Multiple incidence type* will consider more than one event per user if a user has more than one incident episode.

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

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

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

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

New Users - number of members with incident exposure during the query period. Member must have no evidence of exposure (s) of interest (defined by incidence criteria) in the prior washout period. A user may only be counted once in a query period.

Principal Diagnosis - diagnosis or condition established to be chiefly responsible for admission of the patient to the hospital. YES will only consider diagnoses flagged as Principal

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

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

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.

*all terms may not be used in this report

**incident treatment episodes must be incident to both the exposure and the event

Table 1a. Summary of Incident Dabigatran and Warfarin Use and GIH Events in the MSDD between October 19, 2010 and December 31, 2011, by Drug, Incidence Criteria, and Washout/Pre-Existing Condition Lookback Period for Individuals with a Pre-Existing Condition of Atrial Fibrillation

	New Users	Dispensings	Total Days Supplied	Days at Risk	New GIH Events	Eligible Members	Member-Days	New Users/1K Eligible Members	Dispensings/User	Days Supplied/User	Days Supplied/Dispensing	New GIH Events/100k Days at Risk
Dabigatran												
<i>Incident with respect to Dabigatran</i>												
183-Day Washout	22,356	64,341	2,431,682	2,508,227	50	626,524	137,847,962	35.7	2.9	108.8	37.8	2.0
365-Day Washout	20,929	60,727	2,306,508	2,383,689	45	610,262	161,165,929	34.3	2.9	110.2	38.0	1.9
<i>Incident with respect to both Dabigatran and Warfarin</i>												
183-Day Washout	10,599	27,845	1,006,664	1,032,103	16	414,755	70,405,025	25.6	2.6	95.0	36.2	1.6
365-Day Washout	9,241	24,449	886,442	910,860	13	391,592	84,566,762	23.6	2.6	95.9	36.3	1.4
Warfarin												
<i>Incident with respect to Warfarin</i>												
183-Day Washout	44,415	116,433	4,701,986	4,699,184	162	420,977	72,482,530	105.5	2.6	105.9	40.4	3.4
365-Day Washout	35,625	97,741	3,825,927	3,828,538	140	393,626	86,316,558	90.5	2.7	107.4	39.1	3.7
<i>Incident with respect to both Dabigatran and Warfarin</i>												
183-Day Washout	43,541	114,003	4,610,247	4,572,491	160	414,755	70,221,103	105.0	2.6	105.9	40.4	3.5
365-Day Washout	34,962	95,755	3,751,771	3,724,022	138	391,592	84,563,365	89.3	2.7	107.3	39.2	3.7

Figure 1a. New Events of GIH per 100k Days at Risk in the MSDD between October 19, 2010 and December 31, 2011, by Drug, Incidence Criteria, and Washout/Pre-Existing Condition Lookback Period for Individuals with a Pre-Existing Condition of Atrial Fibrillation

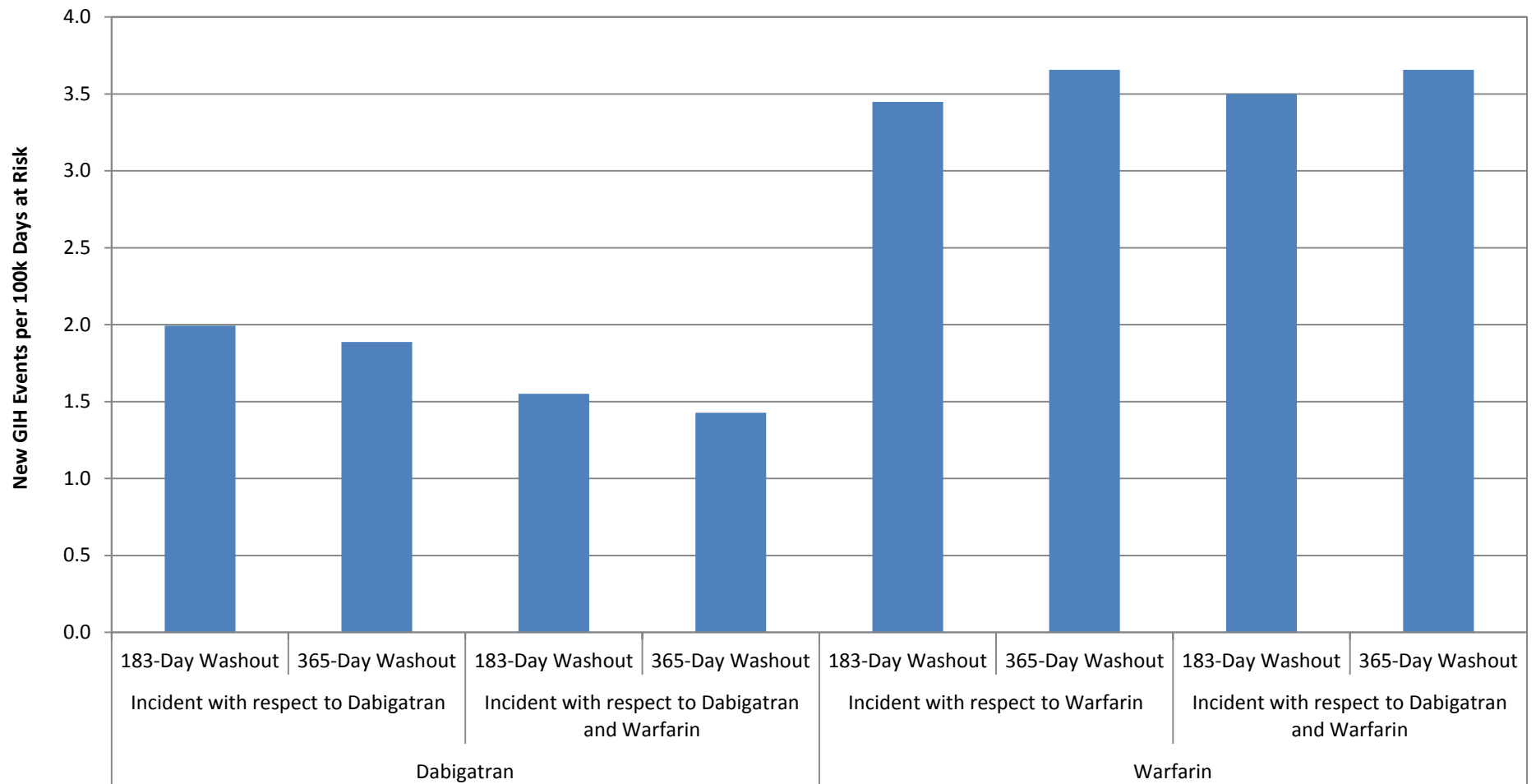


Table 1b. Summary of Incident Dabigatran and Warfarin Use and ICH Events in the MSDD between October 19, 2010 and December 31, 2011, by Drug, Incidence Criteria, and Washout/Pre-Existing Condition Lookback Period for Individuals with a Pre-Existing Condition of Atrial Fibrillation

	New Users	Dispensings	Total Days Supplied	Days at Risk	New ICH Events	Eligible Members	Member-Days	New Users/ 1K Eligible Members	Dispensings/ User	Days Supplied/ User	Days Supplied/ Dispensing	New ICH Events/100k Days at Risk
Dabigatran												
<i>Incident with respect to Dabigatran</i>												
183-Day Washout	22,352	64,255	2,428,728	2,506,773	21	626,777	138,116,580	35.7	2.9	108.7	37.8	0.8
365-Day Washout	20,927	60,642	2,303,604	2,382,157	19	610,413	161,439,664	34.3	2.9	110.1	38.0	0.8
<i>Incident with respect to both Dabigatran and Warfarin</i>												
183-Day Washout	10,587	27,774	1,004,109	1,030,036	8	415,023	70,577,896	25.5	2.6	94.8	36.2	0.8
365-Day Washout	9,234	24,389	884,217	908,961	8	391,755	84,742,256	23.6	2.6	95.8	36.3	0.9
Warfarin												
<i>Incident with respect to Warfarin</i>												
183-Day Washout	44,468	116,412	4,704,824	4,706,323	111	421,252	72,655,673	105.6	2.6	105.8	40.4	2.4
365-Day Washout	35,668	97,741	3,829,104	3,835,917	91	393,793	86,492,991	90.6	2.7	107.4	39.2	2.4
<i>Incident with respect to both Dabigatran and Warfarin</i>												
183-Day Washout	43,594	113,993	4,613,301	4,579,881	109	415,023	70,392,891	105.0	2.6	105.8	40.5	2.4
365-Day Washout	35,007	95,761	3,755,148	3,731,686	89	391,755	84,738,855	89.4	2.7	107.3	39.2	2.4

