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

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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 ID: icd10_mpl1r_wp001_nsdv_v01

Request Description: This report contains estimates of the frequency of diagnoses for a selection of health outcomes using International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) versus International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) codes. Three health outcomes were investigated: angioedema, acute myocardial infarction (AMI), and ischemic stroke.

Sentinel Modular Program Tool Used: Cohort Identification and Descriptive Analysis (CIDA) tool, Version 3.3.2

Data Source: Data from October 1, 2010 to August 31, 2016 from 11 health plans contributing to the Sentinel Distributed Database (SDD) were included in this report. The report includes three separate monitoring periods: 1) October 1, 2010 to August 31, 2016 2) January 1, 2015 to March 31, 2015 and 3) January 1, 2016 to March 31, 2016. This request was distributed to 9 health plans on December 29, 2016 and to 2 health plans on March 23, 2017. See Appendix A for a list of the latest dates of available data for each Data Partner.

Study Design: This request was designed to identify events of interest. The number of qualifying patients with the event of interest was calculated overall and stratified by year/month.

Events of Interest: The events of interest were angioedema diagnosis that occurred in any care setting, AMI diagnosis that occurred in the inpatient care setting with a principal diagnosis position, and ischemic stroke diagnosis that occurred in the inpatient care setting with a principal diagnosis position. Diagnoses were defined using ICD-9-CM as well as ICD-10-CM diagnosis codes. The Centers for Medicare and Medicaid Services (CMS) General Equivalence Mappings (GEMs) were used to determine appropriate ICD-10-CM codes using Simple Forward Mapping and Forward Backward Mapping. See Appendices B-J for specific codes.

Cohort Eligibility Criteria: Patients were required to be continuously enrolled in plans with medical coverage for at least 6 months (183 days) before their diagnosis date, during which gaps in coverage of up to 45 days were allowed. The following age groups were included in the cohort: 0-17, 18-49, 50-64, 65+ years.

Please refer to Appendices K-M for detailed specifications of parameters used in the analyses for this request.

Notes: Please contact the Sentinel Operations Center Query Fulfillment Team (qf@sentinelssystem.org) for questions and to provide comments/suggestions for future enhancements to this document.

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

Amount Supplied - number of units (pills, tablets, vials) dispensed. Net amount per NDC per dispensing. This is equivalent to the "RxAmt" value in the Sentinel Common Data Model.

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

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

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

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

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

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

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

Cohort Definition (drug/exposure) - indicates how the cohort will be defined: (1) 01: Cohort includes only the first valid treatment episode during the query period; (2) 02: Cohort includes all valid treatment episodes during the query period; (3) 03: Cohort includes all

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

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

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

Enrollment Gap - number of days allowed between two consecutive enrollment periods without breaking a "continuously enrolled"

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

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

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

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

Lookback Period (pre-existing condition) - number of days wherein a member is required to have evidence of pre-existing condition

Maximum Episode Duration - truncates exposure episodes after a requester-specified number of exposed days. Applied after any gaps

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

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

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

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

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

Treatment Episode Truncation Indicator - indicates whether observation of the incident query code during follow-up requires truncation of valid treatment episodes. A value of Y indicates that the treatment episodes should be truncated at the first occurrence of an incident query code. A value of N indicates that the treatment episodes should not be truncated at the occurrence of the incident

Users - number of members with 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.

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

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

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

*all terms may not be used in this report

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

Table 1a. Summary of Incident Angioedema Diagnoses using International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) versus International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) codes for a combination of washouts and code sources: Algorithm, Simple Forward Mapping (SFM), and Forward Backward Mapping (FBM), by Monitoring Period

	Number of Incident				Number of Incident
	Diagnoses	Number of Diagnoses	Eligible Members	Member- Years	Diagnoses / 1K Eligible Members
2010-2016					
ICD-9-CM codes from an Algorithm, 183 day washout	350,995	350,995	131,338,612	318,997,592.8	2.67
ICD-9-CM codes from SFM and FBM, 183 day washout	350,995	350,995	131,338,933	318,998,959.3	2.67
ICD-10-CM codes from an Algorithm, 183 day washout	36,528	36,528	131,338,612	319,573,199.3	0.28
ICD-10-CM codes from SFM and FBM, 183 day washout	37,019	37,019	131,338,933	319,575,529.6	0.28
ICD-9-CM codes from an Algorithm, SFM, and FBM, 0 day washout	357,783	651,932	131,346,603	319,813,419.4	2.72
ICD-10-CM codes from an Algorithm, 0 day washout	48,058	76,252	131,346,603	319,813,419.4	0.37
ICD-10-CM codes from SFM and FBM, 0 day washout	39,791	56,295	131,346,603	319,813,419.4	0.30
2015					
ICD-9-CM codes from an Algorithm, SFM, and FBM, 90 day washout	19,486	19,486	57,677,701	13,565,531.3	0.34
2016					
ICD-10-CM codes from an Algorithm, 90 day washout	14,719	14,719	57,464,145	13,789,293.4	0.26
ICD-10-CM codes from SFM and FBM, 90 day washout	15,020	15,020	57,465,350	13,790,285.6	0.26

Table 1b. Summary of Incident Angioedema Diagnoses using International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) versus International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) codes for a combination of washouts and code sources: Algorithm, Simple Forward Mapping (SFM), and Forward Backward Mapping (FBM), by Monitoring Period and Year/Month

2010-2016						
	Number of Incident			Number of Incident		
	Diagnoses	Number of Diagnoses	Eligible Members	Member- Years	Diagnoses / 1K Eligible Members	
ICD-9-CM codes from an Algorithm, 183 day washout						
2010						
	October	5,981	5,981	57,680,165	4,831,096.8	0.10
	November	5,719	5,719	57,047,446	4,673,472.1	0.10
	December	5,538	5,538	58,325,733	4,847,683.1	0.09
2011						
	January	5,710	5,710	54,675,638	4,555,849.5	0.10
	February	5,158	5,158	53,972,033	4,125,230.0	0.10
	March	6,281	6,281	54,272,896	4,586,314.6	0.12
	April	5,582	5,582	54,340,293	4,448,574.5	0.10
	May	5,999	5,999	54,304,722	4,593,073.6	0.11
	June	6,221	6,221	54,134,478	4,433,447.6	0.11
	July	6,383	6,383	58,462,535	4,917,804.0	0.11
	August	7,085	7,085	58,890,623	4,928,957.9	0.12
	September	6,506	6,506	58,021,647	4,751,363.3	0.11
	October	6,220	6,220	58,607,091	4,906,096.9	0.11
	November	5,787	5,787	58,004,153	4,750,643.3	0.10
	December	5,536	5,536	59,308,973	4,929,812.3	0.09
2012						
	January	5,877	5,877	55,452,007	4,623,397.2	0.11
	February	5,549	5,549	54,793,804	4,336,956.0	0.10
	March	5,853	5,853	54,889,121	4,638,603.4	0.11
	April	5,645	5,645	55,004,675	4,505,165.2	0.10
	May	6,099	6,099	54,953,161	4,649,619.2	0.11
	June	5,983	5,983	54,877,418	4,495,830.4	0.11
	July	6,415	6,415	58,587,285	4,944,702.5	0.11
	August	6,767	6,767	59,112,084	4,938,734.0	0.11
	September	5,851	5,851	58,268,943	4,772,290.4	0.10
	October	6,392	6,392	58,790,229	4,925,742.3	0.11
	November	5,454	5,454	58,190,049	4,768,165.9	0.09
	December	5,314	5,314	59,340,819	4,944,383.6	0.09
2013						
	January	5,634	5,634	56,071,399	4,659,906.5	0.10
	February	4,998	4,998	55,412,860	4,236,631.4	0.09
	March	5,641	5,641	56,005,074	4,732,479.4	0.10
	April	5,734	5,734	55,966,257	4,584,093.2	0.10
	May	5,958	5,958	55,915,182	4,731,931.4	0.11
	June	5,776	5,776	55,632,660	4,558,837.2	0.10
	July	6,784	6,784	59,403,933	5,003,080.9	0.11
	August	6,643	6,643	59,718,967	5,002,303.7	0.11
	September	6,180	6,180	58,839,006	4,820,056.1	0.11
	October	6,458	6,458	59,327,778	4,973,759.4	0.11
	November	5,453	5,453	58,716,792	4,811,208.1	0.09
	December	5,309	5,309	59,881,168	4,982,051.9	0.09
2014						
	January	5,526	5,526	55,537,567	4,631,596.8	0.10
	February	4,844	4,844	54,850,016	4,194,120.0	0.09
	March	5,244	5,244	55,101,630	4,659,263.6	0.10
	April	5,476	5,476	55,115,028	4,513,245.3	0.10
	May	5,486	5,486	54,990,657	4,653,502.4	0.10
	June	5,559	5,559	55,023,460	4,506,887.3	0.10
	July	6,547	6,547	59,830,334	5,032,735.9	0.11
	August	6,231	6,231	60,067,424	4,979,475.8	0.10
	September	6,120	6,120	58,658,365	4,805,822.4	0.10
	October	6,107	6,107	59,614,026	4,977,643.7	0.10
	November	5,012	5,012	58,923,466	4,828,835.9	0.09
	December	5,401	5,401	59,946,098	4,991,874.9	0.09

	Number of Incident			Number of Incident	
	Diagnoses	Number of Diagnoses	Eligible Members	Member- Years	Diagnoses / 1K Eligible Members
2015					
January	5,237	5,237	55,916,426	4,661,780.6	0.09
February	4,847	4,847	55,235,056	4,183,420.5	0.09
March	5,738	5,738	55,364,131	4,676,665.3	0.10
April	5,566	5,566	55,452,568	4,538,574.1	0.10
May	5,338	5,338	55,419,709	4,689,234.3	0.10
June	5,934	5,934	55,448,287	4,542,171.2	0.11
July	6,700	6,700	59,904,408	5,040,994.9	0.11
August	6,493	6,493	60,489,882	5,043,958.6	0.11
September	6,116	6,116	59,577,712	4,880,920.4	0.10
October	0	0	60,187,363	5,036,966.2	0.00
November	0	0	59,502,372	4,875,362.2	0.00
December	0	0	60,482,650	5,041,331.8	0.00
2016					
January	0	0	55,963,417	4,671,605.3	0.00
February	0	0	55,287,234	4,378,287.3	0.00
March	0	0	55,666,165	4,688,146.8	0.00
April	0	0	40,668,034	3,333,890.6	0.00
May	0	0	18,854,265	1,598,688.7	0.00
June	0	0	18,876,039	1,549,596.5	0.00
July	0	0	6,051,447	512,069.3	0.00
August	0	0	4,805,888	359,575.7	0.00
ICD-9-CM codes from SFM and FBM, 183 day washout					
2010					
October	5,981	5,981	57,680,165	4,831,096.8	0.10
November	5,719	5,719	57,047,446	4,673,472.1	0.10
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June	5,934	5,934	55,448,287	4,542,171.2	0.11
July	6,700	6,700	59,904,408	5,040,994.9	0.11
August	6,493	6,493	60,489,882	5,043,958.6	0.11
September	6,116	6,116	59,577,712	4,880,920.4	0.10
October	0	0	60,187,379	5,036,993.1	0.00
November	0	0	59,503,036	4,875,439.7	0.00
December	0	0	60,483,908	5,041,458.8	0.00
2016					
January	0	0	55,965,131	4,671,768.1	0.00
February	0	0	55,289,481	4,378,483.8	0.00
March	0	0	55,669,019	4,688,406.0	0.00
April	0	0	40,670,356	3,334,101.7	0.00
May	0	0	18,855,448	1,598,801.5	0.00
June	0	0	18,877,293	1,549,712.9	0.00
July	0	0	6,051,921	512,114.6	0.00
August	0	0	4,806,203	359,606.7	0.00
ICD-10-CM codes from an Algorithm, 183 day washout					
2010					
October	0	0	57,680,165	4,831,096.8	0.00
November	0	0	57,047,446	4,673,472.1	0.00
December	0	0	58,325,733	4,847,683.1	0.00
2011					
January	0	0	54,675,638	4,555,849.5	0.00
February	0	0	53,972,033	4,125,230.0	0.00
March	0	0	54,272,896	4,586,314.6	0.00
April	0	0	54,344,133	4,448,720.1	0.00
May	0	0	54,312,815	4,593,592.3	0.00
June	0	0	54,146,891	4,434,300.8	0.00
July	0	0	58,479,448	4,919,025.7	0.00
August	0	0	58,912,088	4,930,565.4	0.00
September	0	0	58,048,058	4,753,311.3	0.00
October	0	0	58,638,135	4,908,507.1	0.00
November	0	0	58,039,845	4,753,365.2	0.00
December	0	0	59,350,023	4,933,033.5	0.00
2012					
January	0	0	55,495,202	4,626,813.8	0.00
February	0	0	54,841,763	4,340,536.2	0.00
March	0	0	54,942,014	4,642,826.2	0.00
April	0	0	55,061,933	4,509,632.0	0.00
May	0	0	55,014,641	4,654,605.2	0.00
June	0	0	54,942,824	4,500,988.0	0.00
July	0	0	58,656,490	4,950,330.3	0.00
August	0	0	59,185,865	4,944,728.7	0.00
September	0	0	58,346,950	4,778,439.9	0.00
October	0	0	58,872,497	4,932,456.8	0.00
November	0	0	58,276,813	4,775,040.2	0.00
December	0	0	59,432,524	4,951,879.1	0.00



	Number of Incident		Eligible Members	Member- Years	Number of Incident
	Diagnoses	Number of Diagnoses			Diagnoses / 1K Eligible
2013					
January	0	0	56,162,224	4,667,330.0	0.00
February	0	0	55,507,525	4,243,655.8	0.00
March	0	0	56,104,231	4,740,612.1	0.00
April	0	0	56,069,275	4,592,302.0	0.00
May	0	0	56,022,065	4,740,751.0	0.00
June	0	0	55,742,881	4,567,662.1	0.00
July	0	0	59,517,563	5,012,458.6	0.00
August	0	0	59,836,533	5,012,004.9	0.00
September	0	0	58,959,869	4,829,723.4	0.00
October	0	0	59,452,715	4,984,074.2	0.00
November	0	0	58,845,643	4,821,529.6	0.00
December	0	0	60,014,439	4,993,066.8	0.00
2014					
January	0	0	55,665,230	4,642,116.1	0.00
February	0	0	54,981,246	4,203,933.8	0.00
March	0	0	55,237,001	4,670,464.2	0.00
April	0	0	55,253,792	4,524,386.9	0.00
May	0	0	55,133,153	4,665,321.5	0.00
June	0	0	55,168,673	4,518,590.9	0.00
July	0	0	59,979,178	5,045,088.9	0.00
August	0	0	60,219,077	4,991,973.4	0.00
September	0	0	58,811,866	4,818,181.0	0.00
October	0	0	59,771,341	4,990,700.1	0.00
November	0	0	59,083,778	4,841,745.7	0.00
December	1	1	60,110,142	5,005,500.3	0.00
2015					
January	0	0	56,074,799	4,674,905.3	0.00
February	0	0	55,396,561	4,195,448.2	0.00
March	0	0	55,527,932	4,690,289.1	0.00
April	0	0	55,620,010	4,552,051.4	0.00
May	0	0	55,590,202	4,703,444.8	0.00
June	0	0	55,621,260	4,556,157.1	0.00
July	2	2	60,081,441	5,055,732.2	0.00
August	4	4	60,670,215	5,058,967.1	0.00
September	28	28	59,761,034	4,895,705.6	0.00
October	5,309	5,309	60,374,536	5,052,535.7	0.09
November	4,822	4,822	59,692,686	4,890,737.4	0.08
December	5,069	5,069	60,677,278	5,057,510.6	0.08
2016					
January	4,664	4,664	56,149,806	4,687,069.1	0.08
February	4,589	4,589	55,476,971	4,393,079.8	0.08
March	4,782	4,782	55,860,160	4,704,228.5	0.09
April	3,395	3,395	40,811,657	3,345,727.7	0.08
May	1,553	1,553	18,918,977	1,604,205.4	0.08
June	1,606	1,606	18,939,127	1,554,804.1	0.08
July	406	406	6,075,503	514,122.4	0.07
August	298	298	4,824,781	360,961.0	0.06
ICD-10-CM codes from SFM and FBM, 183 day washout					
2010					
October	0	0	57,680,165	4,831,096.8	0.00
November	0	0	57,047,446	4,673,472.1	0.00
December	0	0	58,325,733	4,847,683.1	0.00

	Number of Incident		Eligible Members	Member- Years	Number of Incident
	Diagnoses	Number of Diagnoses			Diagnoses / 1K Eligible Members
2011					
January	0	0	54,675,638	4,555,849.5	0.00
February	0	0	53,972,033	4,125,230.0	0.00
March	0	0	54,272,896	4,586,314.6	0.00
April	0	0	54,344,133	4,448,720.1	0.00
May	0	0	54,312,815	4,593,592.3	0.00
June	0	0	54,146,891	4,434,300.8	0.00
July	0	0	58,479,448	4,919,025.7	0.00
August	0	0	58,912,088	4,930,565.4	0.00
September	0	0	58,048,058	4,753,311.3	0.00
October	0	0	58,638,135	4,908,507.1	0.00
November	0	0	58,039,845	4,753,365.2	0.00
December	0	0	59,350,023	4,933,033.5	0.00
2012					
January	0	0	55,495,202	4,626,813.8	0.00
February	0	0	54,841,763	4,340,536.2	0.00
March	0	0	54,942,014	4,642,826.2	0.00
April	0	0	55,061,933	4,509,632.0	0.00
May	0	0	55,014,641	4,654,605.2	0.00
June	0	0	54,942,824	4,500,988.0	0.00
July	0	0	58,656,490	4,950,330.3	0.00
August	0	0	59,185,865	4,944,728.7	0.00
September	0	0	58,346,950	4,778,439.9	0.00
October	0	0	58,872,497	4,932,456.8	0.00
November	0	0	58,276,813	4,775,040.2	0.00
December	0	0	59,432,524	4,951,879.1	0.00
2013					
January	0	0	56,162,224	4,667,330.0	0.00
February	0	0	55,507,525	4,243,655.8	0.00
March	0	0	56,104,231	4,740,612.1	0.00
April	0	0	56,069,275	4,592,302.0	0.00
May	0	0	56,022,065	4,740,751.0	0.00
June	0	0	55,742,881	4,567,662.1	0.00
July	0	0	59,517,563	5,012,458.6	0.00
August	0	0	59,836,533	5,012,004.9	0.00
September	0	0	58,959,869	4,829,723.4	0.00
October	0	0	59,452,715	4,984,074.2	0.00
November	0	0	58,845,643	4,821,529.6	0.00
December	0	0	60,014,439	4,993,066.8	0.00
2014					
January	0	0	55,665,230	4,642,116.1	0.00
February	0	0	54,981,246	4,203,933.8	0.00
March	0	0	55,237,001	4,670,464.2	0.00
April	0	0	55,253,792	4,524,386.9	0.00
May	0	0	55,133,153	4,665,321.5	0.00
June	0	0	55,168,673	4,518,590.9	0.00
July	0	0	59,979,178	5,045,088.9	0.00
August	0	0	60,219,077	4,991,973.4	0.00
September	0	0	58,811,866	4,818,181.0	0.00
October	0	0	59,771,341	4,990,700.1	0.00
November	0	0	59,083,778	4,841,745.7	0.00
December	1	1	60,110,142	5,005,500.3	0.00

	Number of Incident		Eligible Members	Member- Years	Number of Incident
	Diagnoses	Number of Diagnoses			Diagnoses / 1K Eligible Members
2015					
January	0	0	56,074,799	4,674,905.3	0.00
February	0	0	55,396,561	4,195,448.2	0.00
March	0	0	55,527,932	4,690,289.1	0.00
April	0	0	55,620,010	4,552,051.4	0.00
May	0	0	55,590,202	4,703,444.8	0.00
June	0	0	55,621,260	4,556,157.1	0.00
July	2	2	60,081,441	5,055,732.2	0.00
August	4	4	60,670,215	5,058,967.1	0.00
September	28	28	59,761,034	4,895,705.6	0.00
October	5,327	5,327	60,374,595	5,052,576.4	0.09
November	4,862	4,862	59,693,754	4,890,857.3	0.08
December	5,114	5,114	60,679,355	5,057,715.0	0.08
2016					
January	4,728	4,728	56,152,796	4,687,341.2	0.08
February	4,669	4,669	55,481,111	4,393,423.5	0.08
March	4,878	4,878	55,865,949	4,704,713.4	0.09
April	3,476	3,476	40,815,820	3,346,121.4	0.09
May	1,574	1,574	18,920,904	1,604,391.0	0.08
June	1,638	1,638	18,941,013	1,554,981.4	0.09
July	418	418	6,076,158	514,187.2	0.07
August	300	300	4,825,214	361,004.0	0.06
ICD-9-CM codes from an Algorithm, SFM, and FBM, 0 day washout					
2010					
October	8,157	10,127	57,716,153	4,834,624.7	0.14
November	7,882	9,756	57,083,139	4,676,871.8	0.14
December	7,637	9,347	58,361,401	4,851,164.3	0.13
2011					
January	7,696	9,564	54,708,355	4,559,066.6	0.14
February	7,104	8,838	54,004,537	4,128,109.5	0.13
March	8,541	10,671	54,304,661	4,589,505.2	0.16
April	7,675	9,451	54,376,438	4,451,813.2	0.14
May	8,130	9,953	54,345,382	4,596,809.0	0.15
June	8,433	10,353	54,180,080	4,437,454.8	0.16
July	8,630	10,599	58,516,097	4,922,622.7	0.15
August	9,701	12,063	58,949,591	4,934,256.4	0.16
September	9,023	11,199	58,085,767	4,756,913.3	0.16
October	8,797	10,973	58,676,595	4,912,248.5	0.15
November	8,411	10,455	58,078,196	4,756,987.5	0.14
December	8,188	10,251	59,388,173	4,936,750.4	0.14
2012					
January	8,438	10,681	55,530,223	4,630,251.0	0.15
February	8,136	10,129	54,876,327	4,343,731.8	0.15
March	8,527	10,559	54,975,889	4,646,212.7	0.16
April	8,318	10,203	55,096,138	4,512,914.6	0.15
May	8,895	11,020	55,049,184	4,658,029.6	0.16
June	8,537	10,515	54,978,230	4,504,350.2	0.16
July	9,265	11,305	58,694,936	4,954,101.6	0.16
August	9,820	12,121	59,224,748	4,948,556.2	0.17
September	8,672	10,532	58,386,075	4,782,162.8	0.15
October	9,570	11,969	58,911,806	4,936,312.3	0.16
November	8,451	10,396	58,315,915	4,778,740.5	0.14
December	8,132	9,911	59,471,414	4,955,666.4	0.14
2013					
January	8,555	10,595	56,197,731	4,670,823.4	0.15
February	7,748	9,554	55,542,762	4,246,777.7	0.14
March	8,551	10,586	56,138,854	4,744,073.1	0.15
April	8,894	11,046	56,104,107	4,595,653.8	0.16
May	9,007	11,287	56,057,246	4,744,239.6	0.16
June	8,703	10,779	55,778,760	4,571,072.3	0.16
July	10,081	12,619	59,556,573	5,016,305.0	0.17
August	10,069	12,533	59,876,675	5,015,940.4	0.17
September	9,435	11,634	59,000,407	4,833,576.6	0.16
October	9,945	12,414	59,493,519	4,988,077.6	0.17
November	8,700	10,925	58,886,507	4,825,393.1	0.15
December	8,588	10,645	60,055,310	4,997,010.4	0.14

	Number of Incident			Number of Incident	
	Diagnoses	Number of Diagnoses	Eligible Members	Member- Years	Diagnoses / 1K Eligible Members
2014					
January	8,566	10,747	55,701,673	4,645,703.0	0.15
February	7,754	9,723	55,017,049	4,207,098.7	0.14
March	8,321	10,393	55,271,800	4,673,920.9	0.15
April	8,530	10,623	55,288,350	4,527,701.2	0.15
May	8,467	10,565	55,167,407	4,668,733.3	0.15
June	8,592	10,595	55,203,751	4,521,918.7	0.16
July	9,947	12,392	60,017,841	5,048,903.4	0.17
August	9,597	11,819	60,258,780	4,995,827.3	0.16
September	9,582	11,949	58,851,445	4,821,953.3	0.16
October	9,743	12,221	59,811,527	4,994,616.9	0.16
November	8,152	10,130	59,123,837	4,845,527.4	0.14
December	8,708	10,957	60,149,691	5,009,350.1	0.14
2015					
January	8,249	10,401	56,110,525	4,678,415.9	0.15
February	7,680	9,533	55,431,573	4,198,556.6	0.14
March	9,077	11,330	55,562,529	4,693,730.3	0.16
April	8,988	11,175	55,654,716	4,555,384.6	0.16
May	8,515	10,582	55,625,323	4,706,910.3	0.15
June	9,359	11,667	55,657,221	4,559,569.0	0.17
July	10,385	12,910	60,121,043	5,059,633.5	0.17
August	10,048	12,566	60,711,514	5,062,973.3	0.17
September	9,724	12,095	59,802,370	4,899,634.6	0.16
October	1	1	60,415,951	5,056,566.0	0.00
November	0	0	59,733,371	4,894,566.1	0.00
December	0	0	60,716,875	5,061,375.7	0.00
2016					
January	0	0	56,184,879	4,690,539.7	0.00
February	0	0	55,510,698	4,396,218.4	0.00
March	0	0	55,892,627	4,707,486.7	0.00
April	0	0	40,838,247	3,348,128.0	0.00
May	0	0	18,931,915	1,605,398.3	0.00
June	0	0	18,953,391	1,556,068.3	0.00
July	0	0	6,080,161	514,545.9	0.00
August	0	0	4,828,490	361,293.6	0.00
ICD-10-CM codes from an Algorithm, 0 day washout					
2010					
October	0	0	57,716,153	4,834,624.7	0.00
November	0	0	57,083,139	4,676,871.8	0.00
December	0	0	58,361,401	4,851,164.3	0.00
2011					
January	0	0	54,708,355	4,559,066.6	0.00
February	0	0	54,004,537	4,128,109.5	0.00
March	0	0	54,304,661	4,589,505.2	0.00
April	0	0	54,376,438	4,451,813.2	0.00
May	0	0	54,345,382	4,596,809.0	0.00
June	0	0	54,180,080	4,437,454.8	0.00
July	0	0	58,516,097	4,922,622.7	0.00
August	0	0	58,949,591	4,934,256.4	0.00
September	0	0	58,085,767	4,756,913.3	0.00
October	0	0	58,676,595	4,912,248.5	0.00
November	0	0	58,078,196	4,756,987.5	0.00
December	0	0	59,388,173	4,936,750.4	0.00
2012					
January	0	0	55,530,223	4,630,251.0	0.00
February	0	0	54,876,327	4,343,731.8	0.00
March	0	0	54,975,889	4,646,212.7	0.00
April	0	0	55,096,138	4,512,914.6	0.00
May	0	0	55,049,184	4,658,029.6	0.00
June	0	0	54,978,230	4,504,350.2	0.00
July	0	0	58,694,936	4,954,101.6	0.00
August	0	0	59,224,748	4,948,556.2	0.00
September	0	0	58,386,075	4,782,162.8	0.00
October	0	0	58,911,806	4,936,312.3	0.00
November	0	0	58,315,915	4,778,740.5	0.00
December	0	0	59,471,414	4,955,666.4	0.00



