



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) among new users of dabigatran or warfarin. 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. 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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<u>Notes:</u>	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 2

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. 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 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	None	DX	365	Fixed	All	NO	GIH	183	Mult	ED, IP	NO	0
2	Dabigatran	Dabigatran, Warfarin	183	Single	None	DX	365	Fixed	All	NO	ICH	183	Mult	ED, IP	NO	0
3	Dabigatran	Dabigatran, Warfarin	183	Single	None	DX	365	Fixed	All	NO	GIH or ICH	183	Mult	ED, IP	NO	0
4	Warfarin	Dabigatran, Warfarin	183	Single	None	DX	365	Fixed	All	NO	GIH	183	Mult	ED, IP	NO	0
5	Warfarin	Dabigatran, Warfarin	183	Single	None	DX	365	Fixed	All	NO	ICH	183	Mult	ED, IP	NO	0
6	Warfarin	Dabigatran, Warfarin	183	Single	None	DX	365	Fixed	All	NO	GIH or ICH	183	Mult	ED, IP	NO	0
7	Dabigatran	Dabigatran	183	Single	None	DX	365	Fixed	All	NO	GIH	183	Mult	ED, IP	NO	0
8	Dabigatran	Dabigatran	183	Single	None	DX	365	Fixed	All	NO	ICH	183	Mult	ED, IP	NO	0
9	Dabigatran	Dabigatran	183	Single	None	DX	365	Fixed	All	NO	GIH or ICH	183	Mult	ED, IP	NO	0
10	Warfarin	Warfarin	183	Single	None	DX	365	Fixed	All	NO	GIH	183	Mult	ED, IP	NO	0
11	Warfarin	Warfarin	183	Single	None	DX	365	Fixed	All	NO	ICH	183	Mult	ED, IP	NO	0
12	Warfarin	Warfarin	183	Single	None	DX	365	Fixed	All	NO	GIH or ICH	183	Mult	ED, IP	NO	0
13	Dabigatran	Dabigatran, Warfarin	365	Single	None	DX	365	Fixed	All	NO	GIH	183	Mult	ED, IP	NO	0
14	Dabigatran	Dabigatran, Warfarin	365	Single	None	DX	365	Fixed	All	NO	ICH	183	Mult	ED, IP	NO	0
15	Dabigatran	Dabigatran, Warfarin	365	Single	None	DX	365	Fixed	All	NO	GIH or ICH	183	Mult	ED, IP	NO	0
16	Warfarin	Dabigatran, Warfarin	365	Single	None	DX	365	Fixed	All	NO	GIH	183	Mult	ED, IP	NO	0
17	Warfarin	Dabigatran, Warfarin	365	Single	None	DX	365	Fixed	All	NO	ICH	183	Mult	ED, IP	NO	0

Modular Program Specifications for Query ID MPR41 Part 2

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. 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 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
18	Warfarin	Dabigatran, Warfarin	365	Single	None	DX	365	Fixed	All	NO	GIH or ICH	183	Mult	ED, IP	NO	0
19	Dabigatran	Dabigatran	365	Single	None	DX	365	Fixed	All	NO	GIH	183	Mult	ED, IP	NO	0
20	Dabigatran	Dabigatran	365	Single	None	DX	365	Fixed	All	NO	ICH	183	Mult	ED, IP	NO	0
21	Dabigatran	Dabigatran	365	Single	None	DX	365	Fixed	All	NO	GIH or ICH	183	Mult	ED, IP	NO	0
22	Warfarin	Warfarin	365	Single	None	DX	365	Fixed	All	NO	GIH	183	Mult	ED, IP	NO	0
23	Warfarin	Warfarin	365	Single	None	DX	365	Fixed	All	NO	ICH	183	Mult	ED, IP	NO	0
24	Warfarin	Warfarin	365	Single	None	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* 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 Period

	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	24,916	71,056	2,681,439	2,769,906	56	36,335,241	10,981,846,520	0.7	2.9	107.6	37.7	2.0
365-Day Washout	22,886	65,830	2,493,171	2,579,944	50	30,419,392	9,599,097,148	0.8	2.9	108.9	37.9	1.9
<i>Incident with respect to both Dabigatran and Warfarin</i>												
183-Day Washout	12,195	31,717	1,146,978	1,177,701	19	36,035,014	10,855,414,502	0.3	2.6	94.1	36.2	1.6
365-Day Washout	10,493	27,491	996,397	1,024,867	16	30,108,177	9,466,126,802	0.3	2.6	95.0	36.2	1.6
Warfarin												
<i>Incident with respect to Warfarin</i>												
183-Day Washout	120,896	293,641	10,670,429	10,978,183	342	36,041,339	10,856,101,218	3.4	2.4	88.3	36.3	3.1
365-Day Washout	98,392	245,310	8,693,703	8,969,583	291	30,109,866	9,468,003,307	3.3	2.5	88.4	35.4	3.2
<i>Incident with respect to both Dabigatran and Warfarin</i>												
183-Day Washout	119,940	290,904	10,566,977	10,832,267	338	36,035,012	10,853,486,961	3.3	2.4	88.1	36.3	3.1
365-Day Washout	97,669	243,097	8,611,177	8,850,815	288	30,108,177	9,466,096,919	3.2	2.5	88.2	35.4	3.3

