## Mini-Sentinel

## Modular Program Report

The following report(s) provides findings from an FDA-initiated query using its Mini-Sentinel pilot. While Mini-Sentinel queries may be undertaken to assess potential medical product safety risks, they may also be initiated for various other reasons. Some examples include determining a rate or count of an identified health outcome of interest, examining medical product use, exploring the feasibility of future, more detailed analyses within Mini-Sentinel, and seeking to better understand the capabilities of the Mini-Sentinel pilot.

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

FDA wants to emphasize that the fact that FDA has initiated a query involving a medical product and is reporting findings related to that query does not mean that FDA is suggesting health care practitioners should change their prescribing practices for the medical product or that patients taking the medical product should stop using it. Patients who have questions about the use of an identified medical product should contact their health care practitioners.

The following report contains a description of the request, request specifications, and results from the modular program run(s).

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Overview

Table 3b Table displaying the number of incident eligible members, member-days, and members with at least 1 diabetes

Request Description

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Mini-Sentinel's Clinical Data Elements Workgroup has requested execution of Modular Program \# 6 (MP6), version 4.0, to investigate the frequency of a Creatinine, Fasting Glucose, Random Glucose, and HgbA1c laboratory result that occur within 1 year of incident and prevalent diagnosis of diabetes (ICD-9 250) in both pediatric and adult members. The query was run against the Mini-Sentinel Distributed Database (MSDD) for the time period of January 1, 2006 - December 31, 2010. This request was distributed to 12 Data Partners on April 23, 2013. This report includes data from 11 Data Partners.

Results in this report provide counts of eligible members with at least 1 diabetes diagnosis, stratified by number of results available in the MSDD for each laboratory test type. Diabetes diagnoses were considered new if the member did not have a diabetes diagnosis in the prior 183 or 365 days, depending on the specified washout period. Diabetes diagnoses did not require a principal diagnosis flag and could be found in any care setting. Laboratory results were prevalent and, thus, did not have incidence requirements.
to04mp_clinvalidation2_v1
Program parameter inputs and scenarios.
List of terms found in this report and their definitions.
Table displaying the number of incident eligible members, member-days, and members with at least 1 diabetes diagnosis (183-day washout period) and subsequent laboratory results by laboratory test - January 1, 2006 to December 31, 2010.

Two figures displaying the information in the prior tab.
Table displaying the number of incident eligible members, member-days, and members with at least 1 diabetes diagnosis (365-day washout period) and subsequent laboratory results by laboratory test - January 1, 2006 to December 31, 2010.
Two figures displaying the information in the prior tab.
Table displaying the number of prevalent eligible members, member-days, and members with at least 1 diabetes diagnosis and subsequent laboratory results by laboratory test - January 1, 2006 to December 31, 2010.
Two figures displaying the information in the prior tab.
Table displaying the number of incident eligible members, member-days, and members with at least 1 diabetes diagnosis (183-day washout period) and subsequent laboratory results by laboratory test and age group - January 1, 2006 to December 31, 2010.
Table displaying the number of incident eligible members, member-days, and members with at least 1 diabetes diagnosis (365-day washout period) and subsequent laboratory results by laboratory test and age group - January 1, 2006 to December 31, 2010.
Table displaying the number of prevalent eligible members, member-days, and members with at least 1 diabetes diagnosis and subsequent laboratory results by laboratory test and age group - January 1, 2006 to December 31, 2010.

Table displaying the number of incident eligible members, member-days, and members with at least 1 diabetes diagnosis (183-day washout period) and subsequent laboratory results by laboratory test and sex - January 1, 2006 to December 31, 2010. diagnosis ( 365 -day washout period) and subsequent laboratory results by laboratory test and sex - January 1, 2006 to December 31, 2010.
Table displaying the number of prevalent eligible members, member-days, and members with at least 1 diabetes diagnosis and subsequent laboratory results by laboratory test and sex - January 1, 2006 to December 31, 2010.


| Modular Program Specifications: to04_clinvalidation2_v1 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Modular Program \#6, version 4.0, was used to investigate the presence of a HgbA1c, Glucose, or Creatinine laboratory result that occurs within 1 year of incident and prevalent diagnosis of diabetes (ICD-9 250). The query period was from January 1, 2006 to December 31, 2010, and the enrollment gap was set at 45 days. Age groups were split as follows: $0-24,25-34$, $35-44,45-$ 54, 55-64, 65-74, 75-84, and 85+. In total, 8 different scenarios were examined in this report. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | Index Event |  |  |  |  |  |  |  | Post-Event Treatment |  |  |  |  |  |
| Scenario | Event of Interest | Incident w/ respect to: | Washout (days) | Incidence Type* | Lookup <br> Period <br> Duration | Min <br> Lookup <br> Duration | Principal Dx | Care <br> Setting | Lab Test Name | Lab Test Subcategory | Washout (days) | Incidence Type** | Lab Frequency Categories | Episode Gap |
| 1 | Diabetes | Diabetes | 183 | Multiple | 365 | 0 | No | Any | Creatinine | N/A | 0 | Multiple | 0, 1, 2-3, $\geq 4$ | 0 |
| 2 | Diabetes | Diabetes | 365 | Multiple | 365 | 0 | No | Any | Creatinine | N/A | 0 | Multiple | $0,1,2-3, \geq 4$ | 0 |
| 3 | Diabetes | Diabetes | 183 | Multiple | 365 | 0 | No | Any | Glucose | Fasting | 0 | Multiple | $0,1,2-3, \geq 4$ | 0 |
| 4 | Diabetes | Diabetes | 365 | Multiple | 365 | 0 | No | Any | Glucose | Fasting | 0 | Multiple | $0,1,2-3, \geq 4$ | 0 |
| 5 | Diabetes | Diabetes | 183 | Multiple | 365 | 0 | No | Any | Glucose | Random ${ }^{+}$ | 0 | Multiple | $0,1,2-3, \geq 4$ | 0 |
| 6 | Diabetes | Diabetes | 365 | Multiple | 365 | 0 | No | Any | Glucose | Random ${ }^{+}$ | 0 | Multiple | $0,1,2-3, \geq 4$ | 0 |
| 7 | Diabetes | Diabetes | 183 | Multiple | 365 | 0 | No | Any | HgbA1c | N/A | 0 | Multiple | $0,1,2-3, \geq 4$ | 0 |
| 8 | Diabetes | Diabetes | 365 | Multiple | 365 | 0 | No | Any | HgbA1c | N/A | 0 | Multiple | $0,1,2-3, \geq 4$ | 0 |
| NDC codes checked against First Data Bank's "National Drug Data File (NDDF®) Plus" <br> ICD-9-CM diagnosis and procedure codes checked against "Ingenix 2012 ICD-9-CM Data File" provided by OptumInsight HCPCS codes checked against "Optum 2012 HCPCS Level II Data File" provided by OptumInsight <br> CPT codes checked against "Optum 2012 Current Procedure Codes \& Relative Values Data File" provided by OptumInsight |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

*A "multiple" incidence type for the index event will consider all lookup periods for a user during the query period that satisfies the washout period. A user may have more than one lookup period.
**A "multiple" incidence type for the post-event treatment will consider all events for every lookup period that satisfies the Washout Period criteria.
†Random lab test subcategory includes all glucose test not labeled "fasting"

## Glossary of Terms in Modular Program 6*

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).
Eligible Members - Number of members eligible for an incident exposure/lookup period (defined by the exposure and event washout periods) with drug and medical coverage during the query period.
Enrollment Gap - number of days allowed between two consecutive enrollment periods without breaking a "continuously enrolled" sequence.
Incidence Type (drug/exposure)- Minimum incidence type will consider the first exposure/lookup period in the query period as long as it is the first exposure/lookup period in the user's entire available history. Single and Multiple incidence types will use the washout period to establish incidence; however, Single will only consider the first exposure/lookup period whereas Multiple will consider all qualifying exposures/lookup periods.
Incidence Type (event/outcome)- Minimum incidence type considers the first event in a valid episode as long as it is the first event in the user's entire available history. Multiple incidence type uses the washout period to establish incidence and considers all qualifying incident exposures/lookup periods.
Inclusion/Exclusion Indicator - indicates whether condition(s) of interest are used for inclusion or exclusion criteria. A value of 1 instructs the program that members must have the condition of interest (inclusion criteria); a value of 0 instructs the program that members must not have the condition of interest (exclusion criteria).
Lookback Period Start and End - range of days relative to index that the program looks for inclusion/exclusion conditions of interest. For example, if the Inclusion/Exclusion Indicator =1, Lookback Period Start =-183 and Lookback Period End = 0, the cohort will only include members with the condition of interest present in the 183 days prior to and including the index date (the index date is day 0 ).
Lookup Period - fixed period of time following an incident exposure that the MP6 program searches for events of interest.
Member-Days - sum of all days a member is eligible for an incident exposure/lookup period (i.e., days that the member meets all inclusion criteria such a incidence, pre-existing condition, and enrollment requirements).
Minimum Lookup Period Duration - minimum number of enrollment days required after an incident exposure/lookup period start. For example, if the minimum duration $=10$, a member must have 10 or more days of continuous enrollment in drug and medical benefit coverage following the exposure/lookup period start in order for the lookup period to be included in output metrics.
New Users - number of members with incident exposure/lookup period during the query period. A user may only be counted once in a query period.
Principal Diagnosis - diagnosis or condition established to be chiefly responsible for admission of the patient to the hospital. YES will only consider diagnoses flagged as Principal.
Query Period - period in which the modular program evaluates exposures of interest.
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 exposure/lookup period.
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 exposure/lookup period.
*all terms may not be used in this report