	Number of Incident			Number of Incident	
	Diagnoses	Number of Diagnoses	Eligible Members	Member- Years	Diagnoses / 1K Eligible Members
2013					
January	0	0	56,197,731	4,670,823.4	0.00
February	0	0	55,542,762	4,246,777.7	0.00
March	0	0	56,138,854	4,744,073.1	0.00
April	0	0	56,104,107	4,595,653.8	0.00
May	0	0	56,057,246	4,744,239.6	0.00
June	0	0	55,778,760	4,571,072.3	0.00
July	0	0	59,556,573	5,016,305.0	0.00
August	0	0	59,876,675	5,015,940.4	0.00
September	0	0	59,000,407	4,833,576.6	0.00
October	0	0	59,493,519	4,988,077.6	0.00
November	0	0	58,886,507	4,825,393.1	0.00
December	0	0	60,055,310	4,997,010.4	0.00
2014					
January	0	0	55,701,673	4,645,703.0	0.00
February	0	0	55,017,049	4,207,098.7	0.00
March	0	0	55,271,800	4,673,920.9	0.00
April	0	0	55,288,350	4,527,701.2	0.00
May	0	0	55,167,407	4,668,733.3	0.00
June	0	0	55,203,751	4,521,918.7	0.00
July	0	0	60,017,841	5,048,903.4	0.00
August	0	0	60,258,780	4,995,827.3	0.00
September	1	1	58,851,445	4,821,953.3	0.00
October	0	0	59,811,527	4,994,616.9	0.00
November	0	0	59,123,837	4,845,527.4	0.00
December	1	1	60,149,691	5,009,350.1	0.00
2015					
January	0	0	56,110,525	4,678,415.9	0.00
February	0	0	55,431,573	4,198,556.6	0.00
March	0	0	55,562,529	4,693,730.3	0.00
April	0	0	55,654,716	4,555,384.6	0.00
May	0	0	55,625,323	4,706,910.3	0.00
June	0	0	55,657,221	4,559,569.0	0.00
July	2	2	60,121,043	5,059,633.5	0.00
August	4	4	60,711,514	5,062,973.3	0.00
September	36	36	59,802,370	4,899,634.6	0.00
October	8,633	10,892	60,415,951	5,056,566.0	0.14
November	7,987	9,988	59,733,371	4,894,566.1	0.13
December	8,322	10,396	60,716,875	5,061,375.7	0.14
2016					
January	7,659	9,634	56,184,879	4,690,539.7	0.14
February	7,774	9,719	55,510,698	4,396,218.4	0.14
March	8,084	10,223	55,892,627	4,707,486.7	0.14
April	5,719	7,274	40,838,247	3,348,128.0	0.14
May	2,573	3,232	18,931,915	1,605,398.3	0.14
June	2,725	3,433	18,953,391	1,556,068.3	0.14
July	652	813	6,080,161	514,545.9	0.11
August	478	604	4,828,490	361,293.6	0.10
ICD-10-CM codes from SFM and FBM, 0 day washout					
2010					
October	0	0	57,716,153	4,834,624.7	0.00
November	0	0	57,083,139	4,676,871.8	0.00
December	0	0	58,361,401	4,851,164.3	0.00
2011					
January	0	0	54,708,355	4,559,066.6	0.00
February	0	0	54,004,537	4,128,109.5	0.00
March	0	0	54,304,661	4,589,505.2	0.00
April	0	0	54,376,438	4,451,813.2	0.00
May	0	0	54,345,382	4,596,809.0	0.00
June	0	0	54,180,080	4,437,454.8	0.00
July	0	0	58,516,097	4,922,622.7	0.00
August	0	0	58,949,591	4,934,256.4	0.00
September	0	0	58,085,767	4,756,913.3	0.00
October	0	0	58,676,595	4,912,248.5	0.00
November	0	0	58,078,196	4,756,987.5	0.00
December	0	0	59,388,173	4,936,750.4	0.00

	Number of Incident			Number of Incident	
	Diagnoses	Number of Diagnoses	Eligible Members	Member- Years	Diagnoses / 1K Eligible Members
2012					
January	0	0	55,530,223	4,630,251.0	0.00
February	0	0	54,876,327	4,343,731.8	0.00
March	0	0	54,975,889	4,646,212.7	0.00
April	0	0	55,096,138	4,512,914.6	0.00
May	0	0	55,049,184	4,658,029.6	0.00
June	0	0	54,978,230	4,504,350.2	0.00
July	0	0	58,694,936	4,954,101.6	0.00
August	0	0	59,224,748	4,948,556.2	0.00
September	0	0	58,386,075	4,782,162.8	0.00
October	0	0	58,911,806	4,936,312.3	0.00
November	0	0	58,315,915	4,778,740.5	0.00
December	0	0	59,471,414	4,955,666.4	0.00
2013					
January	0	0	56,197,731	4,670,823.4	0.00
February	0	0	55,542,762	4,246,777.7	0.00
March	0	0	56,138,854	4,744,073.1	0.00
April	0	0	56,104,107	4,595,653.8	0.00
May	0	0	56,057,246	4,744,239.6	0.00
June	0	0	55,778,760	4,571,072.3	0.00
July	0	0	59,556,573	5,016,305.0	0.00
August	0	0	59,876,675	5,015,940.4	0.00
September	0	0	59,000,407	4,833,576.6	0.00
October	0	0	59,493,519	4,988,077.6	0.00
November	0	0	58,886,507	4,825,393.1	0.00
December	0	0	60,055,310	4,997,010.4	0.00
2014					
January	0	0	55,701,673	4,645,703.0	0.00
February	0	0	55,017,049	4,207,098.7	0.00
March	0	0	55,271,800	4,673,920.9	0.00
April	0	0	55,288,350	4,527,701.2	0.00
May	0	0	55,167,407	4,668,733.3	0.00
June	0	0	55,203,751	4,521,918.7	0.00
July	0	0	60,017,841	5,048,903.4	0.00
August	0	0	60,258,780	4,995,827.3	0.00
September	1	1	58,851,445	4,821,953.3	0.00
October	0	0	59,811,527	4,994,616.9	0.00
November	0	0	59,123,837	4,845,527.4	0.00
December	1	1	60,149,691	5,009,350.1	0.00
2015					
January	0	0	56,110,525	4,678,415.9	0.00
February	0	0	55,431,573	4,198,556.6	0.00
March	0	0	55,562,529	4,693,730.3	0.00
April	0	0	55,654,716	4,555,384.6	0.00
May	0	0	55,625,323	4,706,910.3	0.00
June	0	0	55,657,221	4,559,569.0	0.00
July	2	2	60,121,043	5,059,633.5	0.00
August	4	4	60,711,514	5,062,973.3	0.00
September	35	35	59,802,370	4,899,634.6	0.00
October	6,702	8,197	60,415,951	5,056,566.0	0.11
November	6,149	7,487	59,733,371	4,894,566.1	0.10
December	6,400	7,780	60,716,875	5,061,375.7	0.11
2016					
January	5,858	7,146	56,184,879	4,690,539.7	0.10
February	5,873	7,081	55,510,698	4,396,218.4	0.11
March	6,077	7,451	55,892,627	4,707,486.7	0.11
April	4,369	5,396	40,838,247	3,348,128.0	0.11
May	1,932	2,337	18,931,915	1,605,398.3	0.10
June	2,021	2,461	18,953,391	1,556,068.3	0.11
July	474	532	6,080,161	514,545.9	0.08
August	349	384	4,828,490	361,293.6	0.07

	Number of Incident Diagnoses	Number of Diagnoses	Eligible Members	Member- Years	Number of Incident Diagnoses / 1K Eligible Members
2015					
ICD-9-CM codes from an Algorithm, SFM, and FBM, 90 day washout					
2015					
January	6,441	6,441	56,095,747	4,676,642.1	0.11
February	5,949	5,949	55,416,270	4,196,968.3	0.11
March	7,096	7,096	55,547,343	4,691,920.8	0.13
2016					
ICD-10-CM codes from an Algorithm, 90 day washout					
2016					
January	4,878	4,878	56,170,625	4,688,853.9	0.09
February	4,816	4,816	55,496,359	4,394,653.6	0.09
March	5,025	5,025	55,878,229	4,705,785.9	0.09
ICD-10-CM codes from SFM and FBM, 90 day washout					
2016					
January	4,969	4,969	56,173,655	4,689,186.9	0.09
February	4,918	4,918	55,499,410	4,394,968.2	0.09
March	5,133	5,133	55,881,375	4,706,130.4	0.09

Figures 1a-1d. Number of Incident Diagnoses per 1,000 Eligible Members of Angioedema by Monitoring Period, Code Type, Code Source, and Washout Period

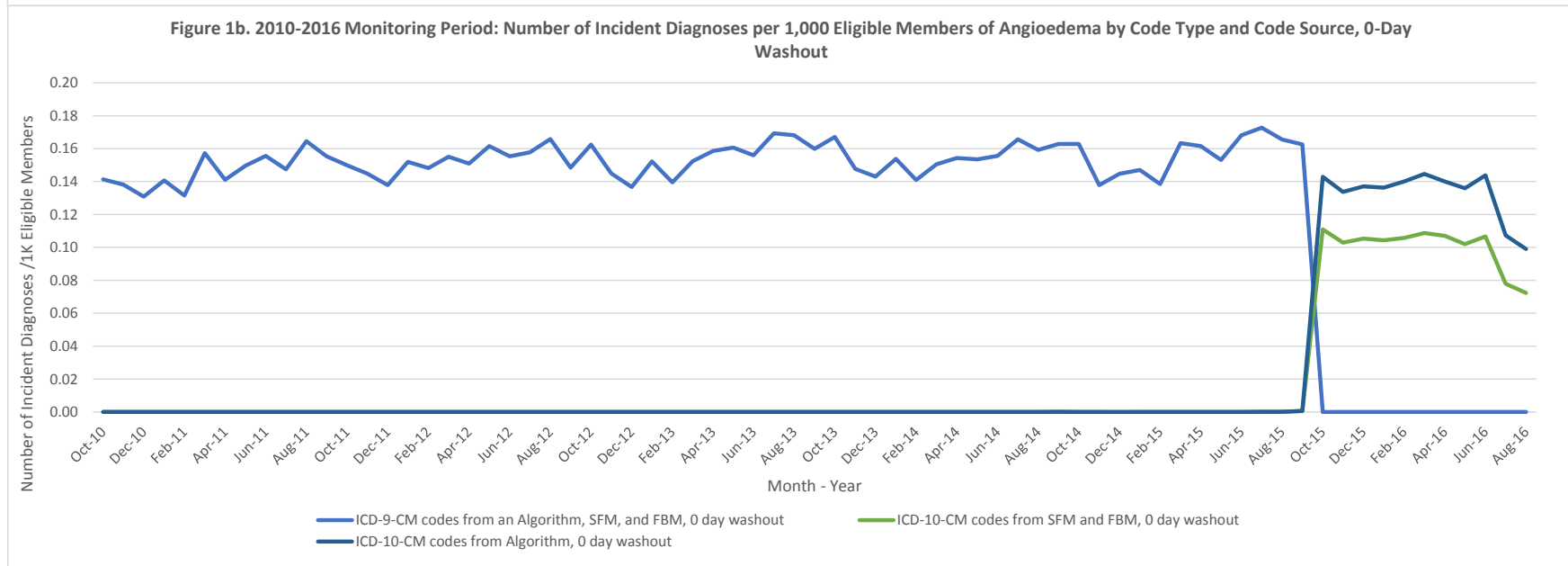
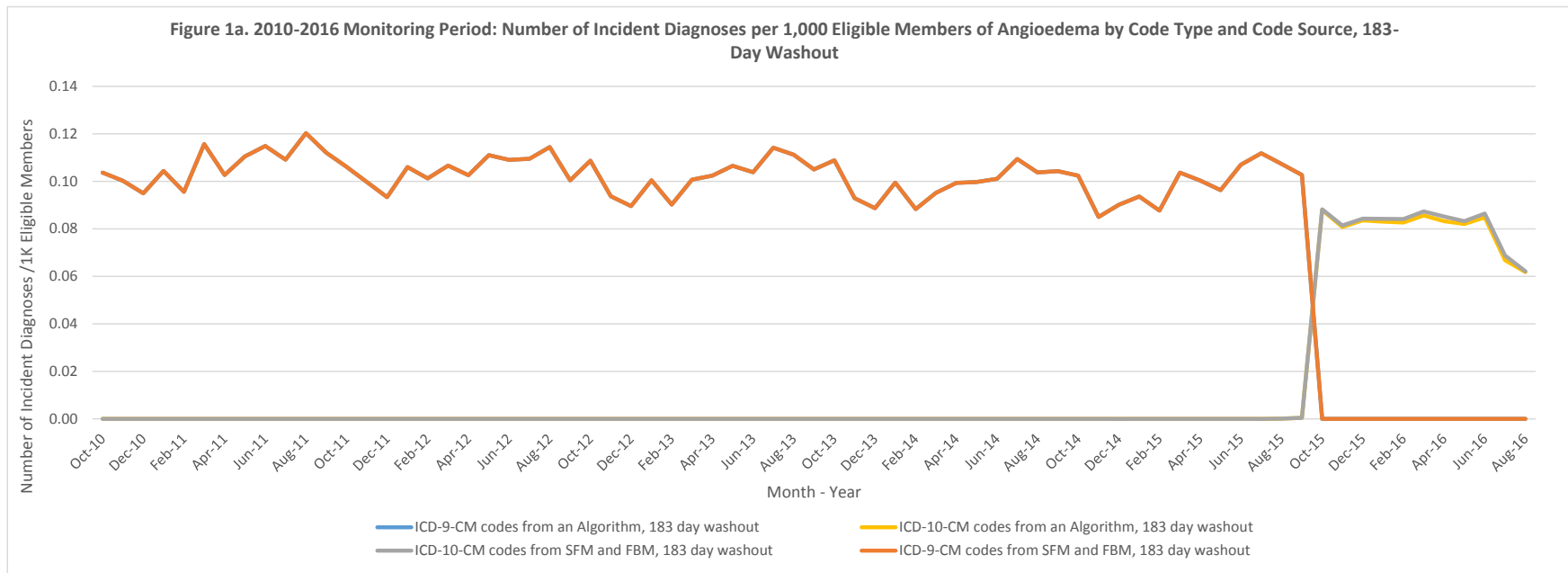


Figure 1c. 2015 Monitoring Period: Number of Incident Diagnoses per 1,000 Eligible Members of Angioedema by Code Type and Code Source, 90-Day Washout

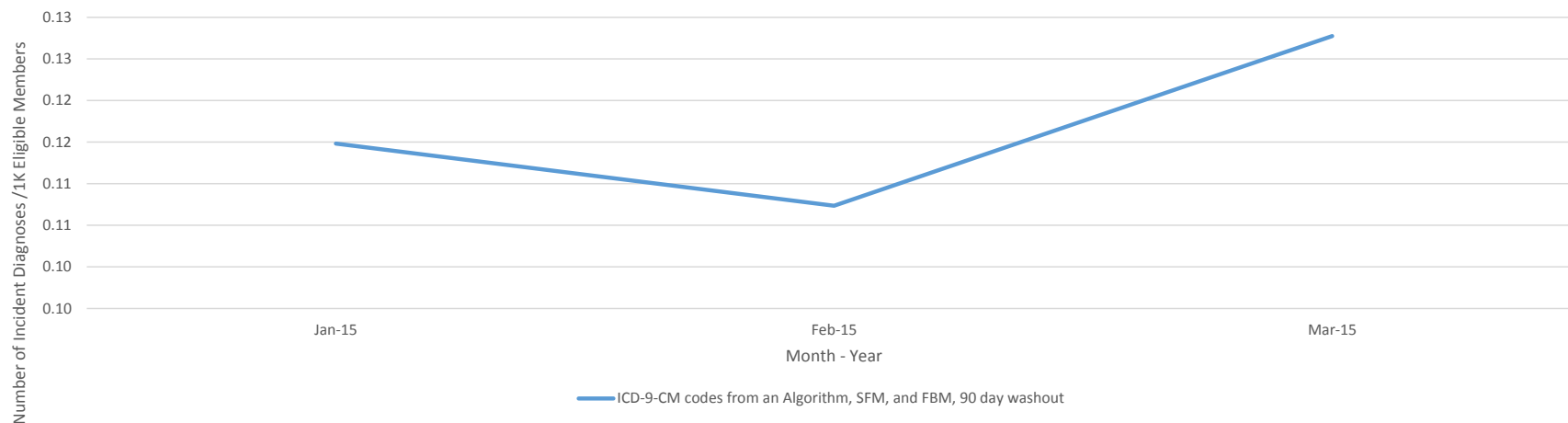


Figure 1d. 2016 Monitoring Period: Number of Incident Diagnoses per 1,000 Eligible Members of Angioedema by Code Type and Code Source, 90-Day Washout

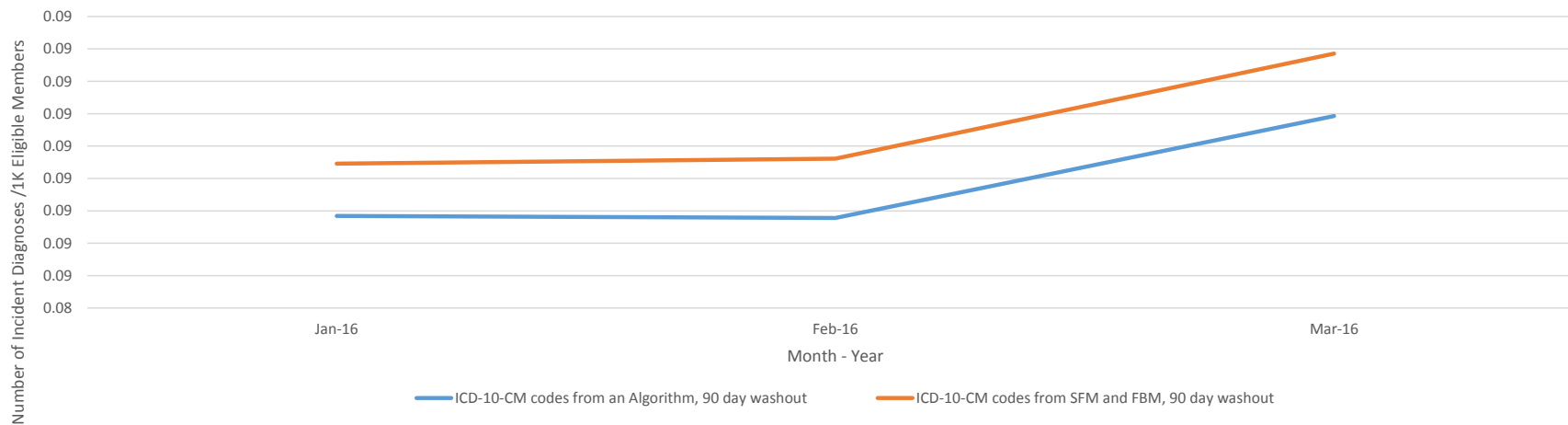


Table 2a. Summary of Incident Acute Myocardial Infarction (AMI) Diagnoses using International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) versus International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) codes for a combination of washouts and code sources: Algorithm, Simple Forward Mapping (SFM), and Forward Backward Mapping (FBM), by Monitoring Period

2010-2016					
	Number of Incident Diagnoses	Number of Diagnoses	Eligible Members	Member- Years	Number of Incident Diagnoses / 1K Eligible Members
ICD-9-CM codes from an Algorithm, 183 day washout	316,051	316,051	131,325,405	318,795,897.7	2.41
ICD-9-CM codes from SFM, 183 day washout	316,051	316,051	131,325,474	318,796,222.5	2.41
ICD-9-CM codes from FBM, 183 day washout	316,051	316,051	131,325,352	318,795,465.5	2.41
ICD-10-CM codes from an Algorithm, 183 day washout	42,534	42,534	131,325,405	319,226,329.9	0.32
ICD-10-CM codes from SFM, 183 day washout	41,577	41,577	131,325,474	319,226,776.8	0.32
ICD-10-CM codes from FBM, 183 day washout	42,555	42,555	131,325,352	319,225,809.2	0.32
ICD-9-CM codes from an Algorithm, SFM, and FBM, 0 day washout	946,494	3,222,163	131,346,603	319,813,419.4	7.21
ICD-10-CM codes from an Algorithm, 0 day washout	160,535	456,270	131,346,603	319,813,419.4	1.22
ICD-10-CM codes from SFM, 0 day washout	158,935	444,728	131,346,603	319,813,419.4	1.21
ICD-10-CM codes from FBM, 0 day washout	162,390	465,834	131,346,603	319,813,419.4	1.24
2015					
ICD-9-CM codes from an Algorithm, SFM, and FBM, 90 day washout	16,629	16,629	57,668,750	13,555,553.0	0.29
2016					
ICD-10-CM codes from an Algorithm, 90 day washout	16,780	16,780	57,453,227	13,778,047.6	0.29
ICD-10-CM codes from SFM, 90 day washout	16,391	16,391	57,453,627	13,778,265.0	0.29
ICD-10-CM codes from FBM, 90 day washout	16,781	16,781	57,452,861	13,777,818.2	0.29

Table 2b. Summary of Incident Acute Myocardial Infarction (AMI) Diagnoses using International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) versus International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) codes for a combination of washouts and code sources: Algorithm, Simple Forward Mapping (SFM), and Forward Backward Mapping (FBM), by Monitoring Period and Year/Month

2010-2016					
ICD-9-CM codes from an Algorithm, 183 day washout	Number of Incident		Eligible Members	Member- Years	Number of Incident
	Diagnoses	Number of Diagnoses			Diagnoses / 1K Eligible
					Members
2010					
October	5,378	5,378	57,637,020	4,826,760.8	0.09
November	5,484	5,484	57,003,911	4,669,258.9	0.10
December	5,841	5,841	58,280,860	4,843,216.9	0.10
2011					
January	5,456	5,456	54,631,745	4,551,510.3	0.10
February	5,077	5,077	53,926,435	4,121,199.0	0.09
March	5,316	5,316	54,226,377	4,581,740.9	0.10
April	5,197	5,197	54,294,646	4,444,162.5	0.10
May	5,227	5,227	54,259,919	4,588,625.5	0.10
June	4,929	4,929	54,090,926	4,429,262.5	0.09
July	5,148	5,148	58,417,534	4,913,295.2	0.09
August	5,325	5,325	58,848,133	4,924,658.9	0.09
September	5,242	5,242	57,982,036	4,747,419.9	0.09
October	5,430	5,430	58,568,877	4,902,132.7	0.09
November	5,304	5,304	57,966,634	4,746,871.6	0.09
December	5,761	5,761	59,271,880	4,925,908.7	0.10
2012					
January	5,429	5,429	55,416,516	4,619,690.9	0.10
February	5,020	5,020	54,758,364	4,333,517.2	0.09
March	5,471	5,471	54,854,620	4,634,922.2	0.10
April	5,121	5,121	54,970,452	4,501,687.4	0.09
May	5,183	5,183	54,919,845	4,646,106.6	0.09
June	4,844	4,844	54,844,812	4,492,523.5	0.09
July	5,332	5,332	58,553,364	4,941,100.3	0.09
August	5,435	5,435	59,080,145	4,935,282.7	0.09
September	5,301	5,301	58,238,844	4,769,075.8	0.09
October	5,651	5,651	58,760,635	4,922,468.6	0.10
November	5,542	5,542	58,160,828	4,765,011.5	0.10
December	6,025	6,025	59,311,135	4,941,066.2	0.10
2013					
January	5,470	5,470	56,043,500	4,656,768.5	0.10
February	4,905	4,905	55,384,056	4,233,800.7	0.09
March	5,414	5,414	55,977,249	4,729,352.0	0.10
April	5,016	5,016	55,938,825	4,581,143.0	0.09
May	5,099	5,099	55,888,655	4,728,964.1	0.09
June	4,900	4,900	55,607,178	4,556,083.9	0.09
July	5,362	5,362	59,376,402	5,000,012.4	0.09
August	5,388	5,388	59,693,583	4,999,401.4	0.09
September	5,169	5,169	58,815,258	4,817,390.6	0.09
October	5,373	5,373	59,305,566	4,971,107.8	0.09
November	5,243	5,243	58,695,310	4,808,677.3	0.09
December	5,770	5,770	59,859,624	4,979,408.8	0.10
2014					
January	5,234	5,234	55,516,268	4,629,025.8	0.09
February	4,780	4,780	54,828,265	4,191,819.6	0.09
March	5,138	5,138	55,080,487	4,656,697.4	0.09
April	5,049	5,049	55,093,993	4,510,804.8	0.09
May	5,078	5,078	54,970,316	4,651,023.3	0.09
June	4,712	4,712	55,003,069	4,504,531.1	0.09
July	5,317	5,317	59,806,314	5,029,951.8	0.09
August	5,186	5,186	60,045,112	4,976,795.5	0.09
September	5,055	5,055	58,637,783	4,803,382.4	0.09
October	5,306	5,306	59,594,987	4,975,222.4	0.09
November	5,502	5,502	58,905,148	4,826,534.8	0.09
December	5,936	5,936	59,927,521	4,989,421.8	0.10

	Number of Incident Diagnoses	Number of Diagnoses	Eligible Members	Member- Years	Number of Incident Diagnoses / 1K Eligible Members
2015					
January	5,475	5,475	55,900,101	4,659,572.4	0.10
February	4,868	4,868	55,217,459	4,181,450.3	0.09
March	5,277	5,277	55,347,650	4,674,490.1	0.10
April	5,125	5,125	55,436,368	4,536,519.8	0.09
May	5,205	5,205	55,404,031	4,687,140.9	0.09
June	4,838	4,838	55,433,412	4,540,254.5	0.09
July	5,357	5,357	59,887,229	5,038,734.9	0.09
August	5,444	5,444	60,474,329	5,041,864.8	0.09
September	4,591	4,591	59,564,016	4,879,005.2	0.08
October	0	0	60,174,883	5,035,014.8	0.00
November	0	0	59,489,424	4,873,457.0	0.00
December	0	0	60,468,745	5,039,262.4	0.00
2016					
January	0	0	55,949,997	4,669,612.3	0.00
February	0	0	55,273,058	4,376,424.8	0.00
March	0	0	55,652,590	4,686,091.2	0.00
April	0	0	40,635,820	3,330,606.8	0.00
May	0	0	18,859,400	1,598,914.9	0.00
June	0	0	18,881,077	1,549,814.2	0.00
July	0	0	6,054,433	512,263.0	0.00
August	0	0	4,807,845	359,605.0	0.00
ICD-9-CM codes from SFM, 183 day washout					
2010					
October	5,378	5,378	57,637,020	4,826,760.8	0.09
November	5,484	5,484	57,003,911	4,669,258.9	0.10
December	5,841	5,841	58,280,860	4,843,216.9	0.10
2011					
January	5,456	5,456	54,631,745	4,551,510.3	0.10
February	5,077	5,077	53,926,435	4,121,199.0	0.09
March	5,316	5,316	54,226,377	4,581,740.9	0.10
April	5,197	5,197	54,294,646	4,444,162.5	0.10
May	5,227	5,227	54,259,919	4,588,625.5	0.10
June	4,929	4,929	54,090,926	4,429,262.5	0.09
July	5,148	5,148	58,417,534	4,913,295.2	0.09
August	5,325	5,325	58,848,133	4,924,658.9	0.09
September	5,242	5,242	57,982,036	4,747,419.9	0.09
October	5,430	5,430	58,568,877	4,902,132.7	0.09
November	5,304	5,304	57,966,634	4,746,871.6	0.09
December	5,761	5,761	59,271,880	4,925,908.7	0.10
2012					
January	5,429	5,429	55,416,516	4,619,690.9	0.10
February	5,020	5,020	54,758,364	4,333,517.2	0.09
March	5,471	5,471	54,854,620	4,634,922.2	0.10
April	5,121	5,121	54,970,452	4,501,687.4	0.09
May	5,183	5,183	54,919,845	4,646,106.6	0.09
June	4,844	4,844	54,844,812	4,492,523.5	0.09
July	5,332	5,332	58,553,364	4,941,100.3	0.09
August	5,435	5,435	59,080,145	4,935,282.7	0.09
September	5,301	5,301	58,238,844	4,769,075.8	0.09
October	5,651	5,651	58,760,635	4,922,468.6	0.10
November	5,542	5,542	58,160,828	4,765,011.5	0.10
December	6,025	6,025	59,311,135	4,941,066.2	0.10
2013					
January	5,470	5,470	56,043,500	4,656,768.5	0.10
February	4,905	4,905	55,384,056	4,233,800.7	0.09
March	5,414	5,414	55,977,249	4,729,352.0	0.10
April	5,016	5,016	55,938,825	4,581,143.0	0.09
May	5,099	5,099	55,888,655	4,728,964.1	0.09
June	4,900	4,900	55,607,178	4,556,083.9	0.09
July	5,362	5,362	59,376,402	5,000,012.4	0.09
August	5,388	5,388	59,693,583	4,999,401.4	0.09
September	5,169	5,169	58,815,258	4,817,390.6	0.09
October	5,373	5,373	59,305,566	4,971,107.8	0.09
November	5,243	5,243	58,695,310	4,808,677.3	0.09
December	5,770	5,770	59,859,624	4,979,408.8	0.10

