

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 <u>not</u> 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	
Request	FDA requested use MP #3 (version 2.3) to investigate gastrointestinal (GIH) and/or intracerebral hemorrhage (ICH) event
Description	following new use of dabigatran or warfarin among patients with a pre-existing condition of atrial fibrillation. The query was run against the Mini-Sentinel Distributed Database for the time period 10/19/2010 to 12/31/2011 (query period). The priod of the time period 10/19/2010 to 12/31/2011 (query period).
	package was distributed to Data Partners on June 5, 2012.
	Results provide counts of new users of dabigatran and warfarin, dispensings, total days supplied, treatment episodes, eligible members (denominator), and member days. Total days supplied are from the MSCDM outpatient pharmacy table
	for records identified using valid NDC codes (for any form, e.g., tablet, vial, topical). Users were considered new to the
	drug of interest if they had no prior use of either dabigatran or warfarin in the prior 183 days. Counts of new
	gastrointestinal (GIH) or intracerebral hemorrhage (ICH) events and days at risk following exposure to dabigatran and
	warfarin are also presented. Events were considered new if the user had no event in the prior 183 days. Events found in
_	the inpatient (IP) and emergent (ED) care settings were included.
<u>Request ID</u>	MSY3_MPR31 - Dabigatran/Warfarin
<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 MPR31 Part 2

FDA requested use MP #3 (version 2.3) to investigate gastrointestinal (GIH) or intracerebral hemorrhage (ICH) events following new use of dabigatran or warfarin among patients with a pre-existing condition of atrial fibrillation. The query was run against the Mini-Sentinel Distributed Database for the time period 10/19/2010 to 12/31/2011. For drug and exposure the episode gap was set to 10 days; the extention period was set to 10 days, and both minimum episode duration and minimum days supplied were set to 1 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 type, and event/outcome. See below for a description of each of these scenarios.

		Drug/Expo	sure				Pre-Existing	Condition					Event/Out	come		
	I Incident	Incident w/	Washout		Pre-Existing	Code		Lookback	Care	Principal	Event/	Washout	Washout	Care	Principal	
cenario	exposure	respect to:	(days)	Type*	Condition	Туре	Period	Туре	Setting	Dx	Outcome	(days)	Type**	Setting	Dx	Period
1	Dabigatran	Dabigatran,	183	Single	Atrial	DX	183	F	All	NO	ICH	183	Mult	ED, IP	NO	0
		Warfarin			fibrillation											
2	Dabigatran	Dabigatran,	183	Single	Atrial	DX	183	F	All	NO	GIH	183	Mult	ED, IP	NO	0
		Warfarin			fibrillation											
3	Dabigatran	Dabigatran,	183	Single	Atrial	DX	183	F	All	NO	ICH or GIH	183	Mult	ED, IP	NO	0
		Warfarin			fibrillation											
4	Warfarin	Dabigatran,	183	Single	Atrial	DX	183	F	All	NO	ICH	183	Mult	ED, IP	NO	0
		Warfarin			fibrillation											
5	Warfarin	Dabigatran,	183	Single	Atrial	DX	183	F	All	NO	GIH	183	Mult	ED, IP	NO	0
		Warfarin			fibrillation											
6	Warfarin	Dabigatran,	183	Single	Atrial	DX	183	F	All	NO	ICH or GIH	183	Mult	ED, IP	NO	0
		Warfarin			fibrillation											
7	Dabigatran	Dabigatran,	183	Mult	Atrial	DX	183	F	All	NO	ICH	183	Mult	ED, IP	NO	0
		Warfarin			fibrillation											
8	Dabigatran	Dabigatran,	183	Mult	Atrial	DX	183	F	All	NO	GIH	183	Mult	ED, IP	NO	0
		Warfarin			fibrillation											
9	Dabigatran	Dabigatran,	183	Mult	Atrial	DX	183	F	All	NO	ICH or GIH	183	Mult	ED, IP	NO	0
		Warfarin			fibrillation											
10	Warfarin	Dabigatran,	183	Mult	Atrial	DX	183	F	All	NO	ICH	183	Mult	ED, IP	NO	0
		Warfarin			fibrillation											
11	Warfarin	Dabigatran,	183	Mult	Atrial	DX	183	F	All	NO	GIH	183	Mult	ED, IP	NO	0
		Warfarin			fibrillation											
12	Warfarin	Dabigatran,	183	Mult	Atrial	DX	183	F	All	NO	ICH or GIH	183	Mult	ED, IP	NO	0
		Warfarin			fibrillation											

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 washout 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. A Multiple washout type for the exposure will consider all episodes for each member that meet the 183 washout period. There can be more than one incident episode per member.