| Table 1a. Summary of incident diabetes diagnoses (183-day washout period) and subsequent lab results in the MSDD between January 1, 2006 and December 31, 2010 by laboratory test |  |
| :---: | :---: |
| Creatinine |  |
| Eligible members* | 27,096,872 |
| Member-days** | 17,608,000,000 |
| Members with at least 1 diabetes diagnosis: | 1,356,193 (100\%) |
| with no Creatinine results | 556,362 (41.0\%) |
| with 1 Creatinine result | 269,356 (19.9\%) |
| with 2-3 Creatinine results | 289,721 (21.4\%) |
| with $\geq 4$ Creatinine results | 240,754 (17.8\%) |
| Fasting Glucose |  |
| Eligible members* | 27,121,676 |
| Member-days** | 17,611,300,000 |
| Members with at least 1 diabetes diagnosis: | 1,356,193 (100\%) |
| with no Fasting Glucose results | 1,021,010 (75.3\%) |
| with 1 Fasting Glucose result | 145,792 (10.8\%) |
| with 2-3 Fasting Glucose results | 131,326 (9.7\%) |
| with $\geq 4$ Fasting Glucose results | 58,065 (4.3\%) |
| Random Glucose |  |
| Eligible members* | 27,104,120 |
| Member-days** | 17,608,700,000 |
| Members with at least 1 diabetes diagnosis: | 1,356,193 (100\%) |
| with no Random Glucose results | 754,204 (55.6\%) |
| with 1 Random Glucose result | 267,687 (19.7\%) |
| with 2-3 Random Glucose results | 206,844 (15.3\%) |
| with $\geq 4$ Random Glucose results | 127,458 (9.4\%) |
| HgbA1c |  |
| Eligible members* | 27,104,120 |
| Member-days** | 17,608,700,000 |
| Members with at least 1 diabetes diagnosis: | 1,356,193 (100\%) |
| with no HgbA1c results | 639,950 (47.2\%) |
| with $1 \mathrm{HgbA1c}$ result | 267,846 (19.7\%) |
| with 2-3 HgbA1c results | 287,297 (21.2\%) |
| with $\geq 4 \mathrm{HgbA1}$ c results | 161,100 (11.9\%) |

*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.
**Sum of all days a member is eligible for an incident exposure/lookup period (i.e., days that the member meets all inclusion criteria such a incidence, pre-existing condition, and enrollment requirements).


Figure 1aii. Number of eligible members with an incident diabetes diagnosis (183-day washout period) in the MSDD between January 1, 2006 and December 31, 2010, by laboratory test and number of laboratory results


| Table 1b. Summary of incident diabetes diagnoses (365-day washout period) and subsequent lab results in the MSDD between January 1, 2006 and December 31, 2010 by laboratory test |  |
| :---: | :---: |
| Creatinine |  |
| Eligible members* | 20,862,569 |
| Member-days** | 13,821,800,000 |
| Members with at least 1 diabetes diagnosis: | 808,792 (100\%) |
| with no Creatinine results | 329,281 (40.7\%) |
| with 1 Creatinine result | 190,548 (23.6\%) |
| with 2-3 Creatinine results | 184,917 (22.9\%) |
| with $\geq 4$ Creatinine results | 104,046 (12.9\%) |
| Fasting Glucose |  |
| Eligible members* | 20,976,511 |
| Member-days** | 13,825,400,000 |
| Members with at least 1 diabetes diagnosis: | 808,792 (100\%) |
| with no Fasting Glucose results | 600,064 (74.2\%) |
| with 1 Fasting Glucose result | 109,774 (13.6\%) |
| with 2-3 Fasting Glucose results | 81,162 (10.0\%) |
| with $\geq 4$ Fasting Glucose results | 17,792 (2.2\%) |
| Random Glucose |  |
| Eligible members* | 20,871,338 |
| Member-days** | 13,822,500,000 |
| Members with at least 1 diabetes diagnosis: | 808,792 (100\%) |
| with no Random Glucose results | 474,369 (58.7\%) |
| with 1 Random Glucose result | 162,360 (20.1\%) |
| with 2-3 Random Glucose results | 110,032 (13.6\%) |
| with $\geq 4$ Random Glucose results | 62,031 (7.7\%) |
| HgbA1c |  |
| Eligible members* | 20,983,568 |
| Member-days** | 13,825,900,000 |
| Members with at least 1 diabetes diagnosis: | 808,792 (100\%) |
| with no HgbA1c results | 384,841 (47.6\%) |
| with $1 \mathrm{HgbA1}$ c result | 191,501 (23.7\%) |
| with 2-3 HgbA1c results | 185,615 (22.9\%) |
| with $\geq 4 \mathrm{HgbA1c}$ c results | 46,835 (5.8\%) |

*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.
**Sum of all days a member is eligible for an incident exposure/lookup period (i.e., days that the member meets all inclusion criteria such a incidence, pre-existing condition, and enrollment requirements).



| Table 1c. Summary of prevalent diabetes diagnoses and subsequent lab results in the MSDD between January 1, 2006 and December 31, 2010 by laboratory test |  |
| :---: | :---: |
| Creatinine |  |
| Eligible members* | 33,640,579 |
| Member-days** | 24,158,200,000 |
| Members with at least 1 diabetes diagnosis: | 2,683,086 (100\%) |
| with no Creatinine results | 1,141,168 (42.5\%) |
| with 1 Creatinine result | 405,820 (15.1\%) |
| with 2-3 Creatinine results | 434,720 (16.2\%) |
| with $\geq 4$ Creatinine results | 701,378 (26.1\%) |
| Fasting Glucose |  |
| Eligible members* | 33,640,579 |
| Member-days** | 24,161,000,000 |
| Members with at least 1 diabetes diagnosis: | 2,683,086 (100\%) |
| with no Fasting Glucose results | 2,156,606 (80.4\%) |
| with 1 Fasting Glucose result | 184,918 (6.9\%) |
| with 2-3 Fasting Glucose results | 166,202 (6.2\%) |
| with $\geq 4$ Fasting Glucose results | 175,360 (6.5\%) |
| Random Glucose |  |
| Eligible members* | 33,640,579 |
| Member-days** | 24,158,700,000 |
| Members with at least 1 diabetes diagnosis: | 2,683,086 (100\%) |
| with no Random Glucose results | 1,359,166 (50.7\%) |
| with 1 Random Glucose result | 428,270 (16.0\%) |
| with 2-3 Random Glucose results | 404,547 (15.1\%) |
| with $\geq 4$ Random Glucose results | 491,103 (18.3\%) |
| HgbA1c |  |
| Eligible members* | 33,640,579 |
| Member-days** | 24,161,000,000 |
| Members with at least 1 diabetes diagnosis: | 2,683,086 (100\%) |
| with no HgbA1c results | 1,293,531 (48.2\%) |
| with 1 HgbA 1 c result | 398,860 (14.9\%) |
| with 2-3 HgbA1c results | 405,003 (15.1\%) |
| with $\geq 4 \mathrm{HgbA1}$ c results | 585,692 (21.8\%) |

*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.
**Sum of all days a member is eligible for an incident exposure/lookup period (i.e., days that the member meets all inclusion criteria such a incidence, pre-existing condition, and enrollment requirements).



|  | Age Group |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2-24 years | 25-34 years | 35-44 years | 45-54 years | 55-64 years | 65-74 years | 75-84 years | 85+ years |
|  | Number (\%) | Number (\%) | Number (\%) | Number (\%) | Number (\%) | Number (\%) | Number (\%) | Number (\%) |
| Creatinine |  |  |  |  |  |  |  |  |
| Eligible members* | 9,122,854 | 4,766,714 | 4,848,914 | 4,861,306 | 3,415,699 | 2,037,930 | 1,052,811 | 390,818 |
| Member-days** | 5,520,153,336 | 2,279,686,086 | 2,667,318,526 | 2,844,501,755 | 2,090,109,365 | 1,257,505,078 | 696,597,588 | 252,099,837 |
| Members with $\geq 1$ diabetes diagnosis: | 25,803 (100\%) | 54,748 (100\%) | 145,645 (100\%) | 292,976 (100\%) | 360,704 (100\%) | 311,516 (100\%) | 179,028 (100\%) | 56,104 (100\%) |
| with no Creatinine results | 15,280 (59.2\%) | 27,054 (49.4\%) | 62,418 (42.9\%) | 116,013 (39.6\%) | 135,122 (37.5\%) | 127,933 (41.1\%) | 70,238 (39.2\%) | 24,847 (44.3\%) |
| with 1 Creatinine result | 6,444 (25.0\%) | 15,185 (27.7\%) | 38,408 (26.4\%) | 70,586 (24.1\%) | 78,508 (21.8\%) | 54,927 (17.6\%) | 27,608 (15.4\%) | 8,277 (14.8\%) |
| with 2-3 Creatinine results | 2,810 (10.9\%) | 8,964 (16.4\%) | 30,865 (21.2\%) | 68,394 (23.3\%) | 86,724 (24.0\%) | 69,709 (22.4\%) | 38,444 (21.5\%) | 10,310 (18.4\%) |
| with $\geq 4$ Creatinine results | 1,269 (4.9\%) | 3,545 (6.5\%) | 13,954 (9.6\%) | 37,983 (13.0\%) | 60,350 (16.7\%) | 58,947 (18.9\%) | 42,738 (23.9\%) | 12,670 (22.6\%) |
| Fasting Glucose |  |  |  |  |  |  |  |  |
| Eligible members* | 9,125,967 | 4,771,286 | 4,853,614 | 4,866,885 | 3,420,073 | 2,040,580 | 1,053,265 | 391,019 |
| Member-days** | 5,520,370,469 | 2,279,950,991 | 2,667,700,852 | 2,845,048,707 | 2,090,668,580 | 1,258,045,669 | 697,098,278 | 252,395,526 |
| Members with $\geq 1$ diabetes diagnosis: | 25,803 (100\%) | 54,748 (100\%) | 145,645 (100\%) | 292,976 (100\%) | 360,704 (100\%) | 311,516 (100\%) | 179,028 (100\%) | 56,104 (100\%) |
| with no Fasting Glucose results | 22,179 (86.0\%) | 43,601 (79.6\%) | 110,216 (75.7\%) | 214,436 (73.2\%) | 256,431 (71.1\%) | 237,093 (76.1\%) | 137,569 (76.8\%) | 47,019 (83.8\%) |
| with 1 Fasting Glucose result | 2,690 (10.4\%) | 7,134 (13.0\%) | 19,251 (13.2\%) | 38,008 (13.0\%) | 46,679 (12.9\%) | 30,905 (9.9\%) | 17,591 (9.8\%) | 4,565 (8.1\%) |
| with 2-3 Fasting Glucose results | 809 (3.1\%) | 3,334 (6.1\%) | 12,652 (8.7\%) | 30,636 (10.5\%) | 41,785 (11.6\%) | 30,579 (9.8\%) | 16,821 (9.4\%) | 3,398 (6.1\%) |
| with $\geq 4$ Fasting Glucose results | 125 (0.5\%) | 679 (1.2\%) | 3,526 (2.4\%) | 9,896 (3.4\%) | 15,809 (4.4\%) | 12,939 (4.2\%) | 7,047 (3.9\%) | 1,122 (2.0\%) |
| Random Glucose |  |  |  |  |  |  |  |  |
| Eligible members* | 9,123,310 | 4,767,976 | 4,850,542 | 4,863,196 | 3,417,329 | 2,038,627 | 1,052,941 | 390,859 |
| Member-days** | 5,520,180,403 | 2,279,765,245 | 2,667,426,666 | 2,844,641,020 | 2,090,241,901 | 1,257,599,845 | 696,676,975 | 252,145,489 |
| Members with $\geq 1$ diabetes diagnosis: | 25,803 (100\%) | 54,748 (100\%) | 145,645 (100\%) | 292,976 (100\%) | 360,704 (100\%) | 311,516 (100\%) | 179,028 (100\%) | 56,104 (100\%) |
| with no Random Glucose results | 16,567 (64.2\%) | 33,007 (60.3\%) | 84,458 (58.0\%) | 167,972 (57.3\%) | 205,983 (57.1\%) | 178,243 (57.2\%) | 93,906 (52.5\%) | 29,409 (52.4\%) |
| with 1 Random Glucose result | 6,014 (23.3\%) | 13,626 (24.9\%) | 34,590 (23.7\%) | 63,828 (21.8\%) | 72,672 (20.1\%) | 53,027 (17.0\%) | 28,189 (15.7\%) | 8,368 (14.9\%) |
| with 2-3 Random Glucose results | 2,173 (8.4\%) | 6,111 (11.2\%) | 19,385 (13.3\%) | 42,731 (14.6\%) | 53,598 (14.9\%) | 48,431 (15.5\%) | 29,621 (16.5\%) | 8,792 (15.7\%) |
| with $\geq 4$ Random Glucose results | 1,049 (4.1\%) | 2,004 (3.7\%) | 7,212 (5.0\%) | 18,445 (6.3\%) | 28,451 (7.9\%) | 31,815 (10.2\%) | 27,312 (15.3\%) | 9,535 (17.0\%) |


