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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.

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 for Request cder\_mpl1r\_wp129 (Report 2 of 2)

**Request ID:** cder\_mpl1r\_wp129

**Request Description:** The goal of this query was to evaluate utilization patterns of obesity drugs in the Sentinel Distributed Database (SDD). This is report two of two. This report presents data from the sensitivity analysis, and the first report provides data from the main analysis in which the episode gap was decreased.

**Sentinel Modular Program Tool Used:** Cohort Identification and Descriptive Analysis tool, version 7.0.1

**Data Source:** Data from January 1, 2008 to December 31, 2017 from 17 Data Partners contributing to the SDD were included in this request. This request was distributed on December 21, 2018. See Appendix A for a list of the dates of available data for each Data Partner.

**Study Design:** This request examined utilization of nine obesity drugs within the SDD. Sodium-glucose cotransporter-2 (SGLT-2) inhibitors were also included as a comparator. Descriptive analyses examined obesity drug user baseline characteristics, cumulative duration of use across all their episodes, as well as duration of first treatment episode. Analyses also described episode length of all episodes, days supplied per dispensing, and length of gaps between treatment episodes. Results were stratified by several key factors (e.g., age categories, sex, exposure episode length categories, etc.). Kaplan-Meier survival analyses were used to evaluate treatment persistence. This episode gap was increased from 14 days in the main analysis to 60 days in this sensitivity analysis.

**Exposures of Interest:** The exposures of interest were nine obesity drugs: lorcaserin, bupropion and naltrexone, liraglutide, phentermine and topiramate, orlistat, phentermine, benzphetamine, diethylpropion, and phendimetrazine. Each of the nine obesity drugs were assessed separately and together in three groupings: 1) all obesity drugs, 2) all long term obesity drugs (lorcaserin, bupropion and naltrexone, liraglutide, phentermine and topiramate, orlistat), 3) all short term obesity drugs (phentermine, benzphetamine, diethylpropion, phendimetrazine). SGLT-2 inhibitors were examined as a comparator drug. All exposures were defined using National Drug Codes (NDCs). Please see Appendix B for generic and brand names.

**Cohort Eligibility Criteria:** Cohort members were required to be continuously enrolled in plans with medical and drug coverage for at least 183 days prior to their first qualifying dispensing (i.e. index) date, during which gaps in coverage of up to 45 days were allowed. Descriptive analyses focused on new use of obesity drugs (i.e., first exposure episode) according to the following new user definitions:

- 1) In analyses focused on the nine individual obesity drugs defined new use as no previous use of the specific drug of interest in the 183 days preceding the index date (i.e., use of other obesity drugs was permitted).
- 2) In analyses focused on 'all obesity drugs', 'all long-term obesity drugs', or 'all short-term obesity drugs', new use was defined as no previous use of all obesity drugs of interest to the specific analysis in the 183 days preceding the index date (i.e., analyses focused on all long-term obesity drugs required no use of long term obesity drugs in the previous 183 days).
- 3) In analyses focused on SGLT-2 inhibitor use, new use was defined as no use of any SGLT-2 inhibitor in the 183 days preceding the index date.

All qualifying dispensings that occurred between January 1, 2008 and December 31, 2017 were included. If a second dispensing occurred within 60 days from the last day of the first dispensing, then the episode was bridged and the two dispensings were considered part of the same episode.

**Baseline Characteristics:** The following characteristics were assessed from the index date through the 183 days prior to index: comorbidity score, health service utilization, overweight/obesity, acquired hypothyroidism, acute myocardial infarction, Alzheimer's disease and related disorders, anemia, asthma, atrial fibrillation, benign prostatic hyperplasia, chronic kidney disease, chronic obstructive pulmonary disease and bronchiectasis, depression, diabetes, glaucoma, heart failure, hyperlipidemia, hypertension, ischemic heart disease, osteoporosis, rheumatoid arthritis/osteoarthritis, stroke/transient ischemic attack, breast cancer, colorectal cancer, prostate cancer, lung cancer, endometrial cancer, and body mass index (BMI) category (less than 19, 19-24, 25-29, 30-39, 40-69, and 70+). The following covariates were assessed on the day of the index exposure: lorcaserin, bupropion and naltrexone, liraglutide, phentermine and topiramate, orlistat, orlistat brand name Alli, phentermine, benzphetamine, diethylpropion, phendimetrazine. Please refer to Appendices C and D for specific codes used to define covariates.

**Please see the Appendix E for the specifications of parameters to be used in the analyses for this request.**

**Limitations:** Algorithms to define exposures, outcomes, inclusion and exclusion criteria, and covariates are imperfect and may be misclassified. Therefore, data should be interpreted with this limitation in mind.

**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.

**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). The Care Setting, along with the Principal Diagnosis Indicator (PDX), 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.

**Charlson/Elixhauser Combined Comorbidity Score** - calculated based on comorbidities observed during a requester-defined window around the exposure episode start date (e.g., in the 183 days prior to index).

**Cohort Definition (drug/exposure)** - indicates how the cohort will be defined: 01: Cohort includes only the first valid treatment episode during the query period; 02: Cohort includes all valid treatment episodes during the query period; 03: Cohort includes all valid treatment episodes during the query period until an event occurs.

**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.

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

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

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

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

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

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

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

**Maximum Episode Duration** - truncates exposure episodes after a requester-specified number of exposed days. Applied after any gaps are bridged and extension days added to the length of the exposure episode.

**Member-Years** - sum of all days of enrollment with medical and drug coverage in the query period preceded by an exposure washout period all divided by 365.25.

**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.

**Monitoring Period** - used to define time periods of interest for both sequential analysis and simple cohort characterization requests.

**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 Caresetting/PDX parameter.

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

**Treatment Episode Truncation Indicator** - indicates whether the exposure episode will be truncated at the occurrence of a requester-specified code.

**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

**Table 1a. Aggregated Baseline Table for Sodium-Glucose Cotransporter-2 (SGLT-2) Inhibitors and Any Obesity Drug Use in the Sentinel Distributed Database (SDD) from January 1, 2008 to December 31, 2017, Sensitivity Analysis**

Characteristic	SGLT-2 Inhibitors		Any Obesity Drug	
	Number of Patients	%	Number of Patients	%
Number of unique patients	542,814	100%	267,836	100%
<b>Demographics</b>	<b>Mean</b>	<b>Standard Deviation</b>	<b>Mean</b>	<b>Standard Deviation</b>
Mean Age (Years)	60.3	10.3	45.7	12.3
	<b>Number of Patients</b>	<b>%</b>	<b>Number of Patients</b>	<b>%</b>
Age: 18-44 Years	59,444	11.0%	132,317	49.4%
Age: 45-64 Years	269,375	49.6%	113,325	42.3%
Age: 65+ Years	213,995	39.4%	22,194	8.3%
Gender (Female)	253,823	46.8%	220,273	82.2%
Gender (Male)	288,972	53.2%	47,557	17.8%
Gender (Ambiguous/Unknown)	19	0.0%	6	0.0%
Race (Unknown)	263,005	48.5%	178,290	66.6%
Race (American Indian or Alaska Native)	1,609	0.3%	799	0.3%
Race (Asian)	10,750	2.0%	2,638	1.0%
Race (Black or African American)	34,924	6.4%	14,963	5.6%
Race (Native Hawaiian or Other Pacific Islander)	776	0.1%	1,520	0.6%
Race (White)	231,750	42.7%	69,626	26.0%
Hispanic Origin	15,475	2.9%	10,557	3.9%
Year (2008)	0	0.0%	23,665	8.8%
Year (2009)	0	0.0%	23,778	8.9%
Year (2010)	0	0.0%	18,145	6.8%
Year (2011)	0	0.0%	15,976	6.0%
Year (2012)	0	0.0%	16,503	6.2%
Year (2013)	26,336	4.9%	22,200	8.3%
Year (2014)	111,351	20.5%	29,375	11.0%
Year (2015)	169,955	31.3%	40,200	15.0%
Year (2016)	159,284	29.3%	37,445	14.0%
Year (2017)	75,888	14.0%	40,549	15.1%
<b>Recorded history of:</b>	<b>Mean</b>	<b>Standard Deviation</b>	<b>Mean</b>	<b>Standard Deviation</b>
Prior combined comorbidity score <sup>1</sup>	0.8	1.8	0.2	1.0
	<b>Number of Patients</b>	<b>%</b>	<b>Number of Patients</b>	<b>%</b>
Overweight/obesity	169,165	31.2%	133,237	49.7%
Acquired hypothyroidism	95,479	17.6%	39,296	14.7%
Acute myocardial infarction	3,927	0.7%	161	0.1%
Alzheimer's disease and related disorders	7,519	1.4%	316	0.1%
Anemia	66,736	12.3%	18,010	6.7%
Asthma	37,734	7.0%	19,561	7.3%
Atrial fibrillation	27,500	5.1%	1,744	0.7%
Benign prostatic hyperplasia	35,497	6.5%	3,041	1.1%
Chronic kidney disease	175,852	32.4%	10,060	3.8%
COPD and bronchiectasis	51,662	9.5%	11,570	4.3%
Depression	71,554	13.2%	40,890	15.3%
Diabetes	527,510	97.2%	35,305	13.2%
Glaucoma	44,566	8.2%	5,138	1.9%
Heart failure	31,344	5.8%	2,446	0.9%
Hyperlipidemia	412,886	76.1%	75,260	28.1%

**Table 1a. Aggregated Baseline Table for Sodium-Glucose Cotransporter-2 (SGLT-2) Inhibitors and Any Obesity Drug Use in the Sentinel Distributed Database (SDD) from January 1, 2008 to December 31, 2017, Sensitivity Analysis**

Hypertension	425,447	78.4%	81,488	30.4%
Ischemic heart disease	96,982	17.9%	6,870	2.6%
Osteoporosis	15,963	2.9%	3,543	1.3%
Rheumatoid arthritis/osteoarthritis	111,933	20.6%	34,994	13.1%
Stroke/transient ischemic attack	14,905	2.7%	1,289	0.5%
Breast cancer	9,813	1.8%	2,836	1.1%
Colorectal cancer	4,008	0.7%	543	0.2%
Prostate cancer	9,024	1.7%	633	0.2%
Lung cancer	1,533	0.3%	159	0.1%
Endometrial cancer	1,207	0.2%	229	0.1%
Body mass index less than 19 kg/m <sup>2</sup>	394	0.1%	63	0.0%
Body mass index between 19-24 kg/m <sup>2</sup>	3,773	0.7%	629	0.2%
Body mass index between 25-29 kg/m <sup>2</sup>	14,947	2.8%	4,997	1.9%
Body mass index between 30-39 kg/m <sup>2</sup>	46,063	8.5%	20,973	7.8%
Body mass index 40-69 kg/m <sup>2</sup>	28,840	5.3%	15,588	5.8%
Body mass index 70 kg/m <sup>2</sup> and over	457	0.1%	202	0.1%
<b>History of use:</b>	<b>Number of Patients</b>	<b>%</b>	<b>Number of Patients</b>	<b>%</b>
Lorcaserin	80	0.0%	13,912	5.2%
Phendimetrazine	10	0.0%	8,100	3.0%
Bupropion and naltrexone	82	0.0%	24,473	9.1%
Liraglutide (Saxenda)	81	0.0%	7,365	2.7%
Phentermine and topiramate	86	0.0%	8,836	3.3%
Orlistat (all brands)	18	0.0%	7,647	2.9%
Orlistat (Alli brand only)	0	0.0%	93	0.0%
Phentermine	358	0.1%	191,094	71.3%
Benzphetamine	0	0.0%	701	0.3%
Diethylpropion	10	0.0%	6,226	2.3%
<b>Health Service Utilization Intensity:</b>	<b>Mean</b>	<b>Standard Deviation</b>	<b>Mean</b>	<b>Standard Deviation</b>
Mean number of ambulatory encounters	9.3	8.1	6.5	6.7
Mean number of emergency room encounters	0.3	0.8	0.2	0.6
Mean number of inpatient hospital encounters	0.1	0.4	0.0	0.3
Mean number of non-acute institutional encounters	0.0	0.3	0.0	0.3
Mean number of other ambulatory encounters	2.1	3.9	1.9	3.1
Mean number of unique drug classes	8.5	4.5	6.2	4.0
Mean number of generics	10.5	5.1	6.6	4.5
Mean number of filled prescriptions	27.4	20.0	13.1	12.5

<sup>1</sup> The Combined Comorbidity Raw Score is calculated based on comorbidities observed during a requester-defined window around the exposure episode start date (index date).



**Table 1b. Aggregated Baseline Table for Long-Term Obesity Drug Use in the Sentinel Distributed Database (SDD) from January 1, 2008 to December 31, 2017, Sensitivity Analysis**

Characteristic	Any Long-Term Therapy Obesity		Lorcaserin		Bupropion and Naltrexone		Liraglutide (Saxenda)		Phentermine and Topiramate		Orlistat		Alli	
	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%
	Standard Mean	Standard Deviation	Standard Mean	Standard Deviation	Standard Mean	Standard Deviation	Standard Mean	Standard Deviation	Standard Mean	Standard Deviation	Standard Mean	Standard Deviation	Standard Mean	Standard Deviation
Number of unique patients	69,377	100%	17,153	100%	29,106	100%	9,522	100%	11,553	100%	8,252	100%	125	100%
Demographics	48.0	11.4	49.3	11.2	47.4	11.2	46.5	10.7	47.7	11.1	49.2	12.5	47.0	13.5
Mean Age (Years)	27,826	40.1%	6,163	35.9%	12,006	41.2%	4,125	43.3%	4,765	41.2%	3,230	39.1%	55	44.0%
Age: 18-44 Years	36,411	52.5%	9,452	55.1%	15,526	53.3%	5,172	54.3%	5,949	51.5%	3,810	46.2%	56	44.8%
Age: 45-64 Years	5,140	7.4%	1,538	9.0%	1,574	5.4%	225	2.4%	839	7.3%	1,212	14.7%	14	11.2%
Age: 65+ Years	55,498	80.0%	13,641	79.5%	23,851	81.9%	7,532	79.1%	9,188	79.5%	6,381	77.3%	97	77.6%
Gender (Female)	13,878	20.0%	3,511	20.5%	5,254	18.1%	1,990	20.9%	2,365	20.5%	1,871	22.7%	28	22.4%
Gender (Male)	1	0.0%	1	0.0%	1	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Gender (Ambiguous/Unknown)	55,659	80.2%	14,010	81.7%	25,687	88.3%	8,851	93.0%	9,431	81.6%	3,152	38.2%	65	52.0%
Race (Unknown)	112	0.2%	18	0.1%	19	0.1%	8	0.1%	16	0.1%	53	0.6%	2	1.6%
Race (American Indian or Alaska Native)	433	0.6%	60	0.3%	37	0.1%	8	0.1%	39	0.3%	310	3.8%	0	0.0%
Race (Asian)	2,218	3.2%	449	2.6%	414	1.4%	94	1.0%	265	2.3%	1,096	13.3%	12	9.6%
Race (Black or African American)	166	0.2%	17	0.1%	16	0.1%	2	0.0%	11	0.1%	122	1.5%	0	0.0%
Race (Native Hawaiian or Other Pacific Islander)	10,789	15.6%	2,599	15.2%	2,933	10.1%	559	5.9%	1,791	15.5%	3,519	42.6%	46	36.8%
Race (White)	1,200	1.7%	152	0.9%	179	0.6%	45	0.5%	132	1.1%	744	9.0%	6	4.8%
Hispanic Origin	1,917	2.8%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1,917	23.2%	12	9.6%
Year (2008)	1,347	1.9%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1,347	16.3%	9	7.2%
Year (2009)	872	1.3%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	872	10.6%	11	8.8%
Year (2010)	932	1.3%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	932	11.3%	14	11.2%
Year (2011)	796	1.1%	0	0.0%	0	0.0%	0	0.0%	151	1.3%	647	7.8%	16	12.8%
Year (2012)	3,741	5.4%	1,223	7.1%	0	0.0%	0	0.0%	1,980	17.1%	614	7.4%	15	12.0%
Year (2013)	9,768	14.1%	4,778	27.9%	1,729	5.9%	0	0.0%	2,905	25.1%	693	8.4%	2	1.6%
Year (2014)	18,923	27.3%	4,700	27.4%	10,871	37.3%	1,580	16.6%	2,711	23.5%	530	6.4%	8	6.4%
Year (2015)	14,136	20.4%	3,170	18.5%	6,933	23.8%	3,620	38.0%	2,033	17.6%	405	4.9%	11	8.8%
Year (2016)	16,945	24.4%	3,282	19.1%	9,573	32.9%	4,322	45.4%	1,773	15.3%	295	3.6%	27	21.6%
Year (2017)														