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 Period

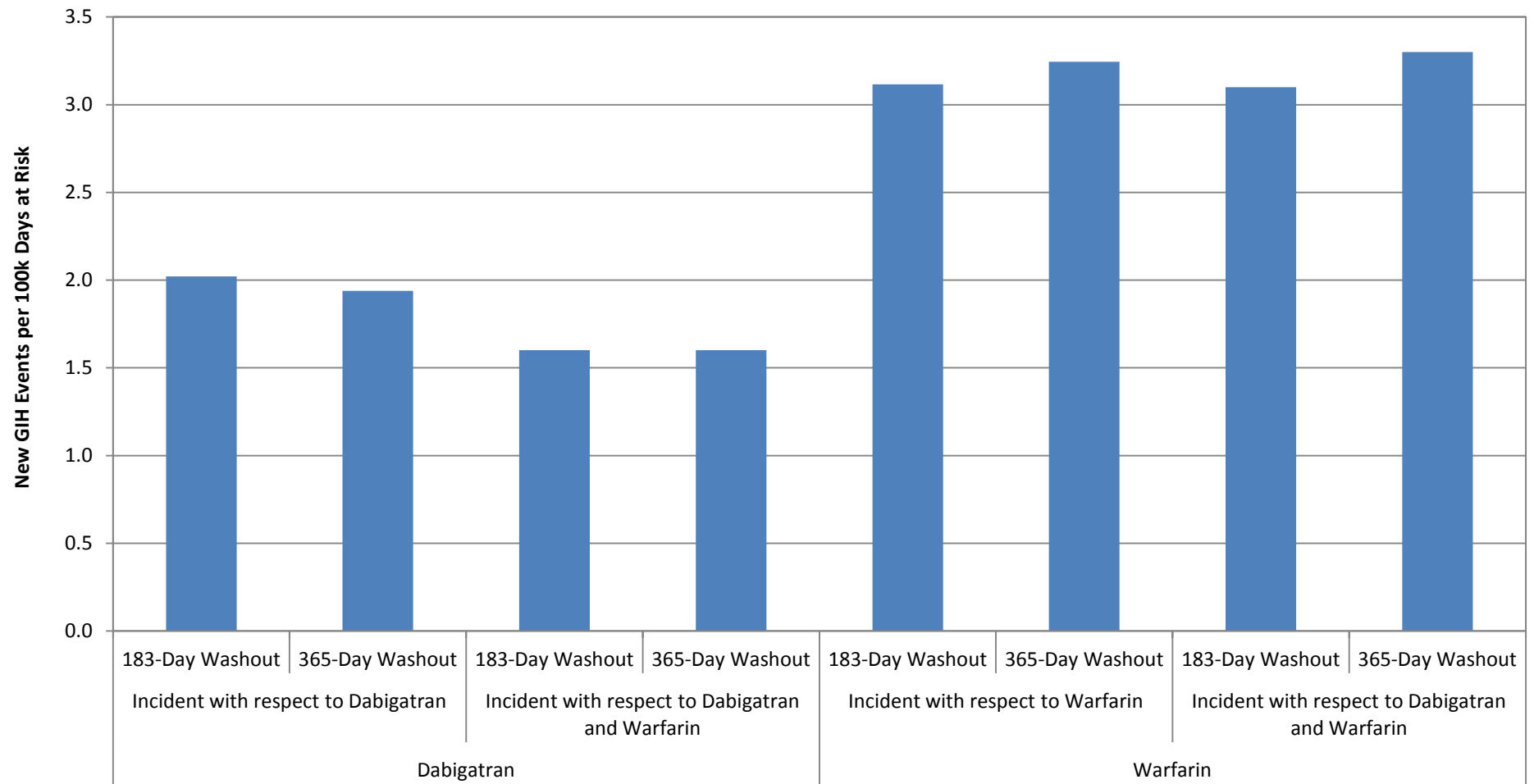


Table 1b. Summary of Incident Dabigatran and Warfarin Use and ICH Events in the MSDD between October 19, 2010 and December 31, 2011, by Drug, Incidence Criteria, and Washout Period

	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	24,912	70,965	2,678,433	2,768,469	23	36,336,461	10,984,030,732	0.7	2.8	107.5	37.7	0.8
365-Day Washout	22,882	65,738	2,490,155	2,578,317	21	30,420,204	9,601,030,562	0.8	2.9	108.8	37.9	0.8
<i>Incident with respect to both Dabigatran and Warfarin</i>												
183-Day Washout	12,182	31,637	1,144,131	1,175,295	10	36,036,259	10,857,447,377	0.3	2.6	93.9	36.2	0.9
365-Day Washout	10,484	27,421	993,850	1,022,589	10	30,109,027	9,467,911,821	0.3	2.6	94.8	36.2	1.0
Warfarin												
<i>Incident with respect to Warfarin</i>												
183-Day Washout	120,977	293,539	10,673,180	10,991,219	206	36,042,593	10,858,131,817	3.4	2.4	88.2	36.4	1.9
365-Day Washout	98,461	245,232	8,696,468	8,982,092	178	30,110,720	9,469,789,107	3.3	2.5	88.3	35.5	2.0
<i>Incident with respect to both Dabigatran and Warfarin</i>												
183-Day Washout	120,020	290,810	10,569,794	10,845,171	204	36,036,257	10,855,516,094	3.3	2.4	88.1	36.3	1.9
365-Day Washout	97,740	243,024	8,614,112	8,863,340	176	30,109,027	9,467,881,927	3.2	2.5	88.1	35.4	2.0

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 Period

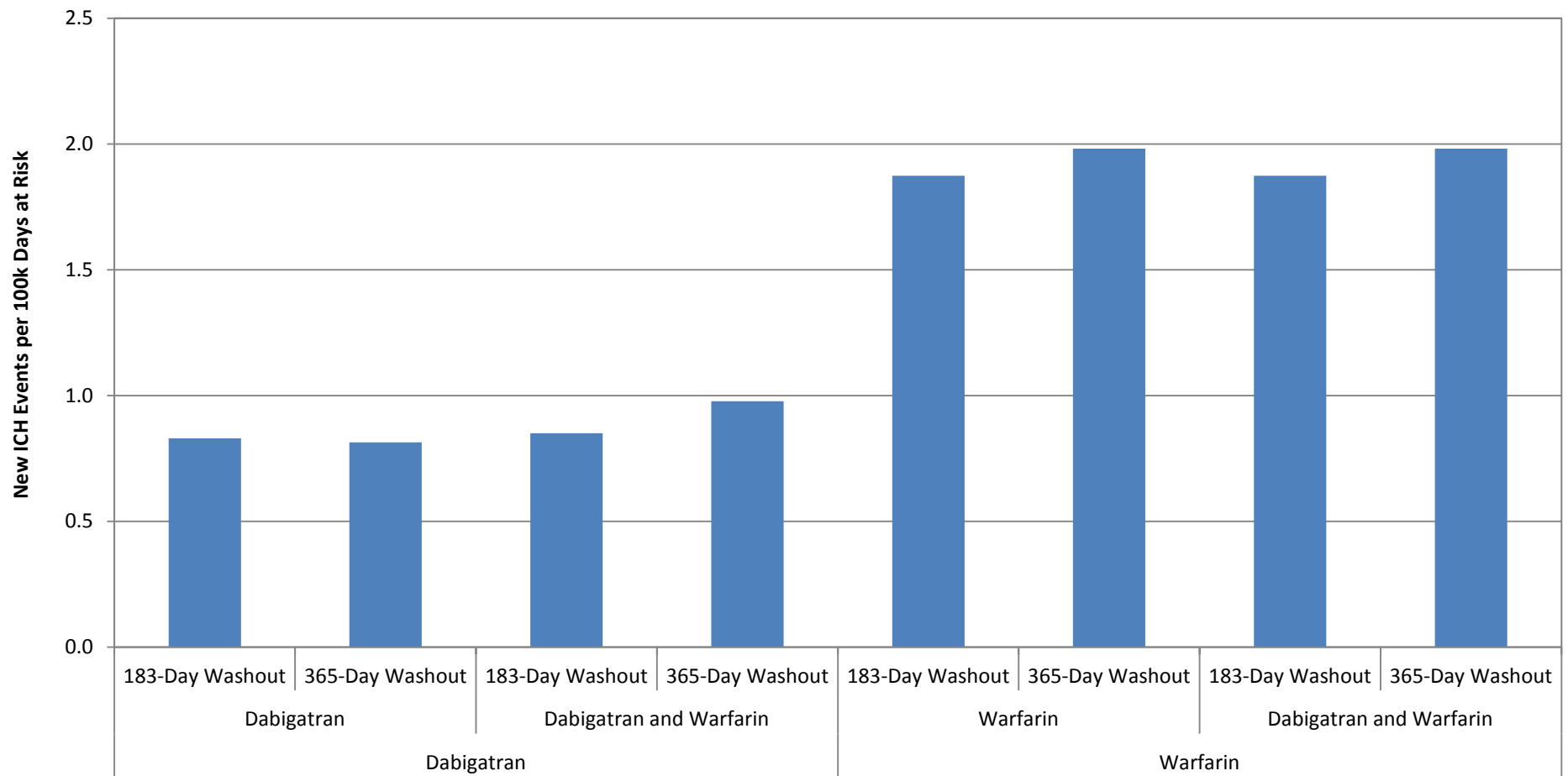


Table 1c. Summary of Incident Dabigatran and Warfarin Use and GIH or ICH Events in the MSDD between October 19, 2010 and December 31, 2011, by Drug, Incidence Criteria, and Washout Period