**Multiple washout type for the event will only consider all valid incident events during the query period that satisfy the Washout Period criteria of 183 days. One individual can contribute more than one event.



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.

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 epsiode 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.

Washout Type (drug/exposure)- *Minimum washout 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 washout 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.

Washout Type (event/outcome)- *Minimum washout 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 washout 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 washout type* will consider more than one event per user if a user has more than one incident 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 for Individuals with a Pre-Existing Condition of Atrial Fibrillation in the MSDD between October 19, 2010 to December 31, 2011, by Drug and Incidence Type

	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												
Single Incidence Type	10,460	27,483	994,006	980,839	16	405,361	70,008,962	25.8	2.6	95.0	36.2	1.6
Multiple Incidence Type	10,460	27,514	994,996	981,846	16	405,397	70,044,136	25.8	2.6	95.1	36.2	1.6
Warfarin												
Single Incidence Type	43,836	113,622	4,676,460	4,581,179	153	405,036	69,827,243	108.2	2.6	106.7	41.2	3.3
Multiple Incidence Type	43,836	113,890	4,688,618	4,590,980	153	405,397	70,044,136	108.1	2.6	107.0	41.2	3.3



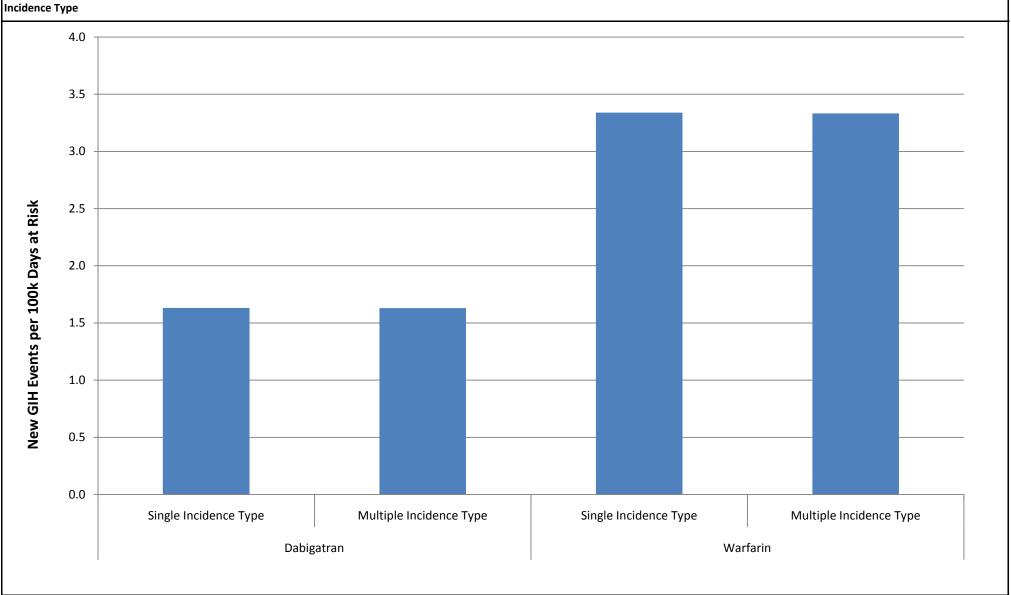


Figure 1a. New Events of GIH per 100k Days at Risk for Individuals with a Pre-Existing Condition of Atrial Fibrillation in the MSDD between October 19, 2010 and December 31, 2011, by Drug and



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

	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				-			- 7-					,
Single Incidence Type	10,449	27,416	991,751	979,274	6	405,363	70,010,613	25.8	2.6	94.9	36.2	0.6
Multiple Incidence Type	10,449	27,447	992,741	980,281	6	405,399	70,045,806	25.8	2.6	95.0	36.2	0.6
Warfarin												
Single Incidence Type	43,904	113,629	4,681,004	4,589,974	105	403,993	69,603,392	108.7	2.6	106.6	41.2	2.3
Multiple Incidence Type	43,904	113,899	4,693,272	4,599,931	105	405,399	70,045,806	108.3	2.6	106.9	41.2	2.3