**Table 1b. Aggregated Baseline Table for Long-Term Obesity Drug Use in the Sentinel Distributed Database (SDD) from January 1, 2008 to December 31, 2017, Sensitivity Analysis**

Recorded history of:	Any Long-Term Therapy Obesity		Lorcaserin		Bupropion and Naltrexone		Liraglutide (Saxenda)		Phentermine and Topiramate		Orlistat		Alli	
	Standard Mean	Standard Deviation	Standard Mean	Standard Deviation	Standard Mean	Standard Deviation	Standard Mean	Standard Deviation	Standard Mean	Standard Deviation	Standard Mean	Standard Deviation	Standard Mean	Standard Deviation
	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%
Prior combined comorbidity score <sup>1</sup>	0.2	1.1	0.2	1.1	0.2	1.0	0.4	1.1	0.2	1.0	0.5	1.3	0.4	1.4
Overweight/obesity	43,801	63.1%	10,800	63.0%	18,682	64.2%	6,993	73.4%	7,388	63.9%	4,583	55.5%	82	65.6%
Acquired hypothyroidism	13,186	19.0%	3,346	19.5%	5,464	18.8%	2,117	22.2%	2,541	22.0%	1,160	14.1%	18	14.4%
Acute myocardial infarction	83	0.1%	18	0.1%	29	0.1%	18	0.2%	9	0.1%	14	0.2%	1	0.8%
Alzheimer's disease and related disorders	107	0.2%	23	0.1%	20	0.1%	11	0.1%	10	0.1%	51	0.6%	3	2.4%
Anemia	5,683	8.2%	1,444	8.4%	2,148	7.4%	879	9.2%	910	7.9%	820	9.9%	13	10.4%
Asthma	5,628	8.1%	1,415	8.2%	2,059	7.1%	850	8.9%	827	7.2%	963	11.7%	15	12.0%
Atrial fibrillation	868	1.3%	236	1.4%	265	0.9%	132	1.4%	85	0.7%	193	2.3%	2	1.6%
Benign prostatic hyperplasia	975	1.4%	266	1.6%	315	1.1%	125	1.3%	175	1.5%	170	2.1%	2	1.6%
Chronic kidney disease	3,804	5.5%	917	5.3%	1,436	4.9%	804	8.4%	512	4.4%	512	6.2%	7	5.6%
COPD and bronchiectasis	3,125	4.5%	775	4.5%	1,165	4.0%	399	4.2%	401	3.5%	635	7.7%	11	8.8%
Depression	12,204	17.6%	2,736	16.0%	5,097	17.5%	1,981	20.8%	1,811	15.7%	1,738	21.1%	31	24.8%
Diabetes	12,498	18.0%	3,277	19.1%	4,313	14.8%	1,987	20.9%	2,054	17.8%	1,925	23.3%	24	19.2%
Glaucoma	1,852	2.7%	515	3.0%	682	2.3%	246	2.6%	255	2.2%	318	3.9%	4	3.2%
Heart failure	941	1.4%	212	1.2%	253	0.9%	125	1.3%	99	0.9%	303	3.7%	4	3.2%
Hyperlipidemia	25,146	36.2%	6,754	39.4%	9,809	33.7%	3,492	36.7%	4,260	36.9%	3,131	37.9%	38	30.4%
Hypertension	28,821	41.5%	7,893	46.0%	11,444	39.3%	4,044	42.5%	4,464	38.6%	3,643	44.1%	58	46.4%
Ischemic heart disease	2,655	3.8%	720	4.2%	855	2.9%	314	3.3%	351	3.0%	617	7.5%	8	6.4%
Osteoporosis	989	1.4%	282	1.6%	326	1.1%	96	1.0%	166	1.4%	194	2.4%	2	1.6%
Rheumatoid arthritis/osteoarthritis	10,724	15.5%	2,895	16.9%	4,005	13.8%	1,532	16.1%	1,678	14.5%	1,549	18.8%	29	23.2%
Stroke/transient ischemic attack	449	0.6%	111	0.6%	149	0.5%	54	0.6%	55	0.5%	110	1.3%	1	0.8%
Breast cancer	855	1.2%	206	1.2%	338	1.2%	101	1.1%	176	1.5%	108	1.3%	2	1.6%
Colorectal cancer	157	0.2%	37	0.2%	65	0.2%	14	0.1%	26	0.2%	27	0.3%	1	0.8%
Prostate cancer	206	0.3%	63	0.4%	67	0.2%	17	0.2%	30	0.3%	40	0.5%	0	0.0%
Lung cancer	49	0.1%	18	0.1%	16	0.1%	2	0.0%	7	0.1%	9	0.1%	0	0.0%
Endometrial cancer	83	0.1%	21	0.1%	35	0.1%	13	0.1%	13	0.1%	7	0.1%	0	0.0%
Body mass index less than 19 kg/m <sup>2</sup>	22	0.0%	1	0.0%	13	0.0%	6	0.1%	4	0.0%	1	0.0%	0	0.0%
Body mass index between 19-24 kg/m <sup>2</sup>	125	0.2%	29	0.2%	65	0.2%	20	0.2%	21	0.2%	4	0.0%	0	0.0%
Body mass index between 25-29 kg/m <sup>2</sup>	1,582	2.3%	397	2.3%	866	3.0%	215	2.3%	250	2.2%	62	0.8%	0	0.0%
Body mass index between 30-39 kg/m <sup>2</sup>	8,391	12.1%	1,946	11.3%	4,270	14.7%	1,650	17.3%	1,308	11.3%	343	4.2%	13	10.4%
Body mass index 40-69 kg/m <sup>2</sup>	6,497	9.4%	1,423	8.3%	3,047	10.5%	1,428	15.0%	884	7.7%	414	5.0%	14	11.2%

**Table 1b. Aggregated Baseline Table for Long-Term Obesity Drug Use in the Sentinel Distributed Database (SDD) from January 1, 2008 to December 31, 2017, Sensitivity Analysis**

	Any Long-Term Therapy Obesity		Lorcaserin		Bupropion and Naltrexone		Liraglutide (Saxenda)		Phentermine and Topiramate		Orlistat		Alli	
Body mass index 70 kg/m <sup>2</sup> and over	78	0.1%	19	0.1%	22	0.1%	24	0.3%	12	0.1%	10	0.1%	0	0.0%
	Number of Patients		Number of Patients		Number of Patients		Number of Patients		Number of Patients		Number of Patients		Number of Patients	
History of use:	%	%	%	%	%	%	%	%	%	%	%	%	%	%
Lorcaserin	15,781	22.7%	17,153	100.0%	135	0.5%	77	0.8%	78	0.7%	7	0.1%	1	0.8%
Phendimetrazine	62	0.1%	11	0.1%	22	0.1%	9	0.1%	10	0.1%	16	0.2%	0	0.0%
Bupropion and naltrexone	26,956	38.9%	103	0.6%	29,106	100.0%	147	1.5%	86	0.7%	8	0.1%	3	2.4%
Liraglutide (Saxenda)	7,945	11.5%	56	0.3%	101	0.3%	9,522	100.0%	21	0.2%	2	0.0%	0	0.0%
Phentermine and topiramate	10,531	15.2%	74	0.4%	100	0.3%	60	0.6%	11,553	100.0%	6	0.1%	2	1.6%
Orlistat (all brands)	8,182	11.8%	17	0.1%	6	0.0%	3	0.0%	10	0.1%	8,252	100.0%	125	100.0%
Orlistat (Alli brand only)	104	0.1%	1	0.0%	0	0.0%	1	0.0%	1	0.0%	109	1.3%	125	100.0%
Phentermine	1,389	2.0%	405	2.4%	485	1.7%	190	2.0%	274	2.4%	213	2.6%	5	4.0%
Benzphetamine	5	0.0%	0	0.0%	2	0.0%	1	0.0%	2	0.0%	1	0.0%	0	0.0%
Diethylpropion	60	0.1%	12	0.1%	22	0.1%	3	0.0%	10	0.1%	21	0.3%	0	0.0%
Health Service Utilization Intensity:	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation
Mean number of ambulatory encounters	8.0	7.8	8.2	7.9	7.4	7.3	9.2	8.9	8.1	7.7	8.6	8.3	8.8	9.0
Mean number of emergency room encounters	0.2	0.6	0.2	0.5	0.1	0.5	0.2	0.5	0.1	0.5	0.3	1.0	0.4	1.7
Mean number of inpatient hospital encounters	0.0	0.2	0.0	0.3	0.0	0.2	0.0	0.2	0.0	0.2	0.1	0.4	0.1	0.9
Mean number of non-acute institutional encounters	0.0	0.2	0.0	0.2	0.0	0.3	0.0	0.1	0.0	0.2	0.0	0.2	0.1	0.5
Mean number of other ambulatory encounters	1.6	2.8	1.5	2.8	1.4	2.2	1.6	2.5	1.5	2.4	2.7	4.6	3.1	8.9
Mean number of unique drug classes	7.1	4.3	7.3	4.3	6.8	4.1	7.7	4.4	6.8	4.1	8.5	4.9	8.5	5.3
Mean number of generics	7.6	4.8	7.7	4.8	7.1	4.5	8.1	4.9	7.2	4.6	9.2	5.7	9.2	6.1
Mean number of filled prescriptions	16.3	14.3	16.7	14.0	15.1	12.6	17.7	14.7	15.2	13.0	21.1	19.4	21.3	20.3

<sup>1</sup> The Combined Comorbidity Raw Score is calculated based on comorbidities observed during a requester-defined window around the exposure episode start date (index date).

**Table 1c. Aggregated Baseline Table for Short-Term Obesity Drug Use in the Sentinel Distributed Database (SDD) from January 1, 2008 to December 31, 2017, Sensitivity Analysis**

Characteristic	Any Short-Term Therapy		Phentermine		Benzphetamine		Diethylpropion		Phendimetrazine	
	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%
Number of unique patients	209,852	100%	198,203	100%	1,116	100%	8,571	100%	11,700	100%
Demographics	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation
Mean Age (Years)	45.0	12.4	44.8	12.3	49.3	12.6	49.4	12.9	47.0	12.5
	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%
Age: 18-44 Years	109,609	52.2%	104,938	52.9%	436	39.1%	3,440	40.1%	5,392	46.1%
Age: 45-64 Years	82,551	39.3%	77,418	39.1%	506	45.3%	3,734	43.6%	5,047	43.1%
Age: 65+ Years	17,692	8.4%	15,847	8.0%	174	15.6%	1,397	16.3%	1,261	10.8%
Gender (Female)	174,499	83.2%	164,961	83.2%	912	81.7%	7,112	83.0%	9,833	84.0%
Gender (Male)	35,348	16.8%	33,237	16.8%	204	18.3%	1,459	17.0%	1,867	16.0%
Gender (Ambiguous/Unknown)	5	0.0%	5	0.0%	0	0.0%	0	0.0%	0	0.0%
Race (Unknown)	131,471	62.6%	123,420	62.3%	752	67.4%	5,773	67.4%	8,889	76.0%
Race (American Indian or Alaska Native)	707	0.3%	686	0.3%	1	0.1%	20	0.2%	14	0.1%
Race (Asian)	2,293	1.1%	2,213	1.1%	0	0.0%	88	1.0%	39	0.3%
Race (Black or African American)	13,186	6.3%	12,840	6.5%	31	2.8%	254	3.0%	317	2.7%
Race (Native Hawaiian or Other Pacific Islander)	1,389	0.7%	1,308	0.7%	3	0.3%	121	1.4%	20	0.2%
Race (White)	60,806	29.0%	57,736	29.1%	329	29.5%	2,315	27.0%	2,421	20.7%
Hispanic Origin	9,641	4.6%	9,456	4.8%	10	0.9%	141	1.6%	192	1.6%
Year (2008)	22,027	10.5%	20,381	10.3%	118	10.6%	971	11.3%	1,488	12.7%
Year (2009)	22,640	10.8%	20,993	10.6%	181	16.2%	1,136	13.3%	1,547	13.2%
Year (2010)	17,411	8.3%	16,058	8.1%	120	10.8%	1,030	12.0%	1,313	11.2%
Year (2011)	15,150	7.2%	14,034	7.1%	99	8.9%	728	8.5%	1,182	10.1%
Year (2012)	15,846	7.6%	14,938	7.5%	63	5.6%	699	8.2%	974	8.3%
Year (2013)	19,130	9.1%	18,002	9.1%	135	12.1%	832	9.7%	1,019	8.7%
Year (2014)	21,056	10.0%	20,101	10.1%	131	11.7%	729	8.5%	966	8.3%
Year (2015)	23,996	11.4%	23,041	11.6%	102	9.1%	757	8.8%	1,056	9.0%
Year (2016)	25,991	12.4%	24,950	12.6%	94	8.4%	874	10.2%	1,146	9.8%
Year (2017)	26,605	12.7%	25,705	13.0%	73	6.5%	815	9.5%	1,009	8.6%

**Table 1c. Aggregated Baseline Table for Short-Term Obesity Drug Use in the Sentinel Distributed Database (SDD) from January 1, 2008 to December 31, 2017, Sensitivity Analysis**

Recorded history of:	Any Short-Term Therapy		Phentermine		Benzphetamine		Diethylpropion		Phendimetrazine	
	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation
Prior combined comorbidity score <sup>1</sup>	0.2	0.9	0.2	0.9	0.1	0.9	0.2	1.0	0.2	1.0
	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%
Overweight/obesity	96,690	46.1%	93,578	47.2%	277	24.8%	2,672	31.2%	3,431	29.3%
Acquired hypothyroidism	28,316	13.5%	26,536	13.4%	166	14.9%	1,366	15.9%	1,760	15.0%
Acute myocardial infarction	88	0.0%	85	0.0%	0	0.0%	2	0.0%	5	0.0%
Alzheimer's disease and related disorders	219	0.1%	200	0.1%	0	0.0%	12	0.1%	11	0.1%
Anemia	13,275	6.3%	12,432	6.3%	75	6.7%	600	7.0%	876	7.5%
Asthma	14,737	7.0%	14,042	7.1%	53	4.7%	536	6.3%	657	5.6%
Atrial fibrillation	928	0.4%	829	0.4%	5	0.4%	69	0.8%	61	0.5%
Benign prostatic hyperplasia	2,166	1.0%	1,981	1.0%	18	1.6%	124	1.4%	159	1.4%
Chronic kidney disease	6,759	3.2%	6,320	3.2%	36	3.2%	315	3.7%	384	3.3%
COPD and bronchiectasis	8,882	4.2%	8,314	4.2%	55	4.9%	407	4.7%	499	4.3%
Depression	30,675	14.6%	29,200	14.7%	151	13.5%	1,156	13.5%	1,516	13.0%
Diabetes	24,324	11.6%	22,807	11.5%	121	10.8%	1,118	13.0%	1,303	11.1%
Glaucoma	3,499	1.7%	3,229	1.6%	26	2.3%	208	2.4%	225	1.9%
Heart failure	1,573	0.7%	1,429	0.7%	12	1.1%	91	1.1%	105	0.9%
Hyperlipidemia	53,645	25.6%	50,020	25.2%	283	25.4%	2,690	31.4%	3,360	28.7%
Hypertension	56,558	27.0%	52,905	26.7%	381	34.1%	2,717	31.7%	3,347	28.6%
Ischemic heart disease	4,480	2.1%	4,031	2.0%	35	3.1%	285	3.3%	362	3.1%
Osteoporosis	2,702	1.3%	2,413	1.2%	28	2.5%	224	2.6%	235	2.0%
Rheumatoid arthritis/osteoarthritis	25,942	12.4%	24,290	12.3%	193	17.3%	1,246	14.5%	1,486	12.7%
Stroke/transient ischemic attack	879	0.4%	799	0.4%	9	0.8%	45	0.5%	53	0.5%
Breast cancer	2,121	1.0%	1,964	1.0%	10	0.9%	114	1.3%	135	1.2%
Colorectal cancer	406	0.2%	382	0.2%	3	0.3%	25	0.3%	17	0.1%
Prostate cancer	443	0.2%	408	0.2%	2	0.2%	31	0.4%	27	0.2%
Lung cancer	118	0.1%	107	0.1%	0	0.0%	8	0.1%	9	0.1%
Endometrial cancer	158	0.1%	151	0.1%	1	0.1%	6	0.1%	6	0.1%
Body mass index less than 19 kg/m <sup>2</sup>	44	0.0%	37	0.0%	2	0.2%	2	0.0%	5	0.0%
Body mass index between 19-24 kg/m <sup>2</sup>	536	0.3%	491	0.2%	8	0.7%	31	0.4%	47	0.4%
Body mass index between 25-29 kg/m <sup>2</sup>	3,842	1.8%	3,630	1.8%	27	2.4%	177	2.1%	277	2.4%
Body mass index between 30-39 kg/m <sup>2</sup>	14,209	6.8%	13,702	6.9%	44	3.9%	456	5.3%	643	5.5%