Figure 1b. New Events of ICH per 100k Days at Risk in the MSDD between October 19, 2010 and December 31, 2011, by Drug, Incidence Criteria, and Washout/Pre-Existing Condition Lookback Period for Individuals with a Pre-Existing Condition of Atrial Fibrillation

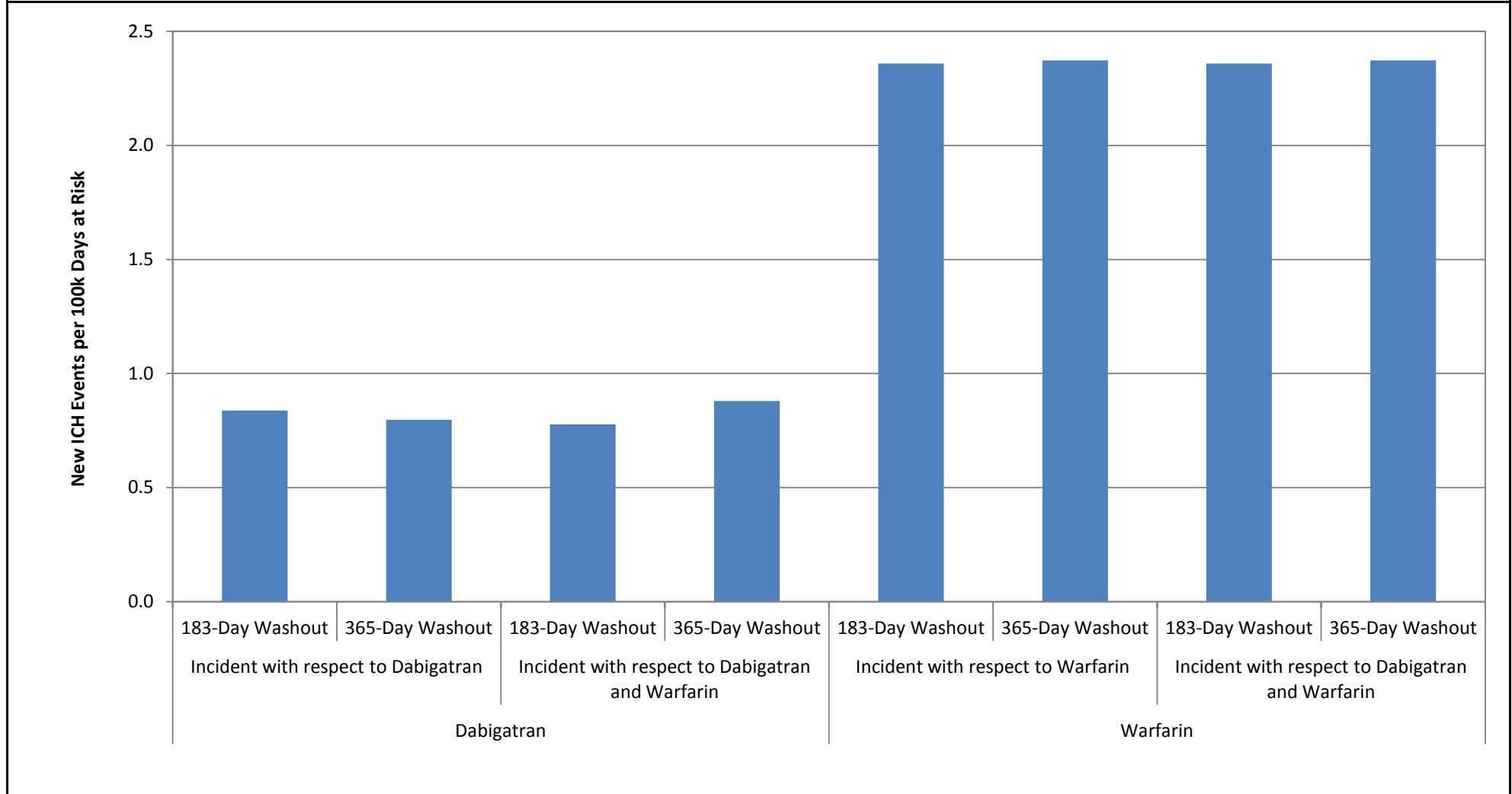


Table 1c. Summary of Incident Dabigatran and Warfarin Use and GIH or ICH Events in the MSDD between October 19, 2010 and December 31, 2011, by Drug, Incidence Criteria, and Washout/Pre-Existing Condition Lookback Period for Individuals with a Pre-Existing Condition of Atrial Fibrillation

	New Users	Dispensings	Total Days Supplied	Days at Risk	New GIH or ICH Events	Eligible Members	Member-Days	New Users/1K Eligible Members	Dispensings/User	Days Supplied/User	Days Supplied/Dispensing	New GIH or ICH Events/100k Days at Risk
Dabigatran												
<i>Incident with respect to Dabigatran</i>												
183-Day Washout	22,293	64,095	2,422,857	2,498,762	70	625,831	137,461,583	35.6	2.9	108.7	37.8	2.8
365-Day Washout	20,870	60,492	2,298,013	2,374,592	63	609,768	160,786,962	34.2	2.9	110.1	38.0	2.7
<i>Incident with respect to both Dabigatran and Warfarin</i>												
183-Day Washout	10,569	27,728	1,002,309	1,027,659	23	414,166	70,180,545	25.5	2.6	94.8	36.1	2.2
365-Day Washout	9,216	24,343	882,417	906,691	20	391,196	84,357,238	23.6	2.6	95.7	36.2	2.2
Warfarin												
<i>Incident with respect to Warfarin</i>												
183-Day Washout	44,218	115,694	4,679,076	4,672,556	270	420,391	72,254,225	105.2	2.6	105.8	40.4	5.8
365-Day Washout	35,458	97,145	3,807,824	3,807,255	229	393,237	86,103,867	90.2	2.7	107.4	39.2	6.0
<i>Incident with respect to both Dabigatran and Warfarin</i>												
183-Day Washout	43,351	113,305	4,588,354	4,547,220	266	414,166	69,997,290	104.7	2.6	105.8	40.5	5.8
365-Day Washout	34,800	95,186	3,734,265	3,703,699	225	391,196	84,353,841	89.0	2.7	107.3	39.2	6.1

Figure 1c. New Events of GIH or ICH per 100k Days at Risk in the MSDD between October 19, 2010 and December 31, 2011, by Drug, Incidence Criteria, and Washout/Pre-Existing Condition
 Lookback Period for Individuals with a Pre-Existing Condition of Atrial Fibrillation