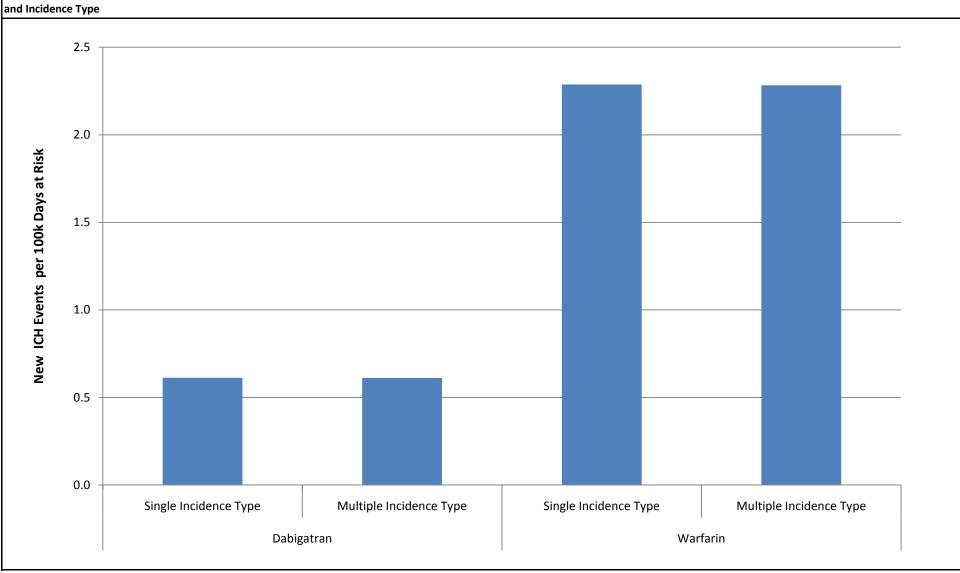


Figure 1b. New Events of ICH per 100k Days at Risk for Individuals with a Pre-Existing Condition of Atrial Fibrillation in the MSDD between October 19, 2010 and December 31, 2011, by Drug



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

					New GIH			New Users/		Days	Days	New GIH or ICH
			Total Days	Days at	or ICH	Eligible	Member-	1K Eligible	Dispensings/	Supplied/	Supplied/	Events/100k
	New Users	Dispensings	Supplied	Risk	Events	Members	Days	Members	User	User	Dispensing	Days at Risk
Dabigatran												
Single Incidence Type	10,431	27,370	989,951	976,897	21	405,359	70,007,963	25.7	2.6	94.9	36.2	2.1
Multiple Incidence Type	10,431	27,401	990,941	977,904	21	405,395	70,043,137	25.7	2.6	95.0	36.2	2.1
Warfarin												
Single Incidence Type	43,656	112,943	4,655,148	4,556,940	256	405,034	69,826,518	107.8	2.6	106.6	41.2	5.6
Multiple Incidence Type	43,656	113,210	4,667,276	4,566,727	256	405,395	70,043,137	107.7	2.6	106.9	41.2	5.6



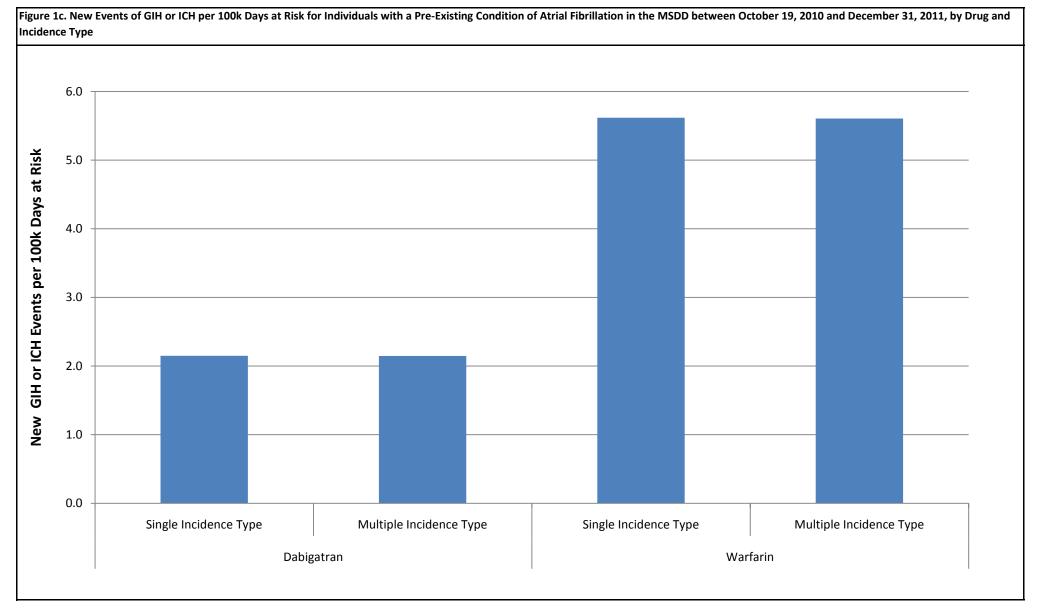




Table 2a. Summary of Incident Dabigatran and Warfarin Use and GIH Events for Individuals with a Pre-Existing Condition of Atrial Fibrillation in the MSDD between October 19, 2010 to December 31, 2011, by Drug, Incidence Type, and Age Group