	Number of Incident Diagnoses	Number of Diagnoses	Eligible Members	Member- Years	Number of Incident Diagnoses / 1K Eligible Members
2014					
January	5,234	5,234	55,516,268	4,629,025.8	0.09
February	4,780	4,780	54,828,265	4,191,819.6	0.09
March	5,138	5,138	55,080,487	4,656,697.4	0.09
April	5,049	5,049	55,093,993	4,510,804.8	0.09
May	5,078	5,078	54,970,316	4,651,023.3	0.09
June	4,712	4,712	55,003,069	4,504,531.1	0.09
July	5,317	5,317	59,806,314	5,029,951.8	0.09
August	5,186	5,186	60,045,112	4,976,795.5	0.09
September	5,055	5,055	58,637,783	4,803,382.4	0.09
October	5,306	5,306	59,594,987	4,975,222.4	0.09
November	5,502	5,502	58,905,148	4,826,534.8	0.09
December	5,936	5,936	59,927,521	4,989,421.8	0.10
2015					
January	5,475	5,475	55,900,101	4,659,572.4	0.10
February	4,868	4,868	55,217,459	4,181,450.3	0.09
March	5,277	5,277	55,347,650	4,674,490.1	0.10
April	5,125	5,125	55,436,369	4,536,519.8	0.09
May	5,205	5,205	55,404,032	4,687,140.9	0.09
June	4,838	4,838	55,433,413	4,540,254.6	0.09
July	5,357	5,357	59,887,230	5,038,735.0	0.09
August	5,444	5,444	60,474,331	5,041,864.9	0.09
September	4,591	4,591	59,564,017	4,879,005.4	0.08
October	0	0	60,174,890	5,035,021.8	0.00
November	0	0	59,489,590	4,873,475.4	0.00
December	0	0	60,469,043	5,039,293.9	0.00
2016					
January	0	0	55,950,421	4,669,652.5	0.00
February	0	0	55,273,638	4,376,474.0	0.00
March	0	0	55,653,333	4,686,156.7	0.00
April	0	0	40,636,510	3,330,666.9	0.00
May	0	0	18,859,661	1,598,938.2	0.00
June	0	0	18,881,356	1,549,838.7	0.00
July	0	0	6,054,463	512,265.7	0.00
August	0	0	4,807,867	359,606.8	0.00
ICD-9-CM codes from FBM, 183 day washout					
2010					
October	5,378	5,378	57,637,020	4,826,760.8	0.09
November	5,484	5,484	57,003,911	4,669,258.9	0.10
December	5,841	5,841	58,280,860	4,843,216.9	0.10
2011					
January	5,456	5,456	54,631,745	4,551,510.3	0.10
February	5,077	5,077	53,926,435	4,121,199.0	0.09
March	5,316	5,316	54,226,377	4,581,740.9	0.10
April	5,197	5,197	54,294,646	4,444,162.5	0.10
May	5,227	5,227	54,259,919	4,588,625.5	0.10
June	4,929	4,929	54,090,926	4,429,262.5	0.09
July	5,148	5,148	58,417,534	4,913,295.2	0.09
August	5,325	5,325	58,848,133	4,924,658.9	0.09
September	5,242	5,242	57,982,036	4,747,419.9	0.09
October	5,430	5,430	58,568,877	4,902,132.7	0.09
November	5,304	5,304	57,966,634	4,746,871.6	0.09
December	5,761	5,761	59,271,880	4,925,908.7	0.10
2012					
January	5,429	5,429	55,416,516	4,619,690.9	0.10
February	5,020	5,020	54,758,364	4,333,517.2	0.09
March	5,471	5,471	54,854,620	4,634,922.2	0.10
April	5,121	5,121	54,970,452	4,501,687.4	0.09
May	5,183	5,183	54,919,845	4,646,106.6	0.09
June	4,844	4,844	54,844,812	4,492,523.5	0.09
July	5,332	5,332	58,553,364	4,941,100.3	0.09
August	5,435	5,435	59,080,145	4,935,282.7	0.09
September	5,301	5,301	58,238,844	4,769,075.8	0.09
October	5,651	5,651	58,760,635	4,922,468.6	0.10
November	5,542	5,542	58,160,828	4,765,011.5	0.10
December	6,025	6,025	59,311,135	4,941,066.2	0.10

	Number of Incident Diagnoses	Number of Diagnoses	Eligible Members	Member- Years	Number of Incident Diagnoses / 1K Eligible Members
2013					
January	5,470	5,470	56,043,500	4,656,768.5	0.10
February	4,905	4,905	55,384,056	4,233,800.7	0.09
March	5,414	5,414	55,977,249	4,729,352.0	0.10
April	5,016	5,016	55,938,825	4,581,143.0	0.09
May	5,099	5,099	55,888,655	4,728,964.1	0.09
June	4,900	4,900	55,607,178	4,556,083.9	0.09
July	5,362	5,362	59,376,402	5,000,012.4	0.09
August	5,388	5,388	59,693,583	4,999,401.4	0.09
September	5,169	5,169	58,815,258	4,817,390.6	0.09
October	5,373	5,373	59,305,566	4,971,107.8	0.09
November	5,243	5,243	58,695,310	4,808,677.3	0.09
December	5,770	5,770	59,859,624	4,979,408.8	0.10
2014					
January	5,234	5,234	55,516,268	4,629,025.8	0.09
February	4,780	4,780	54,828,265	4,191,819.6	0.09
March	5,138	5,138	55,080,487	4,656,697.4	0.09
April	5,049	5,049	55,093,993	4,510,804.8	0.09
May	5,078	5,078	54,970,316	4,651,023.3	0.09
June	4,712	4,712	55,003,069	4,504,531.1	0.09
July	5,317	5,317	59,806,314	5,029,951.8	0.09
August	5,186	5,186	60,045,112	4,976,795.5	0.09
September	5,055	5,055	58,637,783	4,803,382.4	0.09
October	5,306	5,306	59,594,987	4,975,222.4	0.09
November	5,502	5,502	58,905,148	4,826,534.8	0.09
December	5,936	5,936	59,927,521	4,989,421.8	0.10
2015					
January	5,475	5,475	55,900,101	4,659,572.4	0.10
February	4,868	4,868	55,217,459	4,181,450.3	0.09
March	5,277	5,277	55,347,650	4,674,490.1	0.10
April	5,125	5,125	55,436,368	4,536,519.8	0.09
May	5,205	5,205	55,404,030	4,687,140.8	0.09
June	4,838	4,838	55,433,411	4,540,254.4	0.09
July	5,357	5,357	59,887,228	5,038,734.8	0.09
August	5,444	5,444	60,474,328	5,041,864.8	0.09
September	4,591	4,591	59,564,015	4,879,005.0	0.08
October	0	0	60,174,874	5,035,003.4	0.00
November	0	0	59,489,164	4,873,428.7	0.00
December	0	0	60,468,291	5,039,217.1	0.00
2016					
January	0	0	55,949,387	4,669,555.1	0.00
February	0	0	55,272,280	4,376,357.8	0.00
March	0	0	55,651,614	4,686,005.6	0.00
April	0	0	40,634,945	3,330,526.3	0.00
May	0	0	18,859,119	1,598,889.8	0.00
June	0	0	18,880,783	1,549,787.3	0.00
July	0	0	6,054,404	512,260.1	0.00
August	0	0	4,807,827	359,603.6	0.00
ICD-10-CM codes from an Algorithm, 183 day washout					
2010					
October	0	0	57,637,020	4,826,760.8	0.00
November	0	0	57,003,911	4,669,258.9	0.00
December	0	0	58,280,860	4,843,216.9	0.00
2011					
January	0	0	54,631,745	4,551,510.3	0.00
February	0	0	53,926,435	4,121,199.0	0.00
March	0	0	54,226,377	4,581,740.9	0.00
April	0	0	54,297,175	4,444,256.0	0.00
May	0	0	54,265,739	4,588,981.3	0.00
June	0	0	54,100,437	4,429,894.3	0.00
July	0	0	58,430,834	4,914,250.7	0.00
August	0	0	58,865,329	4,925,935.4	0.00
September	0	0	58,002,932	4,748,965.0	0.00
October	0	0	58,593,541	4,904,035.3	0.00
November	0	0	57,994,837	4,749,012.6	0.00
December	0	0	59,303,815	4,928,427.0	0.00

	Number of Incident Diagnoses	Number of Diagnoses	Eligible Members	Member- Years	Number of Incident Diagnoses / 1K Eligible Members
2012					
January	0	0	55,449,861	4,622,335.1	0.00
February	0	0	54,794,715	4,336,242.8	0.00
March	0	0	54,894,322	4,638,095.7	0.00
April	0	0	55,013,318	4,505,025.6	0.00
May	0	0	54,966,125	4,649,833.8	0.00
June	0	0	54,894,540	4,496,409.4	0.00
July	0	0	58,606,289	4,945,380.4	0.00
August	0	0	59,136,642	4,939,853.9	0.00
September	0	0	58,298,758	4,773,782.7	0.00
October	0	0	58,823,834	4,927,605.9	0.00
November	0	0	58,227,039	4,770,240.0	0.00
December	0	0	59,380,685	4,946,737.6	0.00
2013					
January	0	0	56,111,806	4,662,338.8	0.00
February	0	0	55,454,868	4,239,043.7	0.00
March	0	0	56,051,330	4,735,405.3	0.00
April	0	0	56,015,707	4,587,239.4	0.00
May	0	0	55,968,736	4,735,521.0	0.00
June	0	0	55,690,307	4,562,685.5	0.00
July	0	0	59,462,671	5,007,089.6	0.00
August	0	0	59,783,228	5,006,758.3	0.00
September	0	0	58,907,881	4,824,765.7	0.00
October	0	0	59,401,367	4,978,978.5	0.00
November	0	0	58,793,919	4,816,535.5	0.00
December	0	0	59,961,167	4,987,764.6	0.00
2014					
January	0	0	55,613,444	4,637,015.8	0.00
February	0	0	54,927,336	4,199,211.1	0.00
March	0	0	55,182,050	4,665,070.2	0.00
April	0	0	55,197,851	4,519,096.1	0.00
May	0	0	55,076,798	4,659,802.3	0.00
June	0	0	55,112,117	4,513,251.3	0.00
July	0	0	59,918,351	5,039,200.6	0.00
August	0	0	60,159,895	4,986,216.5	0.00
September	0	0	58,754,461	4,812,726.2	0.00
October	0	0	59,714,788	4,985,099.7	0.00
November	0	0	59,027,287	4,836,315.9	0.00
December	0	0	60,052,109	4,999,717.9	0.00
2015					
January	0	0	56,019,193	4,669,410.9	0.00
February	1	1	55,338,070	4,190,367.2	0.00
March	0	0	55,468,908	4,684,520.4	0.00
April	0	0	55,559,905	4,546,409.6	0.00
May	0	0	55,530,031	4,697,558.3	0.00
June	1	1	55,561,654	4,550,531.7	0.00
July	1	1	60,018,811	5,049,609.4	0.00
August	9	9	60,608,740	5,052,975.4	0.00
September	536	536	59,701,044	4,889,992.3	0.01
October	5,841	5,841	60,315,136	5,046,596.9	0.10
November	5,765	5,765	59,631,791	4,884,865.6	0.10
December	5,976	5,976	60,613,451	5,051,237.3	0.10
2016					
January	5,729	5,729	56,088,098	4,681,031.6	0.10
February	5,245	5,245	55,412,725	4,387,263.1	0.09
March	5,491	5,491	55,794,222	4,697,806.7	0.10
April	4,401	4,401	40,753,141	3,340,183.1	0.11
May	1,533	1,533	18,901,963	1,602,519.4	0.08
June	1,326	1,326	18,922,457	1,553,214.7	0.07
July	419	419	6,071,412	513,710.5	0.07
August	260	260	4,821,274	360,688.7	0.05

ICD-10-CM codes from SFM, 183 day washout	Number of Incident		Eligible Members	Member- Years	Number of Incident
	Diagnoses	Number of Diagnoses			Diagnoses / 1K Eligible Members
2010					
October	0	0	57,637,020	4,826,760.8	0.00
November	0	0	57,003,911	4,669,258.9	0.00
December	0	0	58,280,860	4,843,216.9	0.00
2011					
January	0	0	54,631,745	4,551,510.3	0.00
February	0	0	53,926,435	4,121,199.0	0.00
March	0	0	54,226,377	4,581,740.9	0.00
April	0	0	54,297,175	4,444,256.0	0.00
May	0	0	54,265,739	4,588,981.3	0.00
June	0	0	54,100,437	4,429,894.3	0.00
July	0	0	58,430,834	4,914,250.7	0.00
August	0	0	58,865,329	4,925,935.4	0.00
September	0	0	58,002,932	4,748,965.0	0.00
October	0	0	58,593,541	4,904,035.3	0.00
November	0	0	57,994,837	4,749,012.6	0.00
December	0	0	59,303,815	4,928,427.0	0.00
2012					
January	0	0	55,449,861	4,622,335.1	0.00
February	0	0	54,794,715	4,336,242.8	0.00
March	0	0	54,894,322	4,638,095.7	0.00
April	0	0	55,013,318	4,505,025.6	0.00
May	0	0	54,966,125	4,649,833.8	0.00
June	0	0	54,894,540	4,496,409.4	0.00
July	0	0	58,606,289	4,945,380.4	0.00
August	0	0	59,136,642	4,939,853.9	0.00
September	0	0	58,298,758	4,773,782.7	0.00
October	0	0	58,823,834	4,927,605.9	0.00
November	0	0	58,227,039	4,770,240.0	0.00
December	0	0	59,380,685	4,946,737.6	0.00
2013					
January	0	0	56,111,806	4,662,338.8	0.00
February	0	0	55,454,868	4,239,043.7	0.00
March	0	0	56,051,330	4,735,405.3	0.00
April	0	0	56,015,707	4,587,239.4	0.00
May	0	0	55,968,736	4,735,521.0	0.00
June	0	0	55,690,307	4,562,685.5	0.00
July	0	0	59,462,671	5,007,089.6	0.00
August	0	0	59,783,228	5,006,758.3	0.00
September	0	0	58,907,881	4,824,765.7	0.00
October	0	0	59,401,367	4,978,978.5	0.00
November	0	0	58,793,919	4,816,535.5	0.00
December	0	0	59,961,167	4,987,764.6	0.00
2014					
January	0	0	55,613,444	4,637,015.8	0.00
February	0	0	54,927,336	4,199,211.1	0.00
March	0	0	55,182,050	4,665,070.2	0.00
April	0	0	55,197,851	4,519,096.1	0.00
May	0	0	55,076,798	4,659,802.3	0.00
June	0	0	55,112,117	4,513,251.3	0.00
July	0	0	59,918,351	5,039,200.6	0.00
August	0	0	60,159,895	4,986,216.5	0.00
September	0	0	58,754,461	4,812,726.2	0.00
October	0	0	59,714,788	4,985,099.7	0.00
November	0	0	59,027,287	4,836,315.9	0.00
December	0	0	60,052,109	4,999,717.9	0.00

	Number of Incident Diagnoses	Number of Diagnoses	Eligible Members	Member- Years	Number of Incident Diagnoses / 1K Eligible Members
2015					
January	0	0	56,019,193	4,669,410.9	0.00
February	1	1	55,338,070	4,190,367.2	0.00
March	0	0	55,468,908	4,684,520.4	0.00
April	0	0	55,559,906	4,546,409.7	0.00
May	0	0	55,530,032	4,697,558.4	0.00
June	1	1	55,561,655	4,550,531.8	0.00
July	1	1	60,018,812	5,049,609.5	0.00
August	9	9	60,608,742	5,052,975.6	0.00
September	529	529	59,701,045	4,889,992.5	0.01
October	5,701	5,701	60,315,150	5,046,605.6	0.09
November	5,638	5,638	59,632,010	4,884,889.9	0.09
December	5,859	5,859	60,613,867	5,051,279.5	0.10
2016					
January	5,583	5,583	56,088,701	4,681,086.6	0.10
February	5,137	5,137	55,413,558	4,387,331.4	0.09
March	5,358	5,358	55,795,330	4,697,900.1	0.10
April	4,309	4,309	40,754,088	3,340,267.4	0.11
May	1,497	1,497	18,902,296	1,602,549.7	0.08
June	1,293	1,293	18,922,805	1,553,245.8	0.07
July	409	409	6,071,474	513,715.4	0.07
August	252	252	4,821,325	360,692.6	0.05
ICD-10-CM codes from FBM, 183 day washout					
2010					
October	0	0	57,637,020	4,826,760.8	0.00
November	0	0	57,003,911	4,669,258.9	0.00
December	0	0	58,280,860	4,843,216.9	0.00
2011					
January	0	0	54,631,745	4,551,510.3	0.00
February	0	0	53,926,435	4,121,199.0	0.00
March	0	0	54,226,377	4,581,740.9	0.00
April	0	0	54,297,175	4,444,256.0	0.00
May	0	0	54,265,739	4,588,981.3	0.00
June	0	0	54,100,437	4,429,894.3	0.00
July	0	0	58,430,834	4,914,250.7	0.00
August	0	0	58,865,329	4,925,935.4	0.00
September	0	0	58,002,932	4,748,965.0	0.00
October	0	0	58,593,541	4,904,035.3	0.00
November	0	0	57,994,837	4,749,012.6	0.00
December	0	0	59,303,815	4,928,427.0	0.00
2012					
January	0	0	55,449,861	4,622,335.1	0.00
February	0	0	54,794,715	4,336,242.8	0.00
March	0	0	54,894,322	4,638,095.7	0.00
April	0	0	55,013,318	4,505,025.6	0.00
May	0	0	54,966,125	4,649,833.8	0.00
June	0	0	54,894,540	4,496,409.4	0.00
July	0	0	58,606,289	4,945,380.4	0.00
August	0	0	59,136,642	4,939,853.9	0.00
September	0	0	58,298,758	4,773,782.7	0.00
October	0	0	58,823,834	4,927,605.9	0.00
November	0	0	58,227,039	4,770,240.0	0.00
December	0	0	59,380,685	4,946,737.6	0.00
2013					
January	0	0	56,111,806	4,662,338.8	0.00
February	0	0	55,454,868	4,239,043.7	0.00
March	0	0	56,051,330	4,735,405.3	0.00
April	0	0	56,015,707	4,587,239.4	0.00
May	0	0	55,968,736	4,735,521.0	0.00
June	0	0	55,690,307	4,562,685.5	0.00
July	0	0	59,462,671	5,007,089.6	0.00
August	0	0	59,783,228	5,006,758.3	0.00
September	0	0	58,907,881	4,824,765.7	0.00
October	0	0	59,401,367	4,978,978.5	0.00
November	0	0	58,793,919	4,816,535.5	0.00
December	0	0	59,961,167	4,987,764.6	0.00

	Number of Incident Diagnoses	Number of Diagnoses	Eligible Members	Member- Years	Number of Incident Diagnoses / 1K Eligible Members
2014					
January	0	0	55,613,444	4,637,015.8	0.00
February	0	0	54,927,336	4,199,211.1	0.00
March	0	0	55,182,050	4,665,070.2	0.00
April	0	0	55,197,851	4,519,096.1	0.00
May	0	0	55,076,798	4,659,802.3	0.00
June	0	0	55,112,117	4,513,251.3	0.00
July	0	0	59,918,351	5,039,200.6	0.00
August	0	0	60,159,895	4,986,216.5	0.00
September	0	0	58,754,461	4,812,726.2	0.00
October	0	0	59,714,788	4,985,099.7	0.00
November	0	0	59,027,287	4,836,315.9	0.00
December	0	0	60,052,109	4,999,717.9	0.00
2015					
January	0	0	56,019,193	4,669,410.9	0.00
February	1	1	55,338,070	4,190,367.2	0.00
March	0	0	55,468,908	4,684,520.4	0.00
April	0	0	55,559,905	4,546,409.6	0.00
May	0	0	55,530,030	4,697,558.2	0.00
June	1	1	55,561,653	4,550,531.6	0.00
July	1	1	60,018,810	5,049,609.3	0.00
August	9	9	60,608,739	5,052,975.4	0.00
September	538	538	59,701,043	4,889,992.1	0.01
October	5,846	5,846	60,315,122	5,046,583.7	0.10
November	5,771	5,771	59,631,478	4,884,832.1	0.10
December	5,978	5,978	60,612,899	5,051,182.5	0.10
2016					
January	5,730	5,730	56,087,349	4,680,963.0	0.10
February	5,247	5,247	55,411,754	4,387,181.1	0.09
March	5,492	5,492	55,792,966	4,697,699.4	0.10
April	4,402	4,402	40,752,110	3,340,086.1	0.11
May	1,532	1,532	18,901,652	1,602,490.1	0.08
June	1,327	1,327	18,922,144	1,553,185.5	0.07
July	420	420	6,071,375	513,707.0	0.07
August	260	260	4,821,256	360,687.2	0.05
ICD-9-CM codes from an Algorithm, SFM, and FBM, 0 day washout					
2010					
October	25,708	48,663	57,716,153	4,834,624.7	0.45
November	25,778	49,174	57,083,139	4,676,871.8	0.45
December	26,640	50,677	58,361,401	4,851,164.3	0.46
2011					
January	25,925	48,747	54,708,355	4,559,066.6	0.47
February	24,422	45,112	54,004,537	4,128,109.5	0.45
March	26,629	50,968	54,304,661	4,589,505.2	0.49
April	24,708	46,337	54,376,438	4,451,813.2	0.45
May	25,072	46,706	54,345,382	4,596,809.0	0.46
June	24,529	45,849	54,180,080	4,437,454.8	0.45
July	25,058	46,150	58,516,097	4,922,622.7	0.43
August	26,560	50,248	58,949,591	4,934,256.4	0.45
September	26,224	48,152	58,085,767	4,756,913.3	0.45
October	26,965	50,688	58,676,595	4,912,248.5	0.46
November	26,687	49,233	58,078,196	4,756,987.5	0.46
December	27,603	50,881	59,388,173	4,936,750.4	0.46
2012					
January	26,803	50,372	55,530,223	4,630,251.0	0.48
February	25,812	48,599	54,876,327	4,343,731.8	0.47
March	27,057	51,172	54,975,889	4,646,212.7	0.49
April	25,880	47,990	55,096,138	4,512,914.6	0.47
May	26,547	48,719	55,049,184	4,658,029.6	0.48
June	25,289	46,732	54,978,230	4,504,350.2	0.46
July	27,103	50,399	58,694,936	4,954,101.6	0.46
August	28,323	53,288	59,224,748	4,948,556.2	0.48
September	26,853	49,081	58,386,075	4,782,162.8	0.46
October	29,164	54,593	58,911,806	4,936,312.3	0.50
November	28,467	52,738	58,315,915	4,778,740.5	0.49
December	29,364	54,413	59,471,414	4,955,666.4	0.49

	Number of Incident Diagnoses	Number of Diagnoses	Eligible Members	Member- Years	Number of Incident Diagnoses / 1K Eligible Members
2013					
January	29,462	55,970	56,197,731	4,670,823.4	0.52
February	26,306	49,295	55,542,762	4,246,777.7	0.47
March	28,048	53,607	56,138,854	4,744,073.1	0.50
April	28,171	53,896	56,104,107	4,595,653.8	0.50
May	28,006	53,434	56,057,246	4,744,239.6	0.50
June	26,128	49,310	55,778,760	4,571,072.3	0.47
July	28,856	55,605	59,556,573	5,016,305.0	0.48
August	28,898	56,269	59,876,675	5,015,940.4	0.48
September	28,289	54,317	59,000,407	4,833,576.6	0.48
October	30,413	59,818	59,493,519	4,988,077.6	0.51
November	29,027	55,870	58,886,507	4,825,393.1	0.49
December	30,807	58,436	60,055,310	4,997,010.4	0.51
2014					
January	29,448	56,490	55,701,673	4,645,703.0	0.53
February	27,154	51,417	55,017,049	4,207,098.7	0.49
March	28,859	56,566	55,271,800	4,673,920.9	0.52
April	29,300	57,611	55,288,350	4,527,701.2	0.53
May	28,602	56,441	55,167,407	4,668,733.3	0.52
June	28,035	55,124	55,203,751	4,521,918.7	0.51
July	30,224	59,261	60,017,841	5,048,903.4	0.50
August	29,406	58,354	60,258,780	4,995,827.3	0.49
September	30,156	58,648	58,851,445	4,821,953.3	0.51
October	31,336	61,928	59,811,527	4,994,616.9	0.52
November	29,636	56,891	59,123,837	4,845,527.4	0.50
December	33,263	64,510	60,149,691	5,009,350.1	0.55
2015					
January	30,587	58,971	56,110,525	4,678,415.9	0.55
February	28,111	54,121	55,431,573	4,198,556.6	0.51
March	30,830	61,395	55,562,529	4,693,730.3	0.55
April	29,919	59,836	55,654,716	4,555,384.6	0.54
May	29,180	58,101	55,625,323	4,706,910.3	0.52
June	29,360	59,084	55,657,221	4,559,569.0	0.53
July	31,603	63,977	60,121,043	5,059,633.5	0.53
August	31,262	61,350	60,711,514	5,062,973.3	0.51
September	31,498	60,541	59,802,370	4,899,634.6	0.53
October	13	19	60,415,951	5,056,566.0	0.00
November	5	5	59,733,371	4,894,566.1	0.00
December	5	8	60,716,875	5,061,375.7	0.00
2016					
January	3	3	56,184,879	4,690,539.7	0.00
February	1	1	55,510,698	4,396,218.4	0.00
March	1	1	55,892,627	4,707,486.7	0.00
April	0	0	40,838,247	3,348,128.0	0.00
May	0	0	18,931,915	1,605,398.3	0.00
June	1	1	18,953,391	1,556,068.3	0.00
July	0	0	6,080,161	514,545.9	0.00
August	0	0	4,828,490	361,293.6	0.00
ICD-10-CM codes from an Algorithm, 0 day washout					
2010					
October	0	0	57,716,153	4,834,624.7	0.00
November	0	0	57,083,139	4,676,871.8	0.00
December	0	0	58,361,401	4,851,164.3	0.00
2011					
January	0	0	54,708,355	4,559,066.6	0.00
February	0	0	54,004,537	4,128,109.5	0.00
March	0	0	54,304,661	4,589,505.2	0.00
April	1	1	54,376,438	4,451,813.2	0.00
May	0	0	54,345,382	4,596,809.0	0.00
June	0	0	54,180,080	4,437,454.8	0.00
July	0	0	58,516,097	4,922,622.7	0.00
August	1	1	58,949,591	4,934,256.4	0.00
September	0	0	58,085,767	4,756,913.3	0.00
October	0	0	58,676,595	4,912,248.5	0.00
November	0	0	58,078,196	4,756,987.5	0.00
December	0	0	59,388,173	4,936,750.4	0.00