**Table 1c. Aggregated Baseline Table for Short-Term Obesity Drug Use in the Sentinel Distributed Database (SDD) from January 1, 2008 to December 31, 2017, Sensitivity Analysis**

	Any Short-Term Therapy		Phentermine		Benzphetamine		Diethylpropion		Phendimetrazine	
Body mass index 40-69 kg/m <sup>2</sup>	10,030	4.8%	9,703	4.9%	24	2.2%	247	2.9%	318	2.7%
Body mass index 70 kg/m <sup>2</sup> and over	145	0.1%	139	0.1%	1	0.1%	6	0.1%	2	0.0%
History of use:	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%
Lorcaserin	245	0.1%	241	0.1%	1	0.1%	11	0.1%	8	0.1%
Phendimetrazine	8,202	3.9%	540	0.3%	10	0.9%	76	0.9%	11,700	100.0%
Bupropion and naltrexone	259	0.1%	251	0.1%	1	0.1%	9	0.1%	10	0.1%
Liraglutide (Saxenda)	113	0.1%	107	0.1%	1	0.1%	4	0.0%	3	0.0%
Phentermine and topiramate	217	0.1%	215	0.1%	3	0.3%	6	0.1%	8	0.1%
Orlistat (all brands)	190	0.1%	170	0.1%	1	0.1%	23	0.3%	12	0.1%
Orlistat (Alli brand only)	1	0.0%	1	0.0%	0	0.0%	0	0.0%	0	0.0%
Phentermine	194,925	92.9%	198,203	100.0%	98	8.8%	751	8.8%	1,204	10.3%
Benzphetamine	714	0.3%	28	0.0%	1,116	100.0%	5	0.1%	9	0.1%
Diethylpropion	6,371	3.0%	492	0.2%	7	0.6%	8,571	100.0%	143	1.2%
Health Service Utilization Intensity:	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation
Mean number of ambulatory encounters	6.1	6.3	6.1	6.3	6.6	6.9	6.8	6.9	6.3	6.5
Mean number of emergency room encounters	0.2	0.6	0.2	0.6	0.2	0.6	0.1	0.4	0.1	0.5
Mean number of inpatient hospital encounters	0.0	0.3	0.0	0.3	0.1	0.3	0.0	0.2	0.0	0.2
Mean number of non-acute institutional encount	0.0	0.3	0.0	0.3	0.0	0.4	0.0	0.3	0.0	0.2
Mean number of other ambulatory encounters	2.0	3.2	2.0	3.2	1.2	3.0	1.6	2.5	1.4	2.2
Mean number of unique drug classes	6.0	3.9	6.0	3.9	7.2	4.5	6.5	4.1	6.1	4.0
Mean number of generics	6.4	4.4	6.4	4.4	8.0	5.1	7.1	4.6	6.7	4.5
Mean number of filled prescriptions	12.3	11.8	12.3	11.8	17.4	14.9	14.7	12.9	13.7	12.7

<sup>1</sup> The Combined Comorbidity Raw Score is calculated based on comorbidities observed during a requester-defined window around the exposure episode start date (index date).

**Table 2a. Distribution of Patients' Cumulative Exposure Duration, by Length Categories<sup>1</sup> across all Episodes in Days in the Sentinel Distributed Database (SDD) between January 1, 2008 and December 31, 2017, Sensitivity Analysis**

Exposures	Total Patients		1-30 Days		31-60 Days		61-90 Days		91-120 Days		121-150 Days		151-183 Days		184-365 Days		366-547 Days		548-730 Days		730+ Days	
	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%
SGLT-2 Inhibitors	542,814	100	79,151	14.6	31,057	5.7	49,587	9.1	31,550	5.8	27,205	5	30,939	5.7	113,546	20.9	69,349	12.8	47,637	8.8	62,793	11.6
All Obesity Drugs	267,836	100	83,310	31.1	26,998	10.1	30,675	11.5	26,465	9.9	17,690	6.6	15,071	5.6	40,367	15.1	14,237	5.3	6,285	2.3	6,738	2.5
<b>Long-Term Therapies</b>																						
All Long-Term Obesity Drugs	69,377	100	26,790	38.6	6,680	9.6	8,030	11.6	6,099	8.8	4,016	5.8	3,313	4.8	8,849	12.8	3,091	4.5	1,362	2	1,147	1.7
Lorcaserin	17,153	100	7,378	43	1,397	8.1	2,503	14.6	1,678	9.8	848	4.9	772	4.5	1,708	10	528	3.1	186	1.1	155	0.9
Bupropion and Naltrexone	29,106	100	13,989	48.1	2,823	9.7	3,308	11.4	2,363	8.1	1,535	5.3	1,095	3.8	2,704	9.3	748	2.6	356	1.2	185	0.6
Liraglutide (Saxenda)	9,522	100	2,274	23.9	840	8.8	1,209	12.7	962	10.1	771	8.1	634	6.7	1,820	19.1	689	7.2	225	2.4	98	1
Phentermine and Topiramate (Qsymia)	11,553	100	3,370	29.2	1,350	11.7	1,278	11.1	1,103	9.5	754	6.5	640	5.5	1,822	15.8	658	5.7	290	2.5	288	2.5
Orlistat (all brands)	8,252	100	3,702	44.9	826	10	820	9.9	548	6.6	334	4	322	3.9	867	10.5	362	4.4	181	2.2	290	3.5
Orlistat (Alli brand only)	125	100	67	53.6	28	22.4	15	12	5	4	2	1.6	4	3.2	1	0.8	1	0.8	0	0	2	1.6
<b>Short-Term Therapies</b>																						
All Short-Term Obesity Drugs	209,852	100	62,970	30	21,550	10.3	24,337	11.6	21,613	10.3	14,230	6.8	12,144	5.8	31,909	15.2	10,980	5.2	4,784	2.3	5,335	2.5
Phentermine	198,203	100	59,509	30	20,187	10.2	23,169	11.7	20,732	10.5	13,530	6.8	11,538	5.8	30,060	15.2	10,250	5.2	4,431	2.2	4,797	2.4
Benzphetamine	1,116	100	585	52.4	120	10.8	118	10.6	86	7.7	48	4.3	35	3.1	67	6	28	2.5	9	0.8	20	1.8
Diethylpropion	8,571	100	3,731	43.5	998	11.6	946	11	707	8.2	422	4.9	356	4.2	876	10.2	277	3.2	99	1.2	159	1.9
Phendimetrazine	11,700	100	5,237	44.8	1,379	11.8	1,197	10.2	899	7.7	582	5	481	4.1	1,151	9.8	379	3.2	172	1.5	223	1.9

<sup>1</sup>Distribution of patients' cumulative exposure duration represents each patient's total episode length across all episodes

**Table 2b. Distribution of Patients' Cumulative Exposure Duration, by Length Categories<sup>1</sup> across all Episodes in Days, by Sex in the Sentinel Distributed Database (SDD) between January 1, 2008 and December 31, 2017, Sensitivity Analysis**

Exposures	Total Patients		1-30 Days		31-60 Days		61-90 Days		91-120 Days		121-150 Days		151-183 Days		184-365 Days		366-547 Days		548-730 Days		730+ Days	
	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%
	of Patients		of Patients		of Patients		of Patients		of Patients		of Patients		of Patients		of Patients		of Patients		of Patients		of Patients	
Female	253,823	46.8	41,097	51.9	15,195	48.9	24,772	50	15,737	49.9	13,175	48.4	14,950	48.3	52,107	45.9	31,134	44.9	20,371	42.8	25,285	40.3
Male	288,972	53.2	38,051	48.1	15,861	51.1	24,813	50	15,812	50.1	14,029	51.6	15,989	51.7	61,434	54.1	38,212	55.1	27,266	57.2	37,505	59.7
Other	19	0	3	0	1	0	2	0	1	0	1	0	0	-	5	0	3	0	0	-	3	0
<b>All Obesity Drugs</b>	267,836	100	83,310	100	26,998	100	30,675	100	26,465	100	17,690	100	15,071	100	40,367	100	14,237	100	6,285	100	6,738	100
Female	220,273	82.2	68,588	82.3	22,398	83	24,965	81.4	21,830	82.5	14,615	82.6	12,403	82.3	33,198	82.2	11,664	81.9	5,139	81.8	5,473	81.2
Male	47,557	17.8	14,718	17.7	4,600	17	5,710	18.6	4,634	17.5	3,075	17.4	2,668	17.7	7,169	17.8	2,573	18.1	1,145	18.2	1,265	18.8
Other	6	0	4	0	0	-	0	-	1	0	0	-	0	-	0	-	0	-	1	0	0	-
<b>Long-Term Therapies</b>																						
<b>All Long-Term Obesity Drugs</b>	69,377	100	26,790	100	6,680	100	8,030	100	6,099	100	4,016	100	3,313	100	8,849	100	3,091	100	1,362	100	1,147	100
Female	55,498	80	21,815	81.4	5,387	80.6	6,406	79.8	4,855	79.6	3,208	79.9	2,593	78.3	6,950	78.5	2,387	77.2	1,045	76.7	852	74.3
Male	13,878	20	4,975	18.6	1,293	19.4	1,624	20.2	1,243	20.4	808	20.1	720	21.7	1,899	21.5	704	22.8	317	23.3	295	25.7
Other	1	0	0	-	0	-	0	-	1	0	0	-	0	-	0	-	0	-	0	-	0	-
<b>Lorcaserin</b>	17,153	100	7,378	100	1,397	100	2,503	100	1,678	100	848	100	772	100	1,708	100	528	100	186	100	155	100
Female	13,641	79.5	5,968	80.9	1,113	79.7	1,952	78	1,312	78.2	666	78.5	597	77.3	1,350	79	416	78.8	148	79.6	119	76.8
Male	3,511	20.5	1,410	19.1	283	20.3	551	22	366	21.8	182	21.5	175	22.7	358	21	112	21.2	38	20.4	36	23.2
Other	1	0	0	-	1	0.1	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-
<b>Bupropion and Naltrexone</b>	29,106	100	13,989	100	2,823	100	3,308	100	2,363	100	1,535	100	1,095	100	2,704	100	748	100	356	100	185	100
Female	23,851	81.9	11,694	83.6	2,321	82.2	2,736	82.7	1,901	80.4	1,244	81	874	79.8	2,099	77.6	573	76.6	265	74.4	144	77.8
Male	5,254	18.1	2,295	16.4	501	17.7	572	17.3	462	19.6	291	19	221	20.2	605	22.4	175	23.4	91	25.6	41	22.2
Other	1	0	0	-	1	0	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-
<b>Liraglutide (Saxenda)</b>	9,522	100	2,274	100	840	100	1,209	100	962	100	771	100	634	100	1,820	100	689	100	225	100	98	100
Female	7,532	79.1	1,807	79.5	662	78.8	939	77.7	761	79.1	611	79.2	489	77.1	1,470	80.8	534	77.5	179	79.6	80	81.6
Male	1,990	20.9	467	20.5	178	21.2	270	22.3	201	20.9	160	20.8	145	22.9	350	19.2	155	22.5	46	20.4	18	18.4
Other	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-
<b>Phentermine and Topiramate (Qsymia)</b>	11,553	100	3,370	100	1,350	100	1,278	100	1,103	100	754	100	640	100	1,822	100	658	100	290	100	288	100
Female	9,188	79.5	2,721	80.7	1,060	78.5	1,024	80.1	891	80.8	593	78.6	516	80.6	1,440	79	500	76	227	78.3	216	75
Male	2,365	20.5	649	19.3	290	21.5	254	19.9	212	19.2	161	21.4	124	19.4	382	21	158	24	63	21.7	72	25
Other	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-
<b>Orlistat (all brands)</b>	8,252	100	3,702	100	826	100	820	100	548	100	334	100	322	100	867	100	362	100	181	100	290	100
Female	6,381	77.3	2,945	79.6	641	77.6	634	77.3	429	78.3	260	77.8	232	72	655	75.5	270	74.6	130	71.8	185	63.8
Male	1,871	22.7	757	20.4	185	22.4	186	22.7	119	21.7	74	22.2	90	28	212	24.5	92	25.4	51	28.2	105	36.2
Other	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-
<b>Orlistat (Alli brand only)</b>	125	100	67	100	28	100	15	100	5	100	2	100	4	100	1	100	1	100	0	100	2	100
Female	97	77.6	53	79.1	23	82.1	12	80	2	40	2	100	3	75	1	100	1	100	0	-	0	-
Male	28	22.4	14	20.9	5	17.9	3	20	3	60	0	-	1	25	0	-	0	-	0	-	2	100
Other	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-



**Table 2b. Distribution of Patients' Cumulative Exposure Duration, by Length Categories<sup>1</sup> across all Episodes in Days, by Sex in the Sentinel Distributed Database (SDD) between January 1, 2008 and December 31, 2017, Sensitivity Analysis**

Exposures	Total Patients		1-30 Days		31-60 Days		61-90 Days		91-120 Days		121-150 Days		151-183 Days		184-365 Days		366-547 Days		548-730 Days		730+ Days	
	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%
	of Patients		of Patients		of Patients		of Patients		of Patients		of Patients		of Patients		of Patients		of Patients		of Patients		of Patients	
<b>Short-Term Therapies</b>																						
<b>All Short-Term Obesity Drugs</b>	209,852	100	62,970	100	21,550	100	24,337	100	21,613	100	14,230	100	12,144	100	31,909	100	10,980	100	4,784	100	5,335	100
Female	174,499	83.2	52,323	83.1	18,073	83.9	19,998	82.2	18,029	83.4	11,873	83.4	10,118	83.3	26,552	83.2	9,148	83.3	3,980	83.2	4,405	82.6
Male	35,348	16.8	10,643	16.9	3,477	16.1	4,339	17.8	3,584	16.6	2,357	16.6	2,026	16.7	5,357	16.8	1,832	16.7	803	16.8	930	17.4
Other	5	0	4	0	0	-	0	-	0	-	0	-	0	-	0	-	0	-	1	0	0	-
<b>Phentermine</b>	198,203	100	59,509	100	20,187	100	23,169	100	20,732	100	13,530	100	11,538	100	30,060	100	10,250	100	4,431	100	4,797	100
Female	164,961	83.2	49,511	83.2	16,978	84.1	19,069	82.3	17,294	83.4	11,292	83.5	9,617	83.4	25,018	83.2	8,548	83.4	3,683	83.1	3,951	82.4
Male	33,237	16.8	9,994	16.8	3,209	15.9	4,100	17.7	3,438	16.6	2,238	16.5	1,921	16.6	5,042	16.8	1,702	16.6	747	16.9	846	17.6
Other	5	0	4	0	0	-	0	-	0	-	0	-	0	-	0	-	0	-	1	0	0	-
<b>Benzphetamine</b>	1,116	100	585	100	120	100	118	100	86	100	48	100	35	100	67	100	28	100	9	100	20	100
Female	912	81.7	486	83.1	96	80	99	83.9	71	82.6	36	75	27	77.1	52	77.6	22	78.6	8	88.9	15	75
Male	204	18.3	99	16.9	24	20	19	16.1	15	17.4	12	25	8	22.9	15	22.4	6	21.4	1	11.1	5	25
Other	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-
<b>Diethylpropion</b>	8,571	100	3,731	100	998	100	946	100	707	100	422	100	356	100	876	100	277	100	99	100	159	100
Female	7,112	83	3,107	83.3	823	82.5	775	81.9	589	83.3	345	81.8	301	84.6	733	83.7	230	83	82	82.8	127	79.9
Male	1,459	17	624	16.7	175	17.5	171	18.1	118	16.7	77	18.2	55	15.4	143	16.3	47	17	17	17.2	32	20.1
Other	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-
<b>Phendimetrazine</b>	11,700	100	5,237	100	1,379	100	1,197	100	899	100	582	100	481	100	1,151	100	379	100	172	100	223	100
Female	9,833	84	4,437	84.7	1,129	81.9	992	82.9	774	86.1	479	82.3	397	82.5	968	84.1	327	86.3	140	81.4	190	85.2
Male	1,867	16	800	15.3	250	18.1	205	17.1	125	13.9	103	17.7	84	17.5	183	15.9	52	13.7	32	18.6	33	14.8
Other	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-

<sup>1</sup>Distribution of patients' cumulative exposure duration represents each patient's total episode length across all episodes

**Table 2c. Distribution of Patients' Cumulative Exposure Duration, by Length Categories<sup>1</sup> across all Episodes in Days, by Age Group in the Sentinel Distributed Database (SDD) between January 1, 2008 and December 31, 2017, Sensitivity Analysis**