	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							-					
Single Incidence Type												
0 to 40 years	155	328	10,460	11,481	0	11,732	1,602,731	13.2	2.1	67.5	31.9	0.0
41 to 54 years	1,085	2,545	82,822	86,947	1	37,769	5,539,874	28.7	2.3	76.3	32.5	1.2
55 to 64 years	2,530	6,882	239,092	240,192	1	70,883	10,918,180	35.7	2.7	94.5	34.7	0.4
65 to 74 years	3,114	8,113	302,349	295,324	5	103,993	16,846,210	29.9	2.6	97.1	37.3	1.7
75 to 84 years	2,653	7,168	272,609	261,728	8	118,851	20,602,806	22.3	2.7	102.8	38.0	3.1
85+ years	923	2,447	86,674	85,167	1	79,041	14,500,787	11.7	2.7	93.9	35.4	1.2
Multiple Incidence Ty	pe											
0 to 40 years	155	328	10,460	11,481	0	11,732	1,603,505	13.2	2.1	67.5	31.9	0.0
41 to 54 years	1,085	2,549	83,002	87,167	1	37,778	5,545,344	28.7	2.3	76.5	32.6	1.1
55 to 64 years	2,531	6,888	239,272	240,361	1	70,899	10,927,818	35.7	2.7	94.5	34.7	0.4
65 to 74 years	3,115	8,128	302,799	295,729	5	104,011	16,853,885	29.9	2.6	97.2	37.3	1.7
75 to 84 years	2,653	7,172	272,729	261,861	8	118,870	20,610,380	22.3	2.7	102.8	38.0	3.1
85+ years	923	2,449	86,734	85,247	1	79,051	14,504,830	11.7	2.7	94.0	35.4	1.2
/arfarin												
Single Incidence Type												
0 to 40 years	403	1,019	35,128	35,951	2	11,728	1,600,766	34.4	2.5	87.2	34.5	5.6
41 to 54 years	2,910	7,414	263,166	268,627	4	37,724	5,524,034	77.1	2.5	90.4	35.5	1.5
55 to 64 years	7,449	19,056	734,612	736,004	17	70,781	10,881,878	105.2	2.6	98.6	38.6	2.3
65 to 74 years	12,779	32,678	1,403,008	1,365,507	33	103,829	16,795,841	123.1	2.6	109.8	42.9	2.4
75 to 84 years	14,669	38,156	1,637,567	1,588,782	72	118,733	20,551,087	123.5	2.6	111.6	42.9	4.5
85+ years	5,626	15,299	602,979	586,308	25	78,936	14,475,265	71.3	2.7	107.2	39.4	4.3
Multiple Incidence Ty	pe											
0 to 40 years	403	1,022	35,218	36,047	2	11,732	1,603,505	34.4	2.5	87.4	34.5	5.5
41 to 54 years	2,910	7,427	263,686	269,118	4	37,778	5,545,344	77.0	2.6	90.6	35.5	1.5
55 to 64 years	7,452	19,088	735,751	737,088	17	70,899	10,927,818	105.1	2.6	98.7	38.5	2.3
65 to 74 years	12,783	32,767	1,407,373	1,368,965	33	104,011	16,853,885	122.9	2.6	110.1	43.0	2.4
75 to 84 years	14,675	38,239	1,641,955	1,591,992	72	118,870	20,610,380	123.5	2.6	111.9	42.9	4.5
85+ years	5,630	15,347	604,635	587,770	25	79,051	14,504,830	71.2	2.7	107.4	39.4	4.3