	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	24,847	70,795	2,672,164	2,759,895	78	36,333,778	10,980,022,655	0.7	2.8	107.5	37.7	2.8
365-Day Washout	22,821	65,580	2,484,226	2,570,301	70	30,418,244	9,597,453,028	0.8	2.9	108.9	37.9	2.7
<i>Incident with respect to both Dabigatran and Warfarin</i>												
183-Day Washout	12,161	31,587	1,142,233	1,172,780	28	36,033,645	10,853,839,954	0.3	2.6	93.9	36.2	2.4
365-Day Washout	10,464	27,372	991,982	1,020,221	25	30,107,127	9,464,735,055	0.3	2.6	94.8	36.2	2.5
Warfarin												
<i>Incident with respect to Warfarin</i>												
183-Day Washout	120,419	291,999	10,619,850	10,919,726	544	36,039,973	10,854,526,341	3.3	2.4	88.2	36.4	5.0
365-Day Washout	97,985	243,914	8,650,918	8,920,094	466	30,108,821	9,466,608,038	3.3	2.5	88.3	35.5	5.2
<i>Incident with respect to both Dabigatran and Warfarin</i>												
183-Day Washout	119,470	289,303	10,517,415	10,775,167	538	36,033,643	10,851,916,784	3.3	2.4	88.0	36.4	5.0
365-Day Washout	97,267	241,728	8,568,989	8,802,286	461	30,107,127	9,464,705,206	3.2	2.5	88.1	35.4	5.2

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 Period

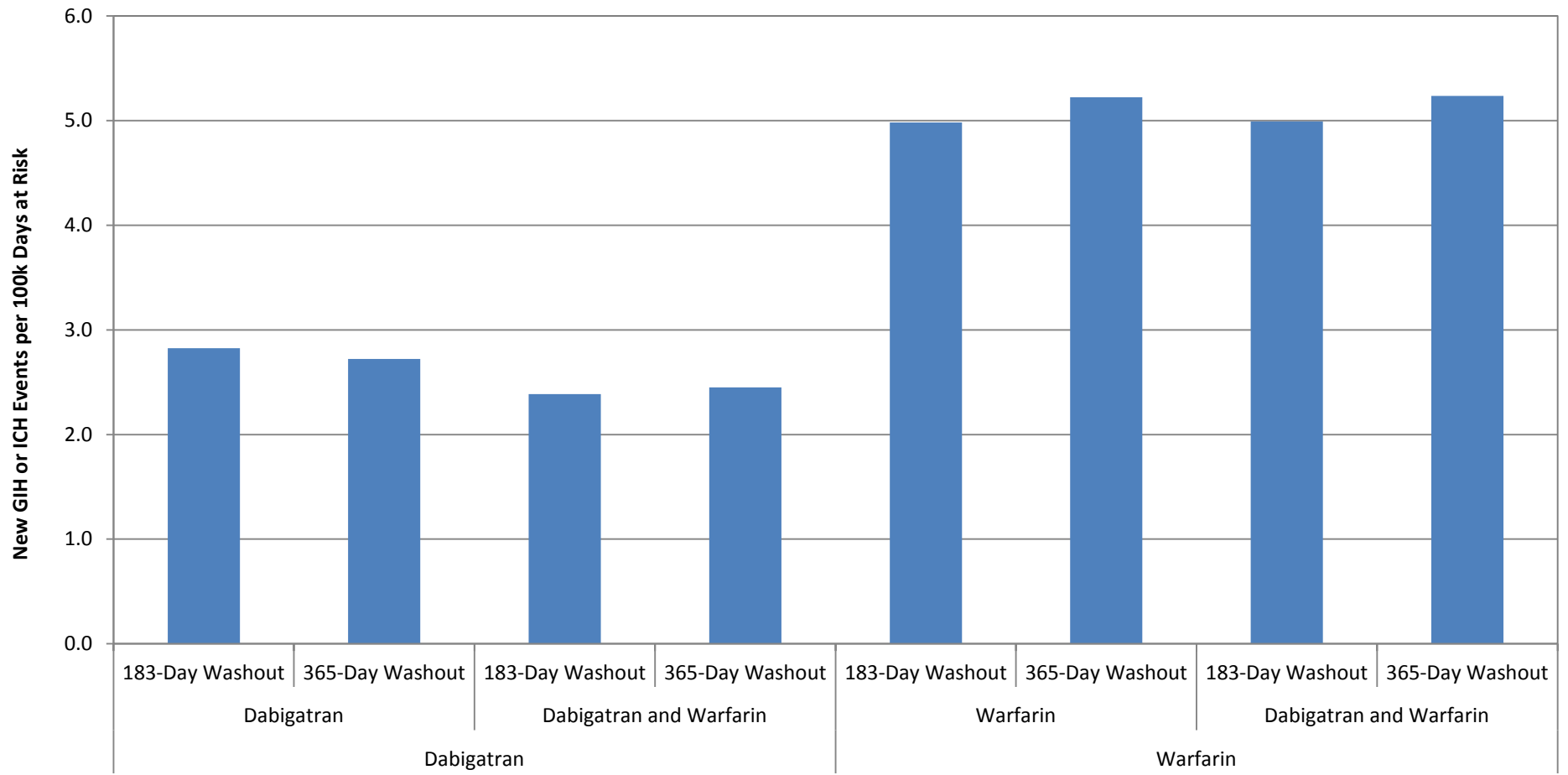


Table 2a. Summary of Incident Dabigatran and Warfarin Use and GIH Events in the MSDD between October 19, 2010 and December 31, 2011, by Drug, Incidence Criteria, and Washout Period

	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	338	813	26,456	29,676	0	19,598,143	5,554,870,848	0.0	2.4	78.3	32.5	0.0
41 to 54 years	2,221	5,888	198,981	215,842	2	8,378,302	2,477,093,546	0.3	2.7	89.6	33.8	0.9
55 to 64 years	5,664	16,842	606,135	640,887	6	5,045,026	1,512,649,179	1.1	3.0	107.0	36.0	0.9
65 to 74 years	7,373	21,017	820,285	833,043	14	2,789,832	827,564,803	2.6	2.9	111.3	39.0	1.7
75 to 84 years	6,898	19,656	775,344	789,795	27	1,421,908	442,341,919	4.9	2.8	112.4	39.4	3.4
85+ years	2,422	6,840	254,238	260,663	7	537,368	167,326,225	4.5	2.8	105.0	37.2	2.7
365-Day Washout												
0 to 40 years	283	681	22,311	25,040	0	15,945,817	4,709,592,358	0.0	2.4	78.8	32.8	0.0
41 to 54 years	1,954	5,206	176,165	191,469	1	7,180,741	2,199,508,337	0.3	2.7	90.2	33.8	0.5
55 to 64 years	5,135	15,378	554,092	586,263	4	4,445,906	1,372,693,493	1.2	3.0	107.9	36.0	0.7
65 to 74 years	6,689	19,302	758,082	772,451	13	2,373,973	743,324,072	2.8	2.9	113.3	39.3	1.7
75 to 84 years	6,516	18,711	739,056	754,636	25	1,271,109	414,505,518	5.1	2.9	113.4	39.5	3.3
85+ years	2,309	6,552	243,465	250,085	7	494,022	159,473,370	4.7	2.8	105.4	37.2	2.8
<i>Incident with respect to both Dabigatran and Warfarin</i>												
183-Day Washout												
0 to 40 years	223	479	15,126	17,179	0	19,587,697	5,550,571,936	0.0	2.1	67.8	31.6	0.0
41 to 54 years	1,322	3,064	101,179	110,204	1	8,344,233	2,463,181,105	0.2	2.3	76.5	33.0	0.9
55 to 64 years	2,939	7,931	275,278	290,103	1	4,985,024	1,488,652,527	0.6	2.7	93.7	34.7	0.3
65 to 74 years	3,566	9,253	344,806	348,227	6	2,702,225	794,570,054	1.3	2.6	96.7	37.3	1.7
75 to 84 years	3,058	8,124	309,522	309,239	9	1,327,019	406,580,397	2.3	2.7	101.2	38.1	2.9
85+ years	1,087	2,866	101,067	102,749	2	495,017	151,858,483	2.2	2.6	93.0	35.3	1.9
365-Day Washout												
0 to 40 years	176	382	12,146	13,783	0	15,934,075	4,704,999,188	0.0	2.2	69.0	31.8	0.0
41 to 54 years	1,093	2,520	82,743	90,197	0	7,143,450	2,184,411,960	0.2	2.3	75.7	32.8	0.0
55 to 64 years	2,454	6,728	233,598	246,093	0	4,381,053	1,346,591,841	0.6	2.7	95.2	34.7	0.0
65 to 74 years	3,024	7,917	296,556	301,059	6	2,285,722	709,221,829	1.3	2.6	98.1	37.5	2.0
75 to 84 years	2,755	7,362	280,342	281,072	8	1,174,535	377,605,179	2.3	2.7	101.8	38.1	2.8
85+ years	991	2,582	91,012	92,663	2	449,641	143,296,805	2.2	2.6	91.8	35.2	2.2