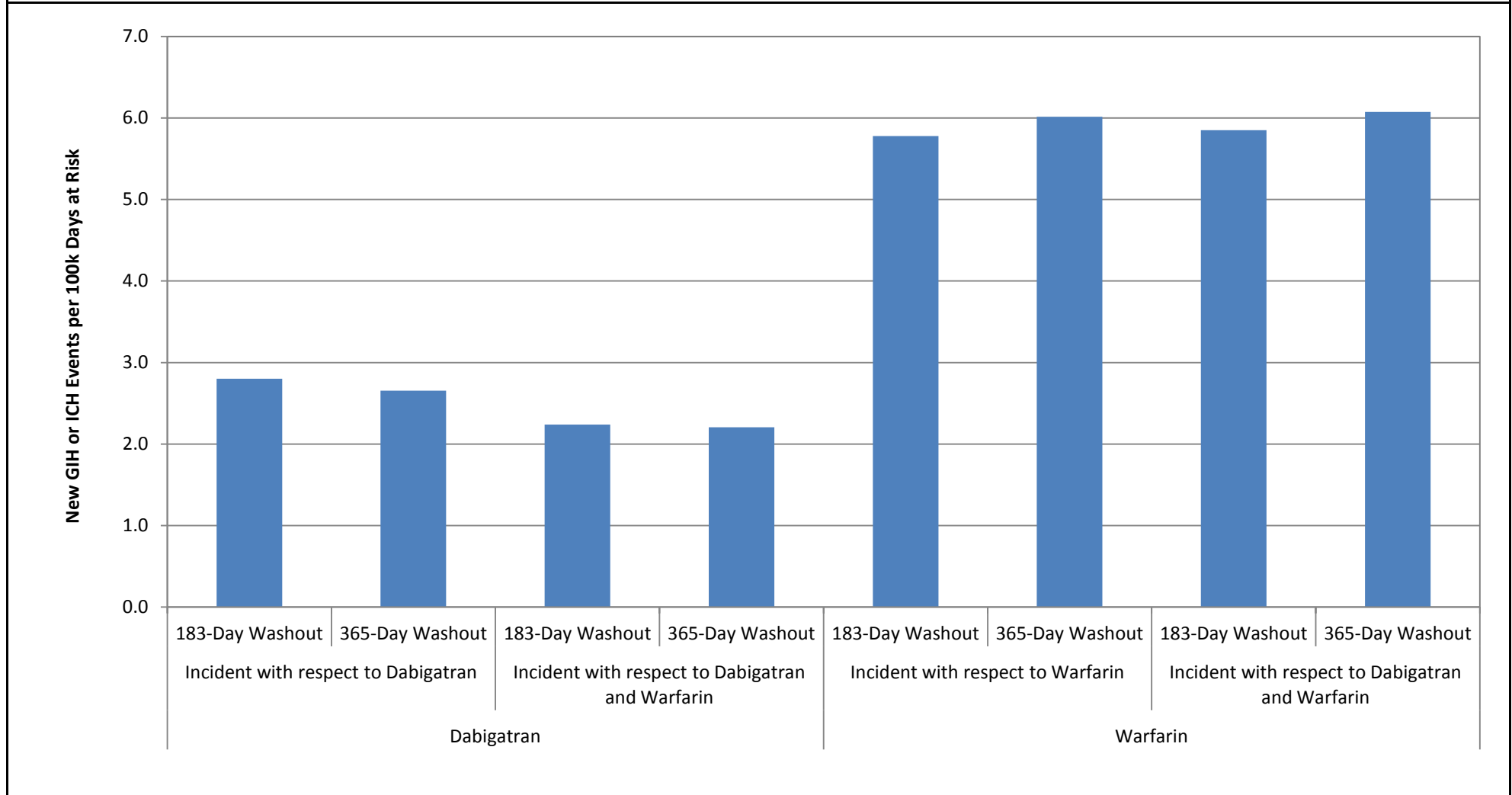


Table 2a. Summary of Incident Dabigatran and Warfarin Use and GIH Events in the MSDD between October 19, 2010 and December 31, 2011, by Drug, Incidence Criteria, Washout/Pre-Existing Condition Lookback Period, and Age Group for Individuals with a Pre-Existing Condition of Atrial Fibrillation

	New Users	Dispensings	Total Days Supplied	Days at Risk	New GIH Events	Eligible Members	Member-Days	New Users/ 1K Eligible Members	Dispensings/ User	Days Supplied/ User	Days Supplied/ Dispensing	New GIH Events/100k Days at Risk
Dabigatran												
<i>Incident with respect to Dabigatran</i>												
183-Day Washout												
0 to 40 years	223	506	16,685	18,664	0	13,678	1,997,919	16.3	2.3	74.8	33.0	0.0
41 to 54 years	1,860	4,999	167,762	182,259	2	50,333	8,671,600	37.0	2.7	90.2	33.6	1.1
55 to 64 years	5,052	15,157	547,000	577,666	5	106,628	20,476,061	47.4	3.0	108.3	36.1	0.9
65 to 74 years	6,718	19,296	752,882	764,593	11	171,242	35,696,348	39.2	2.9	112.1	39.0	1.4
75 to 84 years	6,306	18,143	715,538	727,734	26	201,386	45,220,291	31.3	2.9	113.5	39.4	3.6
85+ years	2,197	6,240	231,815	237,311	6	117,631	25,785,743	18.7	2.8	105.5	37.1	2.5
365-Day Washout												
0 to 40 years	190	433	14,435	16,114	0	14,428	2,756,406	13.2	2.3	76.0	33.3	0.0
41 to 54 years	1,669	4,497	151,303	164,575	1	51,408	11,129,192	32.5	2.7	90.7	33.6	0.6
55 to 64 years	4,649	14,043	508,337	537,398	4	106,151	24,617,619	43.8	3.0	109.3	36.2	0.7
65 to 74 years	6,221	18,078	710,969	724,292	10	163,388	40,645,895	38.1	2.9	114.3	39.3	1.4
75 to 84 years	6,064	17,570	694,381	708,377	24	196,246	51,737,863	30.9	2.9	114.5	39.5	3.4
85+ years	2,136	6,106	227,083	232,933	6	117,417	30,278,954	18.2	2.9	106.3	37.2	2.6
<i>Incident with respect to both Dabigatran and Warfarin</i>												
183-Day Washout												
0 to 40 years	158	331	10,550	11,915	0	12,058	1,629,199	13.1	2.1	66.8	31.9	0.0
41 to 54 years	1,109	2,603	84,652	92,454	1	38,781	5,613,966	28.6	2.3	76.3	32.5	1.1
55 to 64 years	2,556	6,955	241,882	254,710	1	72,955	11,041,097	35.0	2.7	94.6	34.8	0.4
65 to 74 years	3,145	8,209	305,703	308,785	5	106,484	16,929,504	29.5	2.6	97.2	37.2	1.6
75 to 84 years	2,698	7,268	276,217	275,266	8	121,281	20,626,936	22.2	2.7	102.4	38.0	2.9
85+ years	933	2,479	87,660	88,973	1	80,395	14,564,323	11.6	2.7	94.0	35.4	1.1
365-Day Washout												
0 to 40 years	125	263	8,390	9,436	0	12,536	2,279,496	10.0	2.1	67.1	31.9	0.0
41 to 54 years	940	2,197	71,403	77,984	0	38,539	7,364,736	24.4	2.3	76.0	32.5	0.0
55 to 64 years	2,146	5,944	206,983	218,007	0	69,913	13,545,794	30.7	2.8	96.5	34.8	0.0
65 to 74 years	2,720	7,144	267,483	271,670	5	98,078	19,801,292	27.7	2.6	98.3	37.4	1.8
75 to 84 years	2,450	6,636	252,062	252,379	7	114,087	24,189,158	21.5	2.7	102.9	38.0	2.8
85+ years	860	2,265	80,121	81,384	1	78,063	17,386,286	11.0	2.6	93.2	35.4	1.2

Table 2a cont. Summary of Incident Dabigatran and Warfarin Use and GIH Events in the MSDD between October 19, 2010 and December 31, 2011, by Drug, Incidence Criteria, Washout/Pre-Existing Condition Lookback Period, and Age Group for Individuals with a Pre-Existing Condition of Atrial Fibrillation

	New Users	Dispensings	Total Days Supplied	Days at Risk	New GIH Events	Eligible Members	Member-Days	New Users/ 1K Eligible Members	Dispensings/ User	Days Supplied/ User	Days Supplied/ Dispensing	New GIH Events/100k Days at Risk
Warfarin												
<i>Incident with respect to Warfarin</i>												
183-Day Washout												
0 to 40 years	407	1,030	34,955	36,704	3	12,104	1,656,133	33.6	2.5	85.9	33.9	8.2
41 to 54 years	2,979	7,687	270,627	284,209	4	39,264	5,821,989	75.9	2.6	90.8	35.2	1.4
55 to 64 years	7,673	19,723	749,374	771,477	19	74,517	11,572,356	103.0	2.6	97.7	38.0	2.5
65 to 74 years	12,913	33,351	1,407,147	1,393,425	35	108,430	17,534,525	119.1	2.6	109.0	42.2	2.5
75 to 84 years	14,790	38,984	1,638,786	1,618,169	76	123,131	21,153,412	120.1	2.6	110.8	42.0	4.7
85+ years	5,653	15,658	601,097	595,200	25	80,997	14,744,115	69.8	2.8	106.3	38.4	4.2
365-Day Washout												
0 to 40 years	322	853	29,686	30,851	3	12,571	2,304,568	25.6	2.6	92.2	34.8	9.7
41 to 54 years	2,408	6,295	222,104	232,210	3	38,794	7,549,572	62.1	2.6	92.2	35.3	1.3
55 to 64 years	6,071	16,167	601,630	620,400	17	70,569	13,986,648	86.0	2.7	99.1	37.2	2.7
65 to 74 years	10,127	27,418	1,119,465	1,112,187	32	98,759	20,298,880	102.5	2.7	110.5	40.8	2.9
75 to 84 years	12,069	33,491	1,355,189	1,338,909	65	114,649	24,628,868	105.3	2.8	112.3	40.5	4.9
85+ years	4,628	13,517	497,853	493,981	20	78,314	17,548,022	59.1	2.9	107.6	36.8	4.0
<i>Incident with respect to both Dabigatran and Warfarin</i>												
183-Day Washout												
0 to 40 years	403	1,022	34,655	35,961	3	12,058	1,627,296	33.4	2.5	86.0	33.9	8.3
41 to 54 years	2,928	7,519	265,037	275,529	4	38,769	5,597,510	75.5	2.6	90.5	35.2	1.5
55 to 64 years	7,514	19,296	734,448	747,880	18	72,917	11,002,575	103.0	2.6	97.7	38.1	2.4
65 to 74 years	12,645	32,586	1,377,000	1,353,317	34	106,414	16,879,244	118.8	2.6	108.9	42.3	2.5
75 to 84 years	14,488	38,182	1,607,979	1,577,638	76	121,228	20,576,228	119.5	2.6	111.0	42.1	4.8
85+ years	5,563	15,398	591,128	582,166	25	80,322	14,538,250	69.3	2.8	106.3	38.4	4.3
365-Day Washout												
0 to 40 years	318	845	29,386	30,224	3	12,536	2,279,430	25.4	2.7	92.4	34.8	9.9
41 to 54 years	2,361	6,143	217,285	224,972	3	38,538	7,364,477	61.3	2.6	92.0	35.4	1.3
55 to 64 years	5,958	15,854	590,940	602,390	16	69,911	13,544,828	85.2	2.7	99.2	37.3	2.7
65 to 74 years	9,923	26,781	1,094,233	1,078,188	31	98,072	19,800,675	101.2	2.7	110.3	40.9	2.9
75 to 84 years	11,843	32,836	1,330,415	1,305,201	65	114,086	24,188,388	103.8	2.8	112.3	40.5	5.0
85+ years	4,559	13,296	489,512	483,047	20	78,053	17,385,567	58.4	2.9	107.4	36.8	4.1