Exposures	Total Patients		1-30 Days		31-60 Days		61-90 Days		91-120 Days		121-150 Days		151-183 Days		184-365 Days		366-547 Days		548-730 Days		730+ Days	
	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%
<b>SGLT-2 Inhibitors</b>	542,814	100	79,151	100	31,057	100	49,587	100	31,550	100	27,205	100	30,939	100	113,546	100	69,349	100	47,637	100	62,793	100
18-44 Years	59,444	11	9,547	12.1	3,847	12.4	4,890	9.9	3,669	11.6	3,274	12	3,381	10.9	12,467	11	7,289	10.5	4,734	9.9	6,346	10.1
45-64 Years	269,375	49.6	35,809	45.2	15,241	49.1	21,508	43.4	15,162	48.1	13,451	49.4	14,366	46.4	55,869	49.2	36,236	52.3	24,696	51.8	37,037	59
65+ Years	213,995	39.4	33,795	42.7	11,969	38.5	23,189	46.8	12,719	40.3	10,480	38.5	13,192	42.6	45,210	39.8	25,824	37.2	18,207	38.2	19,410	30.9
<b>All Obesity Drugs</b>	267,836	100	83,310	100	26,998	100	30,675	100	26,465	100	17,690	100	15,071	100	40,367	100	14,237	100	6,285	100	6,738	100
18-44 Years	132,317	49.4	41,076	49.3	13,651	50.6	15,499	50.5	13,565	51.3	9,032	51.1	7,462	49.5	19,637	48.6	6,596	46.3	2,838	45.2	2,961	43.9
45-64 Years	113,325	42.3	34,353	41.2	11,001	40.7	12,765	41.6	10,995	41.5	7,353	41.6	6,425	42.6	17,751	44	6,541	45.9	2,971	47.3	3,170	47
65+ Years	22,194	8.3	7,881	9.5	2,346	8.7	2,411	7.9	1,905	7.2	1,305	7.4	1,184	7.9	2,979	7.4	1,100	7.7	476	7.6	607	9
<b>Long-Term Therapies</b>																						
<b>All Long-Term Obesity Drugs</b>	69,377	100	26,790	100	6,680	100	8,030	100	6,099	100	4,016	100	3,313	100	8,849	100	3,091	100	1,362	100	1,147	100
18-44 Years	27,826	40.1	11,307	42.2	2,761	41.3	3,275	40.8	2,482	40.7	1,660	41.3	1,262	38.1	3,263	36.9	1,056	34.2	428	31.4	332	28.9
45-64 Years	36,411	52.5	13,226	49.4	3,412	51.1	4,165	51.9	3,245	53.2	2,102	52.3	1,824	55.1	5,059	57.2	1,836	59.4	835	61.3	707	61.6
65+ Years	5,140	7.4	2,257	8.4	507	7.6	590	7.3	372	6.1	254	6.3	227	6.9	527	6	199	6.4	99	7.3	108	9.4
<b>Lorcaserin</b>	17,153	100	7,378	100	1,397	100	2,503	100	1,678	100	848	100	772	100	1,708	100	528	100	186	100	155	100
18-44 Years	6,163	35.9	2,828	38.3	524	37.5	948	37.9	615	36.7	282	33.3	256	33.2	515	30.2	125	23.7	44	23.7	26	16.8
45-64 Years	9,452	55.1	3,813	51.7	756	54.1	1,339	53.5	935	55.7	481	56.7	460	59.6	1,067	62.5	364	68.9	126	67.7	111	71.6
65+ Years	1,538	9	737	10	117	8.4	216	8.6	128	7.6	85	10	56	7.3	126	7.4	39	7.4	16	8.6	18	11.6
<b>Bupropion and Naltrexone</b>	29,106	100	13,989	100	2,823	100	3,308	100	2,363	100	1,535	100	1,095	100	2,704	100	748	100	356	100	185	100
18-44 Years	12,006	41.2	6,044	43.2	1,184	41.9	1,337	40.4	966	40.9	630	41	405	37	986	36.5	264	35.3	118	33.1	72	38.9
45-64 Years	15,526	53.3	7,117	50.9	1,464	51.9	1,782	53.9	1,305	55.2	835	54.4	637	58.2	1,601	59.2	450	60.2	227	63.8	108	58.4
65+ Years	1,574	5.4	828	5.9	175	6.2	189	5.7	92	3.9	70	4.6	53	4.8	117	4.3	34	4.5	11	3.1	5	2.7
<b>Liraglutide (Saxenda)</b>	9,522	100	2,274	100	840	100	1,209	100	962	100	771	100	634	100	1,820	100	689	100	225	100	98	100
18-44 Years	4,125	43.3	1,096	48.2	362	43.1	551	45.6	428	44.5	344	44.6	258	40.7	729	40.1	255	37	74	32.9	28	28.6
45-64 Years	5,172	54.3	1,129	49.6	457	54.4	630	52.1	519	54	415	53.8	358	56.5	1,035	56.9	411	59.7	149	66.2	69	70.4
65+ Years	225	2.4	49	2.2	21	2.5	28	2.3	15	1.6	12	1.6	18	2.8	56	3.1	23	3.3	2	0.9	1	1
<b>Phentermine and Topiramate (Qsymia)</b>	11,553	100	3,370	100	1,350	100	1,278	100	1,103	100	754	100	640	100	1,822	100	658	100	290	100	288	100
18-44 Years	4,765	41.2	1,417	42	532	39.4	547	42.8	467	42.3	338	44.8	268	41.9	724	39.7	271	41.2	98	33.8	103	35.8
45-64 Years	5,949	51.5	1,666	49.4	684	50.7	647	50.6	561	50.9	356	47.2	335	52.3	994	54.6	360	54.7	174	60	172	59.7
65+ Years	839	7.3	287	8.5	134	9.9	84	6.6	75	6.8	60	8	37	5.8	104	5.7	27	4.1	18	6.2	13	4.5
<b>Orlistat (all brands)</b>	8,252	100	3,702	100	826	100	820	100	548	100	334	100	322	100	867	100	362	100	181	100	290	100
18-44 Years	3,230	39.1	1,595	43.1	378	45.8	327	39.9	233	42.5	137	41	97	30.1	278	32.1	94	26	39	21.5	52	17.9
45-64 Years	3,810	46.2	1,587	42.9	371	44.9	376	45.9	251	45.8	157	47	161	50	448	51.7	191	52.8	96	53	172	59.3
65+ Years	1,212	14.7	520	14	77	9.3	117	14.3	64	11.7	40	12	64	19.9	141	16.3	77	21.3	46	25.4	66	22.8
<b>Orlistat (Alli brand only)</b>	125	100	67	100	28	100	15	100	5	100	2	100	4	100	1	100	1	100	0	100	2	100
18-44 Years	55	44	31	46.3	14	50	4	26.7	3	60	1	50	2	50	0	-	0	-	0	-	0	-
45-64 Years	56	44.8	27	40.3	12	42.9	8	53.3	2	40	1	50	2	50	1	100	1	100	0	-	2	100
65+ Years	14	11.2	9	13.4	2	7.1	3	20	0	-	0	-	0	-	0	-	0	-	0	-	0	-

**Table 2c. Distribution of Patients' Cumulative Exposure Duration, by Length Categories<sup>1</sup> across all Episodes in Days, by Age Group in the Sentinel Distributed Database (SDD) between January 1, 2008 and December 31, 2017, Sensitivity Analysis**

Exposures	Total Patients		1-30 Days		31-60 Days		61-90 Days		91-120 Days		121-150 Days		151-183 Days		184-365 Days		366-547 Days		548-730 Days		730+ Days	
	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%
<b>Short-Term Therapies</b>																						
<b>All Short-Term Obesity Drugs</b>	209,852	100	62,970	100	21,550	100	24,337	100	21,613	100	14,230	100	12,144	100	31,909	100	10,980	100	4,784	100	5,335	100
18-44 Years	109,609	52.2	32,902	52.3	11,422	53	12,991	53.4	11,619	53.8	7,613	53.5	6,338	52.2	16,480	51.6	5,415	49.3	2,333	48.8	2,496	46.8
45-64 Years	82,551	39.3	24,057	38.2	8,212	38.1	9,442	38.8	8,404	38.9	5,542	38.9	4,839	39.8	12,966	40.6	4,664	42.5	2,079	43.5	2,346	44
65+ Years	17,692	8.4	6,011	9.5	1,916	8.9	1,904	7.8	1,590	7.4	1,075	7.6	967	8	2,463	7.7	901	8.2	372	7.8	493	9.2
<b>Phentermine</b>	198,203	100	59,509	100	20,187	100	23,169	100	20,732	100	13,530	100	11,538	100	30,060	100	10,250	100	4,431	100	4,797	100
18-44 Years	104,938	52.9	31,473	52.9	10,859	53.8	12,500	54	11,266	54.3	7,317	54.1	6,108	52.9	15,769	52.5	5,121	50	2,219	50.1	2,306	48.1
45-64 Years	77,418	39.1	22,574	37.9	7,634	37.8	8,962	38.7	8,017	38.7	5,262	38.9	4,546	39.4	12,098	40.2	4,345	42.4	1,888	42.6	2,092	43.6
65+ Years	15,847	8	5,462	9.2	1,694	8.4	1,707	7.4	1,449	7	951	7	884	7.7	2,193	7.3	784	7.6	324	7.3	399	8.3
<b>Benzphetamine</b>	1,116	100	585	100	120	100	118	100	86	100	48	100	35	100	67	100	28	100	9	100	20	100
18-44 Years	436	39.1	265	45.3	46	38.3	45	38.1	25	29.1	17	35.4	11	31.4	16	23.9	9	32.1	2	22.2	0	-
45-64 Years	506	45.3	237	40.5	58	48.3	49	41.5	46	53.5	26	54.2	17	48.6	36	53.7	16	57.1	5	55.6	16	80
65+ Years	174	15.6	83	14.2	16	13.3	24	20.3	15	17.4	5	10.4	7	20	15	22.4	3	10.7	2	22.2	4	20
<b>Diethylpropion</b>	8,571	100	3,731	100	998	100	946	100	707	100	422	100	356	100	876	100	277	100	99	100	159	100
18-44 Years	3,440	40.1	1,635	43.8	396	39.7	387	40.9	297	42	170	40.3	120	33.7	290	33.1	79	28.5	27	27.3	39	24.5
45-64 Years	3,734	43.6	1,550	41.5	435	43.6	408	43.1	301	42.6	181	42.9	175	49.2	413	47.1	137	49.5	55	55.6	79	49.7
65+ Years	1,397	16.3	546	14.6	167	16.7	151	16	109	15.4	71	16.8	61	17.1	173	19.7	61	22	17	17.2	41	25.8
<b>Phendimetrazine</b>	11,700	100	5,237	100	1,379	100	1,197	100	899	100	582	100	481	100	1,151	100	379	100	172	100	223	100
18-44 Years	5,392	46.1	2,546	48.6	664	48.2	541	45.2	421	46.8	258	44.3	213	44.3	469	40.7	154	40.6	54	31.4	72	32.3
45-64 Years	5,047	43.1	2,192	41.9	567	41.1	526	43.9	378	42	251	43.1	216	44.9	524	45.5	178	47	99	57.6	116	52
65+ Years	1,261	10.8	499	9.5	148	10.7	130	10.9	100	11.1	73	12.5	52	10.8	158	13.7	47	12.4	19	11	35	15.7

<sup>1</sup>Distribution of patients' cumulative exposure duration represents each patient's total episode length across all episodes

**Table 3a. Descriptive Statistics of Patients' Cumulative Exposure Duration<sup>1</sup> across all Episodes in Days in the Sentinel Distributed Database (SDD) between January 1, 2008 and December 31, 2017, Sensitivity Analysis**

Exposures	Total Patients	Standard						
		Mean	Deviation	Min	Q1	Median	Q3	Max
SGLT-2 Inhibitors	542,814	317.71	304.91	1	87	212	471	1,722
All Obesity Drugs	267,836	155.27	207.55	1	30	90	185	3,594
<b>Long-Term Therapies</b>								
All Long-Term Obesity Drugs	69,377	130.61	173.96	1	30	65	154	3,405
Lorcaserin	17,153	105.46	135.81	1	30	60	120	1,592
Bupropion and Naltrexone	29,106	97.55	126.18	1	30	41	112	1,148
Liraglutide (Saxenda)	9,522	158.65	157.08	1	36	104	214	970
Phentermine and Topiramate (Qsymia)	11,553	154.95	192.16	1	30	87	193	1,819
Orlistat (all brands)	8,252	145.82	247.27	1	30	60	148	3,405
Orlistat (Alli brand only)	125	67.06	110.54	3	30	30	60	826
<b>Short-Term Therapies</b>								
All Short-Term Obesity Drugs	209,852	156.27	209.45	1	30	90	185	3,594
Phentermine	198,203	154.5	204.76	1	30	90	183	3,594
Benzphetamine	1,116	100.36	186.34	2	30	30	93	2,592
Diethylpropion	8,571	118.1	195.98	1	30	60	123	3,296
Phendimetrazine	11,700	116.59	192.32	1	30	55	123	3,301

<sup>1</sup>Descriptive statistics of patients' cumulative exposure duration represents each patient's total episode length across all episodes

**Table 3b. Descriptive Statistics of Patients' Cumulative Exposure Duration<sup>1</sup> across all Episodes in Days, by Sex in the Sentinel Distributed Database (SDD) between January 1, 2008 and December 31, 2017, Sensitivity Analysis**

Exposures	Total Patients	Standard		Min	Q1	Median	Q3	Max
		Mean	Deviation					
<b>SGLT-2 Inhibitors</b>	542,814	317.71	304.91	1	87	212	471	1,722
Female	253,823	295.03	291.39	1	73	188	434	1,714
Male	288,972	337.64	314.96	1	90	235	506	1,722
Other	19	321.89	330.16	18	90	225	432	1,087
<b>All Obesity Drugs</b>	267,836	155.27	207.55	1	30	90	185	3,594
Female	220,273	154.89	207.43	1	30	90	185	3,594
Male	47,557	157.07	208.14	1	30	90	187	3,266
Other	6	132.83	210.89	30	30	30	120	557
<b>Long-Term Therapies</b>								
<b>All Long-Term Obesity Drugs</b>	69,377	130.61	173.96	1	30	65	154	3,405
Female	55,498	127.48	169.47	1	30	63	150	3,405
Male	13,878	143.14	190.36	1	30	74	172	3,094
Other	1	120	-	120	120	120	120	120
<b>Lorcaserin</b>	17,153	105.46	135.81	1	30	60	120	1,592
Female	13,641	104.13	134.05	1	30	60	119	1,592
Male	3,511	110.65	142.35	1	30	63	124	1,455
Other	1	60	-	60	60	60	60	60
<b>Bupropion and Naltrexone</b>	29,106	97.55	126.18	1	30	41	112	1,148
Female	23,851	94.52	122.65	1	30	37	107	1,134
Male	5,254	111.29	140.27	1	30	60	130	1,148
Other	1	60	-	60	60	60	60	60
<b>Liraglutide (Saxenda)</b>	9,522	158.65	157.08	1	36	104	214	970
Female	7,532	158.94	157.36	1	35	105	216	970
Male	1,990	157.54	156.03	2	38	104	209	897
Other	0	-	-	-	-	-	-	-
<b>Phentermine and Topiramate (Qsymia)</b>	11,553	154.95	192.16	1	30	87	193	1,819
Female	9,188	152.16	188.26	1	30	86	189	1,532
Male	2,365	165.8	206.28	1	30	90	207	1,819
Other	0	-	-	-	-	-	-	-
<b>Orlistat (all brands)</b>	8,252	145.82	247.27	1	30	60	148	3,405
Female	6,381	136.85	233.92	1	30	50	136	3,405
Male	1,871	176.39	286.13	2	30	60	181	3,094
Other	0	-	-	-	-	-	-	-
<b>Orlistat (Alli brand only)</b>	125	67.06	110.54	3	30	30	60	826
Female	97	55.84	63.31	10	30	30	60	541
Male	28	105.96	199.62	3	30	35	90	826
Other	0	-	-	-	-	-	-	-

**Table 3b. Descriptive Statistics of Patients' Cumulative Exposure Duration<sup>1</sup> across all Episodes in Days, by Sex in the Sentinel Distributed Database (SDD) between January 1, 2008 and December 31, 2017, Sensitivity Analysis**