|  | Age Group |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2-24 years | 25-34 years | 35-44 years | 45-54 years | 55-64 years | 65-74 years | 75-84 years | 85+ years |
|  | Number (\%) | Number (\%) | Number (\%) | Number (\%) | Number (\%) | Number (\%) | Number (\%) | Number (\%) |
| HgbA1c |  |  |  |  |  |  |  |  |
| Eligible members* | 9,126,425 | 4,772,660 | 4,855,011 | 4,868,086 | 3,420,986 | 2,040,720 | 1,053,304 | 391,018 |
| Member-days** | 5,520,415,615 | 2,280,043,761 | 2,667,798,020 | 2,845,143,204 | 2,090,733,767 | 1,258,062,354 | 697,106,768 | 252,400,291 |
| Members with $\geq 1$ diabetes diagnosis: | 25,803 (100\%) | 54,748 (100\%) | 145,645 (100\%) | 292,976 (100\%) | 360,704 (100\%) | 311,516 (100\%) | 179,028 (100\%) | 56,104 (100\%) |
| with no HgbA1c results | 16,879 (65.4\%) | 30,367 (55.5\%) | 68,944 (47.3\%) | 127,318 (43.5\%) | 150,056 (41.6\%) | 148,257 (47.6\%) | 88,318 (49.3\%) | 32,819 (58.5\%) |
| with $1 \mathrm{HgbA1c}$ result | 5,253 (20.4\%) | 13,523 (24.7\%) | 35,824 (24.6\%) | 67,857 (23.2\%) | 77,757 (21.6\%) | 56,979 (18.3\%) | 32,285 (18.0\%) | 10,145 (18.1\%) |
| with 2-3 HgbA1c results | 2,630 (10.2\%) | 8,253 (15.1\%) | 29,980 (20.6\%) | 68,534 (23.4\%) | 89,372 (24.8\%) | 70,720 (22.7\%) | 39,969 (22.3\%) | 9,751 (17.4\%) |
| with $\geq 4 \mathrm{HgbA1}$ c results | 1,041 (4.0\%) | 2,605 (4.8\%) | 10,897 (7.5\%) | 29,267 (10.0\%) | 43,519 (12.1\%) | 35,560 (11.4\%) | 18,456 (10.3\%) | 3,389 (6.0\%) |

[^0]|  | Age Group |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2-24 years | 25-34 years | 35-44 years | 45-54 years | 55-64 years | 65-74 years | 75-84 years | 85+ years |
|  | Number (\%) | Number (\%) | Number (\%) | Number (\%) | Number (\%) | Number (\%) | Number (\%) | Number (\%) |
| Creatinine |  |  |  |  |  |  |  |  |
| Eligible members* | 6,850,775 | 3,460,734 | 3,743,633 | 3,856,989 | 2,765,697 | 1,614,950 | 881,301 | 339,461 |
| Member-days** | 4,225,019,103 | 1,669,040,464 | 2,077,076,684 | 2,281,921,080 | 1,731,835,390 | 1,026,269,771 | 592,971,078 | 217,678,152 |
| Members with $\geq 1$ diabetes diagnosis: | 15,836 (100\%) | 32,743 (100\%) | 88,786 (100\%) | 175,483 (100\%) | 209,040 (100\%) | 170,006 (100\%) | 102,715 (100\%) | 34,189 (100\%) |
| with no Creatinine results | 9,274 (58.6\%) | 15,961 (48.7\%) | 37,643 (42.4\%) | 69,181 (39.4\%) | 78,228 (37.4\%) | 69,768 (41.0\%) | 41,079 (40.0\%) | 15,577 (45.6\%) |
| with 1 Creatinine result | 4,130 (26.1\%) | 9,697 (29.6\%) | 26,028 (29.3\%) | 48,042 (27.4\%) | 53,331 (25.5\%) | 35,602 (20.9\%) | 18,642 (18.1\%) | 5,623 (16.4\%) |
| with 2-3 Creatinine results | 1,698 (10.7\%) | 5,341 (16.3\%) | 18,769 (21.1\%) | 41,468 (23.6\%) | 51,900 (24.8\%) | 40,508 (23.8\%) | 23,534 (22.9\%) | 6,495 (19.0\%) |
| with $\geq 4$ Creatinine results | 734 (4.6\%) | 1,744 (5.3\%) | 6,346 (7.1\%) | 16,792 (9.6\%) | 25,581 (12.2\%) | 24,128 (14.2\%) | 19,460 (18.9\%) | 6,494 (19.0\%) |
| Fasting Glucose |  |  |  |  |  |  |  |  |
| Eligible members* | 6,861,752 | 3,475,609 | 3,768,501 | 3,887,476 | 2,788,029 | 1,622,324 | 883,766 | 340,288 |
| Member-days** | 4,225,267,702 | 1,669,338,100 | 2,077,518,758 | 2,282,546,783 | 1,732,447,926 | 1,026,816,758 | 593,476,011 | 217,975,696 |
| Members with $\geq 1$ diabetes diagnosis: | 15,836 (100\%) | 32,743 (100\%) | 88,786 (100\%) | 175,483 (100\%) | 209,040 (100\%) | 170,006 (100\%) | 102,715 (100\%) | 34,189 (100\%) |
| with no Fasting Glucose results | 13,587 (85.8\%) | 25,573 (78.1\%) | 65,439 (73.7\%) | 125,054 (71.3\%) | 145,170 (69.4\%) | 129,131 (76.0\%) | 80,734 (78.6\%) | 29,382 (85.9\%) |
| with 1 Fasting Glucose result | 1,735 (11.0\%) | 4,842 (14.8\%) | 14,000 (15.8\%) | 27,664 (15.8\%) | 33,495 (16.0\%) | 20,636 (12.1\%) | 11,362 (11.1\%) | 2,731 (8.0\%) |
| with 2-3 Fasting Glucose results | 459 (2.9\%) | 2,050 (6.3\%) | 8,068 (9.1\%) | 19,228 (11.0\%) | 25,246 (12.1\%) | 16,636 (9.8\%) | 8,643 (8.4\%) | 1,687 (4.9\%) |
| with $\geq 4$ Fasting Glucose results | 55 (0.3\%) | 278 (0.8\%) | 1,279 (1.4\%) | 3,537 (2.0\%) | 5,129 (2.5\%) | 3,603 (2.1\%) | 1,976 (1.9\%) | 389 (1.1\%) |
| Random Glucose |  |  |  |  |  |  |  |  |
| Eligible members* | 6,851,172 | 3,461,752 | 3,745,642 | 3,859,670 | 2,767,728 | 1,615,540 | 881,482 | 339,496 |
| Member-days** | 4,225,044,134 | 1,669,121,566 | 2,077,187,866 | 2,282,063,377 | 1,731,968,169 | 1,026,363,177 | 593,050,597 | 217,723,646 |
| Members with $\geq 1$ diabetes diagnosis: | 15,836 (100\%) | 32,743 (100\%) | 88,786 (100\%) | 175,483 (100\%) | 209,040 (100\%) | 170,006 (100\%) | 102,715 (100\%) | 34,189 (100\%) |
| with no Random Glucose results | 10,120 (63.9\%) | 20,125 (61.5\%) | 53,761 (60.6\%) | 106,182 (60.5\%) | 126,725 (60.6\%) | 100,613 (59.2\%) | 55,264 (53.8\%) | 18,300 (53.5\%) |
| with 1 Random Glucose result | 3,740 (23.6\%) | 8,269 (25.3\%) | 21,148 (23.8\%) | 38,184 (21.8\%) | 42,120 (20.1\%) | 29,651 (17.4\%) | 16,930 (16.5\%) | 5,395 (15.8\%) |
| with 2-3 Random Glucose results | 1,296 (8.2\%) | 3,286 (10.0\%) | 10,214 (11.5\%) | 22,153 (12.6\%) | 26,728 (12.8\%) | 24,788 (14.6\%) | 16,757 (16.3\%) | 5,318 (15.6\%) |
| with $\geq 4$ Random Glucose results | 680 (4.3\%) | 1,063 (3.2\%) | 3,663 (4.1\%) | 8,964 (5.1\%) | 13,467 (6.4\%) | 14,954 (8.8\%) | 13,764 (13.4\%) | 5,176 (15.1\%) |