	Number of Incident Diagnoses	Number of Diagnoses	Eligible Members	Member- Years	Number of Incident Diagnoses / 1K Eligible Members
2012					
January	0	0	55,530,223	4,630,251.0	0.00
February	0	0	54,876,327	4,343,731.8	0.00
March	1	1	54,975,889	4,646,212.7	0.00
April	0	0	55,096,138	4,512,914.6	0.00
May	0	0	55,049,184	4,658,029.6	0.00
June	0	0	54,978,230	4,504,350.2	0.00
July	1	1	58,694,936	4,954,101.6	0.00
August	0	0	59,224,748	4,948,556.2	0.00
September	0	0	58,386,075	4,782,162.8	0.00
October	0	0	58,911,806	4,936,312.3	0.00
November	0	0	58,315,915	4,778,740.5	0.00
December	0	0	59,471,414	4,955,666.4	0.00
2013					
January	0	0	56,197,731	4,670,823.4	0.00
February	2	2	55,542,762	4,246,777.7	0.00
March	0	0	56,138,854	4,744,073.1	0.00
April	1	1	56,104,107	4,595,653.8	0.00
May	0	0	56,057,246	4,744,239.6	0.00
June	0	0	55,778,760	4,571,072.3	0.00
July	0	0	59,556,573	5,016,305.0	0.00
August	1	1	59,876,675	5,015,940.4	0.00
September	0	0	59,000,407	4,833,576.6	0.00
October	1	1	59,493,519	4,988,077.6	0.00
November	0	0	58,886,507	4,825,393.1	0.00
December	0	0	60,055,310	4,997,010.4	0.00
2014					
January	1	1	55,701,673	4,645,703.0	0.00
February	2	2	55,017,049	4,207,098.7	0.00
March	0	0	55,271,800	4,673,920.9	0.00
April	2	2	55,288,350	4,527,701.2	0.00
May	0	0	55,167,407	4,668,733.3	0.00
June	0	0	55,203,751	4,521,918.7	0.00
July	0	0	60,017,841	5,048,903.4	0.00
August	1	1	60,258,780	4,995,827.3	0.00
September	2	2	58,851,445	4,821,953.3	0.00
October	1	1	59,811,527	4,994,616.9	0.00
November	1	1	59,123,837	4,845,527.4	0.00
December	4	4	60,149,691	5,009,350.1	0.00
2015					
January	8	8	56,110,525	4,678,415.9	0.00
February	8	8	55,431,573	4,198,556.6	0.00
March	5	5	55,562,529	4,693,730.3	0.00
April	0	0	55,654,716	4,555,384.6	0.00
May	6	6	55,625,323	4,706,910.3	0.00
June	11	11	55,657,221	4,559,569.0	0.00
July	38	39	60,121,043	5,059,633.5	0.00
August	166	261	60,711,514	5,062,973.3	0.00
September	2,434	2,747	59,802,370	4,899,634.6	0.04
October	30,610	60,084	60,415,951	5,056,566.0	0.51
November	30,490	59,430	59,733,371	4,894,566.1	0.51
December	31,750	62,889	60,716,875	5,061,375.7	0.52
2016					
January	29,524	58,318	56,184,879	4,690,539.7	0.53
February	29,144	58,620	55,510,698	4,396,218.4	0.53
March	31,233	63,931	55,892,627	4,707,486.7	0.56
April	24,246	51,010	40,838,247	3,348,128.0	0.59
May	8,383	17,784	18,931,915	1,605,398.3	0.44
June	8,054	17,208	18,953,391	1,556,068.3	0.42
July	1,673	2,533	6,080,161	514,545.9	0.28
August	978	1,355	4,828,490	361,293.6	0.20

ICD-10-CM codes from SFM, 0 day washout	Number of Incident		Eligible Members	Member- Years	Number of Incident
	Diagnoses	Number of Diagnoses			Diagnoses / 1K Eligible Members
2010					
October	0	0	57,716,153	4,834,624.7	0.00
November	0	0	57,083,139	4,676,871.8	0.00
December	0	0	58,361,401	4,851,164.3	0.00
2011					
January	0	0	54,708,355	4,559,066.6	0.00
February	0	0	54,004,537	4,128,109.5	0.00
March	0	0	54,304,661	4,589,505.2	0.00
April	1	1	54,376,438	4,451,813.2	0.00
May	0	0	54,345,382	4,596,809.0	0.00
June	0	0	54,180,080	4,437,454.8	0.00
July	0	0	58,516,097	4,922,622.7	0.00
August	1	1	58,949,591	4,934,256.4	0.00
September	0	0	58,085,767	4,756,913.3	0.00
October	0	0	58,676,595	4,912,248.5	0.00
November	0	0	58,078,196	4,756,987.5	0.00
December	0	0	59,388,173	4,936,750.4	0.00
2012					
January	0	0	55,530,223	4,630,251.0	0.00
February	0	0	54,876,327	4,343,731.8	0.00
March	1	1	54,975,889	4,646,212.7	0.00
April	0	0	55,096,138	4,512,914.6	0.00
May	0	0	55,049,184	4,658,029.6	0.00
June	0	0	54,978,230	4,504,350.2	0.00
July	1	1	58,694,936	4,954,101.6	0.00
August	0	0	59,224,748	4,948,556.2	0.00
September	0	0	58,386,075	4,782,162.8	0.00
October	0	0	58,911,806	4,936,312.3	0.00
November	0	0	58,315,915	4,778,740.5	0.00
December	0	0	59,471,414	4,955,666.4	0.00
2013					
January	0	0	56,197,731	4,670,823.4	0.00
February	2	2	55,542,762	4,246,777.7	0.00
March	0	0	56,138,854	4,744,073.1	0.00
April	1	1	56,104,107	4,595,653.8	0.00
May	0	0	56,057,246	4,744,239.6	0.00
June	0	0	55,778,760	4,571,072.3	0.00
July	0	0	59,556,573	5,016,305.0	0.00
August	1	1	59,876,675	5,015,940.4	0.00
September	0	0	59,000,407	4,833,576.6	0.00
October	1	1	59,493,519	4,988,077.6	0.00
November	0	0	58,886,507	4,825,393.1	0.00
December	0	0	60,055,310	4,997,010.4	0.00
2014					
January	1	1	55,701,673	4,645,703.0	0.00
February	2	2	55,017,049	4,207,098.7	0.00
March	0	0	55,271,800	4,673,920.9	0.00
April	2	2	55,288,350	4,527,701.2	0.00
May	0	0	55,167,407	4,668,733.3	0.00
June	0	0	55,203,751	4,521,918.7	0.00
July	0	0	60,017,841	5,048,903.4	0.00
August	1	1	60,258,780	4,995,827.3	0.00
September	2	2	58,851,445	4,821,953.3	0.00
October	1	1	59,811,527	4,994,616.9	0.00
November	1	1	59,123,837	4,845,527.4	0.00
December	4	4	60,149,691	5,009,350.1	0.00
2015					
January	8	8	56,110,525	4,678,415.9	0.00
February	8	8	55,431,573	4,198,556.6	0.00
March	4	4	55,562,529	4,693,730.3	0.00
April	0	0	55,654,716	4,555,384.6	0.00
May	6	6	55,625,323	4,706,910.3	0.00
June	11	11	55,657,221	4,559,569.0	0.00
July	37	38	60,121,043	5,059,633.5	0.00
August	165	260	60,711,514	5,062,973.3	0.00
September	2,418	2,714	59,802,370	4,899,634.6	0.04
October	30,172	58,833	60,415,951	5,056,566.0	0.50
November	30,040	58,100	59,733,371	4,894,566.1	0.50
December	31,215	61,277	60,716,875	5,061,375.7	0.51

	Number of Incident Diagnoses	Number of Diagnoses	Eligible Members	Member- Years	Number of Incident Diagnoses / 1K Eligible Members
2016					
January	29,000	56,767	56,184,879	4,690,539.7	0.52
February	28,609	57,089	55,510,698	4,396,218.4	0.52
March	30,648	62,201	55,892,627	4,707,486.7	0.55
April	23,800	49,596	40,838,247	3,348,128.0	0.58
May	8,231	17,259	18,931,915	1,605,398.3	0.43
June	7,904	16,685	18,953,391	1,556,068.3	0.42
July	1,659	2,499	6,080,161	514,545.9	0.27
August	975	1,350	4,828,490	361,293.6	0.20
ICD-10-CM codes from FBM, 0 day washout					
2010					
October	0	0	57,716,153	4,834,624.7	0.00
November	0	0	57,083,139	4,676,871.8	0.00
December	0	0	58,361,401	4,851,164.3	0.00
2011					
January	0	0	54,708,355	4,559,066.6	0.00
February	0	0	54,004,537	4,128,109.5	0.00
March	0	0	54,304,661	4,589,505.2	0.00
April	1	1	54,376,438	4,451,813.2	0.00
May	0	0	54,345,382	4,596,809.0	0.00
June	0	0	54,180,080	4,437,454.8	0.00
July	0	0	58,516,097	4,922,622.7	0.00
August	1	1	58,949,591	4,934,256.4	0.00
September	0	0	58,085,767	4,756,913.3	0.00
October	0	0	58,676,595	4,912,248.5	0.00
November	0	0	58,078,196	4,756,987.5	0.00
December	0	0	59,388,173	4,936,750.4	0.00
2012					
January	0	0	55,530,223	4,630,251.0	0.00
February	0	0	54,876,327	4,343,731.8	0.00
March	1	1	54,975,889	4,646,212.7	0.00
April	0	0	55,096,138	4,512,914.6	0.00
May	0	0	55,049,184	4,658,029.6	0.00
June	0	0	54,978,230	4,504,350.2	0.00
July	1	1	58,694,936	4,954,101.6	0.00
August	0	0	59,224,748	4,948,556.2	0.00
September	0	0	58,386,075	4,782,162.8	0.00
October	0	0	58,911,806	4,936,312.3	0.00
November	0	0	58,315,915	4,778,740.5	0.00
December	0	0	59,471,414	4,955,666.4	0.00
2013					
January	0	0	56,197,731	4,670,823.4	0.00
February	2	2	55,542,762	4,246,777.7	0.00
March	0	0	56,138,854	4,744,073.1	0.00
April	1	1	56,104,107	4,595,653.8	0.00
May	0	0	56,057,246	4,744,239.6	0.00
June	0	0	55,778,760	4,571,072.3	0.00
July	0	0	59,556,573	5,016,305.0	0.00
August	1	1	59,876,675	5,015,940.4	0.00
September	0	0	59,000,407	4,833,576.6	0.00
October	1	1	59,493,519	4,988,077.6	0.00
November	0	0	58,886,507	4,825,393.1	0.00
December	0	0	60,055,310	4,997,010.4	0.00
2014					
January	1	1	55,701,673	4,645,703.0	0.00
February	2	2	55,017,049	4,207,098.7	0.00
March	0	0	55,271,800	4,673,920.9	0.00
April	2	2	55,288,350	4,527,701.2	0.00
May	0	0	55,167,407	4,668,733.3	0.00
June	0	0	55,203,751	4,521,918.7	0.00
July	0	0	60,017,841	5,048,903.4	0.00
August	1	1	60,258,780	4,995,827.3	0.00
September	2	2	58,851,445	4,821,953.3	0.00
October	1	1	59,811,527	4,994,616.9	0.00
November	1	1	59,123,837	4,845,527.4	0.00
December	4	4	60,149,691	5,009,350.1	0.00

	Number of Incident Diagnoses	Number of Diagnoses	Eligible Members	Member- Years	Number of Incident Diagnoses / 1K Eligible Members
2015					
January	8	8	56,110,525	4,678,415.9	0.00
February	8	8	55,431,573	4,198,556.6	0.00
March	5	5	55,562,529	4,693,730.3	0.00
April	0	0	55,654,716	4,555,384.6	0.00
May	6	6	55,625,323	4,706,910.3	0.00
June	11	11	55,657,221	4,559,569.0	0.00
July	39	40	60,121,043	5,059,633.5	0.00
August	173	268	60,711,514	5,062,973.3	0.00
September	2,460	2,774	59,802,370	4,899,634.6	0.04
October	31,171	61,554	60,415,951	5,056,566.0	0.52
November	31,013	60,782	59,733,371	4,894,566.1	0.52
December	32,295	64,260	60,716,875	5,061,375.7	0.53
2016					
January	30,007	59,437	56,184,879	4,690,539.7	0.53
February	29,628	59,879	55,510,698	4,396,218.4	0.53
March	31,746	65,304	55,892,627	4,707,486.7	0.57
April	24,660	52,006	40,838,247	3,348,128.0	0.60
May	8,496	18,039	18,931,915	1,605,398.3	0.45
June	8,172	17,519	18,953,391	1,556,068.3	0.43
July	1,681	2,547	6,080,161	514,545.9	0.28
August	983	1,364	4,828,490	361,293.6	0.20

2015

ICD-9-CM codes from an Algorithm, SFM, and FBM, 90 day washout

2015					
January	5,808	5,808	56,066,806	4,673,252.7	0.10
February	5,189	5,189	55,385,272	4,193,840.5	0.09
March	5,632	5,632	55,517,842	4,688,459.8	0.10

2016

ICD-10-CM codes from an Algorithm, 90 day washout

2016					
January	5,812	5,812	56,137,336	4,685,054.1	0.10
February	5,357	5,357	55,462,525	4,391,071.2	0.10
March	5,611	5,611	55,845,048	4,701,922.3	0.10

ICD-10-CM codes from SFM, 90 day washout

2016					
January	5,666	5,666	56,138,022	4,685,124.4	0.10
February	5,248	5,248	55,463,246	4,391,140.4	0.09
March	5,477	5,477	55,845,796	4,702,000.1	0.10

ICD-10-CM codes from FBM, 90 day washout

2016					
January	5,814	5,814	56,136,596	4,684,974.5	0.10
February	5,357	5,357	55,461,771	4,390,997.7	0.10
March	5,610	5,610	55,844,324	4,701,846.0	0.10

Figures 2a-2d. Number of Incident Diagnoses per 1,000 Eligible Members of Acute Myocardial Infarction by Monitoring Period, Code Type, Code Source, and Washout Period

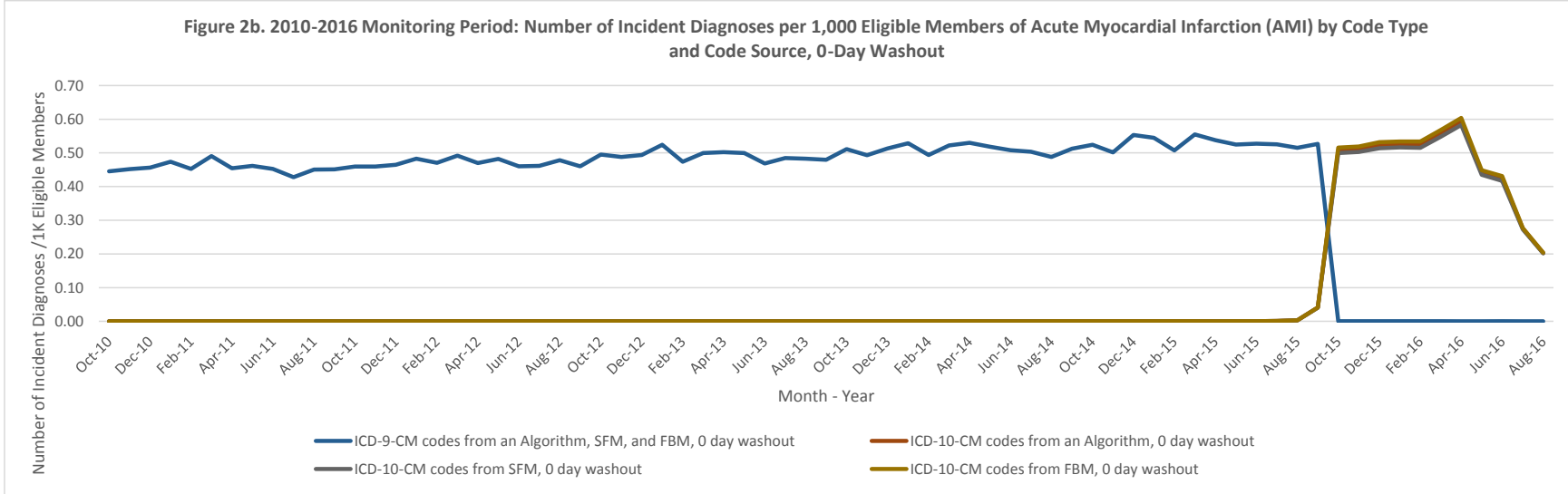
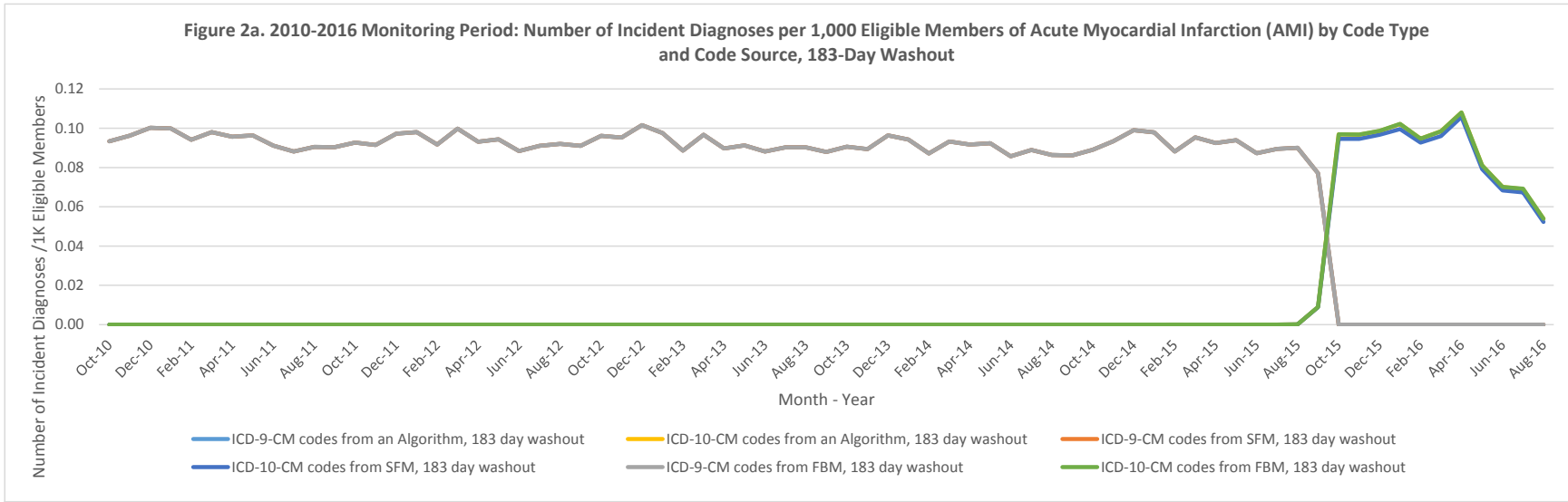


Figure 2c. 2015 Monitoring Period: Number of Incident Diagnoses per 1,000 Eligible Members of Acute Myocardial Infarction (AMI) by Code Type and Code Source, 90-Day Washout

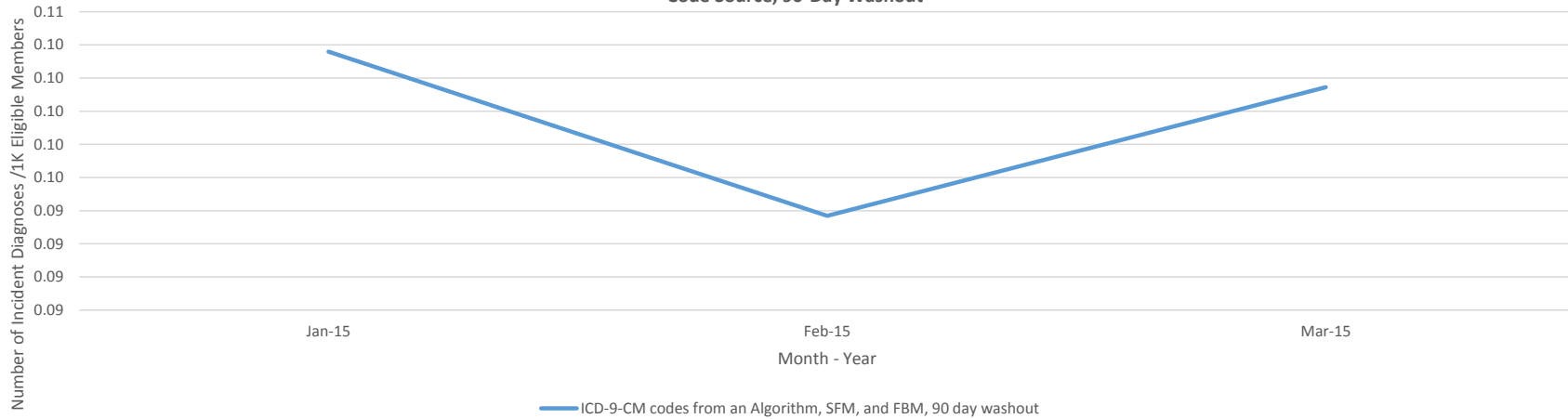


Figure 2d. 2016 Monitoring Period: Number of Incident Diagnoses per 1,000 Eligible Members of Acute Myocardial Infarction (AMI) by Code Type and Code Source, 90-Day Washout

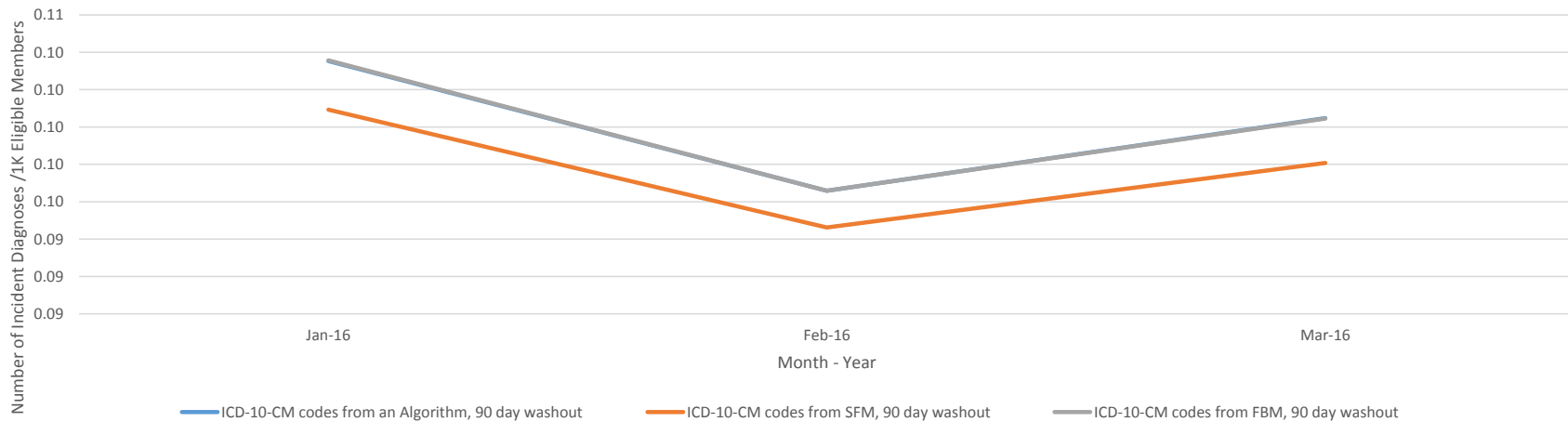


Table 3a. Summary of Incident Ischemic Stroke Diagnoses using International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) versus International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) codes for a combination of washouts and code sources: Algorithm, Simple Forward Mapping (SFM), and Forward Backward Mapping (FBM), by Monitoring Period

2010-2016					
	Number of Incident Diagnoses	Number of Diagnoses	Eligible Members	Member- Years	Number of Incident Diagnoses / 1K Eligible Members
ICD-9-CM codes from an Algorithm, 183 day washout	209,262	209,262	131,275,649	318,299,237.5	1.59
ICD-9-CM codes from SFM, 183 day washout	209,266	209,266	131,279,919	318,328,158.4	1.59
ICD-9-CM codes from FBM, 183 day washout	209,262	209,262	131,273,540	318,289,369.0	1.59
ICD-10-CM codes from an Algorithm, 183 day washout	27,956	27,956	131,275,649	318,485,515.8	0.21
ICD-10-CM codes from SFM, 183 day washout	2,049	2,049	131,279,919	318,518,221.7	0.02
ICD-10-CM codes from FBM, 183 day washout	27,619	27,619	131,273,540	318,474,807.1	0.21
ICD-9-CM codes from an Algorithm, SFM, and FBM, 0 day washout	258,254	281,237	131,346,603	319,813,419.4	1.97
ICD-10-CM codes from an Algorithm, 0 day washout	35,663	37,200	131,346,603	319,813,419.4	0.27
ICD-10-CM codes from SFM, 0 day washout	2,510	2,569	131,346,603	319,813,419.4	0.02
ICD-10-CM codes from FBM, 0 day washout	35,650	37,217	131,346,603	319,813,419.4	0.27
2015					
ICD-9-CM codes from an Algorithm, SFM, and FBM, 90 day washout	11,011	11,011	57,634,007	13,535,439.4	0.19
2016					
ICD-10-CM codes from an Algorithm, 90 day washout	11,058	11,058	57,430,577	13,763,591.4	0.19
ICD-10-CM codes from SFM, 90 day washout	791	791	57,447,546	13,777,259.3	0.01
ICD-10-CM codes from FBM, 90 day washout	10,898	10,898	57,421,718	13,758,294.2	0.19

Table 3b. Summary of Incident Ischemic Stroke Diagnoses using International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) versus International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) codes for a combination of washouts and code sources: Algorithm, Simple Forward Mapping (SFM), and Forward Backward Mapping (FBM), by Monitoring Period and Year/Month