Exposures	Total Patients	Mean	Standard Deviation	Min	Q1	Median	Q3	Max
<b>Short-Term Therapies</b>								
<b>All Short-Term Obesity Drugs</b>	209,852	156.27	209.45	1	30	90	185	3,594
Female	174,499	156.28	209.79	1	30	90	185	3,594
Male	35,348	156.25	207.76	1	30	90	185	3,266
Other	5	135.4	235.68	30	30	30	30	557
<b>Phentermine</b>	198,203	154.5	204.76	1	30	90	183	3,594
Female	164,961	154.34	204.89	1	30	90	183	3,594
Male	33,237	155.25	204.14	1	30	90	184	3,266
Other	5	135.4	235.68	30	30	30	30	557
<b>Benzphetamine</b>	1,116	100.36	186.34	2	30	30	93	2,592
Female	912	96.32	166.91	2	30	30	92	1,606
Male	204	118.45	255.53	2	30	36	108	2,592
Other	0	-	-	-	-	-	-	-
<b>Diethylpropion</b>	8,571	118.1	195.98	1	30	60	123	3,296
Female	7,112	117.96	197.27	1	30	60	123	3,296
Male	1,459	118.78	189.61	1	30	60	122	2,986
Other	0	-	-	-	-	-	-	-
<b>Phendimetrazine</b>	11,700	116.59	192.32	1	30	55	123	3,301
Female	9,833	116.62	192.07	1	30	52	122	3,301
Male	1,867	116.42	193.67	3	30	60	125	3,065
Other	0	-	-	-	-	-	-	-

<sup>1</sup>Descriptive statistics of patients' cumulative exposure duration represents each patient's total episode length across all episodes

**Table 3c. Descriptive Statistics of Patients' Cumulative Exposure Duration<sup>1</sup> across all Episodes in Days, by Age Group in the Sentinel Distributed Database (SDD) between January 1, 2008 and December 31, 2017, Sensitivity Analysis**

Exposures	Total Patients	Standard						
		Mean	Deviation	Min	Q1	Median	Q3	Max
<b>SGLT-2 Inhibitors</b>	542,814	317.71	304.91	1	87	212	471	1,722
18-44 Years	59,444	302.64	299.47	1	70	196	444	1,713
45-64 Years	269,375	343.98	323.43	1	90	238	514	1,722
65+ Years	213,995	288.84	278.34	1	80	188	426	1,704
<b>All Obesity Drugs</b>	267,836	155.27	207.55	1	30	90	185	3,594
18-44 Years	132,317	149.79	198.89	1	30	89	180	3,594
45-64 Years	113,325	162.79	215.57	1	30	90	196	3,552
65+ Years	22,194	149.53	215.04	1	30	73	174	3,177
<b>Long-Term Therapies</b>								
<b>All Long-Term Obesity Drugs</b>	69,377	130.61	173.96	1	30	65	154	3,405
18-44 Years	27,826	118.06	154.1	1	30	60	138	2,855
45-64 Years	36,411	140.97	185.37	1	30	72	172	3,405
65+ Years	5,140	125.18	186.73	1	30	60	135	1,999
<b>Lorcaserin</b>	17,153	105.46	135.81	1	30	60	120	1,592
18-44 Years	6,163	90.09	110.27	1	30	60	102	1,196
45-64 Years	9,452	116.52	148.65	1	30	63	135	1,592
65+ Years	1,538	99.13	139.53	1	30	49	108	1,230
<b>Bupropion and Naltrexone</b>	29,106	97.55	126.18	1	30	41	112	1,148
18-44 Years	12,006	90.78	118.54	1	30	30	103	1,134
45-64 Years	15,526	104.24	133.08	1	30	58	120	1,148
65+ Years	1,574	83.08	107.41	2	30	30	90	866
<b>Liraglutide (Saxenda)</b>	9,522	158.65	157.08	1	36	104	214	970
18-44 Years	4,125	145.01	145.83	1	30	94	190	970
45-64 Years	5,172	169.16	165.29	1	46	112	229	958
65+ Years	225	167.15	142.88	6	43	120	250	835
<b>Phentermine and Topiramate (Qsymia)</b>	11,553	154.95	192.16	1	30	87	193	1,819
18-44 Years	4,765	148.94	181.66	1	30	84	184	1,578
45-64 Years	5,949	164.04	202.79	1	30	90	204	1,819
65+ Years	839	124.7	166.73	1	30	60	145	1,493
<b>Orlistat (all brands)</b>	8,252	145.82	247.27	1	30	60	148	3,405
18-44 Years	3,230	107.17	183.32	1	30	33	104	2,855
45-64 Years	3,810	166.34	279.34	1	30	60	180	3,405
65+ Years	1,212	184.33	273.4	2	30	65	211	1,999
<b>Orlistat (Alli brand only)</b>	125	67.06	110.54	3	30	30	60	826
18-44 Years	55	50.56	33.34	30	30	30	60	168
45-64 Years	56	89.3	159.29	3	30	38	75	826
65+ Years	14	42.93	26.18	15	30	30	60	90

**Table 3c. Descriptive Statistics of Patients' Cumulative Exposure Duration<sup>1</sup> across all Episodes in Days, by Age Group in the Sentinel Distributed Database (SDD) between January 1, 2008 and December 31, 2017, Sensitivity Analysis**

Exposures	Total Patients	Standard						
		Mean	Deviation	Min	Q1	Median	Q3	Max
<b>Short-Term Therapies</b>								
<b>All Short-Term Obesity Drugs</b>	209,852	156.27	209.45	1	30	90	185	3,594
18-44 Years	109,609	151.28	201.03	1	30	90	180	3,594
45-64 Years	82,551	163.7	218.17	1	30	90	194	3,552
65+ Years	17,692	152.58	217.91	1	30	79	180	3,177
<b>Phentermine</b>	198,203	154.5	204.76	1	30	90	183	3,594
18-44 Years	104,938	150.29	198.3	1	30	90	180	3,594
45-64 Years	77,418	161.46	212.42	1	30	90	192	3,552
65+ Years	15,847	148.3	207.8	1	30	77	175	3,177
<b>Benzphetamine</b>	1,116	100.36	186.34	2	30	30	93	2,592
18-44 Years	436	67.79	87.54	2	30	30	68	592
45-64 Years	506	121.3	214.19	4	30	48	107	1,935
65+ Years	174	121.08	257.31	2	30	46	112	2,592
<b>Diethylpropion</b>	8,571	118.1	195.98	1	30	60	123	3,296
18-44 Years	3,440	98.1	151.57	1	30	46	104	2,647
45-64 Years	3,734	126.89	210.37	1	30	60	138	3,296
65+ Years	1,397	143.83	242.86	1	30	60	152	2,894
<b>Phendimetrazine</b>	11,700	116.59	192.32	1	30	55	123	3,301
18-44 Years	5,392	102.83	171.73	1	30	42	111	2,648
45-64 Years	5,047	126.92	209.6	1	30	60	134	3,301
65+ Years	1,261	134.11	199.4	3	30	60	149	1,877

<sup>1</sup>Descriptive statistics of patients' cumulative exposure duration represents each patient's total episode length across all episodes



**Table 4a. Distribution of First Exposure Episode Duration, by Length Categories in Days in the Sentinel Distributed Database (SDD) between January 1, 2008 and December 31, 2017, Sensitivity Analysis**

Exposures	Total Patients		1-30 Days		31-60 Days		61-90 Days		91-120 Days		121-150 Days		151-183 Days		184-365 Days		366-547 Days		548-730 Days		730+ Days	
	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%
SGLT-2 Inhibitors	542,814	100	102,951	19	29,390	5.4	59,810	11	33,779	6.2	28,149	5.2	31,636	5.8	108,336	20	60,029	11.1	38,904	7.2	49,830	9.2
All Obesity Drugs	267,836	100	110,519	41.3	21,383	8	36,840	13.8	29,008	10.8	16,560	6.2	13,328	5	28,307	10.6	7,313	2.7	2,484	0.9	2,094	0.8
<b>Long-Term Therapies</b>																						
All Long-Term Obesity Drugs	69,377	100	30,878	44.5	5,573	8	8,833	12.7	6,312	9.1	3,765	5.4	3,068	4.4	7,327	10.6	2,184	3.1	793	1.1	644	0.9
Lorcaserin	17,153	100	8,077	47.1	1,127	6.6	2,664	15.5	1,702	9.9	819	4.8	742	4.3	1,471	8.6	355	2.1	105	0.6	91	0.5
Bupropion and Naltrexone	29,106	100	15,089	51.8	2,357	8.1	3,444	11.8	2,417	8.3	1,447	5	1,027	3.5	2,393	8.2	557	1.9	251	0.9	124	0.4
Liraglutide (Saxenda)	9,522	100	2,711	28.5	703	7.4	1,315	13.8	1,027	10.8	782	8.2	596	6.3	1,572	16.5	565	5.9	167	1.8	84	0.9
Phentermine and Topiramate (Qsymia)	11,553	100	3,767	32.6	1,309	11.3	1,384	12	1,161	10	734	6.4	623	5.4	1,659	14.4	524	4.5	220	1.9	172	1.5
Orlistat (all brands)	8,252	100	4,369	52.9	679	8.2	929	11.3	583	7.1	315	3.8	283	3.4	646	7.8	232	2.8	84	1	132	1.6
Orlistat (Alli brand only)	125	100	74	59.2	23	18.4	15	12	4	3.2	3	2.4	3	2.4	3	2.4	0	0	0	0	0	0
<b>Short-Term Therapies</b>																						
All Short-Term Obesity Drugs	209,852	100	85,627	40.8	16,832	8	29,645	14.1	23,832	11.4	13,282	6.3	10,652	5.1	21,620	10.3	5,223	2.5	1,705	0.8	1,434	0.7
Phentermine	198,203	100	80,467	40.6	15,771	8	28,239	14.2	22,884	11.5	12,655	6.4	10,117	5.1	20,384	10.3	4,847	2.4	1,557	0.8	1,282	0.6
Benzphetamine	1,116	100	693	62.1	79	7.1	129	11.6	73	6.5	33	3	33	3	43	3.9	21	1.9	4	0.4	8	0.7
Diethylpropion	8,571	100	4,528	52.8	738	8.6	1,040	12.1	667	7.8	371	4.3	324	3.8	630	7.4	147	1.7	61	0.7	65	0.8
Phendimetrazine	11,700	100	6,355	54.3	1,077	9.2	1,288	11	922	7.9	519	4.4	412	3.5	808	6.9	199	1.7	61	0.5	59	0.5

**Table 4b. Distribution of First Exposure Episode Duration, by Length Categories in Days, by Sex in the Sentinel Distributed Database (SDD) between January 1, 2008 and December 31, 2017, Sensitivity Analysis**

Exposures	Total Patients		1-30 Days		31-60 Days		61-90 Days		91-120 Days		121-150 Days		151-183 Days		184-365 Days		366-547 Days		548-730 Days		730+ Days	
	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%
<b>SGLT-2 Inhibitors</b>	542,814	100	102,951	100	29,390	100	59,810	100	33,779	100	28,149	100	31,636	100	108,336	100	60,029	100	38,904	100	49,830	100
Female	253,823	46.8	52,786	51.3	14,212	48.4	29,365	49.1	16,642	49.3	13,590	48.3	15,029	47.5	49,038	45.3	26,676	44.4	16,510	42.4	19,975	40.1
Male	288,972	53.2	50,159	48.7	15,178	51.6	30,443	50.9	17,136	50.7	14,559	51.7	16,607	52.5	59,294	54.7	33,350	55.6	22,394	57.6	29,852	59.9
Other	19	0	6	0	0	-	2	0	1	0	0	-	0	-	4	0	3	0	0	-	3	0
<b>All Obesity Drugs</b>	267,836	100	110,519	100	21,383	100	36,840	100	29,008	100	16,560	100	13,328	100	28,307	100	7,313	100	2,484	100	2,094	100
Female	220,273	82.2	91,731	83	17,513	81.9	30,039	81.5	24,032	82.8	13,562	81.9	10,923	82	23,050	81.4	5,828	79.7	1,964	79.1	1,631	77.9
Male	47,557	17.8	18,784	17	3,869	18.1	6,801	18.5	4,976	17.2	2,998	18.1	2,405	18	5,256	18.6	1,485	20.3	520	20.9	463	22.1
Other	6	0	4	0	1	0	0	-	0	-	0	-	0	-	1	0	0	-	0	-	0	-
<b>Long-Term Therapies</b>																						
<b>All Long-Term Obesity Drugs</b>	69,377	100	30,878	100	5,573	100	8,833	100	6,312	100	3,765	100	3,068	100	7,327	100	2,184	100	793	100	644	100
Female	55,498	80	25,173	81.5	4,432	79.5	6,992	79.2	5,052	80	2,961	78.6	2,388	77.8	5,769	78.7	1,655	75.8	601	75.8	475	73.8
Male	13,878	20	5,705	18.5	1,140	20.5	1,841	20.8	1,260	20	804	21.4	680	22.2	1,558	21.3	529	24.2	192	24.2	169	26.2
Other	1	0	0	-	1	0	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-
<b>Lorcaserin</b>	17,153	100	8,077	100	1,127	100	2,664	100	1,702	100	819	100	742	100	1,471	100	355	100	105	100	91	100
Female	13,641	79.5	6,543	81	886	78.6	2,073	77.8	1,345	79	629	76.8	566	76.3	1,174	79.8	274	77.2	86	81.9	65	71.4
Male	3,511	20.5	1,534	19	240	21.3	591	22.2	357	21	190	23.2	176	23.7	297	20.2	81	22.8	19	18.1	26	28.6
Other	1	0	0	-	1	0.1	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-
<b>Bupropion and Naltrexone</b>	29,106	100	15,089	100	2,357	100	3,444	100	2,417	100	1,447	100	1,027	100	2,393	100	557	100	251	100	124	100
Female	23,851	81.9	12,587	83.4	1,935	82.1	2,821	81.9	1,948	80.6	1,159	80.1	818	79.6	1,880	78.6	420	75.4	184	73.3	99	79.8
Male	5,254	18.1	2,502	16.6	421	17.9	623	18.1	469	19.4	288	19.9	209	20.4	513	21.4	137	24.6	67	26.7	25	20.2
Other	1	0	0	-	1	0	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-
<b>Liraglutide (Saxenda)</b>	9,522	100	2,711	100	703	100	1,315	100	1,027	100	782	100	596	100	1,572	100	565	100	167	100	84	100
Female	7,532	79.1	2,169	80	550	78.2	1,022	77.7	818	79.6	621	79.4	459	77	1,268	80.7	431	76.3	128	76.6	66	78.6
Male	1,990	20.9	542	20	153	21.8	293	22.3	209	20.4	161	20.6	137	23	304	19.3	134	23.7	39	23.4	18	21.4
Other	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-
<b>Phentermine and Topiramate (Qsymia)</b>	11,553	100	3,767	100	1,309	100	1,384	100	1,161	100	734	100	623	100	1,659	100	524	100	220	100	172	100
Female	9,188	79.5	3,044	80.8	1,025	78.3	1,111	80.3	930	80.1	568	77.4	508	81.5	1,304	78.6	395	75.4	172	78.2	131	76.2
Male	2,365	20.5	723	19.2	284	21.7	273	19.7	231	19.9	166	22.6	115	18.5	355	21.4	129	24.6	48	21.8	41	23.8
Other	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-
<b>Orlistat (all brands)</b>	8,252	100	4,369	100	679	100	929	100	583	100	315	100	283	100	646	100	232	100	84	100	132	100
Female	6,381	77.3	3,466	79.3	524	77.2	697	75	468	80.3	242	76.8	194	68.6	480	74.3	167	72	61	72.6	82	62.1
Male	1,871	22.7	903	20.7	155	22.8	232	25	115	19.7	73	23.2	89	31.4	166	25.7	65	28	23	27.4	50	37.9
Other	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-
<b>Orlistat (Alli brand only)</b>	125	100	74	100	23	100	15	100	4	100	3	100	3	100	3	100	0	100	0	100	0	100
Female	97	77.6	58	78.4	20	87	11	73.3	2	50	2	66.7	3	100	1	33.3	0	-	0	-	0	-
Male	28	22.4	16	21.6	3	13	4	26.7	2	50	1	33.3	0	-	2	66.7	0	-	0	-	0	-
Other	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-

**Table 4b. Distribution of First Exposure Episode Duration, by Length Categories in Days, by Sex in the Sentinel Distributed Database (SDD) between January 1, 2008 and December 31, 2017, Sensitivity Analysis**