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

	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												
Single Incidence Type												
0 to 40 years	155	328	10,460	11,481	0	11,732	1,602,741	13.2	2.1	67.5	31.9	0.0
41 to 54 years	1,085	2,541	82,582	86,788	0	37,769	5,539,923	28.7	2.3	76.1	32.5	0.0
55 to 64 years	2,525	6,846	237,727	238,839	0	70,881	10,918,470	35.6	2.7	94.1	34.7	0.0
65 to 74 years	3,111	8,104	301,839	295,164	1	103,992	16,846,059	29.9	2.6	97.0	37.2	0.3
75 to 84 years	2,651	7,158	272,729	262,057	3	118,857	20,603,993	22.3	2.7	102.9	38.1	1.1
85+ years	922	2,439	86,414	84,945	2	79,040	14,501,050	11.7	2.6	93.7	35.4	2.4
Multiple Incidence Ty	be											
0 to 40 years	155	328	10,460	11,481	0	11,732	1,603,515	13.2	2.1	67.5	31.9	0.0
41 to 54 years	1,085	2,545	82,762	87,008	0	37,778	5,545,393	28.7	2.3	76.3	32.5	0.0
55 to 64 years	2,526	6,852	237,907	239,008	0	70,897	10,928,108	35.6	2.7	94.2	34.7	0.0
65 to 74 years	3,112	8,119	302,289	295,569	1	104,010	16,853,753	29.9	2.6	97.1	37.2	0.3
75 to 84 years	2,651	7,162	272,849	262,190	3	118,876	20,611,567	22.3	2.7	102.9	38.1	1.1
85+ years	922	2,441	86,474	85,025	2	79,050	14,505,093	11.7	2.6	93.8	35.4	2.4
Warfarin												
Single Incidence Type												
0 to 40 years	401	1,011	35,089	36,014	2	11,712	1,598,561	34.2	2.5	87.5	34.7	5.6
41 to 54 years	2,907	7,383	262,308	267,979	3	37,666	5,516,183	77.2	2.5	90.2	35.5	1.1
55 to 64 years	7,462	19,061	735,417	737,201	11	70,644	10,854,685	105.6	2.6	98.6	38.6	1.5
65 to 74 years	12,809	32,745	1,406,419	1,369,119	29	103,566	16,746,843	123.7	2.6	109.8	43.0	2.1
75 to 84 years	14,686	38,102	1,637,414	1,591,069	36	118,366	20,470,688	124.1	2.6	111.5	43.0	2.3
85+ years	5,639	15,327	604,357	588,592	24	78,694	14,418,056	71.7	2.7	107.2	39.4	4.1
Multiple Incidence Ty	be											
0 to 40 years	401	1,014	35,179	36,110	2	11,732	1,603,515	34.2	2.5	87.7	34.7	5.5
41 to 54 years	2,907	7,396	262,828	268,470	3	37,778	5,545,393	76.9	2.5	90.4	35.5	1.1
55 to 64 years	7,465	19,095	736,666	738,415	11	70,897	10,928,108	105.3	2.6	98.7	38.6	1.5
65 to 74 years	12,813	32,835	1,410,814	1,372,617	29	104,010	16,853,753	123.2	2.6	110.1	43.0	2.1
75 to 84 years	14,692	38,184	1,641,772	1,594,265	36	118,876	20,611,567	123.6	2.6	111.7	43.0	2.3
85+ years	5,643	15,375	606,013	590,054	24	79,050	14,505,093	71.4	2.7	107.4	39.4	4.1