2010-2016						
		Number of Incident Diagnoses	Number of Diagnoses	Eligible Members	Member- Years	Number of Incident Diagnoses / 1K Eligible Members
ICD-9-CM codes from an Algorithm, 183 day washout						
2010						
	October	3,402	3,402	57,508,718	4,814,831.6	0.06
	November	3,456	3,456	56,876,817	4,657,785.5	0.06
	December	3,566	3,566	58,154,360	4,831,488.9	0.06
2011						
	January	3,430	3,430	54,514,747	4,540,684.8	0.06
	February	3,162	3,162	53,810,327	4,111,490.3	0.06
	March	3,334	3,334	54,111,938	4,570,952.7	0.06
	April	3,248	3,248	54,181,697	4,433,830.0	0.06
	May	3,380	3,380	54,148,535	4,578,140.6	0.06
	June	3,189	3,189	53,980,505	4,419,248.1	0.06
	July	3,485	3,485	58,298,086	4,902,121.6	0.06
	August	3,580	3,580	58,730,433	4,913,512.9	0.06
	September	3,492	3,492	57,867,062	4,736,852.8	0.06
	October	3,482	3,482	58,455,593	4,891,392.2	0.06
	November	3,516	3,516	57,855,863	4,736,686.7	0.06
	December	3,624	3,624	59,163,333	4,915,612.1	0.06
2012						
	January	3,507	3,507	55,317,726	4,610,313.5	0.06
	February	3,361	3,361	54,661,600	4,324,860.8	0.06
	March	3,477	3,477	54,760,687	4,625,811.0	0.06
	April	3,332	3,332	54,877,652	4,493,024.4	0.06
	May	3,407	3,407	54,828,698	4,637,299.9	0.06
	June	3,347	3,347	54,754,238	4,484,125.8	0.06
	July	3,564	3,564	58,454,793	4,931,698.1	0.06
	August	3,543	3,543	58,983,666	4,926,036.6	0.06
	September	3,489	3,489	58,145,627	4,760,343.8	0.06
	October	3,665	3,665	58,669,895	4,913,638.9	0.06
	November	3,690	3,690	58,072,195	4,756,708.8	0.06
	December	3,694	3,694	59,224,961	4,932,740.2	0.06
2013						
	January	3,590	3,590	55,968,125	4,649,429.4	0.06
	February	3,344	3,344	55,310,016	4,227,311.7	0.06
	March	3,577	3,577	55,905,328	4,722,230.8	0.06
	April	3,426	3,426	55,869,187	4,574,413.5	0.06
	May	3,468	3,468	55,819,438	4,722,079.3	0.06
	June	3,243	3,243	55,537,843	4,549,504.4	0.06
	July	3,600	3,600	59,297,883	4,992,365.2	0.06
	August	3,660	3,660	59,616,355	4,991,793.0	0.06
	September	3,598	3,598	58,739,383	4,810,131.8	0.06
	October	3,646	3,646	59,231,470	4,963,656.6	0.06
	November	3,576	3,576	58,622,246	4,801,636.2	0.06
	December	3,724	3,724	59,787,986	4,972,340.0	0.06
2014						
	January	3,447	3,447	55,454,527	4,622,855.3	0.06
	February	3,190	3,190	54,768,056	4,186,379.1	0.06
	March	3,515	3,515	55,022,487	4,650,735.6	0.06
	April	3,354	3,354	55,037,700	4,505,162.8	0.06
	May	3,401	3,401	54,915,643	4,645,324.0	0.06
	June	3,249	3,249	54,946,890	4,499,024.5	0.06
	July	3,662	3,662	59,737,662	5,023,128.5	0.06
	August	3,606	3,606	59,976,025	4,969,908.0	0.06
	September	3,502	3,502	58,570,046	4,796,774.7	0.06
	October	3,747	3,747	59,527,993	4,968,433.2	0.06
	November	3,580	3,580	58,839,098	4,820,063.8	0.06
	December	3,935	3,935	59,863,662	4,982,963.8	0.07

	Number of Incident Diagnoses	Number of Diagnoses	Eligible Members	Member - Years	Number of Incident Diagnoses / 1K Eligible Members
2015					
January	3,604	3,604	55,848,065	4,654,223.7	0.06
February	3,183	3,183	55,168,143	4,176,835.9	0.06
March	3,543	3,543	55,300,686	4,669,481.4	0.06
April	3,455	3,455	55,390,348	4,531,727.7	0.06
May	3,527	3,527	55,357,735	4,682,238.1	0.06
June	3,382	3,382	55,386,743	4,535,525.6	0.06
July	3,778	3,778	59,830,615	5,032,963.7	0.06
August	3,638	3,638	60,416,718	5,036,024.1	0.06
September	3,090	3,090	59,508,855	4,873,444.5	0.05
October	0	0	60,122,033	5,029,603.4	0.00
November	0	0	59,442,836	4,868,769.9	0.00
December	0	0	60,429,508	5,035,030.1	0.00
2016					
January	0	0	55,922,172	4,666,399.7	0.00
February	0	0	55,253,037	4,373,958.2	0.00
March	0	0	55,643,603	4,684,165.1	0.00
April	0	0	40,624,798	3,329,130.4	0.00
May	0	0	18,859,460	1,598,751.0	0.00
June	0	0	18,880,502	1,549,611.9	0.00
July	0	0	6,058,596	512,586.1	0.00
August	0	0	4,810,998	359,889.5	0.00
ICD-9-CM codes from SFM, 183 day washout					
2010					
October	3,402	3,402	57,508,718	4,814,831.6	0.06
November	3,456	3,456	56,876,817	4,657,785.5	0.06
December	3,566	3,566	58,154,360	4,831,488.9	0.06
2011					
January	3,430	3,430	54,514,747	4,540,684.8	0.06
February	3,162	3,162	53,810,327	4,111,490.3	0.06
March	3,334	3,334	54,111,938	4,570,952.7	0.06
April	3,248	3,248	54,181,697	4,433,830.0	0.06
May	3,380	3,380	54,148,535	4,578,140.6	0.06
June	3,189	3,189	53,980,505	4,419,248.1	0.06
July	3,485	3,485	58,298,086	4,902,121.6	0.06
August	3,580	3,580	58,730,433	4,913,512.9	0.06
September	3,492	3,492	57,867,062	4,736,852.8	0.06
October	3,482	3,482	58,455,593	4,891,392.2	0.06
November	3,516	3,516	57,855,863	4,736,686.7	0.06
December	3,624	3,624	59,163,334	4,915,612.2	0.06
2012					
January	3,507	3,507	55,317,727	4,610,313.5	0.06
February	3,361	3,361	54,661,601	4,324,860.9	0.06
March	3,477	3,477	54,760,688	4,625,811.1	0.06
April	3,332	3,332	54,877,653	4,493,024.4	0.06
May	3,407	3,407	54,828,698	4,637,299.9	0.06
June	3,347	3,347	54,754,238	4,484,125.8	0.06
July	3,564	3,564	58,454,793	4,931,698.1	0.06
August	3,543	3,543	58,983,665	4,926,036.6	0.06
September	3,489	3,489	58,145,628	4,760,343.9	0.06
October	3,665	3,665	58,669,896	4,913,639.0	0.06
November	3,690	3,690	58,072,197	4,756,708.9	0.06
December	3,694	3,694	59,224,963	4,932,740.4	0.06
2013					
January	3,590	3,590	55,968,128	4,649,429.7	0.06
February	3,344	3,344	55,310,018	4,227,311.9	0.06
March	3,577	3,577	55,905,330	4,722,231.0	0.06
April	3,426	3,426	55,869,188	4,574,413.6	0.06
May	3,468	3,468	55,819,438	4,722,079.3	0.06
June	3,243	3,243	55,537,843	4,549,504.4	0.06
July	3,600	3,600	59,297,882	4,992,365.2	0.06
August	3,660	3,660	59,616,354	4,991,792.9	0.06
September	3,598	3,598	58,739,382	4,810,131.7	0.06
October	3,646	3,646	59,231,469	4,963,656.4	0.06
November	3,576	3,576	58,622,245	4,801,636.1	0.06
December	3,724	3,724	59,787,984	4,972,339.8	0.06

	Number of Incident Diagnoses	Number of Diagnoses	Eligible Members	Member - Years	Number of Incident Diagnoses / 1K Eligible Members
2014					
January	3,447	3,447	55,454,525	4,622,855.1	0.06
February	3,190	3,190	54,768,055	4,186,378.9	0.06
March	3,515	3,515	55,022,486	4,650,735.5	0.06
April	3,354	3,354	55,037,698	4,505,162.6	0.06
May	3,401	3,401	54,915,641	4,645,323.7	0.06
June	3,249	3,249	54,946,888	4,499,024.4	0.06
July	3,662	3,662	59,737,663	5,023,128.5	0.06
August	3,606	3,606	59,976,024	4,969,907.9	0.06
September	3,502	3,502	58,570,045	4,796,774.6	0.06
October	3,747	3,747	59,527,992	4,968,433.1	0.06
November	3,580	3,580	58,839,100	4,820,063.8	0.06
December	3,935	3,935	59,863,661	4,982,963.9	0.07
2015					
January	3,604	3,604	55,848,065	4,654,223.8	0.06
February	3,183	3,183	55,168,145	4,176,836.0	0.06
March	3,543	3,543	55,300,688	4,669,481.7	0.06
April	3,455	3,455	55,390,351	4,531,728.0	0.06
May	3,528	3,528	55,357,739	4,682,238.5	0.06
June	3,382	3,382	55,386,752	4,535,525.9	0.06
July	3,779	3,779	59,830,616	5,032,964.1	0.06
August	3,639	3,639	60,416,722	5,036,024.8	0.06
September	3,091	3,091	59,508,861	4,873,447.2	0.05
October	0	0	60,122,651	5,030,096.2	0.00
November	0	0	59,455,409	4,870,221.0	0.00
December	0	0	60,454,523	5,037,535.5	0.00
2016					
January	0	0	55,957,782	4,669,735.2	0.00
February	0	0	55,302,236	4,378,144.2	0.00
March	0	0	55,708,682	4,689,894.7	0.00
April	0	0	40,684,899	3,334,671.4	0.00
May	0	0	18,881,595	1,600,863.4	0.00
June	0	0	18,903,842	1,551,763.8	0.00
July	0	0	6,066,828	513,384.9	0.00
August	0	0	4,818,094	360,500.6	0.00
ICD-9-CM codes from FBM, 183 day washout					
2010					
October	3,402	3,402	57,508,718	4,814,831.6	0.06
November	3,456	3,456	56,876,817	4,657,785.5	0.06
December	3,566	3,566	58,154,360	4,831,488.9	0.06
2011					
January	3,430	3,430	54,514,747	4,540,684.8	0.06
February	3,162	3,162	53,810,327	4,111,490.3	0.06
March	3,334	3,334	54,111,938	4,570,952.7	0.06
April	3,248	3,248	54,181,697	4,433,830.0	0.06
May	3,380	3,380	54,148,535	4,578,140.6	0.06
June	3,189	3,189	53,980,505	4,419,248.1	0.06
July	3,485	3,485	58,298,086	4,902,121.6	0.06
August	3,580	3,580	58,730,433	4,913,512.9	0.06
September	3,492	3,492	57,867,062	4,736,852.8	0.06
October	3,482	3,482	58,455,593	4,891,392.2	0.06
November	3,516	3,516	57,855,863	4,736,686.7	0.06
December	3,624	3,624	59,163,333	4,915,612.1	0.06
2012					
January	3,507	3,507	55,317,726	4,610,313.5	0.06
February	3,361	3,361	54,661,600	4,324,860.8	0.06
March	3,477	3,477	54,760,687	4,625,811.0	0.06
April	3,332	3,332	54,877,652	4,493,024.4	0.06
May	3,407	3,407	54,828,698	4,637,299.9	0.06
June	3,347	3,347	54,754,238	4,484,125.8	0.06
July	3,564	3,564	58,454,793	4,931,698.1	0.06
August	3,543	3,543	58,983,665	4,926,036.5	0.06
September	3,489	3,489	58,145,626	4,760,343.7	0.06
October	3,665	3,665	58,669,894	4,913,638.9	0.06
November	3,690	3,690	58,072,194	4,756,708.7	0.06
December	3,694	3,694	59,224,960	4,932,740.1	0.06

	Number of Incident Diagnoses	Number of Diagnoses	Eligible Members	Member - Years	Number of Incident Diagnoses / 1K Eligible Members
2013					
January	3,590	3,590	55,968,125	4,649,429.4	0.06
February	3,344	3,344	55,310,016	4,227,311.7	0.06
March	3,577	3,577	55,905,328	4,722,230.8	0.06
April	3,426	3,426	55,869,187	4,574,413.5	0.06
May	3,468	3,468	55,819,437	4,722,079.2	0.06
June	3,243	3,243	55,537,842	4,549,504.3	0.06
July	3,600	3,600	59,297,882	4,992,365.1	0.06
August	3,660	3,660	59,616,354	4,991,792.9	0.06
September	3,598	3,598	58,739,382	4,810,131.7	0.06
October	3,646	3,646	59,231,469	4,963,656.4	0.06
November	3,576	3,576	58,622,245	4,801,636.1	0.06
December	3,724	3,724	59,787,984	4,972,339.8	0.06
2014					
January	3,447	3,447	55,454,525	4,622,855.1	0.06
February	3,190	3,190	54,768,054	4,186,378.9	0.06
March	3,515	3,515	55,022,485	4,650,735.4	0.06
April	3,354	3,354	55,037,698	4,505,162.6	0.06
May	3,401	3,401	54,915,641	4,645,323.7	0.06
June	3,249	3,249	54,946,888	4,499,024.3	0.06
July	3,662	3,662	59,737,659	5,023,128.1	0.06
August	3,606	3,606	59,976,021	4,969,907.7	0.06
September	3,502	3,502	58,570,042	4,796,774.4	0.06
October	3,747	3,747	59,527,989	4,968,432.8	0.06
November	3,580	3,580	58,839,094	4,820,063.4	0.06
December	3,935	3,935	59,863,659	4,982,963.5	0.07
2015					
January	3,604	3,604	55,848,063	4,654,223.4	0.06
February	3,183	3,183	55,168,140	4,176,835.7	0.06
March	3,543	3,543	55,300,683	4,669,481.1	0.06
April	3,455	3,455	55,390,344	4,531,727.4	0.06
May	3,527	3,527	55,357,728	4,682,237.5	0.06
June	3,382	3,382	55,386,736	4,535,524.6	0.06
July	3,778	3,778	59,830,601	5,032,962.5	0.06
August	3,638	3,638	60,416,701	5,036,022.2	0.06
September	3,090	3,090	59,508,826	4,873,440.4	0.05
October	0	0	60,121,689	5,029,400.3	0.00
November	0	0	59,437,854	4,868,208.9	0.00
December	0	0	60,419,735	5,034,060.0	0.00
2016					
January	0	0	55,908,416	4,665,146.2	0.00
February	0	0	55,234,795	4,372,432.1	0.00
March	0	0	55,617,814	4,682,025.5	0.00
April	0	0	40,602,418	3,327,088.6	0.00
May	0	0	18,853,296	1,598,164.3	0.00
June	0	0	18,874,580	1,549,064.4	0.00
July	0	0	6,058,406	512,565.4	0.00
August	0	0	4,810,912	359,885.9	0.00
ICD-10-CM codes from an Algorithm, 183 day washout					
2010					
October	0	0	57,508,718	4,814,831.6	0.00
November	0	0	56,876,817	4,657,785.5	0.00
December	0	0	58,154,360	4,831,488.9	0.00
2011					
January	0	0	54,514,747	4,540,684.8	0.00
February	0	0	53,810,327	4,111,490.3	0.00
March	0	0	54,111,938	4,570,952.7	0.00
April	0	0	54,182,393	4,433,854.3	0.00
May	0	0	54,150,312	4,578,245.9	0.00
June	0	0	53,983,521	4,419,442.6	0.00
July	0	0	58,302,474	4,902,423.5	0.00
August	0	0	58,736,271	4,913,933.3	0.00
September	0	0	57,874,314	4,737,374.0	0.00
October	0	0	58,464,328	4,892,045.8	0.00
November	0	0	57,865,981	4,737,434.3	0.00
December	0	0	59,175,062	4,916,506.6	0.00

	Number of Incident Diagnoses	Number of Diagnoses	Eligible Members	Member- Years	Number of Incident Diagnoses / 1K Eligible Members
2012					
January	0	0	55,330,283	4,611,277.9	0.00
February	0	0	54,675,540	4,325,876.3	0.00
March	0	0	54,776,235	4,627,010.9	0.00
April	0	0	54,894,649	4,494,308.4	0.00
May	0	0	54,847,247	4,638,751.9	0.00
June	0	0	54,774,350	4,485,657.3	0.00
July	0	0	58,476,190	4,933,387.4	0.00
August	0	0	59,006,762	4,927,858.1	0.00
September	0	0	58,170,371	4,762,237.1	0.00
October	0	0	58,696,105	4,915,710.3	0.00
November	0	0	58,099,849	4,758,837.5	0.00
December	0	0	59,254,350	4,935,065.7	0.00
2013					
January	0	0	55,997,243	4,651,744.5	0.00
February	0	0	55,340,212	4,229,497.9	0.00
March	0	0	55,937,144	4,724,761.6	0.00
April	0	0	55,902,424	4,576,979.6	0.00
May	0	0	55,854,001	4,724,847.3	0.00
June	0	0	55,573,623	4,552,289.2	0.00
July	0	0	59,334,943	4,995,333.5	0.00
August	0	0	59,654,998	4,994,884.0	0.00
September	0	0	58,779,291	4,813,238.1	0.00
October	0	0	59,273,067	4,966,979.2	0.00
November	0	0	58,665,055	4,804,964.5	0.00
December	0	0	59,832,229	4,975,892.3	0.00
2014					
January	0	0	55,497,270	4,626,287.1	0.00
February	0	0	54,811,807	4,189,569.5	0.00
March	0	0	55,067,608	4,654,360.2	0.00
April	0	0	55,083,972	4,508,771.0	0.00
May	0	0	54,963,331	4,649,159.9	0.00
June	0	0	54,995,574	4,502,834.7	0.00
July	0	0	59,787,575	5,027,153.7	0.00
August	0	0	60,027,021	4,973,998.0	0.00
September	0	0	58,622,019	4,800,842.1	0.00
October	0	0	59,581,451	4,972,738.3	0.00
November	0	0	58,893,695	4,824,329.4	0.00
December	0	0	59,919,846	4,987,488.7	0.00
2015					
January	2	2	55,902,073	4,658,572.7	0.00
February	0	0	55,222,846	4,180,770.9	0.00
March	0	0	55,355,631	4,673,922.7	0.00
April	0	0	55,446,441	4,536,111.9	0.00
May	0	0	55,414,807	4,686,861.8	0.00
June	1	1	55,444,668	4,540,079.1	0.00
July	1	1	59,889,865	5,037,758.9	0.00
August	7	7	60,477,000	5,040,905.7	0.00
September	405	405	59,570,413	4,878,270.8	0.01
October	3,761	3,761	60,185,196	5,034,707.9	0.06
November	3,786	3,786	59,507,406	4,873,840.0	0.06
December	3,957	3,957	60,495,815	5,040,403.7	0.07
2016					
January	3,657	3,657	55,986,580	4,671,597.1	0.07
February	3,246	3,246	55,318,952	4,378,953.8	0.06
March	3,717	3,717	55,712,272	4,689,663.6	0.07
April	3,054	3,054	40,684,152	3,333,855.6	0.08
May	1,002	1,002	18,881,687	1,600,603.8	0.05
June	911	911	18,902,247	1,551,368.6	0.05
July	249	249	6,068,115	513,390.1	0.04
August	200	200	4,818,449	360,459.8	0.04

ICD-10-CM codes from SFM, 183 day washout	Number of Incident	Number of Diagnoses	Eligible Members	Member- Years	Number of Incident Diagnoses
	Diagnoses				/ 1K Eligible Members
2010					
October	0	0	57,508,718	4,814,831.6	0.00
November	0	0	56,876,817	4,657,785.5	0.00
December	0	0	58,154,360	4,831,488.9	0.00
2011					
January	0	0	54,514,747	4,540,684.8	0.00
February	0	0	53,810,327	4,111,490.3	0.00
March	0	0	54,111,938	4,570,952.7	0.00
April	0	0	54,182,393	4,433,854.3	0.00
May	0	0	54,150,312	4,578,245.9	0.00
June	0	0	53,983,521	4,419,442.6	0.00
July	0	0	58,302,474	4,902,423.5	0.00
August	0	0	58,736,271	4,913,933.3	0.00
September	0	0	57,874,314	4,737,374.0	0.00
October	0	0	58,464,328	4,892,045.8	0.00
November	0	0	57,865,981	4,737,434.4	0.00
December	0	0	59,175,063	4,916,506.7	0.00
2012					
January	0	0	55,330,284	4,611,278.0	0.00
February	0	0	54,675,541	4,325,876.4	0.00
March	0	0	54,776,236	4,627,011.0	0.00
April	0	0	54,894,650	4,494,308.5	0.00
May	0	0	54,847,247	4,638,751.9	0.00
June	0	0	54,774,350	4,485,657.3	0.00
July	0	0	58,476,190	4,933,387.3	0.00
August	0	0	59,006,761	4,927,858.1	0.00
September	0	0	58,170,372	4,762,237.2	0.00
October	0	0	58,696,106	4,915,710.4	0.00
November	0	0	58,099,851	4,758,837.7	0.00
December	0	0	59,254,352	4,935,065.9	0.00
2013					
January	0	0	55,997,246	4,651,744.8	0.00
February	0	0	55,340,214	4,229,498.1	0.00
March	0	0	55,937,146	4,724,761.8	0.00
April	0	0	55,902,425	4,576,979.8	0.00
May	0	0	55,854,001	4,724,847.3	0.00
June	0	0	55,573,623	4,552,289.2	0.00
July	0	0	59,334,942	4,995,333.4	0.00
August	0	0	59,654,997	4,994,884.0	0.00
September	0	0	58,779,290	4,813,238.0	0.00
October	0	0	59,273,066	4,966,979.0	0.00
November	0	0	58,665,054	4,804,964.4	0.00
December	0	0	59,832,227	4,975,892.1	0.00
2014					
January	0	0	55,497,269	4,626,286.9	0.00
February	0	0	54,811,806	4,189,569.3	0.00
March	0	0	55,067,607	4,654,360.1	0.00
April	0	0	55,083,970	4,508,770.8	0.00
May	0	0	54,963,329	4,649,159.6	0.00
June	0	0	54,995,572	4,502,834.6	0.00
July	0	0	59,787,576	5,027,153.7	0.00
August	0	0	60,027,020	4,973,997.9	0.00
September	0	0	58,622,018	4,800,842.0	0.00
October	0	0	59,581,450	4,972,738.2	0.00
November	0	0	58,893,697	4,824,329.4	0.00
December	0	0	59,919,845	4,987,488.8	0.00

	Number of Incident Diagnoses	Number of Diagnoses	Eligible Members	Member - Years	Number of Incident Diagnoses / 1K Eligible Members
2015					
January	0	0	55,902,073	4,658,572.9	0.00
February	0	0	55,222,847	4,180,771.0	0.00
March	0	0	55,355,632	4,673,922.9	0.00
April	0	0	55,446,444	4,536,112.2	0.00
May	0	0	55,414,811	4,686,862.2	0.00
June	0	0	55,444,678	4,540,079.4	0.00
July	0	0	59,889,869	5,037,759.5	0.00
August	2	2	60,477,005	5,040,906.7	0.00
September	37	37	59,570,421	4,878,273.9	0.00
October	288	288	60,185,939	5,035,242.5	0.00
November	285	285	59,521,294	4,875,428.7	0.00
December	283	283	60,523,612	5,043,163.2	0.00
2016					
January	263	263	56,026,595	4,675,303.0	0.00
February	228	228	55,374,951	4,383,654.6	0.00
March	270	270	55,787,920	4,696,184.9	0.00
April	236	236	40,753,886	3,340,237.7	0.01
May	65	65	18,907,207	1,603,014.9	0.00
June	58	58	18,929,302	1,553,832.4	0.00
July	25	25	6,077,749	514,310.2	0.00
August	9	9	4,826,804	361,171.6	0.00
ICD-10-CM codes from FBM, 183 day washout					
2010					
October	0	0	57,508,718	4,814,831.6	0.00
November	0	0	56,876,817	4,657,785.5	0.00
December	0	0	58,154,360	4,831,488.9	0.00
2011					
January	0	0	54,514,747	4,540,684.8	0.00
February	0	0	53,810,327	4,111,490.3	0.00
March	0	0	54,111,938	4,570,952.7	0.00
April	0	0	54,182,393	4,433,854.3	0.00
May	0	0	54,150,312	4,578,245.9	0.00
June	0	0	53,983,521	4,419,442.6	0.00
July	0	0	58,302,474	4,902,423.5	0.00
August	0	0	58,736,271	4,913,933.3	0.00
September	0	0	57,874,314	4,737,374.0	0.00
October	0	0	58,464,328	4,892,045.8	0.00
November	0	0	57,865,981	4,737,434.3	0.00
December	0	0	59,175,062	4,916,506.6	0.00
2012					
January	0	0	55,330,283	4,611,277.9	0.00
February	0	0	54,675,540	4,325,876.3	0.00
March	0	0	54,776,235	4,627,010.9	0.00
April	0	0	54,894,649	4,494,308.4	0.00
May	0	0	54,847,247	4,638,751.9	0.00
June	0	0	54,774,350	4,485,657.3	0.00
July	0	0	58,476,190	4,933,387.3	0.00
August	0	0	59,006,761	4,927,858.0	0.00
September	0	0	58,170,370	4,762,237.0	0.00
October	0	0	58,696,104	4,915,710.2	0.00
November	0	0	58,099,848	4,758,837.5	0.00
December	0	0	59,254,349	4,935,065.7	0.00
2013					
January	0	0	55,997,243	4,651,744.5	0.00
February	0	0	55,340,212	4,229,497.9	0.00
March	0	0	55,937,144	4,724,761.6	0.00
April	0	0	55,902,424	4,576,979.6	0.00
May	0	0	55,854,000	4,724,847.3	0.00
June	0	0	55,573,622	4,552,289.1	0.00
July	0	0	59,334,942	4,995,333.4	0.00
August	0	0	59,654,997	4,994,884.0	0.00
September	0	0	58,779,290	4,813,238.0	0.00
October	0	0	59,273,066	4,966,979.0	0.00
November	0	0	58,665,054	4,804,964.4	0.00
December	0	0	59,832,227	4,975,892.1	0.00