Exposures	Total Patients		1-30 Days		31-60 Days		61-90 Days		91-120 Days		121-150 Days		151-183 Days		184-365 Days		366-547 Days		548-730 Days		730+ Days	
	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%
<b>Short-Term Therapies</b>																						
<b>All Short-Term Obesity Drugs</b>	209,852	100	85,627	100	16,832	100	29,645	100	23,832	100	13,282	100	10,652	100	21,620	100	5,223	100	1,705	100	1,434	100
Female	174,499	83.2	71,706	83.7	13,965	83	24,428	82.4	19,945	83.7	11,005	82.9	8,868	83.3	17,823	82.4	4,243	81.2	1,375	80.6	1,141	79.6
Male	35,348	16.8	13,917	16.3	2,867	17	5,217	17.6	3,887	16.3	2,277	17.1	1,784	16.7	3,796	17.6	980	18.8	330	19.4	293	20.4
Other	5	0	4	0	0	-	0	-	0	-	0	-	0	-	1	0	0	-	0	-	0	-
<b>Phentermine</b>	198,203	100	80,467	100	15,771	100	28,239	100	22,884	100	12,655	100	10,117	100	20,384	100	4,847	100	1,557	100	1,282	100
Female	164,961	83.2	67,473	83.9	13,105	83.1	23,284	82.5	19,134	83.6	10,497	82.9	8,423	83.3	16,831	82.6	3,943	81.3	1,249	80.2	1,022	79.7
Male	33,237	16.8	12,990	16.1	2,666	16.9	4,955	17.5	3,750	16.4	2,158	17.1	1,694	16.7	3,552	17.4	904	18.7	308	19.8	260	20.3
Other	5	0	4	0	0	-	0	-	0	-	0	-	0	-	1	0	0	-	0	-	0	-
<b>Benzphetamine</b>	1,116	100	693	100	79	100	129	100	73	100	33	100	33	100	43	100	21	100	4	100	8	100
Female	912	81.7	572	82.5	61	77.2	109	84.5	58	79.5	25	75.8	27	81.8	34	79.1	18	85.7	3	75	5	62.5
Male	204	18.3	121	17.5	18	22.8	20	15.5	15	20.5	8	24.2	6	18.2	9	20.9	3	14.3	1	25	3	37.5
Other	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-
<b>Diethylpropion</b>	8,571	100	4,528	100	738	100	1,040	100	667	100	371	100	324	100	630	100	147	100	61	100	65	100
Female	7,112	83	3,790	83.7	612	82.9	866	83.3	554	83.1	294	79.2	264	81.5	518	82.2	112	76.2	51	83.6	51	78.5
Male	1,459	17	738	16.3	126	17.1	174	16.7	113	16.9	77	20.8	60	18.5	112	17.8	35	23.8	10	16.4	14	21.5
Other	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-
<b>Phendimetrazine</b>	11,700	100	6,355	100	1,077	100	1,288	100	922	100	519	100	412	100	808	100	199	100	61	100	59	100
Female	9,833	84	5,375	84.6	886	82.3	1,069	83	799	86.7	427	82.3	344	83.5	669	82.8	168	84.4	50	82	46	78
Male	1,867	16	980	15.4	191	17.7	219	17	123	13.3	92	17.7	68	16.5	139	17.2	31	15.6	11	18	13	22
Other	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-

**Table 4c. Distribution of First Exposure Episode Duration, by Length Categories in Days, by Age Group in the Sentinel Distributed Database (SDD) between January 1, 2008 and December 31, 2017, Sensitivity Analysis**

Exposures	Total Patients		1-30 Days		31-60 Days		61-90 Days		91-120 Days		121-150 Days		151-183 Days		184-365 Days		366-547 Days		548-730 Days		730+ Days	
	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%
<b>SGLT-2 Inhibitors</b>	542,814	100	102,951	100	29,390	100	59,810	100	33,779	100	28,149	100	31,636	100	108,336	100	60,029	100	38,904	100	49,830	100
18-44 Years	59,444	11	13,046	12.7	3,466	11.8	5,982	10	4,039	12	3,349	11.9	3,438	10.9	11,639	10.7	6,148	10.2	3,669	9.4	4,668	9.4
45-64 Years	269,375	49.6	47,658	46.3	14,606	49.7	26,111	43.7	16,606	49.2	14,142	50.2	15,027	47.5	54,228	50.1	32,041	53.4	20,009	51.4	28,947	58.1
65+ Years	213,995	39.4	42,247	41	11,318	38.5	27,717	46.3	13,134	38.9	10,658	37.9	13,171	41.6	42,469	39.2	21,840	36.4	15,226	39.1	16,215	32.5
<b>All Obesity Drugs</b>	267,836	100	110,519	100	21,383	100	36,840	100	29,008	100	16,560	100	13,328	100	28,307	100	7,313	100	2,484	100	2,094	100
18-44 Years	132,317	49.4	54,906	49.7	10,702	50	18,698	50.8	14,886	51.3	8,517	51.4	6,561	49.2	13,162	46.5	3,139	42.9	995	40.1	751	35.9
45-64 Years	113,325	42.3	45,348	41	8,835	41.3	15,328	41.6	12,139	41.8	6,837	41.3	5,775	43.3	13,044	46.1	3,587	49	1,300	52.3	1,132	54.1
65+ Years	22,194	8.3	10,265	9.3	1,846	8.6	2,814	7.6	1,983	6.8	1,206	7.3	992	7.4	2,101	7.4	587	8	189	7.6	211	10.1
<b>Long-Term Therapies</b>																						
<b>All Long-Term Obesity Drugs</b>	69,377	100	30,878	100	5,573	100	8,833	100	6,312	100	3,765	100	3,068	100	7,327	100	2,184	100	793	100	644	100
18-44 Years	27,826	40.1	12,946	41.9	2,289	41.1	3,561	40.3	2,560	40.6	1,557	41.4	1,155	37.6	2,602	35.5	719	32.9	254	32	183	28.4
45-64 Years	36,411	52.5	15,392	49.8	2,861	51.3	4,601	52.1	3,378	53.5	1,983	52.7	1,714	55.9	4,274	58.3	1,311	60	496	62.5	401	62.3
65+ Years	5,140	7.4	2,540	8.2	423	7.6	671	7.6	374	5.9	225	6	199	6.5	451	6.2	154	7.1	43	5.4	60	9.3
<b>Lorcaserin</b>	17,153	100	8,077	100	1,127	100	2,664	100	1,702	100	819	100	742	100	1,471	100	355	100	105	100	91	100
18-44 Years	6,163	35.9	3,070	38	413	36.6	1,012	38	604	35.5	284	34.7	239	32.2	418	28.4	81	22.8	28	26.7	14	15.4
45-64 Years	9,452	55.1	4,209	52.1	623	55.3	1,424	53.5	977	57.4	452	55.2	446	60.1	936	63.6	250	70.4	68	64.8	67	73.6
65+ Years	1,538	9	798	9.9	91	8.1	228	8.6	121	7.1	83	10.1	57	7.7	117	8	24	6.8	9	8.6	10	11
<b>Bupropion and Naltrexone</b>	29,106	100	15,089	100	2,357	100	3,444	100	2,417	100	1,447	100	1,027	100	2,393	100	557	100	251	100	124	100
18-44 Years	12,006	41.2	6,489	43	979	41.5	1,395	40.5	981	40.6	602	41.6	385	37.5	840	35.1	206	37	80	31.9	49	39.5
45-64 Years	15,526	53.3	7,699	51	1,236	52.4	1,858	53.9	1,338	55.4	785	54.3	603	58.7	1,443	60.3	329	59.1	163	64.9	72	58.1
65+ Years	1,574	5.4	901	6	142	6	191	5.5	98	4.1	60	4.1	39	3.8	110	4.6	22	3.9	8	3.2	3	2.4
<b>Liraglutide (Saxenda)</b>	9,522	100	2,711	100	703	100	1,315	100	1,027	100	782	100	596	100	1,572	100	565	100	167	100	84	100
18-44 Years	4,125	43.3	1,277	47.1	296	42.1	597	45.4	455	44.3	354	45.3	238	39.9	629	40	201	35.6	58	34.7	20	23.8
45-64 Years	5,172	54.3	1,377	50.8	389	55.3	684	52	553	53.8	417	53.3	344	57.7	894	56.9	343	60.7	108	64.7	63	75
65+ Years	225	2.4	57	2.1	18	2.6	34	2.6	19	1.9	11	1.4	14	2.3	49	3.1	21	3.7	1	0.6	1	1.2
<b>Phentermine and Topiramate (Qsymia)</b>	11,553	100	3,767	100	1,309	100	1,384	100	1,161	100	734	100	623	100	1,659	100	524	100	220	100	172	100
18-44 Years	4,765	41.2	1,576	41.8	517	39.5	581	42	510	43.9	324	44.1	256	41.1	667	40.2	199	38	79	35.9	56	32.6
45-64 Years	5,949	51.5	1,873	49.7	665	50.8	711	51.4	575	49.5	358	48.8	330	53	900	54.2	298	56.9	131	59.5	108	62.8
65+ Years	839	7.3	318	8.4	127	9.7	92	6.6	76	6.5	52	7.1	37	5.9	92	5.5	27	5.2	10	4.5	8	4.7
<b>Orlistat (all brands)</b>	8,252	100	4,369	100	679	100	929	100	583	100	315	100	283	100	646	100	232	100	84	100	132	100
18-44 Years	3,230	39.1	1,859	42.5	304	44.8	345	37.1	239	41	118	37.5	82	29	191	29.6	49	21.1	19	22.6	24	18.2
45-64 Years	3,810	46.2	1,910	43.7	311	45.8	420	45.2	275	47.2	163	51.7	145	51.2	344	53.3	123	53	48	57.1	71	53.8
65+ Years	1,212	14.7	600	13.7	64	9.4	164	17.7	69	11.8	34	10.8	56	19.8	111	17.2	60	25.9	17	20.2	37	28
<b>Orlistat (Alli brand only)</b>	125	100	74	100	23	100	15	100	4	100	3	100	3	100	3	100	0	100	0	100	0	100
18-44 Years	55	44	35	47.3	10	43.5	5	33.3	2	50	1	33.3	2	66.7	0	-	0	-	0	-	0	-
45-64 Years	56	44.8	28	37.8	12	52.2	8	53.3	2	50	2	66.7	1	33.3	3	100	0	-	0	-	0	-
65+ Years	14	11.2	11	14.9	1	4.3	2	13.3	0	-	0	-	0	-	0	-	0	-	0	-	0	-

**Table 4c. Distribution of First Exposure Episode Duration, by Length Categories in Days, by Age Group in the Sentinel Distributed Database (SDD) between January 1, 2008 and December 31, 2017, Sensitivity Analysis**

Exposures	Total Patients		1-30 Days		31-60 Days		61-90 Days		91-120 Days		121-150 Days		151-183 Days		184-365 Days		366-547 Days		548-730 Days		730+ Days	
	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%
<b>Short-Term Therapies</b>																						
<b>All Short-Term Obesity Drugs</b>	209,852	100	85,627	100	16,832	100	29,645	100	23,832	100	13,282	100	10,652	100	21,620	100	5,223	100	1,705	100	1,434	100
18-44 Years	109,609	52.2	44,792	52.3	8,871	52.7	15,879	53.6	12,859	54	7,155	53.9	5,552	52.1	10,764	49.8	2,443	46.8	749	43.9	545	38
45-64 Years	82,551	39.3	32,751	38.2	6,469	38.4	11,556	39	9,301	39	5,126	38.6	4,289	40.3	9,178	42.5	2,336	44.7	811	47.6	734	51.2
65+ Years	17,692	8.4	8,084	9.4	1,492	8.9	2,210	7.5	1,672	7	1,001	7.5	811	7.6	1,678	7.8	444	8.5	145	8.5	155	10.8
<b>Phentermine</b>	198,203	100	80,467	100	15,771	100	28,239	100	22,884	100	12,655	100	10,117	100	20,384	100	4,847	100	1,557	100	1,282	100
18-44 Years	104,938	52.9	42,679	53	8,418	53.4	15,302	54.2	12,483	54.5	6,907	54.6	5,330	52.7	10,315	50.6	2,294	47.3	704	45.2	506	39.5
45-64 Years	77,418	39.1	30,548	38	6,015	38.1	10,944	38.8	8,882	38.8	4,857	38.4	4,053	40.1	8,560	42	2,182	45	729	46.8	648	50.5
65+ Years	15,847	8	7,240	9	1,338	8.5	1,993	7.1	1,519	6.6	891	7	734	7.3	1,509	7.4	371	7.7	124	8	128	10
<b>Benzphetamine</b>	1,116	100	693	100	79	100	129	100	73	100	33	100	33	100	43	100	21	100	4	100	8	100
18-44 Years	436	39.1	299	43.1	30	38	48	37.2	22	30.1	13	39.4	10	30.3	10	23.3	4	19	0	-	0	-
45-64 Years	506	45.3	283	40.8	40	50.6	60	46.5	40	54.8	20	60.6	18	54.5	24	55.8	10	47.6	4	100	7	87.5
65+ Years	174	15.6	111	16	9	11.4	21	16.3	11	15.1	0	-	5	15.2	9	20.9	7	33.3	0	-	1	12.5
<b>Diethylpropion</b>	8,571	100	4,528	100	738	100	1,040	100	667	100	371	100	324	100	630	100	147	100	61	100	65	100
18-44 Years	3,440	40.1	1,931	42.6	290	39.3	415	39.9	278	41.7	134	36.1	110	34	203	32.2	41	27.9	22	36.1	16	24.6
45-64 Years	3,734	43.6	1,892	41.8	323	43.8	455	43.8	284	42.6	163	43.9	163	50.3	322	51.1	70	47.6	28	45.9	34	52.3
65+ Years	1,397	16.3	705	15.6	125	16.9	170	16.3	105	15.7	74	19.9	51	15.7	105	16.7	36	24.5	11	18	15	23.1
<b>Phendimetrazine</b>	11,700	100	6,355	100	1,077	100	1,288	100	922	100	519	100	412	100	808	100	199	100	61	100	59	100
18-44 Years	5,392	46.1	3,027	47.6	521	48.4	579	45	419	45.4	228	43.9	188	45.6	324	40.1	75	37.7	17	27.9	14	23.7
45-64 Years	5,047	43.1	2,687	42.3	446	41.4	571	44.3	386	41.9	229	44.1	176	42.7	384	47.5	98	49.2	35	57.4	35	59.3
65+ Years	1,261	10.8	641	10.1	110	10.2	138	10.7	117	12.7	62	11.9	48	11.7	100	12.4	26	13.1	9	14.8	10	16.9

**Table 5a. Descriptive Statistics of First Exposure Episode Duration in Days in the Sentinel Distributed Database (SDD) between January 1, 2008 and December 31, 2017, Sensitivity Analysis**

Exposures	Total Patients	Mean	Standard	Min	Q1	Median	Q3	Max
			Deviation					
SGLT-2 Inhibitors	542,814	277.25	288.85	1	62	172	396	1,722
All Obesity Drugs	267,836	106.28	136.26	1	30	62	125	3,594
<b>Long-Term Therapies</b>								
All Long-Term Obesity Drugs	69,377	107.08	141.41	1	30	60	123	3,405
Lorcaserin	17,153	91.34	114.37	1	30	58	105	1,556
Bupropion and Naltrexone	29,106	87.51	112.23	1	30	30	101	1,148
Liraglutide (Saxenda)	9,522	142.54	147.48	1	30	92	184	970
Phentermine and Topiramate (Qsymia)	11,553	133.75	166.36	1	30	74	166	1,819
Orlistat (all brands)	8,252	102.33	172.5	1	30	30	100	3,405
Orlistat (Alli brand only)	125	52.02	45.07	3	30	30	60	288
<b>Short-Term Therapies</b>								
All Short-Term Obesity Drugs	209,852	103.93	131.47	1	30	62	123	3,594
Phentermine	198,203	103.43	128.45	1	30	63	123	3,594
Benzphetamine	1,116	71.66	108.34	2	30	30	72	1,228
Diethylpropion	8,571	87.4	140.33	1	30	30	94	3,296
Phendimetrazine	11,700	79.75	121.58	1	30	30	92	3,301

**Table 5b. Descriptive Statistics of First Exposure Episode Duration in Days, by Sex in the Sentinel Distributed Database (SDD) between January 1, 2008 and December 31, 2017, Sensitivity Analysis**