|  | Age Group |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2-24 years | 25-34 years | 35-44 years | 45-54 years | 55-64 years | 65-74 years | 75-84 years | 85+ years |
|  | Number (\%) | Number (\%) | Number (\%) | Number (\%) | Number (\%) | Number (\%) | Number (\%) | Number (\%) |
| HgbA1c |  |  |  |  |  |  |  |  |
| Eligible members* | 6,863,848 | 3,478,078 | 3,770,364 | 3,888,242 | 2,788,111 | 1,622,331 | 883,761 | 340,264 |
| Member-days** | 4,225,323,527 | 1,669,450,480 | 2,077,637,329 | 2,282,660,037 | 1,732,523,749 | 1,026,836,238 | 593,485,155 | 217,980,317 |
| Members with $\geq 1$ diabetes diagnosis: | 15,836 (100\%) | 32,743 (100\%) | 88,786 (100\%) | 175,483 (100\%) | 209,040 (100\%) | 170,006 (100\%) | 102,715 (100\%) | 34,189 (100\%) |
| with no HgbA1c results | 10,375 (65.5\%) | 18,018 (55.0\%) | 41,514 (46.8\%) | 75,723 (43.2\%) | 87,336 (41.8\%) | 83,531 (49.1\%) | 54,553 (53.1\%) | 21,634 (63.3\%) |
| with $1 \mathrm{HgbA1c}$ result | 3,455 (21.8\%) | 8,761 (26.8\%) | 24,369 (27.4\%) | 46,565 (26.5\%) | 53,299 (25.5\%) | 37,472 (22.0\%) | 21,940 (21.4\%) | 6,715 (19.6\%) |
| with 2-3 HgbA1c results | 1,587 (10.0\%) | 4,988 (15.2\%) | 19,035 (21.4\%) | 43,210 (24.6\%) | 55,233 (26.4\%) | 39,934 (23.5\%) | 21,790 (21.2\%) | 5,033 (14.7\%) |
| with $\geq 4 \mathrm{HgbA1}$ c results | 419 (2.6\%) | 976 (3.0\%) | 3,868 (4.4\%) | 9,985 (5.7\%) | 13,172 (6.3\%) | 9,069 (5.3\%) | 4,432 (4.3\%) | 807 (2.4\%) |

*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.
**Sum of all days a member is eligible for an incident exposure/lookup period (i.e., days that the member meets all inclusion criteria such a incidence, pre-existing condition, and enrollment requirements)

|  | Age Group |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2-24 years | 25-34 years | 35-44 years | 45-54 years | 55-64 years | 65-74 years | 75-84 years | 85+ years |
|  | Number (\%) | Number (\%) | Number (\%) | Number (\%) | Number (\%) | Number (\%) | Number (\%) | Number (\%) |
| Creatinine |  |  |  |  |  |  |  |  |
| Eligible members* | 11,570,147 | 6,122,350 | 5,955,432 | 5,899,765 | 4,387,516 | 2,668,931 | 1,374,771 | 487,388 |
| Member-days** | 7,275,416,649 | 3,144,279,019 | 3,540,708,421 | 3,819,686,240 | 2,944,002,194 | 1,990,647,598 | 1,082,232,589 | 361,238,879 |
| Members with $\geq 1$ diabetes diagnosis: | 54,359 (100\%) | 105,956 (100\%) | 272,285 (100\%) | 556,908 (100\%) | 736,248 (100\%) | 726,853 (100\%) | 403,391 (100\%) | 117,106 (100\%) |
| with no Creatinine results | 32,734 (60.2\%) | 52,309 (49.4\%) | 118,592 (43.6\%) | 226,008 (40.6\%) | 289,127 (39.3\%) | 316,316 (43.5\%) | 170,601 (42.3\%) | 53,542 (45.7\%) |
| with 1 Creatinine result | 11,864 (21.8\%) | 26,084 (24.6\%) | 61,177 (22.5\%) | 108,282 (19.4\%) | 122,602 (16.7\%) | 91,963 (12.7\%) | 43,890 (10.9\%) | 13,203 (11.3\%) |
| with 2-3 Creatinine results | 6,133 (11.3\%) | 16,979 (16.0\%) | 52,485 (19.3\%) | 111,918 (20.1\%) | 141,537 (19.2\%) | 117,865 (16.2\%) | 58,959 (14.6\%) | 16,139 (13.8\%) |
| with $\geq 4$ Creatinine results | 3,628 (6.7\%) | 10,584 (10.0\%) | 40,031 (14.7\%) | 110,700 (19.9\%) | 182,982 (24.9\%) | 200,709 (27.6\%) | 129,941 (32.2\%) | 34,222 (29.2\%) |
| Fasting Glucose |  |  |  |  |  |  |  |  |
| Eligible members* | 11,570,147 | 6,122,350 | 5,955,434 | 5,899,765 | 4,387,517 | 2,668,932 | 1,374,771 | 487,388 |
| Member-days** | 7,275,496,182 | 3,144,355,908 | 3,540,846,731 | 3,819,984,061 | 2,944,511,215 | 1,991,273,344 | 1,082,935,879 | 361,611,079 |
| Members with $\geq 1$ diabetes diagnosis: | 54,359 (100\%) | 105,956 (100\%) | 272,285 (100\%) | 556,908 (100\%) | 736,248 (100\%) | 726,853 (100\%) | 403,391 (100\%) | 117,106 (100\%) |
| with no Fasting Glucose results | 47,384 (87.2\%) | 86,622 (81.8\%) | 214,991 (79.0\%) | 431,630 (77.5\%) | 567,816 (77.1\%) | 601,092 (82.7\%) | 331,358 (82.1\%) | 100,427 (85.8\%) |
| with 1 Fasting Glucose result | 4,719 (8.7\%) | 11,246 (10.6\%) | 27,551 (10.1\%) | 52,276 (9.4\%) | 61,830 (8.4\%) | 40,488 (5.6\%) | 23,277 (5.8\%) | 6,745 (5.8\%) |
| with 2-3 Fasting Glucose results | 1,810 (3.3\%) | 5,842 (5.5\%) | 19,578 (7.2\%) | 43,570 (7.8\%) | 58,017 (7.9\%) | 41,183 (5.7\%) | 23,428 (5.8\%) | 5,641 (4.8\%) |
| with $\geq 4$ Fasting Glucose results | 446 (0.8\%) | 2,246 (2.1\%) | 10,165 (3.7\%) | 29,432 (5.3\%) | 48,585 (6.6\%) | 44,090 (6.1\%) | 25,328 (6.3\%) | 4,293 (3.7\%) |
| Random Glucose |  |  |  |  |  |  |  |  |
| Eligible members* | 11,570,147 | 6,122,350 | 5,955,433 | 5,899,765 | 4,387,516 | 2,668,931 | 1,374,771 | 487,388 |
| Member-days** | 7,275,419,080 | 3,144,301,414 | 3,540,741,761 | 3,819,748,355 | 2,944,104,685 | 1,990,762,064 | 1,082,347,808 | 361,295,807 |
| Members with $\geq 1$ diabetes diagnosis: | 54,359 (100\%) | 105,956 (100\%) | 272,285 (100\%) | 556,908 (100\%) | 736,248 (100\%) | 726,853 (100\%) | 403,391 (100\%) | 117,106 (100\%) |
| with no Random Glucose results | 34,980 (64.3\%) | 61,166 (57.7\%) | 147,966 (54.3\%) | 291,417 (52.3\%) | 375,306 (51.0\%) | 378,596 (52.1\%) | 199,571 (49.5\%) | 59,494 (50.8\%) |
| with 1 Random Glucose result | 11,339 (20.9\%) | 24,566 (23.2\%) | 58,612 (21.5\%) | 106,660 (19.2\%) | 125,045 (17.0\%) | 96,756 (13.3\%) | 47,278 (11.7\%) | 13,664 (11.7\%) |
| with 2-3 Random Glucose results | 5,142 (9.5\%) | 13,449 (12.7\%) | 40,922 (15.0\%) | 89,570 (16.1\%) | 118,764 (16.1\%) | 107,082 (14.7\%) | 56,348 (14.0\%) | 15,610 (13.3\%) |
| with $\geq 4$ Random Glucose results | 2,898 (5.3\%) | 6,775 (6.4\%) | 24,785 (9.1\%) | 69,261 (12.4\%) | 117,133 (15.9\%) | 144,419 (19.9\%) | 100,194 (24.8\%) | 28,338 (24.2\%) |