Table 2b. Summary of Incident Dabigatran and Warfarin Use and ICH Events in the MSDD between October 19, 2010 and December 31, 2011, by Drug, Incidence Criteria, Washout/Pre-Existing Condition Lookback Period, and Age Group for Individuals with a Pre-Existing Condition of Atrial Fibrillation

	New Users	Dispensings	Total Days Supplied	Days at Risk	New ICH Events	Eligible Members	Member-Days	New Users/ 1K Eligible Members	Dispensings/ User	Days Supplied/ User	Days Supplied/ Dispensing	New ICH Events/100k Days at Risk
Dabigatran												
<i>Incident with respect to Dabigatran</i>												
183-Day Washout												
0 to 40 years	223	506	16,685	18,664	0	13,675	1,999,874	16.3	2.3	74.8	33.0	0.0
41 to 54 years	1,858	4,990	167,372	181,914	1	50,343	8,680,204	36.9	2.7	90.1	33.5	0.5
55 to 64 years	5,051	15,130	546,145	576,784	3	106,682	20,502,797	47.3	3.0	108.1	36.1	0.5
65 to 74 years	6,714	19,265	751,314	763,500	5	171,291	35,765,801	39.2	2.9	111.9	39.0	0.7
75 to 84 years	6,308	18,128	715,608	728,754	9	201,514	45,321,699	31.3	2.9	113.4	39.5	1.2
85+ years	2,198	6,236	231,604	237,157	3	117,685	25,846,205	18.7	2.8	105.4	37.1	1.3
365-Day Washout												
0 to 40 years	190	433	14,435	16,114	0	14,429	2,759,428	13.2	2.3	76.0	33.3	0.0
41 to 54 years	1,667	4,488	150,913	164,222	1	51,412	11,137,732	32.4	2.7	90.5	33.6	0.6
55 to 64 years	4,647	14,015	507,452	536,480	2	106,192	24,646,376	43.8	3.0	109.2	36.2	0.4
65 to 74 years	6,220	18,057	709,701	723,439	5	163,414	40,716,345	38.1	2.9	114.1	39.3	0.7
75 to 84 years	6,065	17,546	694,201	709,083	8	196,335	51,841,073	30.9	2.9	114.5	39.6	1.1
85+ years	2,138	6,103	226,902	232,819	3	117,446	30,338,710	18.2	2.9	106.1	37.2	1.3
<i>Incident with respect to both Dabigatran and Warfarin</i>												
183-Day Washout												
0 to 40 years	158	331	10,550	11,915	0	12,054	1,629,882	13.1	2.1	66.8	31.9	0.0
41 to 54 years	1,109	2,599	84,412	92,241	0	38,797	5,621,116	28.6	2.3	76.1	32.5	0.0
55 to 64 years	2,551	6,919	240,517	253,271	1	73,012	11,056,713	34.9	2.7	94.3	34.8	0.4
65 to 74 years	3,141	8,196	304,893	308,316	1	106,531	16,970,967	29.5	2.6	97.1	37.2	0.3
75 to 84 years	2,696	7,258	276,337	275,542	4	121,407	20,689,970	22.2	2.7	102.5	38.1	1.5
85+ years	932	2,471	87,400	88,751	2	80,451	14,609,248	11.6	2.7	93.8	35.4	2.3
365-Day Washout												
0 to 40 years	125	263	8,390	9,436	0	12,536	2,280,632	10.0	2.1	67.1	31.9	0.0
41 to 54 years	940	2,193	71,163	77,769	0	38,541	7,371,584	24.4	2.3	75.7	32.5	0.0
55 to 64 years	2,141	5,908	205,618	216,539	1	69,957	13,561,223	30.6	2.8	96.0	34.8	0.5
65 to 74 years	2,718	7,134	266,763	271,249	1	98,111	19,843,124	27.7	2.6	98.1	37.4	0.4
75 to 84 years	2,450	6,633	252,392	252,766	4	114,164	24,254,493	21.5	2.7	103.0	38.1	1.6
85+ years	860	2,258	79,891	81,202	2	78,098	17,431,200	11.0	2.6	92.9	35.4	2.5

Table 2b cont. Summary of Incident Dabigatran and Warfarin Use and ICH Events in the MSDD between October 19, 2010 and December 31, 2011, by Drug, Incidence Criteria, Washout/Pre-Existing Condition Lookback Period, and Age Group for Individuals with a Pre-Existing Condition of Atrial Fibrillation

	New Users	Dispensings	Total Days Supplied	Days at Risk	New ICH Events	Eligible Members	Member-Days	New Users/ 1K Eligible Members	Dispensings/ User	Days Supplied/ User	Days Supplied/ Dispensing	New ICH Events/100k Days at Risk
Warfarin												
<i>Incident with respect to Warfarin</i>												
183-Day Washout												
0 to 40 years	404	1,020	34,874	36,736	2	12,100	1,656,786	33.4	2.5	86.3	34.2	5.4
41 to 54 years	2,975	7,653	269,674	283,434	4	39,280	5,829,308	75.7	2.6	90.6	35.2	1.4
55 to 64 years	7,681	19,707	749,475	772,021	12	74,572	11,587,161	103.0	2.6	97.6	38.0	1.6
65 to 74 years	12,940	33,417	1,410,163	1,396,623	30	108,480	17,575,599	119.3	2.6	109.0	42.2	2.1
75 to 84 years	14,806	38,947	1,638,580	1,620,510	39	123,259	21,217,499	120.1	2.6	110.7	42.1	2.4
85+ years	5,662	15,668	602,058	596,999	24	81,058	14,789,320	69.9	2.8	106.3	38.4	4.0
365-Day Washout												
0 to 40 years	320	845	29,647	30,935	2	12,571	2,305,704	25.5	2.6	92.6	35.1	6.5
41 to 54 years	2,402	6,264	221,132	231,473	3	38,797	7,556,564	61.9	2.6	92.1	35.3	1.3
55 to 64 years	6,084	16,186	602,122	621,437	10	70,614	14,001,327	86.2	2.7	99.0	37.2	1.6
65 to 74 years	10,152	27,472	1,122,458	1,115,418	22	98,792	20,340,971	102.8	2.7	110.6	40.9	2.0
75 to 84 years	12,076	33,458	1,354,819	1,341,072	32	114,727	24,695,359	105.3	2.8	112.2	40.5	2.4
85+ years	4,634	13,516	498,926	495,582	22	78,350	17,593,066	59.1	2.9	107.7	36.9	4.4
<i>Incident with respect to both Dabigatran and Warfarin</i>												
183-Day Washout												
0 to 40 years	400	1,012	34,574	35,993	2	12,054	1,627,949	33.2	2.5	86.4	34.2	5.6
41 to 54 years	2,924	7,487	264,149	274,814	4	38,785	5,604,665	75.4	2.6	90.3	35.3	1.5
55 to 64 years	7,523	19,296	735,043	748,864	11	72,974	11,018,149	103.1	2.6	97.7	38.1	1.5
65 to 74 years	12,671	32,650	1,379,956	1,356,511	30	106,461	16,920,057	119.0	2.6	108.9	42.3	2.2
75 to 84 years	14,503	38,129	1,607,463	1,579,707	38	121,354	20,639,132	119.5	2.6	110.8	42.2	2.4
85+ years	5,573	15,419	592,116	583,992	24	80,379	14,582,939	69.3	2.8	106.2	38.4	4.1
365-Day Washout												
0 to 40 years	316	837	29,347	30,308	2	12,536	2,280,566	25.2	2.6	92.9	35.1	6.6
41 to 54 years	2,354	6,112	216,318	224,258	3	38,540	7,371,325	61.1	2.6	91.9	35.4	1.3
55 to 64 years	5,971	15,877	591,566	603,607	9	69,955	13,560,257	85.4	2.7	99.1	37.3	1.5
65 to 74 years	9,948	26,835	1,097,226	1,081,485	22	98,105	19,842,507	101.4	2.7	110.3	40.9	2.0
75 to 84 years	11,851	32,793	1,329,989	1,307,253	31	114,163	24,253,723	103.8	2.8	112.2	40.6	2.4
85+ years	4,567	13,307	490,702	484,775	22	78,088	17,430,477	58.5	2.9	107.4	36.9	4.5