Exposures	Total Patients	Standard			Q1	Median	Q3	Max
		Mean	Deviation	Min				
<b>SGLT-2 Inhibitors</b>	542,814	277.25	288.85	1	62	172	396	1,722
Female	253,823	257.01	274.84	1	60	151	364	1,714
Male	288,972	295.02	299.49	1	69	184	427	1,722
Other	19	299.16	331.52	18	30	215	432	1,087
<b>All Obesity Drugs</b>	267,836	106.28	136.26	1	30	62	125	3,594
Female	220,273	104.97	134.17	1	30	61	123	3,594
Male	47,557	112.33	145.37	1	30	64	131	3,263
Other	6	76.83	100.74	30	30	30	60	281
<b>Long-Term Therapies</b>								
<b>All Long-Term Obesity Drugs</b>	69,377	107.08	141.41	1	30	60	123	3,405
Female	55,498	104.53	137.84	1	30	58	120	3,405
Male	13,878	117.27	154.46	1	30	62	137	2,351
Other	1	60	-	60	60	60	60	60
<b>Lorcaserin</b>	17,153	91.34	114.37	1	30	58	105	1,556
Female	13,641	89.95	111.92	1	30	50	103	1,556
Male	3,511	96.74	123.3	1	30	60	110	1,455
Other	1	60	-	60	60	60	60	60
<b>Bupropion and Naltrexone</b>	29,106	87.51	112.23	1	30	30	101	1,148
Female	23,851	85.08	109.17	1	30	30	98	1,134
Male	5,254	98.54	124.6	1	30	47	117	1,148
Other	1	60	-	60	60	60	60	60
<b>Liraglutide (Saxenda)</b>	9,522	142.54	147.48	1	30	92	184	970
Female	7,532	141.72	146.66	1	30	91	184	970
Male	1,990	145.63	150.54	2	30	92	183	897
Other	0	-	-	-	-	-	-	-
<b>Phentermine and Topiramate (Qsymia)</b>	11,553	133.75	166.36	1	30	74	166	1,819
Female	9,188	131.45	162.98	1	30	74	164	1,532
Male	2,365	142.67	178.67	1	30	80	178	1,819
Other	0	-	-	-	-	-	-	-
<b>Orlistat (all brands)</b>	8,252	102.33	172.5	1	30	30	100	3,405
Female	6,381	96.72	164.06	1	30	30	97	3,405
Male	1,871	121.46	197.46	2	30	33	120	2,351
Other	0	-	-	-	-	-	-	-
<b>Orlistat (Alli brand only)</b>	125	52.02	45.07	3	30	30	60	288
Female	97	48.93	39.04	10	30	30	60	270
Male	28	62.71	61.27	3	30	30	85	288
Other	0	-	-	-	-	-	-	-

**Table 5b. Descriptive Statistics of First Exposure Episode Duration in Days, by Sex in the Sentinel Distributed Database (SDD) between January 1, 2008 and December 31, 2017, Sensitivity Analysis**

Exposures	Total Patients	Standard		Min	Q1	Median	Q3	Max
		Mean	Deviation					
<b>Short-Term Therapies</b>								
<b>All Short-Term Obesity Drugs</b>	209,852	103.93	131.47	1	30	62	123	3,594
Female	174,499	102.99	129.84	1	30	62	122	3,594
Male	35,348	108.56	139.16	1	30	64	127	3,263
Other	5	80.2	112.25	30	30	30	30	281
<b>Phentermine</b>	198,203	103.43	128.45	1	30	63	123	3,594
Female	164,961	102.48	126.75	1	30	62	122	3,594
Male	33,237	108.15	136.49	1	30	64	126	3,263
Other	5	80.2	112.25	30	30	30	30	281
<b>Benzphetamine</b>	1,116	71.66	108.34	2	30	30	72	1,228
Female	912	70.13	105.53	2	30	30	72	1,228
Male	204	78.52	120.16	2	30	30	86	871
Other	0	-	-	-	-	-	-	-
<b>Diethylpropion</b>	8,571	87.4	140.33	1	30	30	94	3,296
Female	7,112	86.18	140.83	1	30	30	93	3,296
Male	1,459	93.37	137.73	1	30	30	103	1,585
Other	0	-	-	-	-	-	-	-
<b>Phendimetrazine</b>	11,700	79.75	121.58	1	30	30	92	3,301
Female	9,833	78.8	117.34	1	30	30	92	3,301
Male	1,867	84.73	141.77	3	30	30	92	3,065
Other	0	-	-	-	-	-	-	-



**Table 5c. Descriptive Statistics of First Exposure Episode Duration in Days, by Age Group in the Sentinel Distributed Database (SDD) between January 1, 2008 and December 31, 2017, Sensitivity Analysis**

Exposures	Total Patients	Mean	Standard Deviation	Min	Q1	Median	Q3	Max
<b>SGLT-2 Inhibitors</b>	542,814	277.25	288.85	1	62	172	396	1,722
18-44 Years	59,444	254.87	277.24	1	59	150	360	1,713
45-64 Years	269,375	298.28	305.91	1	67	185	431	1,722
65+ Years	213,995	256.99	267.17	1	60	156	364	1,704
<b>All Obesity Drugs</b>	267,836	106.28	136.26	1	30	62	125	3,594
18-44 Years	132,317	100.65	123.65	1	30	61	121	3,594
45-64 Years	113,325	113.66	148.03	1	30	64	134	3,552
65+ Years	22,194	102.08	143.3	1	30	60	117	2,744
<b>Long-Term Therapies</b>								
<b>All Long-Term Obesity Drugs</b>	69,377	107.08	141.41	1	30	60	123	3,405
18-44 Years	27,826	97.86	127.41	1	30	49	114	2,855
45-64 Years	36,411	115.09	150.17	1	30	60	136	3,405
65+ Years	5,140	100.2	146.01	1	30	33	106	1,986
<b>Lorcaserin</b>	17,153	91.34	114.37	1	30	58	105	1,556
18-44 Years	6,163	79.76	93.33	1	30	33	95	1,119
45-64 Years	9,452	99.82	125.42	1	30	60	116	1,556
65+ Years	1,538	85.61	115.38	1	30	30	97	1,230
<b>Bupropion and Naltrexone</b>	29,106	87.51	112.23	1	30	30	101	1,148
18-44 Years	12,006	81.76	105.53	1	30	30	94	1,134
45-64 Years	15,526	93.28	118.37	1	30	34	109	1,148
65+ Years	1,574	74.4	94.92	2	30	30	88	866
<b>Liraglutide (Saxenda)</b>	9,522	142.54	147.48	1	30	92	184	970
18-44 Years	4,125	129.91	134.63	1	30	90	166	970
45-64 Years	5,172	152.13	156.6	1	30	98	200	958
65+ Years	225	153.6	139.66	5	30	100	235	835
<b>Phentermine and Topiramate (Qsymia)</b>	11,553	133.75	166.36	1	30	74	166	1,819
18-44 Years	4,765	128.28	156.82	1	30	74	159	1,578
45-64 Years	5,949	141.58	175.9	1	30	78	179	1,819
65+ Years	839	109.27	144.55	1	30	60	132	1,213
<b>Orlistat (all brands)</b>	8,252	102.33	172.5	1	30	30	100	3,405
18-44 Years	3,230	79.57	132.76	1	30	30	90	2,855
45-64 Years	3,810	112.71	188.42	1	30	30	114	3,405
65+ Years	1,212	130.35	203.89	2	30	33	129	1,986
<b>Orlistat (Alli brand only)</b>	125	52.02	45.07	3	30	30	60	288
18-44 Years	55	47.84	32.86	30	30	30	60	168
45-64 Years	56	60	57.12	3	30	33	73	288
65+ Years	14	36.5	21.77	15	30	30	30	90

**Table 5c. Descriptive Statistics of First Exposure Episode Duration in Days, by Age Group in the Sentinel Distributed Database (SDD) between January 1, 2008 and December 31, 2017, Sensitivity Analysis**

Exposures	Total Patients	Mean	Standard Deviation	Min	Q1	Median	Q3	Max
<b>Short-Term Therapies</b>								
<b>All Short-Term Obesity Drugs</b>	209,852	103.93	131.47	1	30	62	123	3,594
18-44 Years	109,609	99.45	119.97	1	30	62	120	3,594
45-64 Years	82,551	110.39	143.16	1	30	64	129	3,552
65+ Years	17,692	101.49	141.09	1	30	60	118	2,744
<b>Phentermine</b>	198,203	103.43	128.45	1	30	63	123	3,594
18-44 Years	104,938	99.33	118.71	1	30	62	120	3,594
45-64 Years	77,418	109.72	139.2	1	30	65	128	3,552
65+ Years	15,847	99.9	134.41	1	30	60	117	2,744
<b>Benzphetamine</b>	1,116	71.66	108.34	2	30	30	72	1,228
18-44 Years	436	53.08	58.31	2	30	30	60	508
45-64 Years	506	85.07	133.38	4	30	30	90	1,228
65+ Years	174	79.24	117.1	2	30	30	74	767
<b>Diethylpropion</b>	8,571	87.4	140.33	1	30	30	94	3,296
18-44 Years	3,440	76.33	108.08	1	30	30	90	1,746
45-64 Years	3,734	93.65	152.14	1	30	30	101	3,296
65+ Years	1,397	97.95	172.32	1	30	30	102	2,503
<b>Phendimetrazine</b>	11,700	79.75	121.58	1	30	30	92	3,301
18-44 Years	5,392	71.36	98.92	1	30	30	87	2,223
45-64 Years	5,047	85.94	138.12	1	30	30	95	3,301
65+ Years	1,261	90.82	135.67	3	30	30	102	1,847

**Table 6a. Distribution of all Episode Durations, by Length Categories<sup>1</sup> in Days in the Sentinel Distributed Database (SDD) between January 1, 2008 and December 31, 2017, Sensitivity Analysis**

Exposures	Total Episodes		1-30 Days		31-60 Days		61-90 Days		91-120 Days		121-150 Days		151-183 Days		184-365 Days		366-547 Days		548-730 Days		730+ Days	
	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%
SGLT-2 Inhibitors	665,402	100	133,786	20.1	37,086	5.6	78,654	11.8	42,750	6.4	35,096	5.3	39,498	5.9	132,775	20	69,890	10.5	43,247	6.5	52,620	7.9
All Obesity Drugs	404,853	100	173,978	43	31,724	7.8	54,739	13.5	43,518	10.7	23,671	5.8	19,626	4.8	40,998	10.1	10,147	2.5	3,553	0.9	2,899	0.7
<b>Long-Term Therapies</b>																						
All Long-Term Obesity Drugs	85,926	100	38,473	44.8	6,841	8	11,066	12.9	7,865	9.2	4,554	5.3	3,838	4.5	9,011	10.5	2,604	3	948	1.1	726	0.8
Lorcaserin	19,824	100	9,353	47.2	1,250	6.3	3,097	15.6	1,948	9.8	950	4.8	884	4.5	1,719	8.7	406	2	119	0.6	98	0.5
Bupropion and Naltrexone	32,812	100	17,156	52.3	2,607	7.9	3,893	11.9	2,704	8.2	1,571	4.8	1,163	3.5	2,705	8.2	619	1.9	267	0.8	127	0.4
Liraglutide (Saxenda)	11,221	100	3,503	31.2	823	7.3	1,561	13.9	1,179	10.5	876	7.8	682	6.1	1,733	15.4	603	5.4	177	1.6	84	0.7
Phentermine and Topiramate (Qsymia)	13,752	100	4,631	33.7	1,495	10.9	1,644	12	1,402	10.2	877	6.4	751	5.5	1,926	14	594	4.3	245	1.8	187	1.4
Orlistat (all brands)	11,791	100	5,997	50.9	1,034	8.8	1,419	12	911	7.7	435	3.7	417	3.5	962	8.2	327	2.8	119	1	170	1.4
Orlistat (Alli brand only)	140	100	85	60.7	24	17.1	15	10.7	4	2.9	3	2.1	3	2.1	3	2.1	2	1.4	1	0.7	0	0
<b>Short-Term Therapies</b>																						
All Short-Term Obesity Drugs	327,051	100	140,452	42.9	25,662	7.8	44,979	13.8	36,512	11.2	19,377	5.9	15,922	4.9	32,060	9.8	7,452	2.3	2,543	0.8	2,092	0.6
Phentermine	306,647	100	131,037	42.7	23,892	7.8	42,587	13.9	34,760	11.3	18,343	6	14,970	4.9	30,037	9.8	6,870	2.2	2,296	0.7	1,855	0.6
Benzphetamine	1,468	100	885	60.3	109	7.4	172	11.7	98	6.7	41	2.8	44	3	75	5.1	26	1.8	6	0.4	12	0.8
Diethylpropion	11,536	100	6,091	52.8	959	8.3	1,397	12.1	930	8.1	499	4.3	439	3.8	848	7.4	197	1.7	90	0.8	86	0.7
Phendimetrazine	16,746	100	9,081	54.2	1,475	8.8	1,829	10.9	1,331	7.9	737	4.4	618	3.7	1,184	7.1	300	1.8	97	0.6	94	0.6

<sup>1</sup>Distribution of all episode durations represents each episode's total episode length across all patients

**Table 6b. Distribution of all Episode Durations, by Length Categories<sup>1</sup> in Days, by Sex in the Sentinel Distributed Database (SDD) between January 1, 2008 and December 31, 2017, Sensitivity Analysis**

Exposures	Total Episodes		1-30 Days		31-60 Days		61-90 Days		91-120 Days		121-150 Days		151-183 Days		184-365 Days		366-547 Days		548-730 Days		730+ Days	
	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%
	of Patients		of Patients		of Patients		of Patients		of Patients		of Patients		of Patients		of Patients		of Patients		of Patients		of Patients	
<b>SGLT-2 Inhibitors</b>	665,402	100	133,786	100	37,086	100	78,654	100	42,750	100	35,096	100	39,498	100	132,775	100	69,890	100	43,247	100	52,620	100
Female	310,376	46.6	67,904	50.8	17,773	47.9	38,087	48.4	20,937	49	16,844	48	18,584	47.1	59,830	45.1	31,004	44.4	18,303	42.3	21,110	40.1
Male	355,003	53.4	65,875	49.2	19,313	52.1	40,565	51.6	21,810	51	18,252	52	20,914	52.9	72,940	54.9	38,883	55.6	24,944	57.7	31,507	59.9
Other	23	0	7	0	0	-	2	0	3	0	0	-	0	-	5	0	3	0	0	-	3	0
<b>All Obesity Drugs</b>	404,853	100	173,978	100	31,724	100	54,739	100	43,518	100	23,671	100	19,626	100	40,998	100	10,147	100	3,553	100	2,899	100
Female	336,219	83	145,899	83.9	26,268	82.8	45,087	82.4	36,269	83.3	19,517	82.5	16,251	82.8	33,599	82	8,170	80.5	2,873	80.9	2,286	78.9
Male	68,624	17	28,074	16.1	5,454	17.2	9,651	17.6	7,249	16.7	4,154	17.5	3,374	17.2	7,398	18	1,977	19.5	680	19.1	613	21.1
Other	10	0	5	0	2	0	1	0	0	-	0	-	1	0	1	0	0	-	0	-	0	-
<b>Long-Term Therapies</b>																						
<b>All Long-Term Obesity Drugs</b>	85,926	100	38,473	100	6,841	100	11,066	100	7,865	100	4,554	100	3,838	100	9,011	100	2,604	100	948	100	726	100
Female	68,716	80	31,349	81.5	5,442	79.5	8,739	79	6,299	80.1	3,577	78.5	3,004	78.3	7,077	78.5	1,970	75.7	726	76.6	533	73.4
Male	17,208	20	7,124	18.5	1,397	20.4	2,327	21	1,566	19.9	977	21.5	834	21.7	1,934	21.5	634	24.3	222	23.4	193	26.6
Other	2	0	0	-	2	0	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-
<b>Lorcaserin</b>	19,824	100	9,353	100	1,250	100	3,097	100	1,948	100	950	100	884	100	1,719	100	406	100	119	100	98	100
Female	15,823	79.8	7,601	81.3	988	79	2,422	78.2	1,545	79.3	735	77.4	683	77.3	1,372	79.8	309	76.1	98	82.4	70	71.4
Male	4,000	20.2	1,752	18.7	261	20.9	675	21.8	403	20.7	215	22.6	201	22.7	347	20.2	97	23.9	21	17.6	28	28.6
Other	1	0	0	-	1	0.1	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-
<b>Bupropion and Naltrexone</b>	32,812	100	17,156	100	2,607	100	3,893	100	2,704	100	1,571	100	1,163	100	2,705	100	619	100	267	100	127	100
Female	26,802	81.7	14,267	83.2	2,136	81.9	3,170	81.4	2,177	80.5	1,257	80	918	78.9	2,111	78	467	75.4	198	74.2	101	79.5
Male	6,009	18.3	2,889	16.8	470	18	723	18.6	527	19.5	314	20	245	21.1	594	22	152	24.6	69	25.8	26	20.5
Other	1	0	0	-	1	0	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-
<b>Liraglutide (Saxenda)</b>	11,221	100	3,503	100	823	100	1,561	100	1,179	100	876	100	682	100	1,733	100	603	100	177	100	84	100
Female	8,951	79.8	2,817	80.4	651	79.1	1,234	79.1	951	80.7	697	79.6	530	77.7	1,405	81.1	462	76.6	138	78	66	78.6
Male	2,270	20.2	686	19.6	172	20.9	327	20.9	228	19.3	179	20.4	152	22.3	328	18.9	141	23.4	39	22	18	21.4
Other	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-
<b>Phentermine and Topiramate (Qsymia)</b>	13,752	100	4,631	100	1,495	100	1,644	100	1,402	100	877	100	751	100	1,926	100	594	100	245	100	187	100
Female	10,925	79.4	3,739	80.7	1,158	77.5	1,321	80.4	1,126	80.3	674	76.9	617	82.2	1,509	78.3	450	75.8	190	77.6	141	75.4
Male	2,827	20.6	892	19.3	337	22.5	323	19.6	276	19.7	203	23.1	134	17.8	417	21.7	144	24.2	55	22.4	46	24.6
Other	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-
<b>Orlistat (all brands)</b>	11,791	100	5,997	100	1,034	100	1,419	100	911	100	435	100	417	100	962	100	327	100	119	100	170	100
Female	9,058	76.8	4,740	79	812	78.5	1,036	73	719	78.9	329	75.6	295	70.7	708	73.6	225	68.8	86	72.3	108	63.5
Male	2,733	23.2	1,257	21	222	21.5	383	27	192	21.1	106	24.4	122	29.3	254	26.4	102	31.2	33	27.7	62	36.5
Other	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-
<b>Orlistat (Alli brand only)</b>	140	100	85	100	24	100	15	100	4	100	3	100	3	100	3	100	2	100	1	100	0	100
Female	106	75.7	65	76.5	21	87.5	11	73.3	2	50	2	66.7	3	100	1	33.3	1	50	0	-	0	-
Male	34	24.3	20	23.5	3	12.5	4	26.7	2	50	1	33.3	0	-	2	66.7	1	50	1	100	0	-
Other	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-