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, and Washout Period for Individuals with No Pre-Existing Condition

	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	6,262	17,314	561,295	589,858	18	19,587,758	5,550,539,353	0.3	2.8	89.6	32.4	3.1
41 to 54 years	18,033	45,029	1,492,249	1,583,416	34	8,344,661	2,463,138,084	2.2	2.5	82.8	33.1	2.1
55 to 64 years	28,643	64,456	2,215,909	2,348,747	63	4,986,183	1,488,699,951	5.7	2.3	77.4	34.4	2.7
65 to 74 years	31,425	72,887	2,804,400	2,846,277	77	2,703,758	794,823,509	11.6	2.3	89.2	38.5	2.7
75 to 84 years	26,967	67,427	2,646,652	2,658,601	108	1,328,570	406,915,203	20.3	2.5	98.1	39.3	4.1
85+ years	9,566	26,528	949,924	951,284	42	495,466	151,985,118	19.3	2.8	99.3	35.8	4.4
365-Day Washout												
0 to 40 years	4,816	13,583	439,617	460,796	15	15,934,117	4,705,033,906	0.3	2.8	91.3	32.4	3.3
41 to 54 years	14,604	37,264	1,226,164	1,300,779	33	7,143,690	2,184,617,396	2.0	2.6	84.0	32.9	2.5
55 to 64 years	23,312	53,232	1,791,913	1,907,704	50	4,381,597	1,347,063,859	5.3	2.3	76.9	33.7	2.6
65 to 74 years	25,420	60,348	2,253,874	2,298,783	66	2,286,257	709,743,811	11.1	2.4	88.7	37.3	2.9
75 to 84 years	22,331	57,984	2,196,495	2,212,654	93	1,174,979	378,073,624	19.0	2.6	98.4	37.9	4.2
85+ years	7,909	22,899	785,640	788,867	34	449,834	143,470,711	17.6	2.9	99.3	34.3	4.3
<i>Incident with respect to both Dabigatran and Warfarin</i>												
183-Day Washout												
0 to 40 years	6,255	17,292	560,570	588,317	18	19,587,696	5,550,495,675	0.3	2.8	89.6	32.4	3.1
41 to 54 years	17,970	44,791	1,484,598	1,571,551	34	8,344,110	2,462,865,991	2.2	2.5	82.6	33.1	2.2
55 to 64 years	28,463	63,960	2,198,307	2,320,913	61	4,984,551	1,488,037,961	5.7	2.2	77.2	34.4	2.6
65 to 74 years	31,141	72,061	2,771,607	2,801,276	75	2,701,708	794,079,051	11.5	2.3	89.0	38.5	2.7
75 to 84 years	26,643	66,552	2,612,770	2,613,335	108	1,326,653	406,259,665	20.1	2.5	98.1	39.3	4.1
85+ years	9,468	26,248	939,125	936,875	42	494,776	151,748,618	19.1	2.8	99.2	35.8	4.5
365-Day Washout												
0 to 40 years	4,811	13,570	439,137	459,710	15	15,934,075	4,704,998,417	0.3	2.8	91.3	32.4	3.3
41 to 54 years	14,547	37,059	1,219,606	1,290,974	33	7,143,443	2,184,407,372	2.0	2.5	83.8	32.9	2.6
55 to 64 years	23,188	52,877	1,779,807	1,886,926	49	4,381,017	1,346,581,712	5.3	2.3	76.8	33.7	2.6
65 to 74 years	25,203	59,660	2,226,602	2,261,017	64	2,285,668	709,214,342	11.0	2.4	88.3	37.3	2.8
75 to 84 years	22,087	57,270	2,169,346	2,175,236	93	1,174,510	377,600,611	18.8	2.6	98.2	37.9	4.3
85+ years	7,833	22,661	776,679	776,952	34	449,616	143,294,465	17.4	2.9	99.2	34.3	4.4

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, and Washout Period

	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	338	813	26,456	29,676	0	19,598,684	5,555,382,100	0.0	2.4	78.3	32.5	0.0
41 to 54 years	2,216	5,873	198,411	215,299	1	8,378,627	2,477,430,464	0.3	2.7	89.5	33.8	0.5
55 to 64 years	5,662	16,810	605,130	639,839	3	5,045,320	1,512,992,119	1.1	3.0	106.9	36.0	0.5
65 to 74 years	7,372	20,990	818,935	832,248	6	2,790,006	827,969,941	2.6	2.8	111.1	39.0	0.7
75 to 84 years	6,901	19,643	775,474	790,886	10	1,422,062	442,728,525	4.9	2.8	112.4	39.5	1.3
85+ years	2,423	6,836	254,027	260,521	3	537,380	167,527,583	4.5	2.8	104.8	37.2	1.2
365-Day Washout												
0 to 40 years	283	681	22,311	25,040	0	15,946,231	4,710,012,800	0.0	2.4	78.8	32.8	0.0
41 to 54 years	1,949	5,191	175,595	190,918	1	7,180,951	2,199,799,975	0.3	2.7	90.1	33.8	0.5
55 to 64 years	5,132	15,345	553,057	585,147	2	4,446,118	1,372,997,470	1.2	3.0	107.8	36.0	0.3
65 to 74 years	6,690	19,284	757,002	771,856	6	2,374,074	743,689,093	2.8	2.9	113.2	39.3	0.8
75 to 84 years	6,517	18,688	738,906	755,373	9	1,271,222	414,865,941	5.1	2.9	113.4	39.5	1.2
85+ years	2,311	6,549	243,284	249,983	3	494,029	159,665,283	4.7	2.8	105.3	37.1	1.2
<i>Incident with respect to both Dabigatran and Warfarin</i>												
183-Day Washout												
0 to 40 years	223	479	15,126	17,179	0	19,588,231	5,551,080,890	0.0	2.1	67.8	31.6	0.0
41 to 54 years	1,320	3,055	100,789	109,822	0	8,344,551	2,463,510,816	0.2	2.3	76.4	33.0	0.0
55 to 64 years	2,933	7,888	273,703	288,444	1	4,985,316	1,488,972,358	0.6	2.7	93.3	34.7	0.3
65 to 74 years	3,563	9,241	344,004	347,725	2	2,702,394	794,927,242	1.3	2.6	96.5	37.2	0.6
75 to 84 years	3,057	8,116	309,702	309,586	5	1,327,180	406,915,963	2.3	2.7	101.3	38.2	1.6
85+ years	1,086	2,858	100,807	102,539	2	495,041	152,040,108	2.2	2.6	92.8	35.3	2.0
365-Day Washout												
0 to 40 years	176	382	12,146	13,783	0	15,934,492	4,705,416,537	0.0	2.2	69.0	31.8	0.0
41 to 54 years	1,091	2,511	82,353	89,813	0	7,143,656	2,184,694,993	0.2	2.3	75.5	32.8	0.0
55 to 64 years	2,448	6,685	232,023	244,405	1	4,381,244	1,346,873,004	0.6	2.7	94.8	34.7	0.4
65 to 74 years	3,023	7,908	295,844	300,605	2	2,285,830	709,541,199	1.3	2.6	97.9	37.4	0.7
75 to 84 years	2,755	7,360	280,702	281,490	5	1,174,651	377,916,073	2.3	2.7	101.9	38.1	1.8
85+ years	991	2,575	90,782	92,493	2	449,666	143,470,015	2.2	2.6	91.6	35.3	2.2