Table 2c. Summary of Incident Dabigatran and Warfarin Use and GIH or ICH Events in the MSDD between October 19, 2010 and December 31, 2011, by Drug, Incidence Criteria, Washout/Pre-Existing Condition Lookback Period, and Age Group for Individuals with a Pre-Existing Condition of Atrial Fibrillation

	New Users	Dispensings	Total Days Supplied	Days at Risk	New GIH or ICH Events	Eligible Members	Member-Days	New Users/ 1K Eligible Members	Dispensings/ User	Days Supplied/ User	Days Supplied/ Dispensing	New GIH or ICH Events/100k Days at Risk
Dabigatran												
<i>Incident with respect to Dabigatran</i>												
183-Day Washout												
0 to 40 years	223	506	16,685	18,664	0	13,666	1,994,636	16.3	2.3	74.8	33.0	0.0
41 to 54 years	1,855	4,985	167,222	181,659	3	50,290	8,657,210	36.9	2.7	90.1	33.5	1.7
55 to 64 years	5,038	15,091	544,675	575,175	8	106,546	20,429,172	47.3	3.0	108.1	36.1	1.4
65 to 74 years	6,701	19,244	750,632	762,331	15	171,037	35,608,042	39.2	2.9	112.0	39.0	2.0
75 to 84 years	6,288	18,069	713,168	725,081	35	201,140	45,076,382	31.3	2.9	113.4	39.5	4.8
85+ years	2,188	6,200	230,475	235,852	9	117,460	25,696,141	18.6	2.8	105.3	37.2	3.8
365-Day Washout												
0 to 40 years	190	433	14,435	16,114	0	14,423	2,753,577	13.2	2.3	76.0	33.3	0.0
41 to 54 years	1,664	4,483	150,763	163,975	2	51,379	11,114,946	32.4	2.7	90.6	33.6	1.2
55 to 64 years	4,635	13,977	506,012	534,921	6	106,098	24,571,940	43.7	3.0	109.2	36.2	1.1
65 to 74 years	6,207	18,036	709,019	722,308	14	163,237	40,561,250	38.0	2.9	114.2	39.3	1.9
75 to 84 years	6,046	17,496	692,011	705,760	32	196,066	51,597,833	30.8	2.9	114.5	39.6	4.5
85+ years	2,128	6,067	225,773	231,514	9	117,281	30,187,416	18.1	2.9	106.1	37.2	3.9
<i>Incident with respect to both Dabigatran and Warfarin</i>												
183-Day Washout												
0 to 40 years	158	331	10,550	11,915	0	12,047	1,626,940	13.1	2.1	66.8	31.9	0.0
41 to 54 years	1,106	2,594	84,262	92,054	1	38,748	5,605,910	28.5	2.3	76.2	32.5	1.1
55 to 64 years	2,547	6,906	240,127	252,858	2	72,887	11,013,820	34.9	2.7	94.3	34.8	0.8
65 to 74 years	3,138	8,191	304,743	307,930	5	106,323	16,880,998	29.5	2.6	97.1	37.2	1.6
75 to 84 years	2,691	7,241	275,407	274,401	12	121,069	20,546,734	22.2	2.7	102.3	38.0	4.4
85+ years	929	2,465	87,220	88,501	3	80,252	14,506,143	11.6	2.7	93.9	35.4	3.4
365-Day Washout												
0 to 40 years	125	263	8,390	9,436	0	12,531	2,277,443	10.0	2.1	67.1	31.9	0.0
41 to 54 years	937	2,188	71,013	77,584	0	38,516	7,357,105	24.3	2.3	75.8	32.5	0.0
55 to 64 years	2,138	5,896	205,258	216,176	1	69,873	13,519,921	30.6	2.8	96.0	34.8	0.5
65 to 74 years	2,715	7,129	266,613	270,863	5	97,966	19,757,032	27.7	2.6	98.2	37.4	1.8
75 to 84 years	2,444	6,615	251,432	251,680	11	113,939	24,115,991	21.5	2.7	102.9	38.0	4.4
85+ years	857	2,252	79,711	80,952	3	77,965	17,329,746	11.0	2.6	93.0	35.4	3.7

Table 2c cont. Summary of Incident Dabigatran and Warfarin Use and GIH or ICH Events in the MSDD between October 19, 2010 and December 31, 2011, by Drug, Incidence Criteria, Washout/Pre-Existing Condition Lookback Period, and Age Group for Individuals with a Pre-Existing Condition of Atrial Fibrillation

	New Users	Dispensings	Total Days Supplied	Days at Risk	New GIH or ICH Events	Eligible Members	Member-Days	New Users/ 1K Eligible Members	Dispensings/ User	Days Supplied/ User	Days Supplied/ Dispensing	New GIH or ICH Events/100k Days at Risk
Warfarin												
<i>Incident with respect to Warfarin</i>												
183-Day Washout												
0 to 40 years	402	1,015	34,514	36,239	5	12,093	1,653,874	33.2	2.5	85.9	34.0	13.8
41 to 54 years	2,963	7,622	268,644	282,080	8	39,231	5,813,786	75.5	2.6	90.7	35.2	2.8
55 to 64 years	7,641	19,601	745,593	766,896	29	74,448	11,544,000	102.6	2.6	97.6	38.0	3.8
65 to 74 years	12,863	33,175	1,400,986	1,386,221	64	108,271	17,485,066	118.8	2.6	108.9	42.2	4.6
75 to 84 years	14,718	38,709	1,630,454	1,608,860	115	122,919	21,071,979	119.7	2.6	110.8	42.1	7.1
85+ years	5,631	15,572	598,885	592,260	49	80,856	14,685,520	69.6	2.8	106.4	38.5	8.3
365-Day Washout												
0 to 40 years	318	840	29,287	30,438	5	12,566	2,302,515	25.3	2.6	92.1	34.9	16.4
41 to 54 years	2,393	6,237	220,292	230,337	6	38,772	7,541,846	61.7	2.6	92.1	35.3	2.6
55 to 64 years	6,052	16,106	599,769	617,801	26	70,530	13,959,741	85.8	2.7	99.1	37.2	4.2
65 to 74 years	10,083	27,259	1,114,135	1,106,030	53	98,648	20,253,844	102.2	2.7	110.5	40.9	4.8
75 to 84 years	12,003	33,264	1,348,180	1,331,051	97	114,503	24,554,904	104.8	2.8	112.3	40.5	7.3
85+ years	4,609	13,439	496,161	491,598	42	78,217	17,491,017	58.9	2.9	107.7	36.9	8.5
<i>Incident with respect to both Dabigatran and Warfarin</i>												
183-Day Washout												
0 to 40 years	398	1,007	34,214	35,496	5	12,047	1,625,037	33.0	2.5	86.0	34.0	14.1
41 to 54 years	2,913	7,457	263,149	273,500	8	38,736	5,589,459	75.2	2.6	90.3	35.3	2.9
55 to 64 years	7,483	19,190	731,161	743,868	27	72,849	10,975,416	102.7	2.6	97.7	38.1	3.6
65 to 74 years	12,595	32,410	1,370,839	1,346,272	63	106,253	16,830,935	118.5	2.6	108.8	42.3	4.7
75 to 84 years	14,419	37,917	1,599,958	1,568,731	114	121,016	20,496,317	119.1	2.6	111.0	42.2	7.3
85+ years	5,543	15,324	589,033	579,353	49	80,180	14,480,126	69.1	2.8	106.3	38.4	8.5
365-Day Washout												
0 to 40 years	314	832	28,987	29,811	5	12,531	2,277,377	25.1	2.6	92.3	34.8	16.8
41 to 54 years	2,346	6,086	215,508	223,162	6	38,515	7,356,846	60.9	2.6	91.9	35.4	2.7
55 to 64 years	5,939	15,797	589,213	600,000	24	69,871	13,518,955	85.0	2.7	99.2	37.3	4.0
65 to 74 years	9,879	26,622	1,088,903	1,072,190	52	97,960	19,756,415	100.8	2.7	110.2	40.9	4.8
75 to 84 years	11,780	32,619	1,323,717	1,297,745	96	113,938	24,115,221	103.4	2.8	112.4	40.6	7.4
85+ years	4,542	13,230	487,937	480,791	42	77,955	17,329,027	58.3	2.9	107.4	36.9	8.7