	Number of Incident Diagnoses	Number of Diagnoses	Eligible Members	Member- Years	Number of Incident Diagnoses / 1K Eligible Members
2014					
January	0	0	55,497,268	4,626,286.9	0.00
February	0	0	54,811,805	4,189,569.3	0.00
March	0	0	55,067,606	4,654,360.0	0.00
April	0	0	55,083,970	4,508,770.8	0.00
May	0	0	54,963,329	4,649,159.6	0.00
June	0	0	54,995,572	4,502,834.5	0.00
July	0	0	59,787,572	5,027,153.4	0.00
August	0	0	60,027,017	4,973,997.6	0.00
September	0	0	58,622,015	4,800,841.7	0.00
October	0	0	59,581,447	4,972,737.9	0.00
November	0	0	58,893,691	4,824,329.0	0.00
December	0	0	59,919,843	4,987,488.5	0.00
2015					
January	2	2	55,902,071	4,658,572.5	0.00
February	0	0	55,222,842	4,180,770.6	0.00
March	0	0	55,355,627	4,673,922.2	0.00
April	0	0	55,446,436	4,536,111.5	0.00
May	0	0	55,414,799	4,686,861.1	0.00
June	1	1	55,444,661	4,540,078.1	0.00
July	1	1	59,889,851	5,037,757.7	0.00
August	7	7	60,476,981	5,040,903.7	0.00
September	406	406	59,570,381	4,878,266.5	0.01
October	3,734	3,734	60,184,814	5,034,490.7	0.06
November	3,737	3,737	59,502,008	4,873,238.9	0.06
December	3,919	3,919	60,485,259	5,039,363.5	0.06
2016					
January	3,610	3,610	55,971,686	4,670,250.5	0.06
February	3,212	3,212	55,299,124	4,377,310.0	0.06
March	3,654	3,654	55,683,708	4,687,334.1	0.07
April	3,003	3,003	40,659,390	3,331,611.7	0.07
May	992	992	18,874,852	1,599,958.5	0.05
June	894	894	18,895,736	1,550,769.1	0.05
July	248	248	6,067,907	513,367.7	0.04
August	199	199	4,818,356	360,456.0	0.04
ICD-9-CM codes from an Algorithm, SFM, and FBM, 0 day washout					
2010					
October	4,378	4,455	57,716,153	4,834,624.7	0.08
November	4,356	4,437	57,083,139	4,676,871.8	0.08
December	4,556	4,637	58,361,401	4,851,164.3	0.08
2011					
January	4,363	4,437	54,708,355	4,559,066.6	0.08
February	3,997	4,054	54,004,537	4,128,109.5	0.07
March	4,233	4,312	54,304,661	4,589,505.2	0.08
April	4,168	4,234	54,376,438	4,451,813.2	0.08
May	4,326	4,420	54,345,382	4,596,809.0	0.08
June	4,056	4,143	54,180,080	4,437,454.8	0.07
July	4,474	4,572	58,516,097	4,922,622.7	0.08
August	4,653	4,750	58,949,591	4,934,256.4	0.08
September	4,490	4,572	58,085,767	4,756,913.3	0.08
October	4,470	4,551	58,676,595	4,912,248.5	0.08
November	4,481	4,568	58,078,196	4,756,987.5	0.08
December	4,591	4,658	59,388,173	4,936,750.4	0.08
2012					
January	4,498	4,582	55,530,223	4,630,251.0	0.08
February	4,273	4,363	54,876,327	4,343,731.8	0.08
March	4,508	4,589	54,975,889	4,646,212.7	0.08
April	4,324	4,415	55,096,138	4,512,914.6	0.08
May	4,421	4,506	55,049,184	4,658,029.6	0.08
June	4,305	4,393	54,978,230	4,504,350.2	0.08
July	4,660	4,750	58,694,936	4,954,101.6	0.08
August	4,577	4,653	59,224,748	4,948,556.2	0.08
September	4,524	4,596	58,386,075	4,782,162.8	0.08
October	4,791	4,873	58,911,806	4,936,312.3	0.08
November	4,707	4,786	58,315,915	4,778,740.5	0.08
December	4,825	4,918	59,471,414	4,955,666.4	0.08



	Number of Incident Diagnoses	Number of Diagnoses	Eligible Members	Member - Years	Number of Incident Diagnoses / 1K Eligible Members
2013					
January	4,701	4,795	56,197,731	4,670,823.4	0.08
February	4,378	4,448	55,542,762	4,246,777.7	0.08
March	4,602	4,690	56,138,854	4,744,073.1	0.08
April	4,513	4,596	56,104,107	4,595,653.8	0.08
May	4,552	4,637	56,057,246	4,744,239.6	0.08
June	4,319	4,396	55,778,760	4,571,072.3	0.08
July	4,805	4,910	59,556,573	5,016,305.0	0.08
August	4,906	5,013	59,876,675	5,015,940.4	0.08
September	4,765	4,860	59,000,407	4,833,576.6	0.08
October	4,869	4,966	59,493,519	4,988,077.6	0.08
November	4,795	4,891	58,886,507	4,825,393.1	0.08
December	4,928	5,009	60,055,310	4,997,010.4	0.08
2014					
January	4,665	4,760	55,701,673	4,645,703.0	0.08
February	4,251	4,332	55,017,049	4,207,098.7	0.08
March	4,685	4,788	55,271,800	4,673,920.9	0.08
April	4,533	4,617	55,288,350	4,527,701.2	0.08
May	4,590	4,681	55,167,407	4,668,733.3	0.08
June	4,475	4,580	55,203,751	4,521,918.7	0.08
July	5,023	5,109	60,017,841	5,048,903.4	0.08
August	4,917	5,019	60,258,780	4,995,827.3	0.08
September	4,778	4,871	58,851,445	4,821,953.3	0.08
October	5,106	5,198	59,811,527	4,994,616.9	0.09
November	4,871	4,958	59,123,837	4,845,527.4	0.08
December	5,379	5,508	60,149,691	5,009,350.1	0.09
2015					
January	4,841	4,948	56,110,525	4,678,415.9	0.09
February	4,324	4,415	55,431,573	4,198,556.6	0.08
March	4,760	4,871	55,562,529	4,693,730.3	0.09
April	4,702	4,804	55,654,716	4,555,384.6	0.08
May	4,817	4,932	55,625,323	4,706,910.3	0.09
June	4,620	4,709	55,657,221	4,559,569.0	0.08
July	5,201	5,314	60,121,043	5,059,633.5	0.09
August	4,982	5,084	60,711,514	5,062,973.3	0.08
September	4,231	4,304	59,802,370	4,899,634.6	0.07
October	0	0	60,415,951	5,056,566.0	0.00
November	0	0	59,733,371	4,894,566.1	0.00
December	0	0	60,716,875	5,061,375.7	0.00
2016					
January	0	0	56,184,879	4,690,539.7	0.00
February	0	0	55,510,698	4,396,218.4	0.00
March	0	0	55,892,627	4,707,486.7	0.00
April	0	0	40,838,247	3,348,128.0	0.00
May	0	0	18,931,915	1,605,398.3	0.00
June	0	0	18,953,391	1,556,068.3	0.00
July	0	0	6,080,161	514,545.9	0.00
August	0	0	4,828,490	361,293.6	0.00
ICD-10-CM codes from an Algorithm, 0 day washout					
2010					
October	0	0	57,716,153	4,834,624.7	0.00
November	0	0	57,083,139	4,676,871.8	0.00
December	0	0	58,361,401	4,851,164.3	0.00
2011					
January	0	0	54,708,355	4,559,066.6	0.00
February	0	0	54,004,537	4,128,109.5	0.00
March	0	0	54,304,661	4,589,505.2	0.00
April	0	0	54,376,438	4,451,813.2	0.00
May	0	0	54,345,382	4,596,809.0	0.00
June	0	0	54,180,080	4,437,454.8	0.00
July	0	0	58,516,097	4,922,622.7	0.00
August	0	0	58,949,591	4,934,256.4	0.00
September	0	0	58,085,767	4,756,913.3	0.00
October	0	0	58,676,595	4,912,248.5	0.00
November	0	0	58,078,196	4,756,987.5	0.00
December	0	0	59,388,173	4,936,750.4	0.00



	Number of Incident Diagnoses	Number of Diagnoses	Eligible Members	Member- Years	Number of Incident Diagnoses / 1K Eligible Members
2012					
January	0	0	55,530,223	4,630,251.0	0.00
February	0	0	54,876,327	4,343,731.8	0.00
March	0	0	54,975,889	4,646,212.7	0.00
April	0	0	55,096,138	4,512,914.6	0.00
May	0	0	55,049,184	4,658,029.6	0.00
June	0	0	54,978,230	4,504,350.2	0.00
July	0	0	58,694,936	4,954,101.6	0.00
August	0	0	59,224,748	4,948,556.2	0.00
September	0	0	58,386,075	4,782,162.8	0.00
October	0	0	58,911,806	4,936,312.3	0.00
November	0	0	58,315,915	4,778,740.5	0.00
December	0	0	59,471,414	4,955,666.4	0.00
2013					
January	0	0	56,197,731	4,670,823.4	0.00
February	0	0	55,542,762	4,246,777.7	0.00
March	0	0	56,138,854	4,744,073.1	0.00
April	0	0	56,104,107	4,595,653.8	0.00
May	0	0	56,057,246	4,744,239.6	0.00
June	0	0	55,778,760	4,571,072.3	0.00
July	0	0	59,556,573	5,016,305.0	0.00
August	0	0	59,876,675	5,015,940.4	0.00
September	0	0	59,000,407	4,833,576.6	0.00
October	0	0	59,493,519	4,988,077.6	0.00
November	0	0	58,886,507	4,825,393.1	0.00
December	0	0	60,055,310	4,997,010.4	0.00
2014					
January	0	0	55,701,673	4,645,703.0	0.00
February	0	0	55,017,049	4,207,098.7	0.00
March	0	0	55,271,800	4,673,920.9	0.00
April	0	0	55,288,350	4,527,701.2	0.00
May	0	0	55,167,407	4,668,733.3	0.00
June	0	0	55,203,751	4,521,918.7	0.00
July	0	0	60,017,841	5,048,903.4	0.00
August	0	0	60,258,780	4,995,827.3	0.00
September	0	0	58,851,445	4,821,953.3	0.00
October	0	0	59,811,527	4,994,616.9	0.00
November	0	0	59,123,837	4,845,527.4	0.00
December	0	0	60,149,691	5,009,350.1	0.00
2015					
January	2	3	56,110,525	4,678,415.9	0.00
February	0	0	55,431,573	4,198,556.6	0.00
March	0	0	55,562,529	4,693,730.3	0.00
April	0	0	55,654,716	4,555,384.6	0.00
May	0	0	55,625,323	4,706,910.3	0.00
June	1	1	55,657,221	4,559,569.0	0.00
July	2	2	60,121,043	5,059,633.5	0.00
August	11	11	60,711,514	5,062,973.3	0.00
September	592	593	59,802,370	4,899,634.6	0.01
October	4,958	5,064	60,415,951	5,056,566.0	0.08
November	4,879	4,971	59,733,371	4,894,566.1	0.08
December	5,126	5,221	60,716,875	5,061,375.7	0.08
2016					
January	4,749	4,833	56,184,879	4,690,539.7	0.08
February	4,259	4,323	55,510,698	4,396,218.4	0.08
March	4,814	4,896	55,892,627	4,707,486.7	0.09
April	3,891	3,963	40,838,247	3,348,128.0	0.10
May	1,360	1,386	18,931,915	1,605,398.3	0.07
June	1,244	1,278	18,953,391	1,556,068.3	0.07
July	345	375	6,080,161	514,545.9	0.06
August	261	280	4,828,490	361,293.6	0.05

	Number of Incident Diagnoses	Number of Diagnoses	Eligible Members	Member- Years	Number of Incident Diagnoses / 1K Eligible Members
ICD-10-CM codes from SFM, 0 day washout					
2010					
October	0	0	57,716,153	4,834,624.7	0.00
November	0	0	57,083,139	4,676,871.8	0.00
December	0	0	58,361,401	4,851,164.3	0.00
2011					
January	0	0	54,708,355	4,559,066.6	0.00
February	0	0	54,004,537	4,128,109.5	0.00
March	0	0	54,304,661	4,589,505.2	0.00
April	0	0	54,376,438	4,451,813.2	0.00
May	0	0	54,345,382	4,596,809.0	0.00
June	0	0	54,180,080	4,437,454.8	0.00
July	0	0	58,516,097	4,922,622.7	0.00
August	0	0	58,949,591	4,934,256.4	0.00
September	0	0	58,085,767	4,756,913.3	0.00
October	0	0	58,676,595	4,912,248.5	0.00
November	0	0	58,078,196	4,756,987.5	0.00
December	0	0	59,388,173	4,936,750.4	0.00
2012					
January	0	0	55,530,223	4,630,251.0	0.00
February	0	0	54,876,327	4,343,731.8	0.00
March	0	0	54,975,889	4,646,212.7	0.00
April	0	0	55,096,138	4,512,914.6	0.00
May	0	0	55,049,184	4,658,029.6	0.00
June	1	1	54,978,230	4,504,350.2	0.00
July	0	0	58,694,936	4,954,101.6	0.00
August	0	0	59,224,748	4,948,556.2	0.00
September	0	0	58,386,075	4,782,162.8	0.00
October	0	0	58,911,806	4,936,312.3	0.00
November	0	0	58,315,915	4,778,740.5	0.00
December	0	0	59,471,414	4,955,666.4	0.00
2013					
January	0	0	56,197,731	4,670,823.4	0.00
February	0	0	55,542,762	4,246,777.7	0.00
March	0	0	56,138,854	4,744,073.1	0.00
April	0	0	56,104,107	4,595,653.8	0.00
May	0	0	56,057,246	4,744,239.6	0.00
June	0	0	55,778,760	4,571,072.3	0.00
July	0	0	59,556,573	5,016,305.0	0.00
August	0	0	59,876,675	5,015,940.4	0.00
September	0	0	59,000,407	4,833,576.6	0.00
October	0	0	59,493,519	4,988,077.6	0.00
November	0	0	58,886,507	4,825,393.1	0.00
December	0	0	60,055,310	4,997,010.4	0.00
2014					
January	0	0	55,701,673	4,645,703.0	0.00
February	0	0	55,017,049	4,207,098.7	0.00
March	0	0	55,271,800	4,673,920.9	0.00
April	0	0	55,288,350	4,527,701.2	0.00
May	1	1	55,167,407	4,668,733.3	0.00
June	0	0	55,203,751	4,521,918.7	0.00
July	0	0	60,017,841	5,048,903.4	0.00
August	0	0	60,258,780	4,995,827.3	0.00
September	0	0	58,851,445	4,821,953.3	0.00
October	0	0	59,811,527	4,994,616.9	0.00
November	0	0	59,123,837	4,845,527.4	0.00
December	0	0	60,149,691	5,009,350.1	0.00

	Number of Incident Diagnoses	Number of Diagnoses	Eligible Members	Member - Years	Number of Incident Diagnoses / 1K Eligible Members
2015					
January	0	0	56,110,525	4,678,415.9	0.00
February	0	0	55,431,573	4,198,556.6	0.00
March	0	0	55,562,529	4,693,730.3	0.00
April	0	0	55,654,716	4,555,384.6	0.00
May	0	0	55,625,323	4,706,910.3	0.00
June	0	0	55,657,221	4,559,569.0	0.00
July	0	0	60,121,043	5,059,633.5	0.00
August	3	3	60,711,514	5,062,973.3	0.00
September	58	58	59,802,370	4,899,634.6	0.00
October	385	390	60,415,951	5,056,566.0	0.01
November	354	355	59,733,371	4,894,566.1	0.01
December	355	356	60,716,875	5,061,375.7	0.01
2016					
January	315	316	56,184,879	4,690,539.7	0.01
February	281	284	55,510,698	4,396,218.4	0.01
March	325	326	55,892,627	4,707,486.7	0.01
April	281	281	40,838,247	3,348,128.0	0.01
May	82	84	18,931,915	1,605,398.3	0.00
June	74	75	18,953,391	1,556,068.3	0.00
July	25	25	6,080,161	514,545.9	0.00
August	13	14	4,828,490	361,293.6	0.00
ICD-10-CM codes from FBM, 0 day washout					
2010					
October	0	0	57,716,153	4,834,624.7	0.00
November	0	0	57,083,139	4,676,871.8	0.00
December	0	0	58,361,401	4,851,164.3	0.00
2011					
January	0	0	54,708,355	4,559,066.6	0.00
February	0	0	54,004,537	4,128,109.5	0.00
March	0	0	54,304,661	4,589,505.2	0.00
April	0	0	54,376,438	4,451,813.2	0.00
May	0	0	54,345,382	4,596,809.0	0.00
June	0	0	54,180,080	4,437,454.8	0.00
July	0	0	58,516,097	4,922,622.7	0.00
August	0	0	58,949,591	4,934,256.4	0.00
September	0	0	58,085,767	4,756,913.3	0.00
October	0	0	58,676,595	4,912,248.5	0.00
November	0	0	58,078,196	4,756,987.5	0.00
December	0	0	59,388,173	4,936,750.4	0.00
2012					
January	0	0	55,530,223	4,630,251.0	0.00
February	0	0	54,876,327	4,343,731.8	0.00
March	0	0	54,975,889	4,646,212.7	0.00
April	0	0	55,096,138	4,512,914.6	0.00
May	0	0	55,049,184	4,658,029.6	0.00
June	1	1	54,978,230	4,504,350.2	0.00
July	0	0	58,694,936	4,954,101.6	0.00
August	0	0	59,224,748	4,948,556.2	0.00
September	0	0	58,386,075	4,782,162.8	0.00
October	0	0	58,911,806	4,936,312.3	0.00
November	0	0	58,315,915	4,778,740.5	0.00
December	0	0	59,471,414	4,955,666.4	0.00
2013					
January	0	0	56,197,731	4,670,823.4	0.00
February	0	0	55,542,762	4,246,777.7	0.00
March	0	0	56,138,854	4,744,073.1	0.00
April	0	0	56,104,107	4,595,653.8	0.00
May	0	0	56,057,246	4,744,239.6	0.00
June	0	0	55,778,760	4,571,072.3	0.00
July	0	0	59,556,573	5,016,305.0	0.00
August	0	0	59,876,675	5,015,940.4	0.00
September	0	0	59,000,407	4,833,576.6	0.00
October	0	0	59,493,519	4,988,077.6	0.00
November	0	0	58,886,507	4,825,393.1	0.00
December	0	0	60,055,310	4,997,010.4	0.00



	Number of Incident Diagnoses	Number of Diagnoses	Eligible Members	Member- Years	Number of Incident Diagnoses / 1K Eligible Members
2014					
January	0	0	55,701,673	4,645,703.0	0.00
February	0	0	55,017,049	4,207,098.7	0.00
March	0	0	55,271,800	4,673,920.9	0.00
April	0	0	55,288,350	4,527,701.2	0.00
May	1	1	55,167,407	4,668,733.3	0.00
June	0	0	55,203,751	4,521,918.7	0.00
July	0	0	60,017,841	5,048,903.4	0.00
August	0	0	60,258,780	4,995,827.3	0.00
September	0	0	58,851,445	4,821,953.3	0.00
October	0	0	59,811,527	4,994,616.9	0.00
November	0	0	59,123,837	4,845,527.4	0.00
December	0	0	60,149,691	5,009,350.1	0.00
2015					
January	2	3	56,110,525	4,678,415.9	0.00
February	0	0	55,431,573	4,198,556.6	0.00
March	0	0	55,562,529	4,693,730.3	0.00
April	0	0	55,654,716	4,555,384.6	0.00
May	0	0	55,625,323	4,706,910.3	0.00
June	1	1	55,657,221	4,559,569.0	0.00
July	2	2	60,121,043	5,059,633.5	0.00
August	11	11	60,711,514	5,062,973.3	0.00
September	592	593	59,802,370	4,899,634.6	0.01
October	4,959	5,066	60,415,951	5,056,566.0	0.08
November	4,869	4,961	59,733,371	4,894,566.1	0.08
December	5,137	5,234	60,716,875	5,061,375.7	0.08
2016					
January	4,753	4,836	56,184,879	4,690,539.7	0.08
February	4,272	4,336	55,510,698	4,396,218.4	0.08
March	4,818	4,900	55,892,627	4,707,486.7	0.09
April	3,889	3,961	40,838,247	3,348,128.0	0.10
May	1,356	1,382	18,931,915	1,605,398.3	0.07
June	1,240	1,274	18,953,391	1,556,068.3	0.07
July	345	375	6,080,161	514,545.9	0.06
August	261	280	4,828,490	361,293.6	0.05

2015

ICD-9-CM codes from an Algorithm, SFM, and FBM, 90 day washout

2015					
January	3,835	3,835	56,001,119	4,666,252.8	0.07
February	3,400	3,400	55,318,790	4,187,668.9	0.06
March	3,776	3,776	55,452,406	4,681,517.8	0.07

2016

ICD-10-CM codes from an Algorithm, 90 day washout

2016					
January	3,808	3,808	56,091,545	4,680,151.9	0.07
February	3,390	3,390	55,416,200	4,386,497.3	0.06
March	3,860	3,860	55,797,895	4,696,942.2	0.07

ICD-10-CM codes from SFM, 90 day washout

2016					
January	273	273	56,131,258	4,684,553.0	0.00
February	236	236	55,458,765	4,390,844.0	0.00
March	282	282	55,842,773	4,701,862.4	0.01

ICD-10-CM codes from FBM, 90 day washout

2016					
January	3,749	3,749	56,073,802	4,678,305.3	0.07
February	3,350	3,350	55,399,036	4,384,812.7	0.06
March	3,799	3,799	55,781,530	4,695,176.2	0.07

Figures 3a-3d. Number of Incident Diagnoses per 1,000 Eligible Members of Ischemic Stroke by Monitoring Period, Code Type, Code Source, and Washout Period

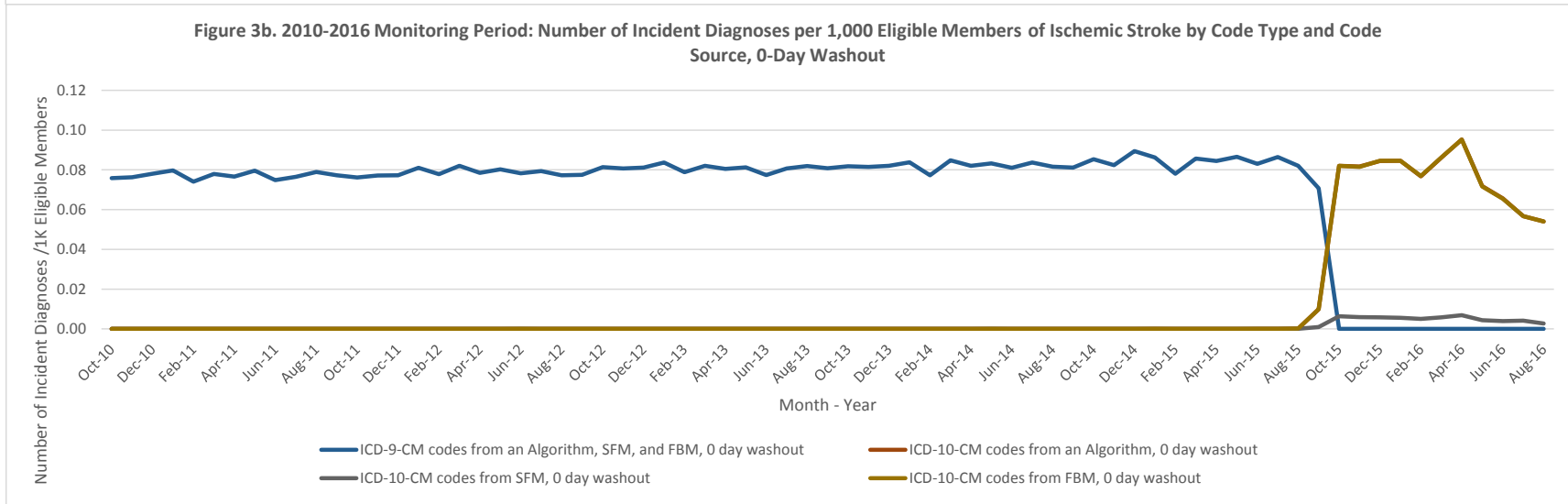
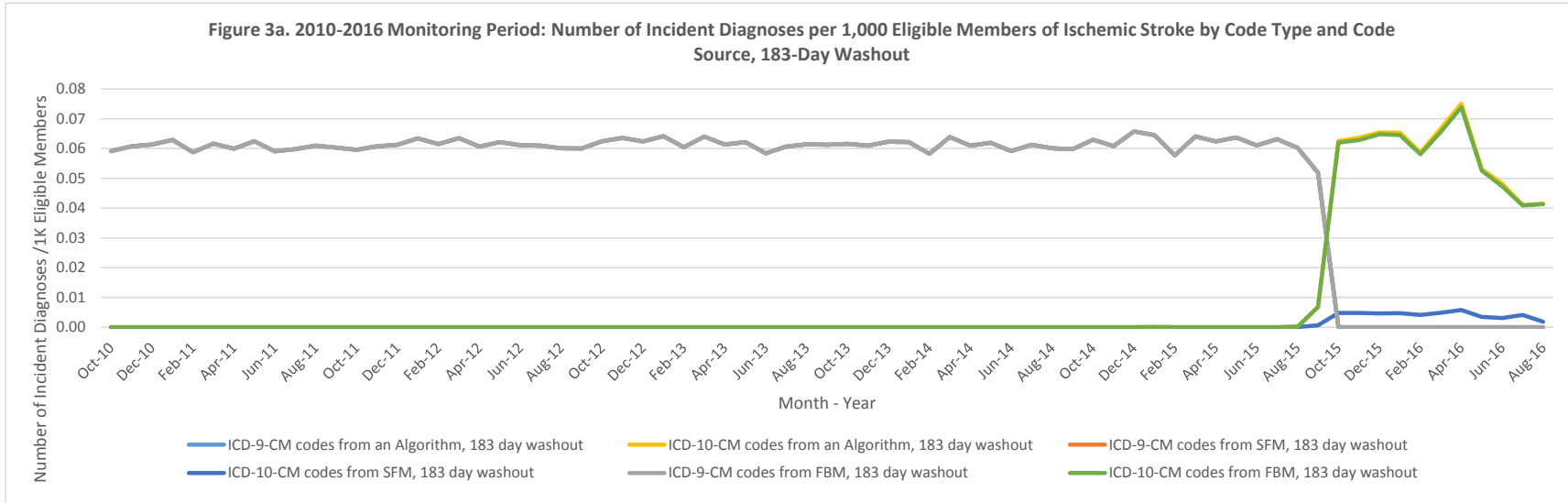


Figure 3c. 2015 Monitoring Period: Number of Incident Diagnoses per 1,000 Eligible Members of Ischemic Stroke by Code Type and Code Source, 90-Day Washout