|  | Age Group |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2-24 years | 25-34 years | 35-44 years | 45-54 years | 55-64 years | 65-74 years | 75-84 years | 85+ years |
|  | Number (\%) | Number (\%) | Number (\%) | Number (\%) | Number (\%) | Number (\%) | Number (\%) | Number (\%) |
| HgbA1c |  |  |  |  |  |  |  |  |
| Eligible members* | 11,570,147 | 6,122,350 | 5,955,434 | 5,899,765 | 4,387,517 | 2,668,932 | 1,374,771 | 487,388 |
| Member-days** | 7,275,495,720 | 3,144,355,036 | 3,540,842,528 | 3,819,973,120 | 2,944,495,015 | 1,991,263,213 | 1,082,937,880 | 361,615,552 |
| Members with $\geq 1$ diabetes diagnosis: | 54,359 (100\%) | 105,956 (100\%) | 272,285 (100\%) | 556,908 (100\%) | 736,248 (100\%) | 726,853 (100\%) | 403,391 (100\%) | 117,106 (100\%) |
| with no HgbA1c results | 35,600 (65.5\%) | 58,228 (55.0\%) | 130,782 (48.0\%) | 247,967 (44.5\%) | 321,067 (43.6\%) | 357,634 (49.2\%) | 200,868 (49.8\%) | 65,630 (56.0\%) |
| with 1 HgbA1c result | 9,220 (17.0\%) | 23,312 (22.0\%) | 56,907 (20.9\%) | 104,079 (18.7\%) | 121,162 (16.5\%) | 93,916 (12.9\%) | 49,630 (12.3\%) | 15,623 (13.3\%) |
| with 2-3 HgbA1c results | 5,088 (9.4\%) | 15,088 (14.2\%) | 48,955 (18.0\%) | 107,073 (19.2\%) | 138,521 (18.8\%) | 114,165 (15.7\%) | 60,295 (14.9\%) | 16,461 (14.1\%) |
| with $\geq 4$ HgbA1c results | 4,451 (8.2\%) | 9,328 (8.8\%) | 35,641 (13.1\%) | 97,789 (17.6\%) | 155,498 (21.1\%) | 161,138 (22.2\%) | 92,598 (23.0\%) | 19,392 (16.6\%) |

*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.
**Sum of all days a member is eligible for an incident exposure/lookup period (i.e., days that the member meets all inclusion criteria such a incidence, pre-existing condition, and enrollment requirements).

| Table 3a. Summary of incident diabetes diagnoses (183-day washout period) and subsequent lab results in the MSDD between January 1, 2006 and December 31, 2010 by laboratory test and sex |  |  |  |
| :---: | :---: | :---: | :---: |
|  | Sex |  |  |
|  | Female | Male | Unknown |
|  | Number (\%) | Number (\%) | Number (\%) |
| Creatinine |  |  |  |
| Eligible members* | 13,958,593 | 13,128,414 | 9,865 |
| Member-days** | 9,191,330,966 | 8,411,290,276 | 5,350,329 |
| Members with $\geq 1$ diabetes diagnosis: | 657,951 (100\%) | 697,913 (100\%) | 329 (100\%) |
| with no Creatinine results | 268,159 (40.8\%) | 288,046 (41.3\%) | 157 (47.7\%) |
| with 1 Creatinine result | 132059 (20.1\%) | 137193 (19.7\%) | 104 (31.6\%) |
| with 2-3 Creatinine results | 141,914 (21.6\%) | 147,754 (21.2\%) | 53 (16.1\%) |
| with $\geq 4$ Creatinine results | 115,819 (17.6\%) | 124,920 (17.9\%) | 15 (4.6\%) |
| Fasting Glucose |  |  |  |
| Eligible members* | 13,973,312 | 13,138,491 | 9,873 |
| Member-days** | 9,193,187,126 | 8,412,740,757 | 5,351,189 |
| Members with $\geq 1$ diabetes diagnosis: | 657,951 (100\%) | 697,913 (100\%) | 329 (100\%) |
| with no Fasting Glucose results | 499,228 (75.9\%) | 521,510 (74.7\%) | 272 (82.7\%) |
| with 1 Fasting Glucose result | 70630 (10.7\%) | 75,123 (10.8\%) | 39 (11.9\%) |
| with 2-3 Fasting Glucose results | 61,986 (9.4\%) | 69,326 (9.9\%) | 14 (4.3\%) |
| with $\geq 4$ Fasting Glucose results | 26,107 (4.0\%) | 31,954 (4.6\%) | 4 (1.2\%) |
| Random Glucose |  |  |  |
| Eligible members* | 13962606 | 13131646 | 9868 |
| Member-days** | 9191716148 | 8411610961 | 5350435 |
| Members with $\geq 1$ diabetes diagnosis: | 657,951 (100\%) | 697,913 (100\%) | 329 (100\%) |
| with no Random Glucose results | 359,660 (54.7\%) | 394,361 (56.5\%) | 183 (55.6\%) |
| with 1 Random Glucose result | 132009 (20.1\%) | 135,596 (19.4\%) | 82 (24.9\%) |
| with 2-3 Random Glucose results | 103,275 (15.7\%) | 103,516 (14.8\%) | 53 (16.1\%) |
| with $\geq 4$ Random Glucose results | 63,007 (9.6\%) | 64,440 (9.2\%) | 11 (3.3\%) |


|  | Sex |  |  |
| :---: | :---: | :---: | :---: |
|  | Female | Male | Unknown |
|  | Number (\%) | Number (\%) | Number (\%) |
| HgbA1c |  |  |  |
| Eligible members* | 13976406 | 13140502 | 9874 |
| Member-days** | 9193438735 | 8412913762 | 5351283 |
| Members with $\geq 1$ diabetes diagnosis: | 657,951 (100\%) | 697,913 (100\%) | 329 (100\%) |
| with no HgbA1c results | 315,003 (47.9\%) | 324,757 (46.5\%) | 190 (57.8\%) |
| with $1 \mathrm{HgbA1}$ c result | 130834 (19.9\%) | 136926 (19.6\%) | 86 (26.1\%) |
| with 2-3 HgbA1c results | 137,664 (20.9\%) | 149,587 (21.4\%) | 46 (14.0\%) |
| with $\geq 4 \mathrm{HgbA1}$ c results | 74,450 (11.3\%) | 86,643 (12.4\%) | 7 (2.1\%) |

*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. **Sum of all days a member is eligible for an incident exposure/lookup period (i.e., days that the member meets all inclusion criteria such a incidence, pre-existing condition, and enrollment requirements).

|  | Sex |  |  |
| :---: | :---: | :---: | :---: |
|  | Female | Male | Unknown |
|  | Number (\%) | Number (\%) | Number (\%) |
| Creatinine |  |  |  |
| Eligible members* | 10,783,645 | 10,071,081 | 7,843 |
| Member-days** | 7,241,080,109 | 6,576,992,570 | 3,739,043 |
| Members with $\geq 1$ diabetes diagnosis: | 393,448 (100\%) | 415,146 (100\%) | 198 (100\%) |
| with no Creatinine results | 160,731 (40.9\%) | 168,463 (40.6\%) | 87 (43.9\%) |
| with 1 Creatinine result | 92864 (23.6\%) | 97,608 (23.5\%) | 76 (38.4\%) |
| with 2-3 Creatinine results | 89,937 (22.9\%) | 94,951 (22.9\%) | 29 (14.6\%) |
| with $\geq 4$ Creatinine results | 49,916 (12.7\%) | 54,124 (13.0\%) | 6 (3.0\%) |
| Fasting Glucose |  |  |  |
| Eligible members* | 10,849,335 | 10,119,279 | 7,897 |
| Member-days** | 7,243,087,649 | 6,578,559,906 | 3,740,179 |
| Members with $\geq 1$ diabetes diagnosis: | 393,448 (100\%) | 415,146 (100\%) | 198 (100\%) |
| with no Fasting Glucose results | 296,304 (75.3\%) | 303,596 (73.1\%) | 164 (82.8\%) |
| with 1 Fasting Glucose result | 52270 (13.3\%) | 57,473 (13.8\%) | 31 (15.7\%) |
| with 2-3 Fasting Glucose results | 37,176 (9.4\%) | 43,983 (10.6\%) | 3 (1.5\%) |
| with $\geq 4$ Fasting Glucose results | 7,698 (2.0\%) | 10,094 (2.4\%) | 0 (0.0\%) |
| Random Glucose |  |  |  |
| Eligible members* | 10,788,517 | 10,074,971 | 7,850 |
| Member-days** | 7,241,464,920 | 6,577,318,450 | 3,739,162 |
| Members with $\geq 1$ diabetes diagnosis: | 393,448 (100\%) | 415,146 (100\%) | 198 (100\%) |
| with no Random Glucose results | 226,575 (57.6\%) | 247,687 (59.7\%) | 107 (54.0\%) |
| with 1 Random Glucose result | 80439 (20.4\%) | 81,864 (19.7\%) | 57 (28.8\%) |
| with 2-3 Random Glucose results | 55,752 (14.2\%) | 54,251 (13.1\%) | 29 (14.6\%) |
| with $\geq 4$ Random Glucose results | 30,682 (7.8\%) | 31,344 (7.6\%) | 5 (2.5\%) |


| Table 3b. Summary of incident diabetes diagnoses (365-day washout period) and subsequent lab results in the MSDD between January 1, 2006 and December 31, 2010 by laboratory test and sex |  |  |  |
| :---: | :---: | :---: | :---: |
|  | Sex |  |  |
|  | Female | Male | Unknown |
|  | Number (\%) | Number (\%) | Number (\%) |
| Hgbalc |  |  |  |
| Eligible members* | 10,854,024 | 10,121,644 | 7,900 |
| Member-days** | 7,243,390,108 | 6,578,766,392 | 3,740,332 |
| Members with $\geq 1$ diabetes diagnosis: | 393,448 (100\%) | 415,146 (100\%) | 198 (100\%) |
| with no HgbA1c results | 192,461 (48.9\%) | 192,265 (46.3\%) | 115 (58.1\%) |
| with 1 HgbA1c result | 93052 (23.7\%) | 98392 (23.7\%) | 57 (28.8\%) |
| with 2-3 HgbA1c results | 87,169 (22.2\%) | 98,423 (23.7\%) | 23 (11.6\%) |
| with $\geq 4 \mathrm{HgbA1}$ c results | 20,766 (5.3\%) | 26,066 (6.3\%) | 3 (1.5\%) |