Table 3a. Summary of Incident Dabigatran and Warfarin Use and GIH Events in the MSDD between October 19, 2010 and December 31, 2011, by Drug, Incidence Criteria, Washout/Pre-Existing Condition Lookback Period, and Sex for Individuals with a Pre-Existing Condition of Atrial Fibrillation

	New Users	Dispensings	Total Days Supplied	Days at Risk	New GIH Events	Eligible Members	Member-Days	New Users/ 1K Eligible Members	Dispensings/ User	Days Supplied/ User	Days Supplied/ Dispensing	New GIH Events/100k Days at Risk
Dabigatran												
<i>Incident with respect to Dabigatran</i>												
183-Day Washout												
Female	8,404	24,519	911,000	931,428	28	275,285	60,907,939	30.5	2.9	108.4	37.2	3.0
Male	13,946	39,798	1,519,962	1,575,999	22	350,997	76,879,098	39.7	2.9	109.0	38.2	1.4
Unknown	6	24	720	800	0	242	60,925	24.8	4.0	120.0	30.0	0.0
365-Day Washout												
Female	7,887	23,245	867,522	888,188	26	269,995	71,442,698	29.2	2.9	110.0	37.3	2.9
Male	13,036	37,458	1,438,266	1,494,701	19	340,012	89,651,153	38.3	2.9	110.3	38.4	1.3
Unknown	6	24	720	800	0	255	72,078	23.5	4.0	120.0	30.0	0.0
<i>Incident with respect to both Dabigatran and Warfarin</i>												
183-Day Washout												
Female	3,747	10,006	357,472	362,176	8	185,813	32,075,324	20.2	2.7	95.4	35.7	2.2
Male	6,848	17,826	648,802	669,477	8	228,766	38,294,338	29.9	2.6	94.7	36.4	1.2
Unknown	4	13	390	450	0	176	35,363	22.7	3.3	97.5	30.0	0.0
365-Day Washout												
Female	3,293	8,866	317,582	322,075	7	178,162	38,922,955	18.5	2.7	96.4	35.8	2.2
Male	5,944	15,570	568,470	588,335	6	213,256	45,600,825	27.9	2.6	95.6	36.5	1.0
Unknown	4	13	390	450	0	174	42,982	23.0	3.3	97.5	30.0	0.0
Warfarin												
<i>Incident with respect to Warfarin</i>												
183-Day Washout												
Female	18,810	50,339	1,996,663	1,990,116	70	188,095	32,775,941	100.0	2.7	106.1	39.7	3.5
Male	25,590	66,076	2,704,543	2,708,175	92	232,705	39,670,550	110.0	2.6	105.7	40.9	3.4
Unknown	15	18	780	893	0	177	36,039	84.7	1.2	52.0	43.3	0.0
365-Day Washout												
Female	15,267	42,870	1,643,165	1,642,352	64	178,783	39,505,198	85.4	2.8	107.6	38.3	3.9
Male	20,348	54,861	2,182,402	2,185,764	76	214,669	46,767,372	94.8	2.7	107.3	39.8	3.5
Unknown	10	10	360	422	0	174	43,988	57.5	1.0	36.0	36.0	0.0

Table 3a cont. Summary of Incident Dabigatran and Warfarin Use and GIH Events in the MSDD between October 19, 2010 and December 31, 2011, by Drug, Incidence Criteria, Washout/Pre-Existing Condition Lookback Period, and Sex for Individuals with a Pre-Existing Condition of Atrial Fibrillation

	New Users	Dispensings	Total Days Supplied	Days at Risk	New GIH Events	Eligible Members	Member-Days	New Users/ 1K Eligible Members	Dispensings/ User	Days Supplied/ User	Days Supplied/ Dispensing	New GIH Events/100k Days at Risk
Warfarin												
<i>Incident with respect to both Dabigatran and Warfarin</i>												
183-Day Washout												
Female	18,434	49,312	1,958,967	1,938,584	69	185,813	32,001,294	99.2	2.7	106.3	39.7	3.6
Male	25,092	64,673	2,650,500	2,633,014	91	228,766	38,184,680	109.7	2.6	105.6	41.0	3.5
Unknown	15	18	780	893	0	176	35,129	85.2	1.2	52.0	43.3	0.0
365-Day Washout												
Female	14,996	42,027	1,612,708	1,599,546	63	178,162	38,921,339	84.2	2.8	107.5	38.4	3.9
Male	19,956	53,718	2,138,703	2,124,054	75	213,256	45,599,044	93.6	2.7	107.2	39.8	3.5
Unknown	10	10	360	422	0	174	42,982	57.5	1.0	36.0	36.0	0.0

Table 3b. Summary of Incident Dabigatran and Warfarin Use and ICH Events in the MSDD between October 19, 2010 and December 31, 2011, by Drug, Incidence Criteria, Washout/Pre-Existing Condition Lookback Period, and Sex for Individuals with a Pre-Existing Condition of Atrial Fibrillation

	New Users	Dispensings	Total Days Supplied	Days at Risk	New ICH Events	Eligible Members	Member-Days	New Users/ 1K Eligible Members	Dispensings/ User	Days Supplied/ User	Days Supplied/ Dispensing	New ICH Events/100k Days at Risk
Dabigatran												
<i>Incident with respect to Dabigatran</i>												
183-Day Washout												
Female	8,403	24,503	910,501	931,978	7	275,401	61,017,482	30.5	2.9	108.4	37.2	0.8
Male	13,943	39,728	1,517,507	1,573,995	14	351,133	77,038,250	39.7	2.8	108.8	38.2	0.9
Unknown	6	24	720	800	0	243	60,848	24.7	4.0	120.0	30.0	0.0
365-Day Washout												
Female	7,889	23,238	867,293	889,016	7	270,079	71,556,685	29.2	2.9	109.9	37.3	0.8
Male	13,032	37,380	1,435,591	1,492,341	12	340,079	89,811,159	38.3	2.9	110.2	38.4	0.8
Unknown	6	24	720	800	0	255	71,820	23.5	4.0	120.0	30.0	0.0
<i>Incident with respect to both Dabigatran and Warfarin</i>												
183-Day Washout												
Female	3,745	9,992	357,052	362,003	4	185,934	32,147,873	20.1	2.7	95.3	35.7	1.1
Male	6,838	17,769	646,667	667,583	4	228,913	38,394,735	29.9	2.6	94.6	36.4	0.6
Unknown	4	13	390	450	0	176	35,288	22.7	3.3	97.5	30.0	0.0
365-Day Washout												
Female	3,294	8,860	317,402	322,146	4	178,236	38,998,866	18.5	2.7	96.4	35.8	1.2
Male	5,936	15,516	566,425	586,365	4	213,345	45,700,483	27.8	2.6	95.4	36.5	0.7
Unknown	4	13	390	450	0	174	42,907	23.0	3.3	97.5	30.0	0.0
Warfarin												
<i>Incident with respect to Warfarin</i>												
183-Day Washout												
Female	18,840	50,340	1,999,046	1,994,812	52	188,222	32,849,204	100.1	2.7	106.1	39.7	2.6
Male	25,614	66,055	2,705,028	2,710,620	59	232,853	39,770,505	110.0	2.6	105.6	41.0	2.2
Unknown	14	17	750	891	0	177	35,964	79.1	1.2	53.6	44.1	0.0
365-Day Washout												
Female	15,291	42,860	1,645,231	1,646,730	42	178,859	39,582,198	85.5	2.8	107.6	38.4	2.6
Male	20,368	54,872	2,183,543	2,188,767	49	214,760	46,866,880	94.8	2.7	107.2	39.8	2.2
Unknown	9	9	330	420	0	174	43,913	51.7	1.0	36.7	36.7	0.0