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

	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
abigatran												
Single Incidence Type												
0 to 40 years	155	328	10,460	11,481	0	11,732	1,602,709	13.2	2.1	67.5	31.9	0.0
41 to 54 years	1,082	2,536	82,432	86,601	1	37,769	5,539,794	28.6	2.3	76.2	32.5	1.2
55 to 64 years	2,521	6,833	237,337	238,426	1	70,881	10,918,189	35.6	2.7	94.1	34.7	0.4
65 to 74 years	3,108	8,099	301,689	294,778	5	103,994	16,845,805	29.9	2.6	97.1	37.3	1.7
75 to 84 years	2,646	7,141	271,799	260,916	11	118,853	20,602,836	22.3	2.7	102.7	38.1	4.2
85+ years	919	2,433	86,234	84,695	3	79,038	14,500,255	11.6	2.6	93.8	35.4	3.5
Multiple Incidence Type												
0 to 40 years	155	328	10,460	11,481	0	11,732	1,603,483	13.2	2.1	67.5	31.9	0.0
41 to 54 years	1,082	2,540	82,612	86,821	1	37,778	5,545,264	28.6	2.3	76.4	32.5	1.2
55 to 64 years	2,522	6,839	237,517	238,595	1	70,897	10,927,827	35.6	2.7	94.2	34.7	0.4
65 to 74 years	3,109	8,114	302,139	295,183	5	104,012	16,853,480	29.9	2.6	97.2	37.2	1.7
75 to 84 years	2,646	7,145	271,919	261,049	11	118,872	20,610,410	22.3	2.7	102.8	38.1	4.2
85+ years	919	2,435	86,294	84,775	3	79,048	14,504,298	11.6	2.6	93.9	35.4	3.5
arfarin												
Single Incidence Type												
0 to 40 years	399	1,006	34,729	35,567	4	11,728	1,600,744	34.0	2.5	87.0	34.5	11.2
41 to 54 years	2,896	7,353	261,308	266,696	7	37,724	5,523,954	76.8	2.5	90.2	35.5	2.6
55 to 64 years	7,420	18,953	731,415	732,149	27	70,779	10,881,992	104.8	2.6	98.6	38.6	3.7
65 to 74 years	12,731	32,504	1,396,907	1,358,632	61	103,830	16,795,500	122.6	2.6	109.7	43.0	4.5
75 to 84 years	14,602	37,897	1,629,755	1,580,176	108	118,735	20,551,205	123.0	2.6	111.6	43.0	6.8
85+ years	5,608	15,230	601,034	583,720	49	78,933	14,474,750	71.0	2.7	107.2	39.5	8.4
Multiple Incidence Type												
0 to 40 years	399	1,009	34,819	35,663	4	11,732	1,603,483	34.0	2.5	87.3	34.5	11.2
41 to 54 years	2,896	7,366	261,828	267,187	7	37,778	5,545,264	76.7	2.5	90.4	35.5	2.6
55 to 64 years	7,423	18,985	732,554	733,233	27	70,897	10,927,827	104.7	2.6	98.7	38.6	3.7
65 to 74 years	12,735	32,593	1,401,272	1,362,090	61	104,012	16,853,480	122.4	2.6	110.0	43.0	4.5
75 to 84 years	14,608	37,979	1,634,113	1,583,372	108	118,872	20,610,410	122.9	2.6	111.9	43.0	6.8
85+ years	5,612	15,278	602,690	585,182	49	79,048	14,504,298	71.0	2.7	107.4	39.4	8.4



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

								New Users/		Days	Days	New GIH
	New Users	Dispensings	Total Days Supplied	Days at Risk	New GIH Events	Eligible Members	Member- Days	1K Eligible Members	Dispensings/ User	Supplied/ User	Supplied/ Dispensing	Events/100k Days at Risk
abigatran		1 0		,			,				1 0	,
Single Incidence Type												
Female	3,688	9,835	351,601	342,605	8	181,794	31,883,348	20.3	2.7	95.3	35.7	2.3
Male	6,768	17,635	642,015	637,784	8	223,390	38,090,177	30.3	2.6	94.9	36.4	1.3
Unknown	4	13	390	450	0	177	35,437	22.6	3.3	97.5	30.0	0.0
Multiple Incidence Ty	pe											
Female	3,688	9,841	351,781	342,803	8	181,804	31,894,560	20.3	2.7	95.4	35.7	2.3
Male	6,768	17,660	642,825	638,593	8	223,416	38,114,139	30.3	2.6	95.0	36.4	1.3
Unknown	4	13	390	450	0	177	35,437	22.6	3.3	97.5	30.0	0.0
arfarin												
Single Incidence Type	!											
Female	18,549	49,158	1,985,276	1,943,445	64	181,662	31,810,957	102.1	2.7	107.0	40.4	3.3
Male	25,272	64,446	2,690,404	2,636,841	89	223,197	37,981,083	113.2	2.6	106.5	41.7	3.4
Unknown	15	18	780	893	0	177	35,203	84.7	1.2	52.0	43.3	0.0
Multiple Incidence Ty	pe											
Female	18,549	49,273	1,990,222	1,947,716	64	181,804	31,894,560	102.0	2.7	107.3	40.4	3.3
Male	25,272	64,599	2,697,616	2,642,371	89	223,416	38,114,139	113.1	2.6	106.7	41.8	3.4
Unknown	15	18	780	893	0	177	35,437	84.7	1.2	52.0	43.3	0.0