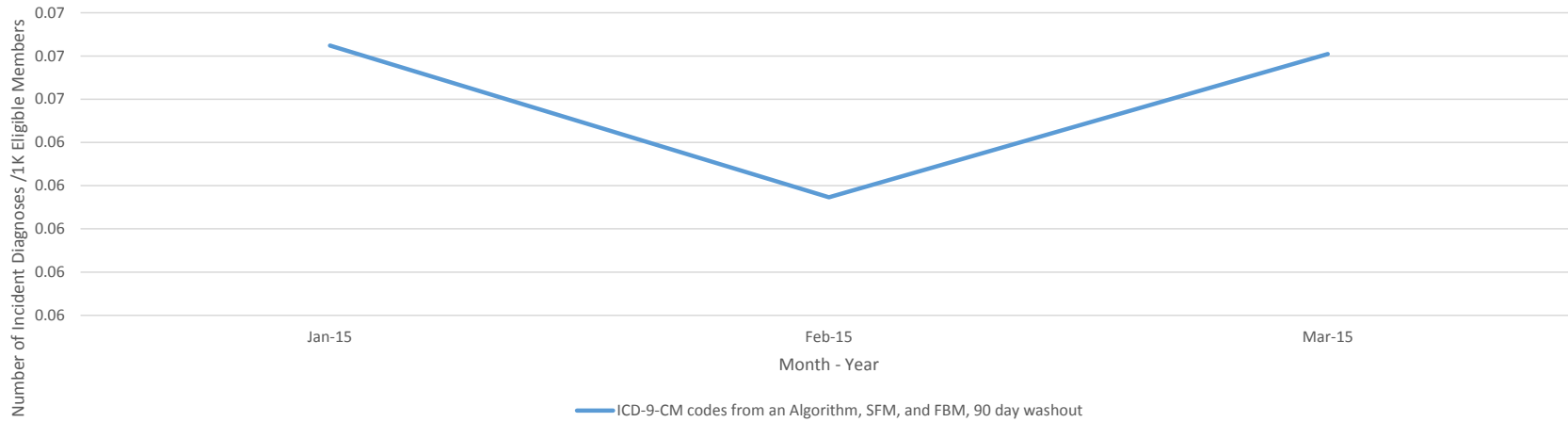
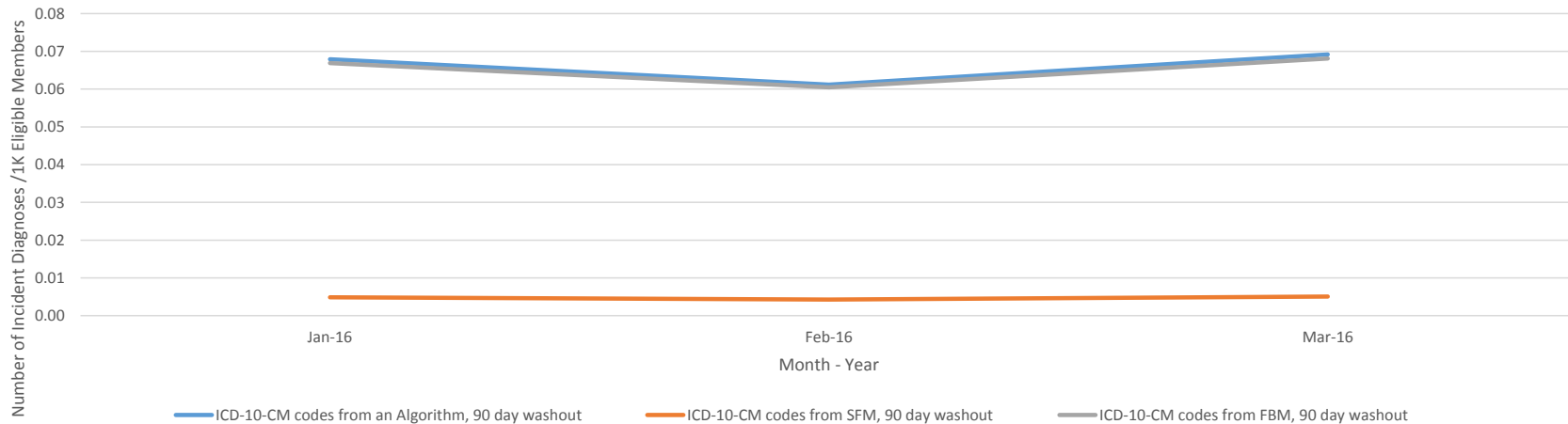


Figure 3d. 2016 Monitoring Period: Number of Incident Diagnoses per 1,000 Eligible Members of Ischemic Stroke by Code Type and Code Source, 90-Day Washout



Appendix A. Latest Date of Available Data for Each Data Partner up to Request End Date (8/31/2016)

DP ID	Start Date	End Date
DP0001	10/1/2010	6/30/2016
DP0002	10/1/2010	4/30/2016
DP0003	10/1/2010	6/30/2016
DP0004	10/1/2010	7/31/2016
DP0005	10/1/2010	7/31/2016
DP0006	10/1/2010	6/30/2016
DP0007	10/1/2010	5/31/2016
DP0008	10/1/2010	7/31/2016
DP0009	10/1/2010	8/31/2016
DP0010	10/1/2010	3/31/2016
DP0011	10/1/2010	4/30/2016

Appendix B. List of Codes used to define Angioedema, Algorithm (Incident)

Code	Description	Code Type
995.1	Angioneurotic edema not elsewhere classified	ICD-9-CM
T78.3XXA	Angioneurotic edema, initial encounter	ICD-10-CM

Appendix C. List of Codes used to define Angioedema, Algorithm (Incidence Definition)

Code	Description	Code Type
995.1	Angioneurotic edema not elsewhere classified	ICD-9-CM
T78.3XXA	Angioneurotic edema, initial encounter	ICD-10-CM
T78.3XXD	Angioneurotic edema, subsequent encounter	ICD-10-CM
T78.3XXS	Angioneurotic edema, sequela	ICD-10-CM

Appendix D. List of Codes used to define Angioedema, Simple Forward Mapping (SFM) and Forward Backward Mapping (FBM)

Code	Description	Code Type
995.1	Angioneurotic edema not elsewhere classified	ICD-9-CM
T78.3XXA	Angioneurotic edema, initial encounter	ICD-10-CM

Appendix E. List of Codes used to define Acute Myocardial Infarction (AMI), Algorithm

Code	Description	Code Type
410.00	Acute myocardial infarction of anterolateral wall, episode of care unspecified	ICD-9-CM
410.01	Acute myocardial infarction of anterolateral wall, initial episode of care	ICD-9-CM
410.10	Acute myocardial infarction of other anterior wall, episode of care unspecified	ICD-9-CM
410.11	Acute myocardial infarction of other anterior wall, initial episode of care	ICD-9-CM
410.20	Acute myocardial infarction of inferolateral wall, episode of care unspecified	ICD-9-CM
410.21	Acute myocardial infarction of inferolateral wall, initial episode of care	ICD-9-CM
410.30	Acute myocardial infarction of inferoposterior wall, episode of care unspecified	ICD-9-CM
410.31	Acute myocardial infarction of inferoposterior wall, initial episode of care	ICD-9-CM
410.40	Acute myocardial infarction of other inferior wall, episode of care unspecified	ICD-9-CM
410.41	Acute myocardial infarction of other inferior wall, initial episode of care	ICD-9-CM
410.50	Acute myocardial infarction of other lateral wall, episode of care unspecified	ICD-9-CM
410.51	Acute myocardial infarction of other lateral wall, initial episode of care	ICD-9-CM
410.60	Acute myocardial infarction, true posterior wall infarction, episode of care unspecified	ICD-9-CM
410.61	Acute myocardial infarction, true posterior wall infarction, initial episode of care	ICD-9-CM
410.70	Acute myocardial infarction, subendocardial infarction, episode of care unspecified	ICD-9-CM
410.71	Acute myocardial infarction, subendocardial infarction, initial episode of care	ICD-9-CM
410.80	Acute myocardial infarction of other specified sites, episode of care unspecified	ICD-9-CM
410.81	Acute myocardial infarction of other specified sites, initial episode of care	ICD-9-CM
410.90	Acute myocardial infarction, unspecified site, episode of care unspecified	ICD-9-CM
410.91	Acute myocardial infarction, unspecified site, initial episode of care	ICD-9-CM
I21.4	Non-ST elevation (NSTEMI) myocardial infarction	ICD-10-CM
I21.02	ST elevation (STEMI) myocardial infarction involving left anterior descending coronary artery	ICD-10-CM
I21.21	ST elevation (STEMI) myocardial infarction involving left circumflex coronary artery	ICD-10-CM
I21.01	ST elevation (STEMI) myocardial infarction involving left main coronary artery	ICD-10-CM
I21.09	ST elevation (STEMI) myocardial infarction involving other coronary artery of anterior wall	ICD-10-CM
I21.19	ST elevation (STEMI) myocardial infarction involving other coronary artery of inferior wall	ICD-10-CM
I21.29	ST elevation (STEMI) myocardial infarction involving other sites	ICD-10-CM
I21.11	ST elevation (STEMI) myocardial infarction involving right coronary artery	ICD-10-CM
I21.0	ST elevation (STEMI) myocardial infarction of anterior wall	ICD-10-CM
I21.1	ST elevation (STEMI) myocardial infarction of inferior wall	ICD-10-CM
I21.2	ST elevation (STEMI) myocardial infarction of other sites	ICD-10-CM
I21.3	ST elevation (STEMI) myocardial infarction of unspecified site	ICD-10-CM

Appendix F. List of Codes used to define Acute Myocardial Infarction (AMI), Simple Forward Mapping (SFM)

Code	Description	Code Type
410.00	Acute myocardial infarction of anterolateral wall, episode of care unspecified	ICD-9-CM
410.01	Acute myocardial infarction of anterolateral wall, initial episode of care	ICD-9-CM
410.10	Acute myocardial infarction of other anterior wall, episode of care unspecified	ICD-9-CM
410.11	Acute myocardial infarction of other anterior wall, initial episode of care	ICD-9-CM
410.20	Acute myocardial infarction of inferolateral wall, episode of care unspecified	ICD-9-CM
410.21	Acute myocardial infarction of inferolateral wall, initial episode of care	ICD-9-CM
410.30	Acute myocardial infarction of inferoposterior wall, episode of care unspecified	ICD-9-CM
410.31	Acute myocardial infarction of inferoposterior wall, initial episode of care	ICD-9-CM
410.40	Acute myocardial infarction of other inferior wall, episode of care unspecified	ICD-9-CM
410.41	Acute myocardial infarction of other inferior wall, initial episode of care	ICD-9-CM
410.50	Acute myocardial infarction of other lateral wall, episode of care unspecified	ICD-9-CM
410.51	Acute myocardial infarction of other lateral wall, initial episode of care	ICD-9-CM
410.60	Acute myocardial infarction, true posterior wall infarction, episode of care unspecified	ICD-9-CM
410.61	Acute myocardial infarction, true posterior wall infarction, initial episode of care	ICD-9-CM
410.70	Acute myocardial infarction, subendocardial infarction, episode of care unspecified	ICD-9-CM
410.71	Acute myocardial infarction, subendocardial infarction, initial episode of care	ICD-9-CM
410.80	Acute myocardial infarction of other specified sites, episode of care unspecified	ICD-9-CM
410.81	Acute myocardial infarction of other specified sites, initial episode of care	ICD-9-CM
410.90	Acute myocardial infarction, unspecified site, episode of care unspecified	ICD-9-CM
410.91	Acute myocardial infarction, unspecified site, initial episode of care	ICD-9-CM
I21.09	ST elevation (STEMI) myocardial infarction involving other coronary artery of anterior wall	ICD-10-CM
I21.19	ST elevation (STEMI) myocardial infarction involving other coronary artery of inferior wall	ICD-10-CM
I21.11	ST elevation (STEMI) myocardial infarction involving right coronary artery	ICD-10-CM
I21.29	ST elevation (STEMI) myocardial infarction involving other sites	ICD-10-CM
I21.4	Non-ST elevation (NSTEMI) myocardial infarction	ICD-10-CM
I21.3	ST elevation (STEMI) myocardial infarction of unspecified site	ICD-10-CM

Appendix G. List of Codes used to define Acute Myocardial Infarction (AMI), Forward Backward Mapping (FBM)

Code	Description	Code Type
410.00	Acute myocardial infarction of anterolateral wall, episode of care unspecified	ICD-9-CM
410.01	Acute myocardial infarction of anterolateral wall, initial episode of care	ICD-9-CM
410.10	Acute myocardial infarction of other anterior wall, episode of care unspecified	ICD-9-CM
410.11	Acute myocardial infarction of other anterior wall, initial episode of care	ICD-9-CM
410.20	Acute myocardial infarction of inferolateral wall, episode of care unspecified	ICD-9-CM
410.21	Acute myocardial infarction of inferolateral wall, initial episode of care	ICD-9-CM
410.30	Acute myocardial infarction of inferoposterior wall, episode of care unspecified	ICD-9-CM
410.31	Acute myocardial infarction of inferoposterior wall, initial episode of care	ICD-9-CM
410.40	Acute myocardial infarction of other inferior wall, episode of care unspecified	ICD-9-CM
410.41	Acute myocardial infarction of other inferior wall, initial episode of care	ICD-9-CM
410.50	Acute myocardial infarction of other lateral wall, episode of care unspecified	ICD-9-CM
410.51	Acute myocardial infarction of other lateral wall, initial episode of care	ICD-9-CM
410.60	Acute myocardial infarction, true posterior wall infarction, episode of care unspecified	ICD-9-CM
410.61	Acute myocardial infarction, true posterior wall infarction, initial episode of care	ICD-9-CM
410.70	Acute myocardial infarction, subendocardial infarction, episode of care unspecified	ICD-9-CM
410.71	Acute myocardial infarction, subendocardial infarction, initial episode of care	ICD-9-CM
410.80	Acute myocardial infarction of other specified sites, episode of care unspecified	ICD-9-CM
410.81	Acute myocardial infarction of other specified sites, initial episode of care	ICD-9-CM
410.90	Acute myocardial infarction, unspecified site, episode of care unspecified	ICD-9-CM
410.91	Acute myocardial infarction, unspecified site, initial episode of care	ICD-9-CM
I21.09	ST elevation (STEMI) myocardial infarction involving other coronary artery of anterior wall	ICD-10-CM
I21.19	ST elevation (STEMI) myocardial infarction involving other coronary artery of inferior wall	ICD-10-CM
I21.11	ST elevation (STEMI) myocardial infarction involving right coronary artery	ICD-10-CM
I21.29	ST elevation (STEMI) myocardial infarction involving other sites	ICD-10-CM
I21.4	Non-ST elevation (NSTEMI) myocardial infarction	ICD-10-CM
I21.3	ST elevation (STEMI) myocardial infarction of unspecified site	ICD-10-CM
I21.01	ST elevation (STEMI) myocardial infarction involving left main coronary artery	ICD-10-CM
I21.02	ST elevation (STEMI) myocardial infarction involving left anterior descending coronary artery	ICD-10-CM
I22.0	Subsequent ST elevation (STEMI) myocardial infarction of anterior wall	ICD-10-CM
I22.1	Subsequent ST elevation (STEMI) myocardial infarction of inferior wall	ICD-10-CM
I22.8	Subsequent ST elevation (STEMI) myocardial infarction of other sites	ICD-10-CM
I22.2	Subsequent non-ST elevation (NSTEMI) myocardial infarction	ICD-10-CM
I22.9	Subsequent ST elevation (STEMI) myocardial infarction of unspecified site	ICD-10-CM
I21.21	ST elevation (STEMI) myocardial infarction involving left circumflex coronary artery	ICD-10-CM

Appendix H. List of Codes used to define Ischemic Stroke, Algorithm

Code	Description	Code Type
433.01	Occlusion and stenosis of basilar artery with cerebral infarction	ICD-9-CM
433.11	Occlusion and stenosis of carotid artery with cerebral infarction	ICD-9-CM
433.21	Occlusion and stenosis of vertebral artery with cerebral infarction	ICD-9-CM
433.31	Occlusion and stenosis of multiple and bilateral precerebral arteries with cerebral infarction	ICD-9-CM
433.81	Occlusion and stenosis of other specified precerebral artery with cerebral infarction	ICD-9-CM
433.91	Occlusion and stenosis of unspecified precerebral artery with cerebral infarction	ICD-9-CM
434.01	Cerebral thrombosis with cerebral infarction	ICD-9-CM
434.11	Cerebral embolism with cerebral infarction	ICD-9-CM
434.91	Unspecified cerebral artery occlusion with cerebral infarction	ICD-9-CM
436	Acute, but ill-defined, cerebrovascular disease	ICD-9-CM
H34.1	Central retinal artery occlusion	ICD-10-CM
H34.13	Central retinal artery occlusion, bilateral	ICD-10-CM
H34.12	Central retinal artery occlusion, left eye	ICD-10-CM
H34.11	Central retinal artery occlusion, right eye	ICD-10-CM
H34.10	Central retinal artery occlusion, unspecified eye	ICD-10-CM
I63.41	Cerebral infarction due to embolism of middle cerebral artery	ICD-10-CM
I63.422	Cerebral infarction due to embolism of left anterior cerebral artery	ICD-10-CM
I63.52	Cerebral infarction due to unspecified occlusion or stenosis of anterior cerebral artery	ICD-10-CM
I63.139	Cerebral infarction due to embolism of unspecified carotid artery	ICD-10-CM
I63.212	Cerebral infarction due to unspecified occlusion or stenosis of left vertebral arteries	ICD-10-CM
I63.541	Cerebral infarction due to unspecified occlusion or stenosis of right cerebellar artery	ICD-10-CM
I63.339	Cerebral infarction due to thrombosis of unspecified posterior cerebral artery	ICD-10-CM
I63.1	Cerebral infarction due to embolism of precerebral arteries	ICD-10-CM
I63.5	Cerebral infarction due to unspecified occlusion or stenosis of cerebral arteries	ICD-10-CM
I63.119	Cerebral infarction due to embolism of unspecified vertebral artery	ICD-10-CM
I63.2	Cerebral infarction due to unspecified occlusion or stenosis of precerebral arteries	ICD-10-CM
I63.039	Cerebral infarction due to thrombosis of unspecified carotid artery	ICD-10-CM
I63.33	Cerebral infarction due to thrombosis of posterior cerebral artery	ICD-10-CM
I63.42	Cerebral infarction due to embolism of anterior cerebral artery	ICD-10-CM
I63.032	Cerebral infarction due to thrombosis of left carotid artery	ICD-10-CM
I63.419	Cerebral infarction due to embolism of unspecified middle cerebral artery	ICD-10-CM
I63.513	Cerebral infarction due to unspecified occlusion or stenosis of bilateral middle arteries	ICD-10-CM
I63.532	Cerebral infarction due to unspecified occlusion or stenosis of left posterior cerebral artery	ICD-10-CM
I63.01	Cerebral infarction due to thrombosis of vertebral artery	ICD-10-CM
I63.10	Cerebral infarction due to embolism of unspecified precerebral artery	ICD-10-CM
I63.21	Cerebral infarction due to unspecified occlusion or stenosis of vertebral arteries	ICD-10-CM
I63.133	Cerebral infarction due to embolism of bilateral carotid arteries	ICD-10-CM
I63.32	Cerebral infarction due to thrombosis of anterior cerebral artery	ICD-10-CM
I63.239	Cerebral infarction due to unspecified occlusion or stenosis of unspecified carotid arteries	ICD-10-CM
I63.411	Cerebral infarction due to embolism of right middle cerebral artery	ICD-10-CM
I63.132	Cerebral infarction due to embolism of left carotid artery	ICD-10-CM
I63.34	Cerebral infarction due to thrombosis of cerebellar artery	ICD-10-CM
I63.313	Cerebral infarction due to thrombosis of bilateral middle cerebral arteries	ICD-10-CM
I63.6	Cerebral infarction due to cerebral venous thrombosis, nonpyogenic	ICD-10-CM
I63.49	Cerebral infarction due to embolism of other cerebral artery	ICD-10-CM
I63.03	Cerebral infarction due to thrombosis of carotid artery	ICD-10-CM
I63.341	Cerebral infarction due to thrombosis of right cerebellar artery	ICD-10-CM
I63.412	Cerebral infarction due to embolism of left middle cerebral artery	ICD-10-CM
I63.323	Cerebral infarction due to thrombosis of bilateral anterior arteries	ICD-10-CM
I63.211	Cerebral infarction due to unspecified occlusion or stenosis of right vertebral arteries	ICD-10-CM
I63.529	Cerebral infarction due to unspecified occlusion or stenosis of unspecified anterior cerebral artery	ICD-10-CM
I63.31	Cerebral infarction due to thrombosis of middle cerebral artery	ICD-10-CM

Appendix H. List of Codes used to define Ischemic Stroke, Algorithm

Code	Description	Code Type
I63.331	Cerebral infarction due to thrombosis of right posterior cerebral artery	ICD-10-CM
I63.51	Cerebral infarction due to unspecified occlusion or stenosis of middle cerebral artery	ICD-10-CM
I63.231	Cerebral infarction due to unspecified occlusion or stenosis of right carotid arteries	ICD-10-CM
I63.421	Cerebral infarction due to embolism of right anterior cerebral artery	ICD-10-CM
I63.50	Cerebral infarction due to unspecified occlusion or stenosis of unspecified cerebral artery	ICD-10-CM
I63.232	Cerebral infarction due to unspecified occlusion or stenosis of left carotid arteries	ICD-10-CM
I63.332	Cerebral infarction due to thrombosis of left posterior cerebral artery	ICD-10-CM
I63.443	Cerebral infarction due to embolism of bilateral cerebellar arteries	ICD-10-CM
I63.521	Cerebral infarction due to unspecified occlusion or stenosis of right anterior cerebral artery	ICD-10-CM
I63.00	Cerebral infarction due to thrombosis of unspecified precerebral artery	ICD-10-CM
I63.29	Cerebral infarction due to unspecified occlusion or stenosis of other precerebral arteries	ICD-10-CM
I63.349	Cerebral infarction due to thrombosis of unspecified cerebellar artery	ICD-10-CM
I63.033	Cerebral infarction due to thrombosis of bilateral carotid arteries	ICD-10-CM
I63.8	Other cerebral infarction	ICD-10-CM
I63.19	Cerebral infarction due to embolism of other precerebral artery	ICD-10-CM
I63.449	Cerebral infarction due to embolism of unspecified cerebellar artery	ICD-10-CM
I63.11	Cerebral infarction due to embolism of vertebral artery	ICD-10-CM
I63.113	Cerebral infarction due to embolism of bilateral vertebral arteries	ICD-10-CM
I63.43	Cerebral infarction due to embolism of posterior cerebral artery	ICD-10-CM
I63.523	Cerebral infarction due to unspecified occlusion or stenosis of bilateral anterior arteries	ICD-10-CM
I63.539	Cerebral infarction due to unspecified occlusion or stenosis of unspecified posterior cerebral artery	ICD-10-CM
I63.549	Cerebral infarction due to unspecified occlusion or stenosis of unspecified cerebellar artery	ICD-10-CM
I63.423	Cerebral infarction due to embolism of bilateral anterior cerebral arteries	ICD-10-CM
I63.44	Cerebral infarction due to embolism of cerebellar artery	ICD-10-CM
I63.321	Cerebral infarction due to thrombosis of right anterior cerebral artery	ICD-10-CM
I63.40	Cerebral infarction due to embolism of unspecified cerebral artery	ICD-10-CM
I63.20	Cerebral infarction due to unspecified occlusion or stenosis of unspecified precerebral arteries	ICD-10-CM
I63.54	Cerebral infarction due to unspecified occlusion or stenosis of cerebellar artery	ICD-10-CM
I63.013	Cerebral infarction due to thrombosis of bilateral vertebral arteries	ICD-10-CM
I63.342	Cerebral infarction due to thrombosis of left cerebellar artery	ICD-10-CM
I63.02	Cerebral infarction due to thrombosis of basilar artery	ICD-10-CM
I63.311	Cerebral infarction due to thrombosis of right middle cerebral artery	ICD-10-CM
I63.9	Cerebral infarction, unspecified	ICD-10-CM
I63.329	Cerebral infarction due to thrombosis of unspecified anterior cerebral artery	ICD-10-CM
I63.519	Cerebral infarction due to unspecified occlusion or stenosis of unspecified middle cerebral artery	ICD-10-CM
I63.111	Cerebral infarction due to embolism of right vertebral artery	ICD-10-CM
I63.112	Cerebral infarction due to embolism of left vertebral artery	ICD-10-CM
I63.39	Cerebral infarction due to thrombosis of other cerebral artery	ICD-10-CM
I63.413	Cerebral infarction due to embolism of bilateral middle cerebral arteries	ICD-10-CM
I63.441	Cerebral infarction due to embolism of right cerebellar artery	ICD-10-CM
I63.322	Cerebral infarction due to thrombosis of left anterior cerebral artery	ICD-10-CM
I63.543	Cerebral infarction due to unspecified occlusion or stenosis of bilateral cerebellar arteries	ICD-10-CM
I63.511	Cerebral infarction due to unspecified occlusion or stenosis of right middle cerebral artery	ICD-10-CM
I63.13	Cerebral infarction due to embolism of carotid artery	ICD-10-CM
I63.442	Cerebral infarction due to embolism of left cerebellar artery	ICD-10-CM
I63.011	Cerebral infarction due to thrombosis of right vertebral artery	ICD-10-CM
I63.343	Cerebral infarction to thrombosis of bilateral cerebellar arteries	ICD-10-CM
I63.30	Cerebral infarction due to thrombosis of unspecified cerebral artery	ICD-10-CM
I63.432	Cerebral infarction due to embolism of left posterior cerebral artery	ICD-10-CM
I63.219	Cerebral infarction due to unspecified occlusion or stenosis of unspecified vertebral arteries	ICD-10-CM
I63.439	Cerebral infarction due to embolism of unspecified posterior cerebral artery	ICD-10-CM
I63.53	Cerebral infarction due to unspecified occlusion or stenosis of posterior cerebral artery	ICD-10-CM
I63.012	Cerebral infarction due to thrombosis of left vertebral artery	ICD-10-CM

Appendix H. List of Codes used to define Ischemic Stroke, Algorithm

Code	Description	Code Type
I63.213	Cerebral infarction due to unspecified occlusion or stenosis of bilateral vertebral arteries	ICD-10-CM
I63.431	Cerebral infarction due to embolism of right posterior cerebral artery	ICD-10-CM
I63.312	Cerebral infarction due to thrombosis of left middle cerebral artery	ICD-10-CM
I63.22	Cerebral infarction due to unspecified occlusion or stenosis of basilar arteries	ICD-10-CM
I63.0	Cerebral infarction due to thrombosis of precerebral arteries	ICD-10-CM
I63.12	Cerebral infarction due to embolism of basilar artery	ICD-10-CM
I63.533	Cerebral infarction due to unspecified occlusion or stenosis of bilateral posterior arteries	ICD-10-CM
I63.019	Cerebral infarction due to thrombosis of unspecified vertebral artery	ICD-10-CM
I63.131	Cerebral infarction due to embolism of right carotid artery	ICD-10-CM
I63.333	Cerebral infarction to thrombosis of bilateral posterior arteries	ICD-10-CM
I63.031	Cerebral infarction due to thrombosis of right carotid artery	ICD-10-CM
I63.512	Cerebral infarction due to unspecified occlusion or stenosis of left middle cerebral artery	ICD-10-CM
I63.23	Cerebral infarction due to unspecified occlusion or stenosis of carotid arteries	ICD-10-CM
I63.522	Cerebral infarction due to unspecified occlusion or stenosis of left anterior cerebral artery	ICD-10-CM
I63.433	Cerebral infarction due to embolism of bilateral posterior cerebral arteries	ICD-10-CM
I63.59	Cerebral infarction due to unspecified occlusion or stenosis of other cerebral artery	ICD-10-CM
I63.319	Cerebral infarction due to thrombosis of unspecified middle cerebral artery	ICD-10-CM
I63.531	Cerebral infarction due to unspecified occlusion or stenosis of right posterior cerebral artery	ICD-10-CM
I63.3	Cerebral infarction due to thrombosis of cerebral arteries	ICD-10-CM
I63.4	Cerebral infarction due to embolism of cerebral arteries	ICD-10-CM
I63.429	Cerebral infarction due to embolism of unspecified anterior cerebral artery	ICD-10-CM
I63.09	Cerebral infarction due to thrombosis of other precerebral artery	ICD-10-CM
I63.233	Cerebral infarction due to unspecified occlusion or stenosis of bilateral carotid arteries	ICD-10-CM
I63.542	Cerebral infarction due to unspecified occlusion or stenosis of left cerebellar artery	ICD-10-CM