Table 3b cont. Summary of Incident Dabigatran and Warfarin Use and ICH Events in the MSDD between October 19, 2010 and December 31, 2011, by Drug, Incidence Criteria, Washout/Pre-Existing Condition Lookback Period, and Sex for Individuals with a Pre-Existing Condition of Atrial Fibrillation

	New Users	Dispensings	Total Days Supplied	Days at Risk	New ICH Events	Eligible Members	Member-Days	New Users/1K Eligible Members	Dispensings/User	Days Supplied/User	Days Supplied/Dispensing	New ICH Events/100k Days at Risk
Warfarin												
<i>Incident with respect to both Dabigatran and Warfarin</i>												
183-Day Washout												
Female	18,464	49,311	1,961,282	1,943,156	52	185,934	32,073,039	99.3	2.7	106.2	39.8	2.7
Male	25,116	64,665	2,651,269	2,635,834	57	228,913	38,284,798	109.7	2.6	105.6	41.0	2.2
Unknown	14	17	750	891	0	176	35,054	79.5	1.2	53.6	44.1	0.0
365-Day Washout												
Female	15,021	42,017	1,614,810	1,603,970	42	178,236	38,997,250	84.3	2.8	107.5	38.4	2.6
Male	19,977	53,735	2,140,008	2,127,296	47	213,345	45,698,698	93.6	2.7	107.1	39.8	2.2
Unknown	9	9	330	420	0	174	42,907	51.7	1.0	36.7	36.7	0.0

Table 3c. Summary of Incident Dabigatran and Warfarin Use and GIH or ICH Events in the MSDD between October 19, 2010 and December 31, 2011, by Drug, Incidence Criteria, Washout/Pre-Existing Condition Lookback Period, and Sex for Individuals with a Pre-Existing Condition of Atrial Fibrillation

	New Users	Dispensings	Total Days Supplied	Days at Risk	New GIH or ICH Events	Eligible Members	Member-Days	New Users/ 1K Eligible Members	Dispensings/ User	Days Supplied/ User	Days Supplied/ Dispensing	New GIH or ICH Events/100k Days at Risk
Dabigatran												
<i>Incident with respect to Dabigatran</i>												
183-Day Washout												
Female	8,376	24,427	907,850	928,015	35	274,979	60,726,426	30.5	2.9	108.4	37.2	3.8
Male	13,911	39,644	1,514,287	1,569,947	35	350,610	76,674,491	39.7	2.8	108.9	38.2	2.2
Unknown	6	24	720	800	0	242	60,666	24.8	4.0	120.0	30.0	0.0
365-Day Washout												
Female	7,861	23,161	864,612	885,045	33	269,782	71,264,172	29.1	2.9	110.0	37.3	3.7
Male	13,003	37,307	1,432,681	1,488,747	30	339,731	89,450,971	38.3	2.9	110.2	38.4	2.0
Unknown	6	24	720	800	0	255	71,819	23.5	4.0	120.0	30.0	0.0
<i>Incident with respect to both Dabigatran and Warfarin</i>												
183-Day Washout												
Female	3,736	9,970	356,332	360,956	12	185,555	31,970,354	20.1	2.7	95.4	35.7	3.3
Male	6,829	17,745	645,587	666,253	11	228,435	38,174,903	29.9	2.6	94.5	36.4	1.7
Unknown	4	13	390	450	0	176	35,288	22.7	3.3	97.5	30.0	0.0
365-Day Washout												
Female	3,284	8,837	316,652	321,061	11	177,985	38,824,205	18.5	2.7	96.4	35.8	3.4
Male	5,928	15,493	565,375	585,180	9	213,037	45,490,126	27.8	2.6	95.4	36.5	1.5
Unknown	4	13	390	450	0	174	42,907	23.0	3.3	97.5	30.0	0.0
Warfarin												
<i>Incident with respect to Warfarin</i>												
183-Day Washout												
Female	18,722	49,997	1,987,198	1,978,882	121	187,839	32,669,422	99.7	2.7	106.1	39.7	6.1
Male	25,482	65,680	2,691,128	2,692,783	149	232,375	39,548,839	109.7	2.6	105.6	41.0	5.5
Unknown	14	17	750	891	0	177	35,964	79.1	1.2	53.6	44.1	0.0
365-Day Washout												
Female	15,188	42,566	1,634,807	1,632,497	105	178,610	39,405,212	85.0	2.8	107.6	38.4	6.4
Male	20,261	54,570	2,172,687	2,174,338	124	214,453	46,654,742	94.5	2.7	107.2	39.8	5.7
Unknown	9	9	330	420	0	174	43,913	51.7	1.0	36.7	36.7	0.0

Table 3c cont. Summary of Incident Dabigatran and Warfarin Use and GIH or ICH Events in the MSDD between October 19, 2010 and December 31, 2011, by Drug, Incidence Criteria, Washout/Pre-Existing Condition Lookback Period, and Sex for Individuals with a Pre-Existing Condition of Atrial Fibrillation

	New Users	Dispensings	Total Days Supplied	Days at Risk	New GIH or ICH Events	Eligible Members	Member-Days	New Users/1K Eligible Members	Dispensings/User	Days Supplied/User	Days Supplied/Dispensing	New GIH or ICH Events/100k Days at Risk
Warfarin												
<i>Incident with respect to both Dabigatran and Warfarin</i>												
183-Day Washout												
Female	18,350	48,988	1,949,770	1,927,741	120	185,555	31,896,524	98.9	2.7	106.3	39.8	6.2
Male	24,987	64,300	2,637,834	2,618,588	146	228,435	38,065,712	109.4	2.6	105.6	41.0	5.6
Unknown	14	17	750	891	0	176	35,054	79.5	1.2	53.6	44.1	0.0
365-Day Washout												
Female	14,920	41,739	1,604,558	1,590,045	104	177,985	38,822,589	83.8	2.8	107.5	38.4	6.5
Male	19,871	53,438	2,129,377	2,113,234	121	213,037	45,488,345	93.3	2.7	107.2	39.8	5.7
Unknown	9	9	330	420	0	174	42,907	51.7	1.0	36.7	36.7	0.0

Table 4a. Summary of Incident Dabigatran and Warfarin Use and GIH Events in the MSDD between October 19, 2010 and December 31, 2011, by Drug, Incidence Criteria, Washout/Pre-Existing Condition Lookback Period, and Year for Individuals with a Pre-Existing Condition of Atrial Fibrillation

	New Users	Dispensings	Total Days Supplied	Days at Risk	New GIH Events	Eligible Members	Member-Days	New Users/ 1K Eligible Members	Dispensings/ User	Days Supplied/ User	Days Supplied/ Dispensing	New GIH Events/100k Days at Risk
Dabigatran												
<i>Incident with respect to Dabigatran</i>												
183-Day Washout												
2010	2,663	10,902	408,272	421,304	9	426,608	26,986,908	6.2	4.1	153.3	37.4	2.1
2011	19,693	53,439	2,023,410	2,086,923	41	550,331	110,861,054	35.8	2.7	102.7	37.9	2.0
365-Day Washout												
2010	2,383	9,744	366,504	378,805	8	439,648	29,857,977	5.4	4.1	153.8	37.6	2.1
2011	18,546	50,983	1,940,004	2,004,884	37	541,908	131,307,952	34.2	2.7	104.6	38.1	1.8
<i>Incident with respect to both Dabigatran and Warfarin</i>												
183-Day Washout												
2010	867	3,238	116,497	119,390	5	236,050	13,523,612	3.7	3.7	134.4	36.0	4.2
2011	9,732	24,607	890,167	912,713	11	357,954	56,881,413	27.2	2.5	91.5	36.2	1.2
365-Day Washout												
2010	702	2,606	93,217	95,901	4	240,713	15,340,049	2.9	3.7	132.8	35.8	4.2
2011	8,539	21,843	793,225	814,959	9	342,628	69,226,713	24.9	2.6	92.9	36.3	1.1
Warfarin												
<i>Incident with respect to Warfarin</i>												
183-Day Washout												
2010	10,427	33,974	1,357,473	1,386,338	48	236,102	13,543,232	44.2	3.3	130.2	40.0	3.5
2011	33,988	82,459	3,344,513	3,312,846	114	363,229	58,939,298	93.6	2.4	98.4	40.6	3.4
365-Day Washout												
2010	8,019	27,369	1,059,917	1,083,244	38	240,742	15,355,718	33.3	3.4	132.2	38.7	3.5
2011	27,606	70,372	2,766,010	2,745,294	102	345,087	70,960,840	80.0	2.5	100.2	39.3	3.7
<i>Incident with respect to both Dabigatran and Warfarin</i>												
183-Day Washout												
2010	10,410	33,740	1,347,763	1,364,788	48	236,050	13,523,612	44.1	3.2	129.5	39.9	3.5
2011	33,131	80,263	3,262,484	3,207,703	112	356,399	56,697,491	93.0	2.4	98.5	40.6	3.5
365-Day Washout												
2010	8,003	27,169	1,051,567	1,065,050	38	240,713	15,340,049	33.2	3.4	131.4	38.7	3.6
2011	26,959	68,586	2,700,204	2,658,972	100	342,456	69,223,316	78.7	2.5	100.2	39.4	3.8