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

			T . I S					New Users/		Days	Days	New ICH
	New Users	Dispensings	Total Days Supplied	Days at Risk	New ICH Events	Eligible Members	Member- Days	1K Eligible Members	Dispensings/ User	Supplied/ User	Supplied/ Dispensing	Events/100k Days at Risk
abigatran												
Single Incidence Type												
Female	3,686	9,821	351,181	342,454	3	181,795	31,883,826	20.3	2.7	95.3	35.8	0.9
Male	6,759	17,582	640,180	636,370	3	223,391	38,091,350	30.3	2.6	94.7	36.4	0.5
Unknown	4	13	390	450	0	177	35,437	22.6	3.3	97.5	30.0	0.0
Multiple Incidence Ty	ре											
Female	3,686	9,827	351,361	342,652	3	181,805	31,895,057	20.3	2.7	95.3	35.8	0.9
Male	6,759	17,607	640,990	637,179	3	223,417	38,115,312	30.3	2.6	94.8	36.4	0.5
Unknown	4	13	390	450	0	177	35,437	22.6	3.3	97.5	30.0	0.0
arfarin												
Single Incidence Type												
Female	18,585	49,160	1,988,154	1,948,412	50	181,208	31,706,882	102.6	2.6	107.0	40.4	2.6
Male	25,305	64,452	2,692,100	2,640,671	55	222,608	37,861,382	113.7	2.5	106.4	41.8	2.1
Unknown	14	17	750	891	0	177	35,128	79.1	1.2	53.6	44.1	0.0
Multiple Incidence Ty	ре											
Female	18,585	49,276	1,993,120	1,952,739	50	181,805	31,895,057	102.2	2.7	107.2	40.4	2.6
Male	25,305	64,606	2,699,402	2,646,301	55	223,417	38,115,312	113.3	2.6	106.7	41.8	2.1
Unknown	14	17	750	891	0	177	35,437	79.1	1.2	53.6	44.1	0.0



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

			Total Days		New GIH or	Eligible	Member-	New Users/ 1K Eligible	Dispensings/	Days Supplied/	Days Supplied/	New GIH or ICH Events/100k
	New Users	Dispensings	Supplied	Days at Risk	ICH Events	Members	Days	Members	User	User	Dispensing	Days at Risk
Dabigatran												
Single Incidence Type												
Female	3,677	9,799	350,461	341,407	11	181,790	31,882,450	20.2	2.7	95.3	35.8	3.2
Male	6,750	17,558	639,100	635,040	10	223,392	38,090,076	30.2	2.6	94.7	36.4	1.6
Unknown	4	13	390	450	0	177	35,437	22.6	3.3	97.5	30.0	0.0
Multiple Incidence Typ	e											
Female	3,677	9,805	350,641	341,605	11	181,800	31,893,662	20.2	2.7	95.4	35.8	3.2
Male	6,750	17,583	639,910	635,849	10	223,418	38,114,038	30.2	2.6	94.8	36.4	1.6
Unknown	4	13	390	450	0	177	35,437	22.6	3.3	97.5	30.0	0.0
Warfarin												
Single Incidence Type												
Female	18,469	48,844	1,976,408	1,933,205	113	181,658	31,810,226	101.7	2.6	107.0	40.5	5.8
Male	25,173	64,082	2,677,990	2,622,844	143	223,199	37,981,089	112.8	2.5	106.4	41.8	5.5
Unknown	14	17	750	891	0	177	35,203	79.1	1.2	53.6	44.1	0.0
Multiple Incidence Typ	e											
Female	18,469	48,958	1,981,324	1,937,462	113	181,800	31,893,662	101.6	2.7	107.3	40.5	5.8
Male	25,173	64,235	2,685,202	2,628,374	143	223,418	38,114,038	112.7	2.6	106.7	41.8	5.4
Unknown	14	17	750	891	0	177	35,437	79.1	1.2	53.6	44.1	0.0



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

								New Users/		Days	Days	New GIH
		.	Total Days		New GIH	Eligible	Member-	1K Eligible	Dispensings/	Supplied/	Supplied/	Events/100k
	New Users	Dispensings	Supplied	Days at Risk	Events	Members	Days	Members	User	User	Dispensing	Days at Risk
Dabigatran												
Single Incidence Type												
2010	881	3,258	118,230	119,632	5	233,897	13,653,694	3.8	3.7	134.2	36.3	4.2
2011	9,579	24,225	875,776	861,207	11	349,346	56,355,268	27.4	2.5	91.4	36.2	1.3
Multiple Incidence Type	9											
2010	881	3,258	118,230	119,632	5	233,897	13,653,694	3.8	3.7	134.2	36.3	4.2
2011	9,589	24,256	876,766	862,214	11	349,540	56,390,442	27.4	2.5	91.4	36.1	1.3
Warfarin												
Single Incidence Type												
2010	11,455	35,489	1,483,828	1,494,100	51	233,897	13,653,694	49.0	3.1	129.5	41.8	3.4
2011	32,381	78,133	3,192,632	3,087,079	102	347,664	56,173,549	93.1	2.4	98.6	40.9	3.3
Multiple Incidence Type	2											
2010	11,455	35,489	1,483,828	1,494,100	51	233,897	13,653,694	49.0	3.1	129.5	41.8	3.4
2011	32,525	78,401	3,204,790	3,096,880	102	349,540	56,390,442	93.1	2.4	98.5	40.9	3.3