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, and Washout Period for Individuals with No Pre-Existing Condition

	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	6,247	17,227	558,887	588,098	4	19,588,292	5,551,048,452	0.3	2.8	89.5	32.4	0.7
41 to 54 years	18,000	44,847	1,487,299	1,579,863	20	8,344,979	2,463,467,585	2.2	2.5	82.6	33.2	1.3
55 to 64 years	28,638	64,386	2,214,651	2,349,261	32	4,986,472	1,489,018,885	5.7	2.2	77.3	34.4	1.4
65 to 74 years	31,484	73,051	2,811,001	2,854,379	56	2,703,927	795,179,694	11.6	2.3	89.3	38.5	2.0
75 to 84 years	27,018	67,455	2,649,301	2,665,216	56	1,328,731	407,250,664	20.3	2.5	98.1	39.3	2.1
85+ years	9,590	26,573	952,041	954,402	38	495,495	152,166,537	19.4	2.8	99.3	35.8	4.0
365-Day Washout												
0 to 40 years	4,807	13,522	437,877	459,752	2	15,934,534	4,705,451,255	0.3	2.8	91.1	32.4	0.4
41 to 54 years	14,572	37,092	1,221,528	1,297,492	18	7,143,897	2,184,900,351	2.0	2.5	83.8	32.9	1.4
55 to 64 years	23,313	53,203	1,791,192	1,908,503	30	4,381,789	1,347,344,245	5.3	2.3	76.8	33.7	1.6
65 to 74 years	25,466	60,458	2,258,894	2,305,215	47	2,286,365	710,063,499	11.1	2.4	88.7	37.4	2.0
75 to 84 years	22,373	58,024	2,199,108	2,219,098	47	1,175,097	378,385,664	19.0	2.6	98.3	37.9	2.1
85+ years	7,930	22,933	787,869	792,032	34	449,859	143,644,093	17.6	2.9	99.4	34.4	4.3
<i>Incident with respect to both Dabigatran and Warfarin</i>												
183-Day Washout												
0 to 40 years	6,240	17,205	558,162	586,557	4	19,588,230	5,551,004,774	0.3	2.8	89.4	32.4	0.7
41 to 54 years	17,937	44,611	1,479,713	1,568,058	20	8,344,428	2,463,195,550	2.1	2.5	82.5	33.2	1.3
55 to 64 years	28,459	63,906	2,197,543	2,321,854	31	4,984,842	1,488,357,536	5.7	2.2	77.2	34.4	1.3
65 to 74 years	31,198	72,220	2,777,998	2,809,004	56	2,701,875	794,434,948	11.5	2.3	89.0	38.5	2.0
75 to 84 years	26,693	66,564	2,615,109	2,619,678	55	1,326,809	406,593,807	20.1	2.5	98.0	39.3	2.1
85+ years	9,493	26,304	941,269	940,020	38	494,801	151,929,479	19.2	2.8	99.2	35.8	4.0
365-Day Washout												
0 to 40 years	4,802	13,509	437,397	458,666	2	15,934,492	4,705,415,766	0.3	2.8	91.1	32.4	0.4
41 to 54 years	14,514	36,887	1,214,975	1,287,710	18	7,143,649	2,184,690,405	2.0	2.5	83.7	32.9	1.4
55 to 64 years	23,189	52,852	1,779,220	1,887,905	29	4,381,208	1,346,862,902	5.3	2.3	76.7	33.7	1.5
65 to 74 years	25,249	59,769	2,231,592	2,267,246	47	2,285,776	709,533,717	11.0	2.4	88.4	37.3	2.1
75 to 84 years	22,130	57,300	2,171,903	2,181,569	46	1,174,626	377,911,466	18.8	2.6	98.1	37.9	2.1
85+ years	7,856	22,707	779,025	780,244	34	449,641	143,467,671	17.5	2.9	99.2	34.3	4.4

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, and Washout Period

	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	338	813	26,456	29,676	0	19,597,953	5,554,665,995	0.0	2.4	78.3	32.5	0.0
41 to 54 years	2,213	5,868	198,261	215,044	3	8,378,047	2,476,808,048	0.3	2.7	89.6	33.8	1.4
55 to 64 years	5,648	16,768	603,570	638,136	9	5,044,758	1,512,305,462	1.1	3.0	106.9	36.0	1.4
65 to 74 years	7,356	20,965	818,035	830,713	19	2,789,472	827,198,649	2.6	2.9	111.2	39.0	2.3
75 to 84 years	6,879	19,581	772,944	787,122	37	1,421,563	441,944,239	4.8	2.8	112.4	39.5	4.7
85+ years	2,413	6,800	252,898	259,204	10	537,125	167,100,262	4.5	2.8	104.8	37.2	3.9
365-Day Washout												
0 to 40 years	283	681	22,311	25,040	0	15,945,693	4,709,421,578	0.0	2.4	78.8	32.8	0.0
41 to 54 years	1,946	5,186	175,445	190,671	2	7,180,531	2,199,259,329	0.3	2.7	90.2	33.8	1.0
55 to 64 years	5,119	15,304	551,527	583,526	6	4,445,690	1,372,383,818	1.2	3.0	107.7	36.0	1.0
65 to 74 years	6,675	19,260	756,132	770,399	18	2,373,691	742,995,614	2.8	2.9	113.3	39.3	2.3
75 to 84 years	6,497	18,636	736,656	751,999	34	1,270,821	414,134,350	5.1	2.9	113.4	39.5	4.5
85+ years	2,301	6,513	242,155	248,666	10	493,810	159,258,339	4.7	2.8	105.2	37.2	4.0
<i>Incident with respect to both Dabigatran and Warfarin</i>												
183-Day Washout												
0 to 40 years	223	479	15,126	17,179	0	19,587,511	5,550,377,290	0.0	2.1	67.8	31.6	0.0
41 to 54 years	1,317	3,050	100,639	109,635	1	8,343,992	2,462,919,934	0.2	2.3	76.4	33.0	0.9
55 to 64 years	2,929	7,875	273,313	288,031	2	4,984,762	1,488,351,423	0.6	2.7	93.3	34.7	0.7
65 to 74 years	3,559	9,235	343,846	347,304	7	2,701,896	794,261,341	1.3	2.6	96.6	37.2	2.0
75 to 84 years	3,050	8,096	308,682	308,354	14	1,326,713	406,260,291	2.3	2.7	101.2	38.1	4.5
85+ years	1,083	2,852	100,627	102,277	4	494,808	151,669,675	2.2	2.6	92.9	35.3	3.9
365-Day Washout												
0 to 40 years	176	382	12,146	13,783	0	15,933,957	4,704,837,157	0.0	2.2	69.0	31.8	0.0
41 to 54 years	1,088	2,506	82,203	89,628	0	7,143,253	2,184,185,884	0.2	2.3	75.6	32.8	0.0
55 to 64 years	2,445	6,673	231,663	244,042	1	4,380,840	1,346,324,469	0.6	2.7	94.7	34.7	0.4
65 to 74 years	3,019	7,902	295,686	300,184	7	2,285,473	708,950,807	1.3	2.6	97.9	37.4	2.3
75 to 84 years	2,748	7,340	279,682	280,353	13	1,174,286	377,314,306	2.3	2.7	101.8	38.1	4.6
85+ years	988	2,569	90,602	92,231	4	449,470	143,122,432	2.2	2.6	91.7	35.3	4.3