Appendix I. List of Codes used to define Ischemic Stroke, Simple Forward Mapping (SFM)

Code	Description	Code Type
433.01	Occlusion and stenosis of basilar artery with cerebral infarction	ICD-9-CM
433.11	Occlusion and stenosis of carotid artery with cerebral infarction	ICD-9-CM
433.21	Occlusion and stenosis of vertebral artery with cerebral infarction	ICD-9-CM
433.31	Occlusion and stenosis of multiple and bilateral precerebral arteries with cerebral infarction	ICD-9-CM
433.81	Occlusion and stenosis of other specified precerebral artery with cerebral infarction	ICD-9-CM
433.91	Occlusion and stenosis of unspecified precerebral artery with cerebral infarction	ICD-9-CM
434.01	Cerebral thrombosis with cerebral infarction	ICD-9-CM
434.11	Cerebral embolism with cerebral infarction	ICD-9-CM
434.91	Unspecified cerebral artery occlusion with cerebral infarction	ICD-9-CM
436	Acute, but ill-defined, cerebrovascular disease	ICD-9-CM
I63.22	Cerebral infarction due to unspecified occlusion or stenosis of basilar arteries	ICD-10-CM
I63.139	Cerebral infarction due to embolism of unspecified carotid artery	ICD-10-CM
I63.239	Cerebral infarction due to unspecified occlusion or stenosis of unspecified carotid arteries	ICD-10-CM
I63.019	Cerebral infarction due to thrombosis of unspecified vertebral artery	ICD-10-CM
I63.119	Cerebral infarction due to embolism of unspecified vertebral artery	ICD-10-CM
I63.219	Cerebral infarction due to unspecified occlusion or stenosis of unspecified vertebral arteries	ICD-10-CM
I63.59	Cerebral infarction due to unspecified occlusion or stenosis of other cerebral artery	ICD-10-CM
I63.20	Cerebral infarction due to unspecified occlusion or stenosis of unspecified precerebral arteries	ICD-10-CM
I63.30	Cerebral infarction due to thrombosis of unspecified cerebral artery	ICD-10-CM
I63.40	Cerebral infarction due to embolism of unspecified cerebral artery	ICD-10-CM
I63.50	Cerebral infarction due to unspecified occlusion or stenosis of unspecified cerebral artery	ICD-10-CM
I67.89	Other cerebrovascular disease	ICD-10-CM

Appendix J. List of Codes used to define Ischemic Stroke, Forward Backward Mapping (FBM)

Code	Description	Code Type
433.01	Occlusion and stenosis of basilar artery with cerebral infarction	ICD-9-CM
433.11	Occlusion and stenosis of carotid artery with cerebral infarction	ICD-9-CM
433.21	Occlusion and stenosis of vertebral artery with cerebral infarction	ICD-9-CM
433.31	Occlusion and stenosis of multiple and bilateral precerebral arteries with cerebral infarction	ICD-9-CM
433.81	Occlusion and stenosis of other specified precerebral artery with cerebral infarction	ICD-9-CM
433.91	Occlusion and stenosis of unspecified precerebral artery with cerebral infarction	ICD-9-CM
434.01	Cerebral thrombosis with cerebral infarction	ICD-9-CM
434.11	Cerebral embolism with cerebral infarction	ICD-9-CM
434.91	Unspecified cerebral artery occlusion with cerebral infarction	ICD-9-CM
436	Acute, but ill-defined, cerebrovascular disease	ICD-9-CM
I63.22	Cerebral infarction due to unspecified occlusion or stenosis of basilar arteries	ICD-10-CM
I63.139	Cerebral infarction due to embolism of unspecified carotid artery	ICD-10-CM
I63.239	Cerebral infarction due to unspecified occlusion or stenosis of unspecified carotid arteries	ICD-10-CM
I63.019	Cerebral infarction due to thrombosis of unspecified vertebral artery	ICD-10-CM
I63.119	Cerebral infarction due to embolism of unspecified vertebral artery	ICD-10-CM
I63.219	Cerebral infarction due to unspecified occlusion or stenosis of unspecified vertebral arteries	ICD-10-CM
I63.59	Cerebral infarction due to unspecified occlusion or stenosis of other cerebral artery	ICD-10-CM
I63.20	Cerebral infarction due to unspecified occlusion or stenosis of unspecified precerebral arteries	ICD-10-CM
I63.30	Cerebral infarction due to thrombosis of unspecified cerebral artery	ICD-10-CM
I63.40	Cerebral infarction due to embolism of unspecified cerebral artery	ICD-10-CM
I63.50	Cerebral infarction due to unspecified occlusion or stenosis of unspecified cerebral artery	ICD-10-CM
I67.89	Other cerebrovascular disease	ICD-10-CM
I63.00	Cerebral infarction due to thrombosis of unspecified precerebral artery	ICD-10-CM
I63.011	Cerebral infarction due to thrombosis of right vertebral artery	ICD-10-CM
I63.012	Cerebral infarction due to thrombosis of left vertebral artery	ICD-10-CM
I63.013	Cerebral infarction due to thrombosis of bilateral vertebral arteries	ICD-10-CM
I63.02	Cerebral infarction due to thrombosis of basilar artery	ICD-10-CM
I63.031	Cerebral infarction due to thrombosis of right carotid artery	ICD-10-CM
I63.032	Cerebral infarction due to thrombosis of left carotid artery	ICD-10-CM
I63.033	Cerebral infarction due to thrombosis of bilateral carotid arteries	ICD-10-CM
I63.039	Cerebral infarction due to thrombosis of unspecified carotid artery	ICD-10-CM
I63.09	Cerebral infarction due to thrombosis of other precerebral artery	ICD-10-CM
I63.10	Cerebral infarction due to embolism of unspecified precerebral artery	ICD-10-CM
I63.111	Cerebral infarction due to embolism of right vertebral artery	ICD-10-CM
I63.112	Cerebral infarction due to embolism of left vertebral artery	ICD-10-CM
I63.113	Cerebral infarction due to embolism of bilateral vertebral arteries	ICD-10-CM
I63.12	Cerebral infarction due to embolism of basilar artery	ICD-10-CM
I63.131	Cerebral infarction due to embolism of right carotid artery	ICD-10-CM
I63.132	Cerebral infarction due to embolism of left carotid artery	ICD-10-CM
I63.133	Cerebral infarction due to embolism of bilateral carotid arteries	ICD-10-CM
I63.19	Cerebral infarction due to embolism of other precerebral artery	ICD-10-CM
I63.211	Cerebral infarction due to unspecified occlusion or stenosis of right vertebral arteries	ICD-10-CM
I63.212	Cerebral infarction due to unspecified occlusion or stenosis of left vertebral arteries	ICD-10-CM
I63.213	Cerebral infarction due to unspecified occlusion or stenosis of bilateral vertebral arteries	ICD-10-CM
I63.231	Cerebral infarction due to unspecified occlusion or stenosis of right carotid arteries	ICD-10-CM
I63.232	Cerebral infarction due to unspecified occlusion or stenosis of left carotid arteries	ICD-10-CM
I63.233	Cerebral infarction due to unspecified occlusion or stenosis of bilateral carotid arteries	ICD-10-CM
I63.29	Cerebral infarction due to unspecified occlusion or stenosis of other precerebral arteries	ICD-10-CM
I63.311	Cerebral infarction due to thrombosis of right middle cerebral artery	ICD-10-CM
I63.312	Cerebral infarction due to thrombosis of left middle cerebral artery	ICD-10-CM
I63.313	Cerebral infarction due to thrombosis of bilateral middle cerebral arteries	ICD-10-CM
I63.319	Cerebral infarction due to thrombosis of unspecified middle cerebral artery	ICD-10-CM

Appendix J. List of Codes used to define Ischemic Stroke, Forward Backward Mapping (FBM)

Code	Description	Code Type
I63.321	Cerebral infarction due to thrombosis of right anterior cerebral artery	ICD-10-CM
I63.322	Cerebral infarction due to thrombosis of left anterior cerebral artery	ICD-10-CM
I63.323	Cerebral infarction due to thrombosis of bilateral anterior arteries	ICD-10-CM
I63.329	Cerebral infarction due to thrombosis of unspecified anterior cerebral artery	ICD-10-CM
I63.331	Cerebral infarction due to thrombosis of right posterior cerebral artery	ICD-10-CM
I63.332	Cerebral infarction due to thrombosis of left posterior cerebral artery	ICD-10-CM
I63.333	Cerebral infarction to thrombosis of bilateral posterior arteries	ICD-10-CM
I63.339	Cerebral infarction due to thrombosis of unspecified posterior cerebral artery	ICD-10-CM
I63.341	Cerebral infarction due to thrombosis of right cerebellar artery	ICD-10-CM
I63.342	Cerebral infarction due to thrombosis of left cerebellar artery	ICD-10-CM
I63.343	Cerebral infarction to thrombosis of bilateral cerebellar arteries	ICD-10-CM
I63.349	Cerebral infarction due to thrombosis of unspecified cerebellar artery	ICD-10-CM
I63.39	Cerebral infarction due to thrombosis of other cerebral artery	ICD-10-CM
I63.411	Cerebral infarction due to embolism of right middle cerebral artery	ICD-10-CM
I63.412	Cerebral infarction due to embolism of left middle cerebral artery	ICD-10-CM
I63.413	Cerebral infarction due to embolism of bilateral middle cerebral arteries	ICD-10-CM
I63.419	Cerebral infarction due to embolism of unspecified middle cerebral artery	ICD-10-CM
I63.421	Cerebral infarction due to embolism of right anterior cerebral artery	ICD-10-CM
I63.422	Cerebral infarction due to embolism of left anterior cerebral artery	ICD-10-CM
I63.423	Cerebral infarction due to embolism of bilateral anterior cerebral arteries	ICD-10-CM
I63.429	Cerebral infarction due to embolism of unspecified anterior cerebral artery	ICD-10-CM
I63.431	Cerebral infarction due to embolism of right posterior cerebral artery	ICD-10-CM
I63.432	Cerebral infarction due to embolism of left posterior cerebral artery	ICD-10-CM
I63.433	Cerebral infarction due to embolism of bilateral posterior cerebral arteries	ICD-10-CM
I63.439	Cerebral infarction due to embolism of unspecified posterior cerebral artery	ICD-10-CM
I63.441	Cerebral infarction due to embolism of right cerebellar artery	ICD-10-CM
I63.442	Cerebral infarction due to embolism of left cerebellar artery	ICD-10-CM
I63.443	Cerebral infarction due to embolism of bilateral cerebellar arteries	ICD-10-CM
I63.449	Cerebral infarction due to embolism of unspecified cerebellar artery	ICD-10-CM
I63.49	Cerebral infarction due to embolism of other cerebral artery	ICD-10-CM
I63.511	Cerebral infarction due to unspecified occlusion or stenosis of right middle cerebral artery	ICD-10-CM
I63.512	Cerebral infarction due to unspecified occlusion or stenosis of left middle cerebral artery	ICD-10-CM
I63.513	Cerebral infarction due to unspecified occlusion or stenosis of bilateral middle arteries	ICD-10-CM
I63.519	Cerebral infarction due to unspecified occlusion or stenosis of unspecified middle cerebral artery	ICD-10-CM
I63.521	Cerebral infarction due to unspecified occlusion or stenosis of right anterior cerebral artery	ICD-10-CM
I63.522	Cerebral infarction due to unspecified occlusion or stenosis of left anterior cerebral artery	ICD-10-CM
I63.523	Cerebral infarction due to unspecified occlusion or stenosis of bilateral anterior arteries	ICD-10-CM
I63.529	Cerebral infarction due to unspecified occlusion or stenosis of unspecified anterior cerebral artery	ICD-10-CM
I63.531	Cerebral infarction due to unspecified occlusion or stenosis of right posterior cerebral artery	ICD-10-CM
I63.532	Cerebral infarction due to unspecified occlusion or stenosis of left posterior cerebral artery	ICD-10-CM
I63.533	Cerebral infarction due to unspecified occlusion or stenosis of bilateral posterior arteries	ICD-10-CM
I63.539	Cerebral infarction due to unspecified occlusion or stenosis of unspecified posterior cerebral artery	ICD-10-CM
I63.541	Cerebral infarction due to unspecified occlusion or stenosis of right cerebellar artery	ICD-10-CM
I63.542	Cerebral infarction due to unspecified occlusion or stenosis of left cerebellar artery	ICD-10-CM
I63.543	Cerebral infarction due to unspecified occlusion or stenosis of bilateral cerebellar arteries	ICD-10-CM
I63.549	Cerebral infarction due to unspecified occlusion or stenosis of unspecified cerebellar artery	ICD-10-CM
I63.6	Cerebral infarction due to cerebral venous thrombosis, nonpyogenic	ICD-10-CM
I63.8	Other cerebral infarction	ICD-10-CM
I63.9	Cerebral infarction, unspecified	ICD-10-CM

Appendix K. Cohort Identification and Descriptive Analysis Tool (CIDA) Specifications for ICD-10 Level 1 Request Part One: Angioedema
Modular Program Specifications for ICD10_MPL1R_WP001_NSPD_V01

Sentinel's Cohort Identification and Descriptive Analysis (CIDA) tool, version 3.3.2, was used to compare the frequency of diagnoses for a selection of health outcomes using ICD-9 versus ICD-10 codes.

Enrollment Gap: 45 Days
Age Groups: 0-17, 18-49, 50-64, 65+ Years
Enrollment Requirement: 183 Days
Coverage Requirement: Medical Coverage

Event									
Scenario	Code Source	Query Start Date	Query End Date	Event	Care Setting	Incident w/ respect to:	Washout (days)	Incident w/ respect to Care Setting	Cohort Definition
1	Algorithm	10/1/2010	Current	Angioedema diagnosis (only ICD-9 code 995.1)	Any	Angioedema diagnosis (ICD-9: 995.1 or ICD-10: T78.3XXA, T78.3XXD, T78.3XXS)	183	Any	01
2	SFM and FBM	10/1/2010	Current	Angioedema diagnosis (only ICD-9 code 995.1)	Any	Angioedema diagnosis (ICD-9: 995.1 or ICD-10: T78.3XXA)	183	Any	01
3	Algorithm	10/1/2010	Current	Angioedema diagnosis (only ICD-10 code T78.3XXA)	Any	Angioedema diagnosis (ICD-9: 995.1 or ICD-10: T78.3XXA, T78.3XXD, T78.3XXS)	183	Any	01
4	SFM and FBM	10/1/2010	Current	Angioedema diagnosis (only ICD-10 code T78.3XXA)	Any	Angioedema diagnosis (ICD-9: 995.1 or ICD-10: T78.3XXA)	183	Any	01
5	Algorithm, SFM, and FBM	1/1/2015	3/31/2015	Angioedema diagnosis (only ICD-9 code 995.1)	Any	Angioedema diagnosis (only ICD-9 code 995.1)	90	Any	01
6	Algorithm	1/1/2016	3/31/2016	Angioedema diagnosis (only ICD-10 code T78.3XXA)	Any	Angioedema diagnosis (only ICD-10 code T78.3XXA, T78.3XXD, T78.3XXS)	90	Any	01
7	SFM and FBM	1/1/2016	3/31/2016	Angioedema diagnosis (only ICD-10 code T78.3XXA)	Any	Angioedema diagnosis (only ICD-10 code T78.3XXA)	90	Any	01
8	Algorithm, SFM, and FBM	10/1/2010	Current	Angioedema diagnosis (only ICD-9 code 995.1)	Any	NA	0	Any	02
9	Algorithm	10/1/2010	Current	Angioedema diagnosis (only ICD-10 code T78.3XXA, T78.3XXD, T78.3XXS)	Any	NA	0	Any	02
10	SFM and FBM	10/1/2010	Current	Angioedema diagnosis (only ICD-10 code T78.3XXA)	Any	NA	0	Any	02

ICD-9-CM and ICD-10-CM diagnosis codes are provided by Optum360.

Appendix L. Cohort Identification and Descriptive Analysis Tool (CIDA) Specifications for ICD-10 Level 1 Request Part One: Acute Myocardial Infarction (AMI)

Modular Program Specifications for ICD10_MPL1R_WP001_NSPD_V01

Sentinel's Cohort Identification and Descriptive Analysis (CIDA) tool, version 3.3.2, was used to compare the frequency of diagnoses for a selection of health outcomes using ICD-9 versus ICD-10 codes.

Enrollment Gap: 45 Days
Age Groups: 0-17, 18-49, 50-64, 65+ Years
Enrollment Requirement: 183 Days
Coverage Requirement: Medical Coverage

Event

Scenario	Code Source	Query Start Date	Query End Date	Event	Care Setting	Incident w/ respect to:	Washout (days)	Incident w/ respect to Care Setting	Cohort Definition
1	Algorithm	10/1/2010	Current	AMI diagnosis (only ICD-9: 410.x0 or 410.x1)	IPP	AMI diagnosis (ICD-9: 410.x0 or 410.x1 or ICD-10: I21.x)	183	Any	01
2	SFM	10/1/2010	Current	AMI diagnosis (only ICD-9: 410.x0 or 410.x1)	IPP	AMI diagnosis (ICD-9: 410.x0 or 410.x1 or ICD-10: I21.09, I21.11, I21.19, I21.29, I21.3, I21.4)	183	Any	01
3	FBM	10/1/2010	Current	AMI diagnosis (only ICD-9: 410.x0 or 410.x1)	IPP	AMI diagnosis (ICD-9: 410.x0 or 410.x1 or ICD-10: I21.09, I21.19, I21.11, I21.29, I21.4, I21.3, I21.01, I21.02, I22.0, I22.1, I22.8, I22.2, I22.9, I21.21)	183	Any	01
4	Algorithm	10/1/2010	Current	AMI diagnosis (only ICD-10: I21.x)	IPP	AMI diagnosis (ICD-9: 410.x0 or 410.x1 or ICD-10: I21.x)	183	Any	01
5	SFM	10/1/2010	Current	AMI diagnosis (only ICD-10: I21.09, I21.11, I21.19, I21.29, I21.3, I21.4)	IPP	AMI diagnosis (ICD-9: 410.x0 or 410.x1 or ICD-10: I21.09, I21.11, I21.19, I21.29, I21.3, I21.4)	183	Any	01
6	FBM	10/1/2010	Current	AMI diagnosis (only ICD-10: I21.09, I21.19, I21.11, I21.29, I21.4, I21.3, I21.01, I21.02, I22.0, I22.1, I22.8, I22.2, I22.9, I21.21)	IPP	AMI diagnosis (ICD-9: 410.x0 or 410.x1 or ICD-10: I21.09, I21.19, I21.11, I21.29, I21.4, I21.3, I21.01, I21.02, I22.0, I22.1, I22.8, I22.2, I22.9, I21.21)	183	Any	01
7	Algorithm, SFM, and FBM	1/1/2015	3/31/2015	AMI diagnosis (only ICD-9: 410.x0 or 410.x1)	IPP	AMI diagnosis (only ICD-9: 410.x0 or 410.x1)	90	Any	01
8	Algorithm	1/1/2016	3/31/2016	AMI diagnosis (only ICD-10: I21.x)	IPP	AMI diagnosis (only ICD-10: I21.x)	90	Any	01
9	SFM	1/1/2016	3/31/2016	AMI diagnosis (only ICD-10: I21.09, I21.11, I21.19, I21.29, I21.3, I21.4)	IPP	AMI diagnosis (only ICD-10: I21.09, I21.11, I21.19, I21.29, I21.3, I21.4)	90	Any	01
10	FBM	1/1/2016	3/31/2016	AMI diagnosis (only ICD-10: I21.09, I21.19, I21.11, I21.29, I21.4, I21.3, I21.01, I21.02, I22.0, I22.1, I22.8, I22.2, I22.9, I21.21)	IPP	AMI diagnosis (only ICD-10: I21.09, I21.19, I21.11, I21.29, I21.4, I21.3, I21.01, I21.02, I22.0, I22.1, I22.8, I22.2, I22.9, I21.21)	90	Any	01
11	Algorithm, SFM, and FBM	10/1/2010	Current	AMI diagnosis (only ICD-9: 410.x0, 410.x1, 410.x2)	Any	NA	0	Any	02
12	Algorithm	10/1/2010	Current	AMI diagnosis (only ICD-10: I21.x)	Any	NA	0	Any	02
13	SFM	10/1/2010	Current	AMI diagnosis (only ICD-10: I21.09, I21.11, I21.19, I21.29, I21.3, I21.4)	Any	NA	0	Any	02
14	FBM	10/1/2010	Current	AMI diagnosis (only ICD-10: I21.09, I21.19, I21.11, I21.29, I21.4, I21.3, I21.01, I21.02, I22.0, I22.1, I22.8, I22.2, I22.9, I21.21)	Any	NA	0	Any	02

ICD-9-CM and ICD-10-CM diagnosis codes are provided by Optum360.

Appendix M. Cohort Identification and Descriptive Analysis Tool (CIDA) Specifications for ICD-10 Level 1 Request Part One: Ischemic Stroke

Modular Program Specifications for ICD10_MPL1R_WP001_NSPD_V01

Sentinel's Cohort Identification and Descriptive Analysis (CIDA) tool, version 3.3.2, was used to compare the frequency of diagnoses for a selection of health outcomes using ICD-9 versus ICD-10 codes.

				Enrollment Gap: 45 Days Age Groups: 0-17, 18-49, 50-64, 65+ Years Enrollment Requirement: 183 Days Coverage Requirement: Medical Coverage						
						Event				
Scenario	Code Source	Query Start Date	Query End Date	Event	Care Setting	Incident w/ respect to:	Washout (days)	Incident w/ respect to Care Setting	Cohort Definition	
1	Algorithm	10/1/2010	Current	Acute Ischemic Stroke diagnosis (only ICD-9: 433.01, 433.11, 433.21, 433.31, 433.81, 433.91, 434.01, 434.11, 434.91, 436)	IPP	Acute Ischemic Stroke diagnosis (ICD-9: 433.01, 433.11, 433.21, 433.31, 433.81, 433.91, 434.01, 434.11, 434.91, 436 or ICD-10: I63.* or H34.1*)	183	Any	01	
2	SFM	10/1/2010	Current	Acute Ischemic Stroke diagnosis (only ICD-9: 433.01, 433.11, 433.21, 433.31, 433.81, 433.91, 434.01, 434.11, 434.91, 436)	IPP	Acute Ischemic Stroke diagnosis (ICD-9: 433.01, 433.11, 433.21, 433.31, 433.81, 433.91, 434.01, 434.11, 434.91, 436 or ICD-10: I63.019, I63.119, I63.139, I63.20, I63.219, I63.22, I63.239, I63.30, I63.40, I63.50, I63.59, I67.89)	183	Any	01	
3	FBM	10/1/2010	Current	Acute Ischemic Stroke diagnosis (only ICD-9: 433.01, 433.11, 433.21, 433.31, 433.81, 433.91, 434.01, 434.11, 434.91, 436)	IPP	Acute Ischemic Stroke diagnosis (ICD-9: 433.01, 433.11, 433.21, 433.31, 433.81, 433.91, 434.01, 434.11, 434.91, 436 or ICD-10: see Stroke_FBM code list for 91 codes)	183	Any	01	
4	Algorithm	10/1/2010	Current	Acute Ischemic Stroke diagnosis (only ICD-10: I63.* or H34.1*)	IPP	Acute Ischemic Stroke diagnosis (ICD-9: 433.01, 433.11, 433.21, 433.31, 433.81, 433.91, 434.01, 434.11, 434.91, 436; or ICD-10: I63.* or H34.1*)	183	Any	01	
5	SFM	10/1/2010	Current	Acute Ischemic Stroke diagnosis (only ICD-10: I63.019, I63.119, I63.139, I63.20, I63.219, I63.22, I63.239, I63.30, I63.40, I63.50, I63.59, I67.89)	IPP	Acute Ischemic Stroke diagnosis (ICD-9: 433.01, 433.11, 433.21, 433.31, 433.81, 433.91, 434.01, 434.11, 434.91, 436; or ICD-10: I63.019, I63.119, I63.139, I63.20, I63.219, I63.22, I63.239, I63.30, I63.40, I63.50, I63.59, I67.89)	183	Any	01	
6	FBM	10/1/2010	Current	Acute Ischemic Stroke diagnosis (only ICD-10: see Stroke_FBM code list for 91 codes)	IPP	Acute Ischemic Stroke diagnosis (ICD-9: 433.01, 433.11, 433.21, 433.31, 433.81, 433.91, 434.01, 434.11, 434.91, 436; or ICD-10: see Stroke_FBM code list for 91 codes)	183	Any	01	
7	Algorithm, SFM, FBM	1/1/2015	3/31/2015	Acute Ischemic Stroke diagnosis (only ICD-9: 433.01, 433.11, 433.21, 433.31, 433.81, 433.91, 434.01, 434.11, 434.91, 436)	IPP	Acute Ischemic Stroke diagnosis (only ICD-9: 433.01, 433.11, 433.21, 433.31, 433.81, 433.91, 434.01, 434.11, 434.91, 436)	90	Any	01	
8	Algorithm	1/1/2016	3/31/2016	Acute Ischemic Stroke diagnosis (only ICD-10: I63.* or H34.1*)	IPP	Acute Ischemic Stroke diagnosis (only ICD-10: I63.* or H34.1*)	90	Any	01	
9	SFM	1/1/2016	3/31/2016	Acute Ischemic Stroke diagnosis (only ICD-10: I63.019, I63.119, I63.139, I63.20, I63.219, I63.22, I63.239, I63.30, I63.40, I63.50, I63.59, I67.89)	IPP	Acute Ischemic Stroke diagnosis (only ICD-10: I63.019, I63.119, I63.139, I63.20, I63.219, I63.22, I63.239, I63.30, I63.40, I63.50, I63.59, I67.89)	90	Any	01	
10	FBM	1/1/2016	3/31/2016	Acute Ischemic Stroke diagnosis (only ICD-10: see Stroke_FBM code list for 91 codes)	IPP	Acute Ischemic Stroke diagnosis (only ICD-10: see Stroke_FBM code list for 91 codes)	90	Any	01	
11	Algorithm, SFM, FBM	10/1/2010	Current	Acute Ischemic Stroke diagnosis (only ICD-9: 433.01, 433.11, 433.21, 433.31, 433.81, 433.91, 434.01, 434.11, 434.91, 436)	IPP	NA	0	Any	02	
12	Algorithm	10/1/2010	Current	Acute Ischemic Stroke diagnosis (only ICD-10: I63.* or H34.1*)	IPP	NA	0	Any	02	
13	SFM	10/1/2010	Current	Acute Ischemic Stroke diagnosis (only ICD-10: I63.019, I63.119, I63.139, I63.20, I63.219, I63.22, I63.239, I63.30, I63.40, I63.50, I63.59, I67.89)	IPP	NA	0	Any	02	
14	FBM	10/1/2010	Current	Acute Ischemic Stroke diagnosis (only ICD-10: see Stroke_FBM code list for 91 codes)	IPP	NA	0	Any	02	

ICD-9-CM and ICD-10-CM diagnosis codes are provided by Optum360.