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

			Total Days		New ICH	Eligible	Member-	New Users/ 1K Eligible	Dispensings/	Days Supplied/	Days Supplied/	New ICH Events/100k
	New Users	Dispensings	Supplied	Days at Risk	Events	Members	Days	Members	User	User	Dispensing	Days at Risk
Dabigatran												
Single Incidence Type												
2010	876	3,234	117,510	119,193	0	233,897	13,654,248	3.7	3.7	134.1	36.3	0.0
2011	9,573	24,182	874,241	860,081	6	349,352	56,356,365	27.4	2.5	91.3	36.2	0.7
Multiple Incidence Type	2											
2010	876	3,234	117,510	119,193	0	233,897	13,654,248	3.7	3.7	134.1	36.3	0.0
2011	9,583	24,213	875,231	861,088	6	349,546	56,391,558	27.4	2.5	91.3	36.1	0.7
Warfarin												
Single Incidence Type												
2010	11,462	35,440	1,482,946	1,495,551	23	233,200	13,610,270	49.2	3.1	129.4	41.8	1.5
2011	32,442	78,189	3,198,058	3,094,423	82	346,819	55,993,122	93.5	2.4	98.6	40.9	2.6
Multiple Incidence Type	2											
2010	11,462	35,440	1,482,946	1,495,551	23	233,897	13,654,248	49.0	3.1	129.4	41.8	1.5
2011	32,589	78,459	3,210,326	3,104,380	82	349,546	56,391,558	93.2	2.4	98.5	40.9	2.6



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

								New Users/			Days	New GIH or ICH
	New Users	Dispensings	Total Days Supplied	Days at Risk	New GIH or ICH Events	Eligible Members	Member- Days	1K Eligible Members	Dispensings/ User	Days Supplied/ User	Supplied/ Dispensing	Events/100k Days at Risk
Dabigatran												
Single Incidence Type												
2010	876	3,234	117,510	118,935	5	233,888	13,652,857	3.7	3.7	134.1	36.3	4.2
2011	9,555	24,136	872,441	857,962	16	349,352	56,355,106	27.4	2.5	91.3	36.1	1.9
Multiple Incidence Type	2											
2010	876	3,234	117,510	118,935	5	233,888	13,652,857	3.7	3.7	134.1	36.3	4.2
2011	9,565	24,167	873,431	858,969	16	349,546	56,390,280	27.4	2.5	91.3	36.1	1.9
Warfarin												
Single Incidence Type												
2010	11,410	35,274	1,476,701	1,486,083	74	233,888	13,652,857	48.8	3.1	129.4	41.9	5.0
2011	32,246	77,669	3,178,447	3,070,857	182	347,672	56,173,661	92.7	2.4	98.6	40.9	5.9
Multiple Incidence Type	2											
2010	11,410	35,274	1,476,701	1,486,083	74	233,888	13,652,857	48.8	3.1	129.4	41.9	5.0
2011	32,390	77,936	3,190,575	3,080,644	182	349,546	56,390,280	92.7	2.4	98.5	40.9	5.9



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

	Diagnosis Code	Description
	531.0	Acute gastric ulcer with hemorrhage
	531.2	Acute gastric ulcer with hemorrhage and perforation
	531.4	Chronic or unspecified gastric ulcer with hemorrhage
	531.6	Chronic or unspecified gastric ulcer with hemorrhage and perforation
	532.0	Acute duodenal ulcer with hemorrhage
	532.2	Acute duodenal ulcer with hemorrhage and perforation
	532.4	Chronic or unspecified duodenal ulcer with hemorrhage
	532.6	Chronic or unspecified duodenal ulcer with hemorrhage and perforation
	533.0	Acute peptic ulcer of unspecified site with hemorrhage
	533.2	Acute peptic ulcer of unspecified site with hemorrhage and perforation
	533.4	Chronic or unspecified peptic ulcer of unspecified site with hemorrhage
	533.6	Chronic or unspecified peptic ulcer of unspecified site with hemorrhage and perforation
	534.0	Acute gastrojejunal ulcer with hemorrhage
	534.2	Acute gastrojejunal ulcer with hemorrhage and perforation
	534.4	Chronic or unspecified gastrojejunal ulcer with hemorrhage
	534.6	Chronic or unspecified gastrojejunal ulcer with hemorrhage and perforation
	578.0	Hematemesis
н		
	431	Intracerebral hemorrhage