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, and Washout Period for Individuals with No Pre-Existing Condition

	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	6,216	17,134	555,831	584,114	22	19,587,572	5,550,345,209	0.3	2.8	89.4	32.4	3.8
41 to 54 years	17,954	44,712	1,483,089	1,573,314	54	8,344,420	2,462,876,923	2.2	2.5	82.6	33.2	3.4
55 to 64 years	28,528	64,105	2,205,087	2,336,061	93	4,985,920	1,488,399,132	5.7	2.2	77.3	34.4	4.0
65 to 74 years	31,320	72,565	2,793,382	2,833,363	131	2,703,431	794,514,616	11.6	2.3	89.2	38.5	4.6
75 to 84 years	26,864	67,061	2,635,409	2,645,858	164	1,328,264	406,594,453	20.2	2.5	98.1	39.3	6.2
85+ years	9,537	26,422	947,052	947,016	80	495,259	151,796,008	19.3	2.8	99.3	35.8	8.4
365-Day Washout												
0 to 40 years	4,779	13,437	435,066	456,107	17	15,933,999	4,704,871,875	0.3	2.8	91.0	32.4	3.7
41 to 54 years	14,535	36,973	1,217,805	1,291,510	51	7,143,494	2,184,391,003	2.0	2.5	83.8	32.9	3.9
55 to 64 years	23,224	52,969	1,783,803	1,897,842	79	4,381,385	1,346,795,328	5.3	2.3	76.8	33.7	4.2
65 to 74 years	25,326	60,053	2,244,065	2,287,375	111	2,286,009	709,472,018	11.1	2.4	88.6	37.4	4.9
75 to 84 years	22,238	57,681	2,186,891	2,201,781	140	1,174,731	377,781,941	18.9	2.6	98.3	37.9	6.4
85+ years	7,883	22,801	783,288	785,479	68	449,663	143,295,873	17.5	2.9	99.4	34.4	8.7
<i>Incident with respect to both Dabigatran and Warfarin</i>												
183-Day Washout												
0 to 40 years	6,209	17,112	555,106	582,573	22	19,587,510	5,550,301,531	0.3	2.8	89.4	32.4	3.8
41 to 54 years	17,892	44,477	1,475,533	1,561,549	54	8,343,869	2,462,605,204	2.1	2.5	82.5	33.2	3.5
55 to 64 years	28,349	63,625	2,187,979	2,308,796	90	4,984,289	1,487,738,311	5.7	2.2	77.2	34.4	3.9
65 to 74 years	31,036	71,739	2,760,589	2,788,521	129	2,701,379	793,771,308	11.5	2.3	88.9	38.5	4.6
75 to 84 years	26,543	66,196	2,601,838	2,600,994	163	1,326,347	405,940,451	20.0	2.5	98.0	39.3	6.3
85+ years	9,441	26,154	936,370	932,734	80	494,568	151,559,979	19.1	2.8	99.2	35.8	8.6
365-Day Washout												
0 to 40 years	4,774	13,424	434,586	455,021	17	15,933,957	4,704,836,386	0.3	2.8	91.0	32.4	3.7
41 to 54 years	14,478	36,769	1,211,282	1,281,768	51	7,143,246	2,184,181,296	2.0	2.5	83.7	32.9	4.0
55 to 64 years	23,100	52,618	1,771,831	1,877,273	77	4,380,804	1,346,314,369	5.3	2.3	76.7	33.7	4.1
65 to 74 years	25,109	59,365	2,216,793	2,249,768	109	2,285,419	708,943,325	11.0	2.4	88.3	37.3	4.8
75 to 84 years	21,997	56,977	2,160,053	2,164,765	139	1,174,261	377,309,738	18.7	2.6	98.2	37.9	6.4
85+ years	7,809	22,575	774,444	773,691	68	449,445	143,120,092	17.4	2.9	99.2	34.3	8.8

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, and Washout Period

	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	9,356	26,940	1,000,540	1,024,867	30	18,664,155	5,642,370,211	0.5	2.9	106.9	37.1	2.9
Male	15,553	44,090	1,680,119	1,744,169	26	17,615,298	5,321,679,991	0.9	2.8	108.0	38.1	1.5
Unknown	7	26	780	870	0	55,788	17,796,318	0.1	3.7	111.4	30.0	0.0
365-Day Washout												
Female	8,623	25,070	933,818	957,815	28	15,671,700	4,942,093,238	0.6	2.9	108.3	37.2	2.9
Male	14,256	40,734	1,558,573	1,621,259	22	14,699,990	4,641,561,097	1.0	2.9	109.3	38.3	1.4
Unknown	7	26	780	870	0	47,702	15,442,813	0.1	3.7	111.4	30.0	0.0
<i>Incident with respect to both Dabigatran and Warfarin</i>												
183-Day Washout												
Female	4,298	11,307	403,482	409,540	9	18,532,516	5,585,694,039	0.2	2.6	93.9	35.7	2.2
Male	7,893	20,397	743,106	767,711	10	17,446,823	5,251,983,190	0.5	2.6	94.1	36.4	1.3
Unknown	4	13	390	450	0	55,675	17,737,273	0.1	3.3	97.5	30.0	0.0
365-Day Washout												
Female	3,739	9,914	354,526	360,145	8	15,534,465	4,881,816,164	0.2	2.7	94.8	35.8	2.2
Male	6,750	17,564	641,481	664,272	8	14,526,158	4,568,932,705	0.5	2.6	95.0	36.5	1.2
Unknown	4	13	390	450	0	47,554	15,377,933	0.1	3.3	97.5	30.0	0.0
Warfarin												
<i>Incident with respect to Warfarin</i>												
183-Day Washout												
Female	58,823	141,067	4,974,018	5,140,882	165	18,534,863	5,585,576,693	3.2	2.4	84.6	35.3	3.2
Male	62,022	152,464	5,692,861	5,833,287	177	17,450,799	5,252,787,536	3.6	2.5	91.8	37.3	3.0
Unknown	51	110	3,550	4,014	0	55,677	17,736,989	0.9	2.2	69.6	32.3	0.0
365-Day Washout												
Female	48,522	118,942	4,094,079	4,246,554	146	15,534,984	4,882,440,160	3.1	2.5	84.4	34.4	3.4
Male	49,829	126,271	4,596,719	4,719,761	145	14,527,328	4,570,184,237	3.4	2.5	92.2	36.4	3.1
Unknown	41	97	2,905	3,268	0	47,554	15,378,910	0.9	2.4	70.9	29.9	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, and Washout Period for Individuals with No Pre-Existing Condition

	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	58,414	139,932	4,932,031	5,082,143	164	18,532,514	5,584,684,712	3.2	2.4	84.4	35.2	3.2
Male	61,475	150,862	5,631,396	5,746,110	174	17,446,823	5,251,066,222	3.5	2.5	91.6	37.3	3.0
Unknown	51	110	3,550	4,014	0	55,675	17,736,027	0.9	2.2	69.6	32.3	0.0
365-Day Washout												
Female	48,227	118,015	4,060,411	4,198,358	145	15,534,465	4,881,799,754	3.1	2.4	84.2	34.4	3.5
Male	49,401	124,985	4,547,861	4,649,189	143	14,526,158	4,568,919,261	3.4	2.5	92.1	36.4	3.1
Unknown	41	97	2,905	3,268	0	47,554	15,377,904	0.9	2.4	70.9	29.9	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, and Washout Period