*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. **Sum of all days a member is eligible for an incident exposure/lookup period (i.e., days that the member meets all inclusion criteria such a incidence, pre-existing condition, and enrollment requirements).

|  | Sex |  |  |
| :---: | :---: | :---: | :---: |
|  | Female | Male | Unknown |
|  | Number (\%) | Number (\%) | Number (\%) |
| Creatinine |  |  |  |
| Eligible members* | 17,255,945 | 16,372,690 | 11,944 |
| Member-days** | 12,515,400,000 | 11,635,200,000 | 7,667,142 |
| Members with $\geq 1$ diabetes diagnosis: | 1,314,994 (100\%) | 1,367,468 (100\%) | 624 (100\%) |
| with no Creatinine results | 554,197 (42.1\%) | 586,674 (42.9\%) | 297 (47.6\%) |
| with 1 Creatinine result | 199336 (15.2\%) | 206348 (15.1\%) | 136 (21.8\%) |
| with 2-3 Creatinine results | 213,647 (16.2\%) | 220,957 (16.2\%) | 116 (18.6\%) |
| with $\geq 4$ Creatinine results | 347,814 (26.4\%) | 353,489 (25.8\%) | 75 (12.0\%) |
| Fasting Glucose |  |  |  |
| Eligible members* | 17,255,945 | 16,372,690 | 11,944 |
| Member-days** | 12,516,800,000 | 11,636,500,000 | 7,667,361 |
| Members with $\geq 1$ diabetes diagnosis: | 1,314,994 (100\%) | 1,367,468 (100\%) | 624 (100\%) |
| with no Fasting Glucose results | 1,062,326 (80.8\%) | 1,093,749 (80.0\%) | 531 (85.1\%) |
| with 1 Fasting Glucose result | 89722 (6.8\%) | 95,143 (7.0\%) | 53 (8.5\%) |
| with 2-3 Fasting Glucose results | 79,034 (6.0\%) | 87,148 (6.4\%) | 20 (3.2\%) |
| with $\geq 4$ Fasting Glucose results | 83,912 (6.4\%) | 91,428 (6.7\%) | 20 (3.2\%) |
| Random Glucose |  |  |  |
| Eligible members* | 17,255,945 | 16,372,690 | 11,944 |
| Member-days** | 12,515,600,000 | 11,635,400,000 | 7,667,169 |
| Members with $\geq 1$ diabetes diagnosis: | 1,314,994 (100\%) | 1,367,468 (100\%) | 624 (100\%) |
| with no Random Glucose results | 704,419 (53.6\%) | 654,418 (47.9\%) | 329 (52.7\%) |
| with 1 Random Glucose result | 216,255 (16.4\%) | 211,900 (15.5\%) | 115 (18.4\%) |
| with 2-3 Random Glucose results | 202,191 (15.4\%) | 202,241 (14.8\%) | 115 (18.4\%) |
| with $\geq 4$ Random Glucose results | 244,603 (18.6\%) | 246,435 (18.0\%) | 65 (10.4\%) |


|  | Sex |  |  |
| :---: | :---: | :---: | :---: |
|  | Female | Male | Unknown |
|  | Number (\%) | Number (\%) | Number (\%) |
| HgbA1c |  |  |  |
| Eligible members* | 17,255,945 | 16,372,690 | 11,944 |
| Member-days** | 12,516,800,000 | 11,636,500,000 | 7,667,355 |
| Members with $\geq 1$ diabetes diagnosis: | 1,314,994 (100\%) | 1,367,468 (100\%) | 624 (100\%) |
| with no HgbA1c results | 637,651 (48.5\%) | 655,532 (47.9\%) | 348 (55.8\%) |
| with $1 \mathrm{HgbA1c}$ result | 195093 (14.8\%) | 203652 (14.9\%) | 115 (18.4\%) |
| with 2-3 HgbA1c results | 195,117 (14.8\%) | 209,788 (15.3\%) | 98 (15.7\%) |
| with $\geq 4 \mathrm{HgbA1}$ c results | 287,133 (21.8\%) | 298,496 (21.8\%) | 63 (10.1\%) |

*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. **Sum of all days a member is eligible for an incident exposure/lookup period (i.e., days that the member meets all inclusion criteria such a incidence, pre-existing condition, and enrollment requirements).

|  | Year |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2006 | 2007 | 2008 | 2009 | 2010 |
|  | Number (\%) | Number (\%) | Number (\%) | Number (\%) | Number (\%) |
| Creatinine |  |  |  |  |  |
| Eligible members* | 5,728,232 | 7,794,452 | 17,488,278 | 18,612,560 | 17,233,595 |
| Member-days** | 1,710,336,076 | 1,824,643,911 | 3,894,185,151 | 5,253,367,101 | 4,925,439,332 |
| Members with $\geq 1$ diabetes diagnosis: | 186,213 (100\%) | 177,417 (100\%) | 396,504 (100\%) | 529,358 (100\%) | 516,868 (100\%) |
| with no Creatinine results | 33,284 (17.9\%) | 37,186 (21.0\%) | 158,475 (40.0\%) | 222,862 (42.1\%) | 266,178 (51.5\%) |
| with 1 Creatinine result | 52,259 (28.1\%) | 50,266 (28.3\%) | 95,261 (24.0\%) | 127,269 (24.0\%) | 155,074 (30.0\%) |
| with 2-3 Creatinine results | 65,513 (35.2\%) | 59,315 (33.4\%) | 99,725 (25.2\%) | 129,779 (24.5\%) | 74,521 (14.4\%) |
| with $\geq 4$ Creatinine results | 35,157 (18.9\%) | 30,650 (17.3\%) | 43,043 (10.9\%) | 49,448 (9.3\%) | 21,095 (4.1\%) |
| Fasting Glucose |  |  |  |  |  |
| Eligible members* | 5,732,030 | 7,801,276 | 17,509,347 | 18,634,964 | 17,253,665 |
| Member-days** | 1,710,669,449 | 1,825,223,377 | 3,895,293,104 | 5,254,011,745 | 4,926,081,397 |
| Members with $\geq 1$ diabetes diagnosis: | 186,213 (100\%) | 177,417 (100\%) | 396,504 (100\%) | 529,358 (100\%) | 516,868 (100\%) |
| with no Fasting Glucose results | 85,282 (45.8\%) | 88,732 (50.0\%) | 298,369 (75.2\%) | 422,796 (79.9\%) | 445,182 (86.1\%) |
| with 1 Fasting Glucose result | 53,882 (28.9\%) | 48,119 (27.1\%) | 55,392 (14.0\%) | 63,560 (12.0\%) | 55,481 (10.7\%) |
| with 2-3 Fasting Glucose results | 41,183 (22.1\%) | 35,746 (20.1\%) | 38,313 (9.7\%) | 38,973 (7.4\%) | 15,343 (3.0\%) |
| with $\geq 4$ Fasting Glucose results | 5,866 (3.2\%) | 4,820 (2.7\%) | 4,430 (1.1\%) | 4,029 (0.8\%) | 862 (0.2\%) |
| Random Glucose |  |  |  |  |  |
| Eligible members* | 5,733,454 | 7,799,680 | 17,493,740 | 18,619,810 | 17,240,559 |
| Member-days** | 1,710,481,035 | 1,824,783,631 | 3,894,364,178 | 5,253,487,029 | 4,925,561,671 |
| Members with $\geq 1$ diabetes diagnosis: | 186,213 (100\%) | 177,417 (100\%) | 396,504 (100\%) | 529,358 (100\%) | 516,868 (100\%) |
| with no Random Glucose results | 117,165 (62.9\%) | 112,481 (63.4\%) | 234,222 (59.1\%) | 307,325 (58.1\%) | 339,713 (65.7\%) |
| with 1 Random Glucose result | 30,644 (16.5\%) | 28,650 (16.1\%) | 73,360 (18.5\%) | 104,815 (19.8\%) | 112,021 (21.7\%) |
| with 2-3 Random Glucose results | 20,380 (10.9\%) | 19,538 (11.0\%) | 58,866 (14.8\%) | 82,539 (15.6\%) | 49,789 (9.6\%) |
| with $\geq 4$ Random Glucose results | 18,024 (9.7\%) | 16,748 (9.4\%) | 30,056 (7.6\%) | 34,679 (6.6\%) | 15,345 (3.0\%) |


|  | Year |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2006 | 2007 | 2008 | 2009 | 2010 |
|  | Number (\%) | Number (\%) | Number (\%) | Number (\%) | Number (\%) |
| HgbA1c |  |  |  |  |  |
| Eligible members* | 5,738,623 | 7,806,845 | 17,515,517 | 18,640,789 | 17,258,702 |
| Member-days** | 1,710,771,044 | 1,825,280,830 | 3,895,414,671 | 5,254,093,789 | 4,926,143,446 |
| Members with $\geq 1$ diabetes diagnosis: | 186,213 (100\%) | 177,417 (100\%) | 396,504 (100\%) | 529,358 (100\%) | 516,868 (100\%) |
| with no HgbA1c results | 35,704 (19.2\%) | 40,816 (23.0\%) | 182,828 (46.1\%) | 255,893 (48.3\%) | 288,517 (55.8\%) |
| with $1 \mathrm{HgbA1c}$ result | 56,140 (30.1\%) | 53,005 (29.9\%) | 96,291 (24.3\%) | 124,698 (23.6\%) | 158,148 (30.6\%) |
| with 2-3 HgbA1c results | 81,381 (43.7\%) | 72,641 (40.9\%) | 103,636 (26.1\%) | 131,377 (24.8\%) | 66,228 (12.8\%) |
| with $\geq 4 \mathrm{HgbA1}$ c results | 12,988 (7.0\%) | 10,955 (6.2\%) | 13,749 (3.5\%) | 17,390 (3.3\%) | 3,975 (0.8\%) |