Table 4b. Summary of Incident Dabigatran and Warfarin Use and ICH Events in the MSDD between October 19, 2010 and December 31, 2011, by Drug, Incidence Criteria, Washout/Pre-Existing Condition Lookback Period, and Year for Individuals with a Pre-Existing Condition of Atrial Fibrillation

	New Users	Dispensings	Total Days Supplied	Days at Risk	New ICH Events	Eligible Members	Member-Days	New Users/ 1K Eligible Members	Dispensings/ User	Days Supplied/ User	Days Supplied/ Dispensing	New ICH Events/100k Days at Risk
Dabigatran												
<i>Incident with respect to Dabigatran</i>												
183-Day Washout												
2010	2,659	10,880	407,772	421,303	2	427,105	27,038,343	6.2	4.1	153.4	37.5	0.5
2011	19,693	53,375	2,020,956	2,085,470	19	550,601	111,078,237	35.8	2.7	102.6	37.9	0.9
365-Day Washout												
2010	2,380	9,716	365,844	378,612	2	440,085	29,907,346	5.4	4.1	153.7	37.7	0.5
2011	18,547	50,926	1,937,760	2,003,545	17	542,046	131,532,318	34.2	2.7	104.5	38.1	0.8
<i>Incident with respect to both Dabigatran and Warfarin</i>												
183-Day Washout												
2010	862	3,214	115,777	118,922	0	236,399	13,557,542	3.6	3.7	134.3	36.0	0.0
2011	9,725	24,560	888,332	911,114	8	358,226	57,020,354	27.1	2.5	91.3	36.2	0.9
365-Day Washout												
2010	700	2,585	92,587	95,504	0	241,023	15,372,750	2.9	3.7	132.3	35.8	0.0
2011	8,534	21,804	791,630	813,457	8	342,779	69,369,506	24.9	2.6	92.8	36.3	1.0
Warfarin												
<i>Incident with respect to Warfarin</i>												
183-Day Washout												
2010	10,430	33,918	1,356,122	1,387,091	24	236,451	13,577,066	44.1	3.3	130.0	40.0	1.7
2011	34,038	82,494	3,348,702	3,319,232	87	363,500	59,078,607	93.6	2.4	98.4	40.6	2.6
365-Day Washout												
2010	8,021	27,344	1,059,449	1,084,923	16	241,052	15,388,359	33.3	3.4	132.1	38.7	1.5
2011	27,647	70,397	2,769,655	2,750,994	75	345,242	71,104,632	80.1	2.5	100.2	39.3	2.7
<i>Incident with respect to both Dabigatran and Warfarin</i>												
183-Day Washout												
2010	10,413	33,687	1,346,501	1,365,652	23	236,399	13,557,542	44.0	3.2	129.3	40.0	1.7
2011	33,181	80,306	3,266,800	3,214,229	86	356,665	56,835,349	93.0	2.4	98.5	40.7	2.7
365-Day Washout												
2010	8,005	27,147	1,051,188	1,066,840	15	241,023	15,372,750	33.2	3.4	131.3	38.7	1.4
2011	27,002	68,614	2,703,960	2,664,846	74	342,607	69,366,105	78.8	2.5	100.1	39.4	2.8

Table 4c. Summary of Incident Dabigatran and Warfarin Use and GIH or ICH Events in the MSDD between October 19, 2010 and December 31, 2011, by Drug, Incidence Criteria, Washout/Pre-Existing Condition Lookback Period, and Year for Individuals with a Pre-Existing Condition of Atrial Fibrillation

	New Users	Dispensings	Total Days Supplied	Days at Risk	New GIH or ICH Events	Eligible Members	Member-Days	New Users/1K Eligible Members	Dispensings/User	Days Supplied/User	Days Supplied/Dispensing	New GIH or ICH Events/100k Days at Risk
Dabigatran												
<i>Incident with respect to Dabigatran</i>												
183-Day Washout												
2010	2,652	10,848	406,592	419,534	11	425,745	26,909,684	6.2	4.1	153.3	37.5	2.6
2011	19,641	53,247	2,016,265	2,079,228	59	549,775	110,551,899	35.7	2.7	102.7	37.9	2.8
365-Day Washout												
2010	2,373	9,691	364,854	377,047	10	438,909	29,786,359	5.4	4.1	153.8	37.6	2.7
2011	18,497	50,801	1,933,159	1,997,545	53	541,538	131,000,603	34.2	2.7	104.5	38.1	2.7
<i>Incident with respect to both Dabigatran and Warfarin</i>												
183-Day Washout												
2010	862	3,214	115,777	118,664	5	235,500	13,479,958	3.7	3.7	134.3	36.0	4.2
2011	9,707	24,514	886,532	908,995	18	357,466	56,700,587	27.2	2.5	91.3	36.2	2.0
365-Day Washout												
2010	699	2,584	92,557	95,208	4	240,288	15,301,783	2.9	3.7	132.4	35.8	4.2
2011	8,517	21,759	789,860	811,483	16	342,315	69,055,455	24.9	2.6	92.7	36.3	2.0
Warfarin												
<i>Incident with respect to Warfarin</i>												
183-Day Washout												
2010	10,383	33,757	1,350,272	1,378,128	72	235,552	13,499,482	44.1	3.3	130.0	40.0	5.2
2011	33,835	81,937	3,328,804	3,294,428	198	362,749	58,754,743	93.3	2.4	98.4	40.6	6.0
365-Day Washout												
2010	7,986	27,230	1,055,482	1,078,089	54	240,317	15,317,382	33.2	3.4	132.2	38.8	5.0
2011	27,472	69,915	2,752,342	2,729,166	175	344,781	70,786,485	79.7	2.5	100.2	39.4	6.4
<i>Incident with respect to both Dabigatran and Warfarin</i>												
183-Day Washout												
2010	10,366	33,527	1,340,696	1,356,777	71	235,500	13,479,958	44.0	3.2	129.3	40.0	5.2
2011	32,985	79,778	3,247,658	3,190,443	195	355,916	56,517,332	92.7	2.4	98.5	40.7	6.1
365-Day Washout												
2010	7,970	27,034	1,047,266	1,060,094	53	240,288	15,301,783	33.2	3.4	131.4	38.7	5.0
2011	26,830	68,152	2,686,999	2,643,605	172	342,143	69,052,058	78.4	2.5	100.1	39.4	6.5

Appendix. ICD-9-CM Diag for ICH and GIH

Event	Diagnosis Code	Description
GIH		
	531.0	Gastric_ulcer1
	531.2	Gastric_ulcer2
	531.4	Gastric_ulcer3
	531.6	Gastric_ulcer4
	532.0	duodenal_ulcer1
	532.2	duodenal_ulcer2
	532.4	duodenal_ulcer3
	532.6	duodenal_ulcer4
	533.0	peptic_ulcer1
	533.2	peptic_ulcer2
	533.4	peptic_ulcer3
	533.6	peptic_ulcer4
	534.0	gastrojejunal_ulcer1
	534.2	gastrojejunal_ulcer2
	534.4	gastrojejunal_ulcer3
	534.6	gastrojejunal_ulcer4
	578.0	GI_hemorrhage
ICH		
	431	Intracerebral_hemorrhage