	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	9,355	26,926	1,000,101	1,025,485	8	18,664,660	5,643,379,637	0.5	2.9	106.9	37.1	0.8
Male	15,550	44,013	1,677,552	1,742,114	15	17,616,013	5,322,853,436	0.9	2.8	107.9	38.1	0.9
Unknown	7	26	780	870	0	55,788	17,797,659	0.1	3.7	111.4	30.0	0.0
365-Day Washout												
Female	8,624	25,064	933,619	958,671	8	15,672,035	4,942,991,936	0.6	2.9	108.3	37.2	0.8
Male	14,251	40,648	1,555,756	1,618,776	13	14,700,467	4,642,594,685	1.0	2.9	109.2	38.3	0.8
Unknown	7	26	780	870	0	47,702	15,443,941	0.1	3.7	111.4	30.0	0.0
<i>Incident with respect to both Dabigatran and Warfarin</i>												
183-Day Washout												
Female	4,296	11,293	403,062	409,395	5	18,533,035	5,586,638,082	0.2	2.6	93.8	35.7	1.2
Male	7,882	20,331	740,679	765,450	5	17,447,549	5,253,070,863	0.5	2.6	94.0	36.4	0.7
Unknown	4	13	390	450	0	55,675	17,738,432	0.1	3.3	97.5	30.0	0.0
365-Day Washout												
Female	3,739	9,907	354,316	360,204	5	15,534,803	4,882,650,278	0.2	2.6	94.8	35.8	1.4
Male	6,741	17,501	639,144	661,935	5	14,526,670	4,569,882,482	0.5	2.6	94.8	36.5	0.8
Unknown	4	13	390	450	0	47,554	15,379,061	0.1	3.3	97.5	30.0	0.0
Warfarin												
<i>Incident with respect to Warfarin</i>												
183-Day Washout												
Female	58,857	140,943	4,974,489	5,146,864	101	18,535,388	5,586,520,220	3.2	2.4	84.5	35.3	2.0
Male	62,070	152,487	5,695,171	5,840,343	105	17,451,528	5,253,873,449	3.6	2.5	91.8	37.3	1.8
Unknown	50	109	3,520	4,012	0	55,677	17,738,148	0.9	2.2	70.4	32.3	0.0
365-Day Washout												
Female	48,552	118,818	4,094,234	4,252,141	86	15,535,323	4,883,275,409	3.1	2.4	84.3	34.5	2.0
Male	49,869	126,318	4,599,359	4,726,685	92	14,527,843	4,571,133,660	3.4	2.5	92.2	36.4	1.9
Unknown	40	96	2,875	3,266	0	47,554	15,380,038	0.8	2.4	71.9	29.9	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, and Washout Period for Individuals with No Pre-Existing Condition

	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	58,447	139,804	4,932,314	5,087,900	101	18,533,033	5,585,626,503	3.2	2.4	84.4	35.3	2.0
Male	61,523	150,897	5,633,960	5,753,259	103	17,447,549	5,252,152,405	3.5	2.5	91.6	37.3	1.8
Unknown	50	109	3,520	4,012	0	55,675	17,737,186	0.9	2.2	70.4	32.3	0.0
365-Day Washout												
Female	48,258	117,891	4,060,602	4,203,991	86	15,534,803	4,882,633,827	3.1	2.4	84.1	34.4	2.0
Male	49,442	125,037	4,550,635	4,656,083	90	14,526,670	4,569,869,068	3.4	2.5	92.0	36.4	1.9
Unknown	40	96	2,875	3,266	0	47,554	15,379,032	0.8	2.4	71.9	29.9	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, and Washout Period

	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	9,326	26,846	997,330	1,021,405	38	18,663,437	5,641,485,709	0.5	2.9	106.9	37.2	3.7
Male	15,514	43,923	1,674,054	1,737,620	40	17,614,554	5,320,741,942	0.9	2.8	107.9	38.1	2.3
Unknown	7	26	780	870	0	55,787	17,795,004	0.1	3.7	111.4	30.0	0.0
365-Day Washout												
Female	8,595	24,984	930,848	954,623	36	15,671,137	4,941,290,902	0.5	2.9	108.3	37.3	3.8
Male	14,219	40,570	1,552,598	1,614,808	34	14,699,406	4,640,720,592	1.0	2.9	109.2	38.3	2.1
Unknown	7	26	780	870	0	47,701	15,441,534	0.1	3.7	111.4	30.0	0.0
<i>Incident with respect to both Dabigatran and Warfarin</i>												
183-Day Washout												
Female	4,286	11,270	402,312	408,300	14	18,531,843	5,584,931,612	0.2	2.6	93.9	35.7	3.4
Male	7,871	20,304	739,531	764,030	14	17,446,128	5,251,172,199	0.5	2.6	94.0	36.4	1.8
Unknown	4	13	390	450	0	55,674	17,736,143	0.1	3.3	97.5	30.0	0.0
365-Day Washout												
Female	3,729	9,884	353,566	359,111	13	15,533,936	4,881,137,281	0.2	2.7	94.8	35.8	3.6
Male	6,731	17,475	638,026	660,660	12	14,525,638	4,568,220,936	0.5	2.6	94.8	36.5	1.8
Unknown	4	13	390	450	0	47,553	15,376,838	0.1	3.3	97.5	30.0	0.0
Warfarin												
<i>Incident with respect to Warfarin</i>												
183-Day Washout												
Female	58,591	140,243	4,950,221	5,113,159	264	18,534,191	5,584,814,480	3.2	2.4	84.5	35.3	5.2
Male	61,778	151,647	5,666,109	5,802,555	280	17,450,106	5,251,976,002	3.5	2.5	91.7	37.4	4.8
Unknown	50	109	3,520	4,012	0	55,676	17,735,859	0.9	2.2	70.4	32.3	0.0
365-Day Washout												
Female	48,324	118,219	4,073,113	4,222,423	230	15,534,457	4,881,760,028	3.1	2.4	84.3	34.5	5.4
Male	49,621	125,599	4,574,930	4,694,405	236	14,526,811	4,569,470,195	3.4	2.5	92.2	36.4	5.0
Unknown	40	96	2,875	3,266	0	47,553	15,377,815	0.8	2.4	71.9	29.9	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, and Washout Period for Individuals with No Pre-Existing Condition

	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	58,186	139,126	4,908,502	5,054,811	263	18,531,841	5,583,924,261	3.1	2.4	84.4	35.3	5.2
Male	61,234	150,068	5,605,393	5,716,344	275	17,446,128	5,250,257,626	3.5	2.5	91.5	37.4	4.8
Unknown	50	109	3,520	4,012	0	55,674	17,734,897	0.9	2.2	70.4	32.3	0.0
365-Day Washout												
Female	48,032	117,308	4,039,653	4,174,581	229	15,533,936	4,881,120,871	3.1	2.4	84.1	34.4	5.5
Male	49,195	124,324	4,526,461	4,624,439	232	14,525,638	4,568,207,526	3.4	2.5	92.0	36.4	5.0
Unknown	40	96	2,875	3,266	0	47,553	15,376,809	0.8	2.4	71.9	29.9	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, and Washout Period