*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.
**Sum of all days a member is eligible for an incident exposure/lookup period (i.e., days that the member meets all inclusion criteria such a incidence, pre-existing condition, and enrollment requirements).

|  | Year |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2006 | 2007 | 2008 | 2009 | 2010 |
|  | Number (\%) | Number (\%) | Number (\%) | Number (\%) | Number (\%) |
| Creatinine |  |  |  |  |  |
| Eligible members* | 4,757,626 | 5,039,051 | 12,997,358 | 14,875,731 | 14,157,582 |
| Member-days** | 1,506,234,124 | 1,607,902,546 | 1,960,133,700 | 4,463,771,183 | 4,283,770,169 |
| Members with $\geq 1$ diabetes diagnosis: | 88,099 (100\%) | 91,750 (100\%) | 132,735 (100\%) | 309,629 (100\%) | 300,053 (100\%) |
| with no Creatinine results | 18,119 (20.6\%) | 19,436 (21.2\%) | 42,722 (32.2\%) | 135,311 (43.7\%) | 160,353 (53.4\%) |
| with 1 Creatinine result | 25,015 (28.4\%) | 27,062 (29.5\%) | 34,671 (26.1\%) | 76,083 (24.6\%) | 86,953 (29.0\%) |
| with 2-3 Creatinine results | 28,894 (32.8\%) | 29,672 (32.3\%) | 37,162 (28.0\%) | 70,450 (22.8\%) | 40,659 (13.6\%) |
| with $\geq 4$ Creatinine results | 16,071 (18.2\%) | 15,580 (17.0\%) | 18,180 (13.7\%) | 27,785 (9.0\%) | 12,088 (4.0\%) |
| Fasting Glucose |  |  |  |  |  |
| Eligible members* | 4,757,881 | 5,039,088 | 13,950,918 | 14,877,258 | 14,157,714 |
| Member-days** | 1,506,553,007 | 1,608,220,498 | 1,961,770,554 | 4,464,363,167 | 4,284,480,508 |
| Members with $\geq 1$ diabetes diagnosis: | 88,099 (100\%) | 91,750 (100\%) | 132,735 (100\%) | 309,629 (100\%) | 300,053 (100\%) |
| with no Fasting Glucose results | 41,752 (47.4\%) | 43,275 (47.2\%) | 86,389 (65.1\%) | 249,214 (80.5\%) | 261,945 (87.3\%) |
| with 1 Fasting Glucose result | 25,289 (28.7\%) | 26,728 (29.1\%) | 26,505 (20.0\%) | 37,100 (12.0\%) | 29,705 (9.9\%) |
| with 2-3 Fasting Glucose results | 18,353 (20.8\%) | 19,040 (20.8\%) | 17,880 (13.5\%) | 21,082 (6.8\%) | 7,896 (2.6\%) |
| with $\geq 4$ Fasting Glucose results | 2,705 (3.1\%) | 2,707 (3.0\%) | 1,961 (1.5\%) | 2,233 (0.7\%) | 507 (0.2\%) |
| Random Glucose |  |  |  |  |  |
| Eligible members* | 4,757,616 | 5,039,072 | 13,073,028 | 14,875,872 | 14,157,601 |
| Member-days** | 1,506,332,683 | 1,608,067,584 | 1,960,342,013 | 4,463,879,308 | 4,283,900,944 |
| Members with $\geq 1$ diabetes diagnosis: | 88,099 (100\%) | 91,750 (100\%) | 132,735 (100\%) | 309,629 (100\%) | 300,053 (100\%) |
| with no Random Glucose results | 55,221 (62.7\%) | 59,005 (64.3\%) | 81,222 (61.2\%) | 178,960 (57.8\%) | 194,714 (64.9\%) |
| with 1 Random Glucose result | 14,247 (16.2\%) | 14,520 (15.8\%) | 22,124 (16.7\%) | 62,797 (20.3\%) | 66,608 (22.2\%) |
| with 2-3 Random Glucose results | 9,640 (10.9\%) | 9,464 (10.3\%) | 17,239 (13.0\%) | 47,269 (15.3\%) | 29,430 (9.8\%) |
| with $\geq 4$ Random Glucose results | 8,991 (10.2\%) | 8,761 (9.5\%) | 12,150 (9.2\%) | 20,603 (6.7\%) | 9,301 (3.1\%) |


|  | Year |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2006 | 2007 | 2008 | 2009 | 2010 |
|  | Number (\%) | Number (\%) | Number (\%) | Number (\%) | Number (\%) |
| HgbA1c |  |  |  |  |  |
| Eligible members* | 4,757,860 | 5,039,115 | 14,038,460 | 14,877,367 | 14,157,728 |
| Member-days** | 1,506,596,840 | 1,608,376,702 | 1,961,921,054 | 4,464,435,800 | 4,284,566,436 |
| Members with $\geq 1$ diabetes diagnosis: | 88,099 (100\%) | 91,750 (100\%) | 132,735 (100\%) | 309,629 (100\%) | 300,053 (100\%) |
| with no HgbA1c results | 20,974 (23.8\%) | 22,593 (24.6\%) | 51,938 (39.1\%) | 160,606 (51.9\%) | 177,714 (59.2\%) |
| with $1 \mathrm{HgbA1c}$ result | 27,222 (30.9\%) | 29,091 (31.7\%) | 36,349 (27.4\%) | 74,580 (24.1\%) | 87,164 (29.0\%) |
| with 2-3 HgbA1c results | 34,515 (39.2\%) | 35,148 (38.3\%) | 39,402 (29.7\%) | 65,870 (21.3\%) | 33,100 (11.0\%) |
| with $\geq 4 \mathrm{HgbA1}$ c results | 5,388 (6.1\%) | 4,918 (5.4\%) | 5,046 (3.8\%) | 8,573 (2.8\%) | 2,075 (0.7\%) |

*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.
**Sum of all days a member is eligible for an incident exposure/lookup period (i.e., days that the member meets all inclusion criteria such a incidence, pre-existing condition, and enrollment requirements).

|  | Year |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2006 | 2007 | 2008 | 2009 | 2010 |
|  | Number (\%) | Number (\%) | Number (\%) | Number (\%) | Number (\%) |
| Creatinine |  |  |  |  |  |
| Eligible members* | 6,441,967 | 9,606,697 | 22,360,438 | 22,021,905 | 20,562,688 |
| Member-days** | 2,051,198,960 | 2,649,543,082 | 6,617,050,967 | 6,652,646,891 | 6,187,771,689 |
| Members with $\geq 1$ diabetes diagnosis: | 382,555 (100\%) | 717,175 (100\%) | 1,392,770 (100\%) | 1,393,822 (100\%) | 1,373,864 (100\%) |
| with no Creatinine results | 65,448 (17.1\%) | 268,829 (37.5\%) | 629,154 (45.2\%) | 602,395 (43.2\%) | 713,756 (52.0\%) |
| with 1 Creatinine result | 97,072 (25.4\%) | 137,567 (19.2\%) | 277,103 (19.9\%) | 278,202 (20.0\%) | 357,212 (26.0\%) |
| with 2-3 Creatinine results | 132,695 (34.7\%) | 187,647 (26.2\%) | 320,786 (23.0\%) | 335,779 (24.1\%) | 225,068 (16.4\%) |
| with $\geq 4$ Creatinine results | 87,340 (22.8\%) | 123,132 (17.2\%) | 165,727 (11.9\%) | 177,446 (12.7\%) | 77,828 (5.7\%) |
| Fasting Glucose |  |  |  |  |  |
| Eligible members* | 6,441,967 | 9,606,698 | 22,360,441 | 22,021,906 | 20,562,689 |
| Member-days** | 2,051,692,937 | 2,650,062,965 | 6,617,622,881 | 6,653,247,075 | 6,188,388,541 |
| Members with $\geq 1$ diabetes diagnosis: | 382,555 (100\%) | 717,175 (100\%) | 1,392,770 (100\%) | 1,393,822 (100\%) | 1,373,864 (100\%) |
| with no Fasting Glucose results | 177,078 (46.3\%) | 534,269 (74.5\%) | 1,163,921 (83.6\%) | 1,164,511 (83.5\%) | 1,215,931 (88.5\%) |
| with 1 Fasting Glucose result | 103,440 (27.0\%) | 93,029 (13.0\%) | 118,584 (8.5\%) | 127,004 (9.1\%) | 115,365 (8.4\%) |
| with 2-3 Fasting Glucose results | 86,639 (22.6\%) | 76,670 (10.7\%) | 92,696 (6.7\%) | 88,691 (6.4\%) | 39,287 (2.9\%) |
| with $\geq 4$ Fasting Glucose results | 15,398 (4.0\%) | 13,207 (1.8\%) | 17,569 (1.3\%) | 13,616 (1.0\%) | 3,281 (0.2\%) |
| Random Glucose |  |  |  |  |  |
| Eligible members* | 6,441,967 | 9,606,697 | 22,360,439 | 22,021,905 | 20,562,688 |
| Member-days** | 2,051,339,782 | 2,649,672,038 | 6,617,149,839 | 6,652,719,148 | 6,187,840,167 |
| Members with $\geq 1$ diabetes diagnosis: | 382,555 (100\%) | 717,175 (100\%) | 1,392,770 (100\%) | 1,393,822 (100\%) | 1,373,864 (100\%) |
| with no Random Glucose results | 226,652 (59.2\%) | 419,082 (58.4\%) | 788,824 (56.6\%) | 776,626 (55.7\%) | 874,416 (63.6\%) |
| with 1 Random Glucose result | 64,001 (16.7\%) | 102,774 (14.3\%) | 238,409 (17.1\%) | 243,806 (17.5\%) | 274,404 (20.0\%) |
| with 2-3 Random Glucose results | 45,778 (12.0\%) | 107,551 (15.0\%) | 234,963 (16.9\%) | 240,158 (17.2\%) | 165,817 (12.1\%) |
| with $\geq 4$ Random Glucose results | 46,124 (12.1\%) | 87,768 (12.2\%) | 130,574 (9.4\%) | 133,232 (9.6\%) | 59,227 (4.3\%) |


*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.
**Sum of all days a member is eligible for an incident exposure/lookup period (i.e., days that the member meets all inclusion criteria such a incidence, pre-existing condition, and enrollment requirements).

|  | Data Partner Type |  |
| :---: | :---: | :---: |
|  | Sites with Electronic Health Records | National Insurers |
|  | Number (\%) | Number (\%) |
| Creatinine |  |  |
| Eligible members* | 8,526,566 | 18,570,306 |
| Member-days** | 8,774,187,480 | 8,833,784,091 |
| Members with $\geq 1$ diabetes diagnosis: | 491,031 (100\%) | 865,162 (100\%) |
| with no Creatinine results | 80,382 (16.4\%) | 475,980 (55.0\%) |
| with 1 Creatinine result | 81,061 (16.5\%) | 188,295 (21.8\%) |
| with 2-3 Creatinine results | 142,451 (29.0\%) | 147,270 (17.0\%) |
| with $\geq 4$ Creatinine results | 187,137 (38.1\%) | 53,617 (6.2\%) |
| Fasting Glucose |  |  |
| Eligible members* | 8,529,496 | 18,592,180 |
| Member-days** | 8,775,908,184 | 8,835,370,888 |
| Members with $\geq 1$ diabetes diagnosis: | 491,031 (100\%) | 865,162 (100\%) |
| with no Fasting Glucose results | 204,476 (41.6\%) | 816,534 (94.4\%) |
| with 1 Fasting Glucose result | 111,818 (22.8\%) | 33,974 (3.9\%) |
| with 2-3 Fasting Glucose results | 118,926 (24.2\%) | 12,400 (1.4\%) |
| with $\geq 4$ Fasting Glucose results | 55,811 (11.4\%) | 2,254 (0.3\%) |
| Random Glucose |  |  |
| Eligible members* | 8,532,608 | 18,571,512 |
| Member-days** | 8,774,778,879 | 8,833,898,665 |
| Members with $\geq 1$ diabetes diagnosis: | 491,031 (100\%) | 865,162 (100\%) |
| with no Random Glucose results | 259,667 (52.9\%) | 494,537 (57.2\%) |
| with 1 Random Glucose result | 86,259 (17.6\%) | 181,428 (21.0\%) |
| with 2-3 Random Glucose results | 67,620 (13.8\%) | 139,224 (16.1\%) |
| with $\geq 4$ Random Glucose results | 77,485 (15.8\%) | 49,973 (5.8\%) |
| HgbA1c |  |  |
| Eligible members* | 8,535,958 | 18,590,824 |
| Member-days** | 8,776,333,459 | 8,835,370,321 |
| Members with $\geq 1$ diabetes diagnosis: | 491,031 (100\%) | 865,162 (100\%) |
| with no HgbA1c results | 95,272 (19.4\%) | 544,678 (63.0\%) |
| with $1 \mathrm{HgbA1c}$ result | 87,981 (17.9\%) | 179,865 (20.8\%) |
| with 2-3 HgbA1c results | 168,258 (34.3\%) | 119,039 (13.8\%) |
| with $\geq 4 \mathrm{HgbA1}$ c results | 139,520 (28.4\%) | 21,580 (2.5\%) |

*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.
**Sum of all days a member is eligible for an incident exposure/lookup period (i.e., days that the member meets all inclusion criteria such a incidence, pre-existing condition, and enrollment requirements).

|  | Data Partner Type |  |
| :---: | :---: | :---: |
|  | Sites with Electronic Health Records | National Insurers |
|  | Number (\%) | Number (\%) |
| Creatinine |  |  |
| Eligible members* | 7,463,145 | 13,399,424 |
| Member-days** | 7,986,211,472 | 5,835,600,250 |
| Members with $\geq 1$ diabetes diagnosis: | 337,285 (100\%) | 471,507 (100\%) |
| with no Creatinine results | 66,630 (19.8\%) | 262,651 (55.7\%) |
| with 1 Creatinine result | 80,738 (23.9\%) | 109,810 (23.3\%) |
| with 2-3 Creatinine results | 110,034 (32.6\%) | 74,883 (15.9\%) |
| with $\geq 4$ Creatinine results | 79,883 (23.7\%) | 24,163 (5.1\%) |
| Fasting Glucose |  |  |
| Eligible members* | 7,464,736 | 13,511,775 |
| Member-days** | 7,987,905,235 | 5,837,482,499 |
| Members with $\geq 1$ diabetes diagnosis: | 337,285 (100\%) | 471,507 (100\%) |
| with no Fasting Glucose results | 154,249 (45.7\%) | 445,815 (94.6\%) |
| with 1 Fasting Glucose result | 90,344 (26.8\%) | 19,430 (4.1\%) |
| with 2-3 Fasting Glucose results | 75,546 (22.4\%) | 5,616 (1.2\%) |
| with $\geq 4$ Fasting Glucose results | 17,146 (5.1\%) | 646 (0.1\%) |
| Random Glucose |  |  |
| Eligible members* | 7,464,994 | 13,406,344 |
| Member-days** | 7,986,810,448 | 5,835,712,084 |
| Members with $\geq 1$ diabetes diagnosis: | 337,285 (100\%) | 471,507 (100\%) |
| with no Random Glucose results | 200,626 (59.5\%) | 273,743 (58.1\%) |
| with 1 Random Glucose result | 57,558 (17.1\%) | 104,802 (22.2\%) |
| with 2-3 Random Glucose results | 39,493 (11.7\%) | 70,539 (15.0\%) |
| with $\geq 4$ Random Glucose results | 39,608 (11.7\%) | 22,423 (4.8\%) |
| HgbA1c |  |  |
| Eligible members* | 7,467,492 | 13,516,076 |
| Member-days** | 7,988,395,989 | 5,837,500,843 |
| Members with $\geq 1$ diabetes diagnosis: | 337,285 (100\%) | 471,507 (100\%) |
| with no HgbA1c results | 78,690 (23.3\%) | 306,151 (64.9\%) |
| with $1 \mathrm{HgbA1c}$ result | 87,028 (25.8\%) | 104,473 (22.2\%) |
| with 2-3 HgbA1c results | 131,020 (38.8\%) | 54,595 (11.6\%) |
| with $\geq 4 \mathrm{HgbA1}$ c results | 40,547 (12.0\%) | 6,288 (1.3\%) |

*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.
**Sum of all days a member is eligible for an incident exposure/lookup period (i.e., days that the member meets all inclusion criteria such a incidence, pre-existing condition, and enrollment requirements).

## Mini-Sentinel

|  | Data Partner Type |  |
| :---: | :---: | :---: |
|  | Sites with Electronic Health Records | National Insurers |
|  | Number (\%) | Number (\%) |
| Creatinine |  |  |
| Eligible members* | 9,606,977 | 24,033,602 |
| Member-days** | 10,338,718,152 | 13,819,460,767 |
| Members with $\geq 1$ diabetes diagnosis: | 656,697 (100\%) | 2,026,389 (100\%) |
| with no Creatinine results | 102,748 (15.6\%) | 1,038,420 (51.2\%) |
| with 1 Creatinine result | 72,169 (11.0\%) | 333,651 (16.5\%) |
| with 2-3 Creatinine results | 112,555 (17.1\%) | 322,165 (15.9\%) |
| with $\geq 4$ Creatinine results | 369,225 (56.2\%) | 332,153 (16.4\%) |
| Fasting Glucose |  |  |
| Eligible members* | 9,606,977 | 24,033,602 |
| Member-days** | 10,341,418,374 | 13,819,624,892 |
| Members with $\geq 1$ diabetes diagnosis: | 656,697 (100\%) | 2,026,389 (100\%) |
| with no Fasting Glucose results | 247,137 (37.6\%) | 1,909,469 (94.2\%) |
| with 1 Fasting Glucose result | 119,454 (18.2\%) | 65,464 (3.2\%) |
| with 2-3 Fasting Glucose results | 133,087 (20.3\%) | 33,115 (1.6\%) |
| with $\geq 4$ Fasting Glucose results | 157,019 (23.9\%) | 18,341 (0.9\%) |
| Random Glucose |  |  |
| Eligible members* | 9,606,977 | 24,033,602 |
| Member-days** | 10,339,225,488 | 13,819,460,370 |
| Members with $\geq 1$ diabetes diagnosis: | 656,697 (100\%) | 2,026,389 (100\%) |
| with no Random Glucose results | 280,299 (42.7\%) | 1,078,867 (53.2\%) |
| with 1 Random Glucose result | 103,443 (15.8\%) | 324,827 (16.0\%) |
| with 2-3 Random Glucose results | 94,007 (14.3\%) | 310,540 (15.3\%) |
| with $\geq 4$ Random Glucose results | 178,948 (27.2\%) | 312,155 (15.4\%) |
| HgbA1c |  |  |
| Eligible members* | 9,606,977 | 24,033,602 |
| Member-days** | 10,341,407,425 | 13,819,615,096 |
| Members with $\geq 1$ diabetes diagnosis: | 656,697 (100\%) | 2,026,389 (100\%) |
| with no HgbA1c results | 121,985 (18.6\%) | 1,171,546 (57.8\%) |
| with $1 \mathrm{HgbA1c}$ result | 80,755 (12.3\%) | 318,105 (15.7\%) |
| with 2-3 HgbA1c results | 124,820 (19.0\%) | 280,183 (13.8\%) |
| with $\geq 4 \mathrm{HgbA1}$ c results | 329,137 (50.1\%) | 256,555 (12.7\%) |

*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.
**Sum of all days a member is eligible for an incident exposure/lookup period (i.e., days that the member meets all inclusion criteria such a incidence, pre-existing condition, and enrollment requirements).





[^0]:    *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.
    **Sum of all days a member is eligible for an incident exposure/lookup period (i.e., days that the member meets all inclusion criteria such a incidence, pre-existing condition, and enrollment requirements)