	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	2,937	11,797	443,455	458,373	9	30,072,642	2,117,986,900	0.1	4.0	151.0	37.6	2.0
2011	21,979	59,259	2,237,984	2,311,533	47	31,469,774	8,863,859,620	0.7	2.7	101.8	37.8	2.0
365-Day Washout												
2010	2,578	10,379	391,776	405,282	8	24,990,881	1,802,820,045	0.1	4.0	152.0	37.7	2.0
2011	20,308	55,451	2,101,395	2,174,662	42	26,457,267	7,796,277,103	0.8	2.7	103.5	37.9	1.9
<i>Incident with respect to both Dabigatran and Warfarin</i>												
183-Day Washout												
2010	996	3,635	131,550	135,202	5	29,751,991	2,093,312,434	0.0	3.6	132.1	36.2	3.7
2011	11,199	28,082	1,015,428	1,042,499	14	31,196,987	8,762,102,068	0.4	2.5	90.7	36.2	1.3
365-Day Washout												
2010	802	2,902	105,022	108,187	4	24,663,034	1,777,841,648	0.0	3.6	131.0	36.2	3.7
2011	9,691	24,589	891,375	916,680	12	26,171,113	7,688,285,154	0.4	2.5	92.0	36.3	1.3
Warfarin												
<i>Incident with respect to Warfarin</i>												
183-Day Washout												
2010	27,731	80,409	2,927,112	3,053,620	94	29,752,016	2,093,334,352	0.9	2.9	105.6	36.4	3.1
2011	93,165	213,232	7,743,317	7,924,563	248	31,193,839	8,762,766,866	3.0	2.3	83.1	36.3	3.1
365-Day Washout												
2010	21,458	64,114	2,271,509	2,376,777	75	24,663,042	1,777,859,041	0.9	3.0	105.9	35.4	3.2
2011	76,934	181,196	6,422,194	6,592,806	216	26,172,014	7,690,144,266	2.9	2.4	83.5	35.4	3.3
<i>Incident with respect to both Dabigatran and Warfarin</i>												
183-Day Washout												
2010	27,712	80,117	2,915,117	3,027,819	94	29,751,991	2,093,312,434	0.9	2.9	105.2	36.4	3.1
2011	92,228	210,787	7,651,860	7,804,448	244	31,186,878	8,760,174,527	3.0	2.3	83.0	36.3	3.1
365-Day Washout												
2010	21,440	63,866	2,261,324	2,355,249	75	24,663,034	1,777,841,648	0.9	3.0	105.5	35.4	3.2
2011	76,229	179,231	6,349,853	6,495,566	213	26,169,652	7,688,255,271	2.9	2.4	83.3	35.4	3.3

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, and Washout Period

	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	2,933	11,775	442,955	458,383	2	30,076,611	2,118,442,611	0.1	4.0	151.0	37.6	0.4
2011	21,979	59,190	2,235,478	2,310,086	21	31,470,419	8,865,588,121	0.7	2.7	101.7	37.8	0.9
365-Day Washout												
2010	2,574	10,350	391,086	405,060	2	24,994,079	1,803,202,465	0.1	4.0	151.9	37.8	0.5
2011	20,308	55,388	2,099,069	2,173,257	19	26,457,654	7,797,828,097	0.8	2.7	103.4	37.9	0.9
<i>Incident with respect to both Dabigatran and Warfarin</i>												
183-Day Washout												
2010	992	3,612	130,860	134,774	0	29,755,748	2,093,737,877	0.0	3.6	131.9	36.2	0.0
2011	11,190	28,025	1,013,271	1,040,521	10	31,197,656	8,763,709,500	0.4	2.5	90.6	36.2	1.0
365-Day Washout												
2010	800	2,881	104,392	107,790	0	24,666,044	1,778,196,028	0.0	3.6	130.5	36.2	0.0
2011	9,684	24,540	889,458	914,799	10	26,171,533	7,689,715,793	0.4	2.5	91.8	36.2	1.1
Warfarin												
<i>Incident with respect to Warfarin</i>												
183-Day Washout												
2010	27,743	80,364	2,926,445	3,056,930	52	29,755,773	2,093,759,709	0.9	2.9	105.5	36.4	1.7
2011	93,234	213,175	7,746,735	7,934,289	154	31,194,502	8,764,372,108	3.0	2.3	83.1	36.3	1.9
365-Day Washout												
2010	21,476	64,123	2,272,536	2,381,457	40	24,666,052	1,778,213,361	0.9	3.0	105.8	35.4	1.7
2011	76,985	181,109	6,423,932	6,600,635	138	26,172,438	7,691,575,746	2.9	2.4	83.4	35.5	2.1
<i>Incident with respect to both Dabigatran and Warfarin</i>												
183-Day Washout												
2010	27,724	80,074	2,914,509	3,031,195	51	29,755,748	2,093,737,877	0.9	2.9	105.1	36.4	1.7
2011	92,296	210,736	7,655,285	7,813,976	153	31,187,533	8,761,778,217	3.0	2.3	82.9	36.3	2.0
365-Day Washout												
2010	21,458	63,877	2,262,410	2,359,995	39	24,666,044	1,778,196,028	0.9	3.0	105.4	35.4	1.7
2011	76,282	179,147	6,351,702	6,503,345	137	26,170,072	7,689,685,899	2.9	2.3	83.3	35.5	2.1

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, and Washout Period

	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	2,925	11,742	441,745	456,574	11	30,069,142	2,117,614,876	0.1	4.0	151.0	37.6	2.4
2011	21,922	59,053	2,230,419	2,303,321	67	31,468,879	8,862,407,779	0.7	2.7	101.7	37.8	2.9
365-Day Washout												
2010	2,567	10,325	390,096	403,495	10	24,987,931	1,802,499,608	0.1	4.0	152.0	37.8	2.5
2011	20,254	55,255	2,094,130	2,166,806	60	26,456,599	7,794,953,420	0.8	2.7	103.4	37.9	2.8
<i>Incident with respect to both Dabigatran and Warfarin</i>												
183-Day Washout												
2010	991	3,611	130,830	134,476	5	29,748,946	2,092,992,208	0.0	3.6	132.0	36.2	3.7
2011	11,170	27,976	1,011,403	1,038,304	23	31,196,118	8,760,847,746	0.4	2.5	90.5	36.2	2.2
365-Day Washout												
2010	799	2,880	104,362	107,494	4	24,660,542	1,777,571,729	0.0	3.6	130.6	36.2	3.7
2011	9,665	24,492	887,620	912,727	21	26,170,479	7,687,163,326	0.4	2.5	91.8	36.2	2.3
Warfarin												
<i>Incident with respect to Warfarin</i>												
183-Day Washout												
2010	27,622	79,976	2,913,029	3,037,117	146	29,748,971	2,093,014,030	0.9	2.9	105.5	36.4	4.8
2011	92,797	212,023	7,706,821	7,882,609	398	31,193,003	8,761,512,311	3.0	2.3	83.1	36.3	5.0
365-Day Washout												
2010	21,375	63,802	2,261,451	2,364,706	115	24,660,550	1,777,589,052	0.9	3.0	105.8	35.4	4.9
2011	76,610	180,112	6,389,467	6,555,388	351	26,171,388	7,689,018,986	2.9	2.4	83.4	35.5	5.4
<i>Incident with respect to both Dabigatran and Warfarin</i>												
183-Day Washout												
2010	27,603	79,688	2,901,168	3,011,515	145	29,748,946	2,092,992,208	0.9	2.9	105.1	36.4	4.8
2011	91,867	209,615	7,616,247	7,763,652	393	31,186,038	8,758,924,576	2.9	2.3	82.9	36.3	5.1
365-Day Washout												
2010	21,357	63,558	2,251,400	2,343,377	114	24,660,542	1,777,571,729	0.9	3.0	105.4	35.4	4.9
2011	75,910	178,170	6,317,589	6,458,909	347	26,169,020	7,687,133,477	2.9	2.3	83.2	35.5	5.4

Appendix. ICD-9-CM Diagnoses Codes 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