**Table 6b. Distribution of all Episode Durations, by Length Categories<sup>1</sup> in Days, by Sex in the Sentinel Distributed Database (SDD) between January 1, 2008 and December 31, 2017, Sensitivity Analysis**

Exposures	Total Episodes		1-30 Days		31-60 Days		61-90 Days		91-120 Days		121-150 Days		151-183 Days		184-365 Days		366-547 Days		548-730 Days		730+ Days	
	Number		Number		Number		Number		Number		Number		Number		Number		Number		Number		Number	
	of	%	of	%	of	%	of	%	of	%	of	%	of	%	of	%	of	%	of	%	of	%
<b>Short-Term Therapies</b>																						
<b>All Short-Term Obesity Drugs</b>	327,051	100	140,452	100	25,662	100	44,979	100	36,512	100	19,377	100	15,922	100	32,060	100	7,452	100	2,543	100	2,092	100
Female	274,451	83.9	118,813	84.6	21,481	83.7	37,454	83.3	30,698	84.1	16,167	83.4	13,362	83.9	26,575	82.9	6,117	82.1	2,098	82.5	1,686	80.6
Male	52,592	16.1	21,634	15.4	4,181	16.3	7,524	16.7	5,814	15.9	3,210	16.6	2,559	16.1	5,484	17.1	1,335	17.9	445	17.5	406	19.4
Other	8	0	5	0	0	-	1	0	0	-	0	-	1	0	1	0	0	-	0	-	0	-
<b>Phentermine</b>	306,647	100	131,037	100	23,892	100	42,587	100	34,760	100	18,343	100	14,970	100	30,037	100	6,870	100	2,296	100	1,855	100
Female	257,437	84	110,958	84.7	20,041	83.9	35,467	83.3	29,184	84	15,308	83.5	12,558	83.9	24,902	82.9	5,643	82.1	1,882	82	1,494	80.5
Male	49,202	16	20,074	15.3	3,851	16.1	7,119	16.7	5,576	16	3,035	16.5	2,411	16.1	5,134	17.1	1,227	17.9	414	18	361	19.5
Other	8	0	5	0	0	-	1	0	0	-	0	-	1	0	1	0	0	-	0	-	0	-
<b>Benzphetamine</b>	1,468	100	885	100	109	100	172	100	98	100	41	100	44	100	75	100	26	100	6	100	12	100
Female	1,190	81.1	728	82.3	82	75.2	141	82	79	80.6	33	80.5	36	81.8	58	77.3	21	80.8	4	66.7	8	66.7
Male	278	18.9	157	17.7	27	24.8	31	18	19	19.4	8	19.5	8	18.2	17	22.7	5	19.2	2	33.3	4	33.3
Other	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-
<b>Diethylpropion</b>	11,536	100	6,091	100	959	100	1,397	100	930	100	499	100	439	100	848	100	197	100	90	100	86	100
Female	9,676	83.9	5,130	84.2	801	83.5	1,186	84.9	787	84.6	404	81	360	82	710	83.7	154	78.2	76	84.4	68	79.1
Male	1,860	16.1	961	15.8	158	16.5	211	15.1	143	15.4	95	19	79	18	138	16.3	43	21.8	14	15.6	18	20.9
Other	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-
<b>Phendimetrazine</b>	16,746	100	9,081	100	1,475	100	1,829	100	1,331	100	737	100	618	100	1,184	100	300	100	97	100	94	100
Female	14,148	84.5	7,709	84.9	1,222	82.8	1,523	83.3	1,159	87.1	613	83.2	520	84.1	986	83.3	255	85	84	86.6	77	81.9
Male	2,598	15.5	1,372	15.1	253	17.2	306	16.7	172	12.9	124	16.8	98	15.9	198	16.7	45	15	13	13.4	17	18.1
Other	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-

<sup>1</sup>Distribution of all episode durations represents each episode's total episode length across all patients

**Table 6c. Distribution of all Episode Durations, by Length Categories<sup>1</sup> in Days, by Age Group in the Sentinel Distributed Database (SDD) between January 1, 2008 and December 31, 2017, Sensitivity Analysis**

Exposures	Total Episodes		1-30 Days		31-60 Days		61-90 Days		91-120 Days		121-150 Days		151-183 Days		184-365 Days		366-547 Days		548-730 Days		730+ Days	
	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%
<b>SGLT-2 Inhibitors</b>	665,402	100	133,786	100	37,086	100	78,654	100	42,750	100	35,096	100	39,498	100	132,775	100	69,890	100	43,247	100	52,620	100
18-44 Years	77,059	11.6	18,467	13.8	4,556	12.3	8,363	10.6	5,446	12.7	4,385	12.5	4,526	11.5	14,801	11.1	7,325	10.5	4,185	9.7	5,005	9.5
45-64 Years	333,687	50.1	63,095	47.2	18,572	50.1	35,063	44.6	21,389	50	17,841	50.8	19,041	48.2	67,471	50.8	37,907	54.2	22,594	52.2	30,714	58.4
65+ Years	254,656	38.3	52,224	39	13,958	37.6	35,228	44.8	15,915	37.2	12,870	36.7	15,931	40.3	50,503	38	24,658	35.3	16,468	38.1	16,901	32.1
<b>All Obesity Drugs</b>	404,853	100	173,978	100	31,724	100	54,739	100	43,518	100	23,671	100	19,626	100	40,998	100	10,147	100	3,553	100	2,899	100
18-44 Years	202,353	50	87,579	50.3	15,947	50.3	27,959	51.1	22,616	52	12,147	51.3	9,721	49.5	19,312	47.1	4,476	44.1	1,501	42.2	1,095	37.8
45-64 Years	169,213	41.8	70,687	40.6	13,137	41.4	22,515	41.1	17,901	41.1	9,801	41.4	8,463	43.1	18,573	45.3	4,853	47.8	1,755	49.4	1,528	52.7
65+ Years	33,287	8.2	15,712	9	2,640	8.3	4,265	7.8	3,001	6.9	1,723	7.3	1,442	7.3	3,113	7.6	818	8.1	297	8.4	276	9.5
<b>Long-Term Therapies</b>																						
<b>All Long-Term Obesity Drugs</b>	85,926	100	38,473	100	6,841	100	11,066	100	7,865	100	4,554	100	3,838	100	9,011	100	2,604	100	948	100	726	100
18-44 Years	34,036	39.6	15,930	41.4	2,770	40.5	4,363	39.4	3,171	40.3	1,871	41.1	1,420	37	3,153	35	852	32.7	304	32.1	202	27.8
45-64 Years	45,488	52.9	19,428	50.5	3,549	51.9	5,823	52.6	4,220	53.7	2,417	53.1	2,176	56.7	5,269	58.5	1,563	60	587	61.9	456	62.8
65+ Years	6,402	7.5	3,115	8.1	522	7.6	880	8	474	6	266	5.8	242	6.3	589	6.5	189	7.3	57	6	68	9.4
<b>Lorcaserin</b>	19,824	100	9,353	100	1,250	100	3,097	100	1,948	100	950	100	884	100	1,719	100	406	100	119	100	98	100
18-44 Years	6,973	35.2	3,491	37.3	450	36	1,136	36.7	683	35.1	327	34.4	280	31.7	470	27.3	89	21.9	31	26.1	16	16.3
45-64 Years	11,087	55.9	4,948	52.9	694	55.5	1,700	54.9	1,125	57.8	533	56.1	543	61.4	1,107	64.4	290	71.4	76	63.9	71	72.4
65+ Years	1,764	8.9	914	9.8	106	8.5	261	8.4	140	7.2	90	9.5	61	6.9	142	8.3	27	6.7	12	10.1	11	11.2
<b>Bupropion and Naltrexone</b>	32,812	100	17,156	100	2,607	100	3,893	100	2,704	100	1,571	100	1,163	100	2,705	100	619	100	267	100	127	100
18-44 Years	13,473	41.1	7,362	42.9	1,073	41.2	1,550	39.8	1,099	40.6	648	41.2	432	37.1	941	34.8	232	37.5	86	32.2	50	39.4
45-64 Years	17,559	53.5	8,754	51	1,381	53	2,137	54.9	1,490	55.1	860	54.7	690	59.3	1,639	60.6	362	58.5	172	64.4	74	58.3
65+ Years	1,780	5.4	1,040	6.1	153	5.9	206	5.3	115	4.3	63	4	41	3.5	125	4.6	25	4	9	3.4	3	2.4
<b>Liraglutide (Saxenda)</b>	11,221	100	3,503	100	823	100	1,561	100	1,179	100	876	100	682	100	1,733	100	603	100	177	100	84	100
18-44 Years	4,844	43.2	1,612	46	345	41.9	704	45.1	535	45.4	395	45.1	270	39.6	688	39.7	213	35.3	62	35	20	23.8
45-64 Years	6,121	54.5	1,819	51.9	458	55.7	819	52.5	624	52.9	467	53.3	396	58.1	993	57.3	368	61	114	64.4	63	75
65+ Years	256	2.3	72	2.1	20	2.4	38	2.4	20	1.7	14	1.6	16	2.3	52	3	22	3.6	1	0.6	1	1.2
<b>Phentermine and Topiramate (Qsymia)</b>	13,752	100	4,631	100	1,495	100	1,644	100	1,402	100	877	100	751	100	1,926	100	594	100	245	100	187	100
18-44 Years	5,670	41.2	1,937	41.8	593	39.7	686	41.7	608	43.4	391	44.6	304	40.5	773	40.1	228	38.4	87	35.5	63	33.7
45-64 Years	7,114	51.7	2,313	49.9	767	51.3	850	51.7	706	50.4	428	48.8	405	53.9	1,048	54.4	336	56.6	146	59.6	115	61.5
65+ Years	968	7	381	8.2	135	9	108	6.6	88	6.3	58	6.6	42	5.6	105	5.5	30	5.1	12	4.9	9	4.8
<b>Orlistat (all brands)</b>	11,791	100	5,997	100	1,034	100	1,419	100	911	100	435	100	417	100	962	100	327	100	119	100	170	100
18-44 Years	4,348	36.9	2,424	40.4	432	41.8	485	34.2	344	37.8	158	36.3	120	28.8	267	27.8	63	19.3	26	21.8	29	17.1
45-64 Years	5,656	48	2,768	46.2	485	46.9	637	44.9	456	50.1	227	52.2	215	51.6	516	53.6	184	56.3	69	58	99	58.2
65+ Years	1,787	15.2	805	13.4	117	11.3	297	20.9	111	12.2	50	11.5	82	19.7	179	18.6	80	24.5	24	20.2	42	24.7
<b>Orlistat (Alli brand only)</b>	140	100	85	100	24	100	15	100	4	100	3	100	3	100	3	100	2	100	1	100	0	100
18-44 Years	60	42.9	40	47.1	10	41.7	5	33.3	2	50	1	33.3	2	66.7	0	-	0	-	0	-	0	-
45-64 Years	63	45	31	36.5	13	54.2	8	53.3	2	50	2	66.7	1	33.3	3	100	2	100	1	100	0	-
65+ Years	17	12.1	14	16.5	1	4.2	2	13.3	0	-	0	-	0	-	0	-	0	-	0	-	0	-

**Table 6c. Distribution of all Episode Durations, by Length Categories<sup>1</sup> in Days, by Age Group in the Sentinel Distributed Database (SDD) between January 1, 2008 and December 31, 2017, Sensitivity Analysis**

Exposures	Total Episodes		1-30 Days		31-60 Days		61-90 Days		91-120 Days		121-150 Days		151-183 Days		184-365 Days		366-547 Days		548-730 Days		730+ Days	
	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%
<b>Short-Term Therapies</b>																						
<b>All Short-Term Obesity Drugs</b>	327,051	100	140,452	100	25,662	100	44,979	100	36,512	100	19,377	100	15,922	100	32,060	100	7,452	100	2,543	100	2,092	100
18-44 Years	171,676	52.5	73,870	52.6	13,503	52.6	24,179	53.8	19,837	54.3	10,337	53.3	8,302	52.1	16,098	50.2	3,544	47.6	1,161	45.7	845	40.4
45-64 Years	128,018	39.1	53,686	38.2	9,986	38.9	17,371	38.6	14,106	38.6	7,569	39.1	6,413	40.3	13,429	41.9	3,278	44	1,143	44.9	1,037	49.6
65+ Years	27,357	8.4	12,896	9.2	2,173	8.5	3,429	7.6	2,569	7	1,471	7.6	1,207	7.6	2,533	7.9	630	8.5	239	9.4	210	10
<b>Phentermine</b>	306,647	100	131,037	100	23,892	100	42,587	100	34,760	100	18,343	100	14,970	100	30,037	100	6,870	100	2,296	100	1,855	100
18-44 Years	163,544	53.3	70,097	53.5	12,764	53.4	23,215	54.5	19,136	55.1	9,923	54.1	7,902	52.8	15,328	51	3,321	48.3	1,078	47	780	42
45-64 Years	119,028	38.8	49,610	37.9	9,211	38.6	16,343	38.4	13,319	38.3	7,125	38.8	6,007	40.1	12,469	41.5	3,026	44	1,016	44.3	902	48.6
65+ Years	24,075	7.9	11,330	8.6	1,917	8	3,029	7.1	2,305	6.6	1,295	7.1	1,061	7.1	2,240	7.5	523	7.6	202	8.8	173	9.3
<b>Benzphetamine</b>	1,468	100	885	100	109	100	172	100	98	100	41	100	44	100	75	100	26	100	6	100	12	100
18-44 Years	531	36.2	354	40	37	33.9	64	37.2	26	26.5	16	39	13	29.5	17	22.7	4	15.4	0	-	0	-
45-64 Years	673	45.8	365	41.2	53	48.6	77	44.8	56	57.1	24	58.5	25	56.8	43	57.3	14	53.8	6	100	10	83.3
65+ Years	264	18	166	18.8	19	17.4	31	18	16	16.3	1	2.4	6	13.6	15	20	8	30.8	0	-	2	16.7
<b>Diethylpropion</b>	11,536	100	6,091	100	959	100	1,397	100	930	100	499	100	439	100	848	100	197	100	90	100	86	100
18-44 Years	4,422	38.3	2,466	40.5	368	38.4	533	38.2	367	39.5	180	36.1	143	32.6	267	31.5	52	26.4	27	30	19	22.1
45-64 Years	5,055	43.8	2,575	42.3	429	44.7	607	43.5	409	44	222	44.5	215	49	412	48.6	96	48.7	44	48.9	46	53.5
65+ Years	2,059	17.8	1,050	17.2	162	16.9	257	18.4	154	16.6	97	19.4	81	18.5	169	19.9	49	24.9	19	21.1	21	24.4
<b>Phendimetrazine</b>	16,746	100	9,081	100	1,475	100	1,829	100	1,331	100	737	100	618	100	1,184	100	300	100	97	100	94	100
18-44 Years	7,528	45	4,222	46.5	696	47.2	803	43.9	594	44.6	313	42.5	269	43.5	465	39.3	108	36	31	32	27	28.7
45-64 Years	7,284	43.5	3,842	42.3	624	42.3	815	44.6	571	42.9	331	44.9	268	43.4	572	48.3	154	51.3	51	52.6	56	59.6
65+ Years	1,934	11.5	1,017	11.2	155	10.5	211	11.5	166	12.5	93	12.6	81	13.1	147	12.4	38	12.7	15	15.5	11	11.7

<sup>1</sup>Distribution of all episode durations represents each episode's total episode length across all patients

**Table 7a. Descriptive Statistics of all Episode Durations<sup>1</sup> in Days in the Sentinel Distributed Database (SDD) between January 1, 2008 and December 31, , Sensitivity Analysis**

Exposures	Total Episodes	Mean	Standard	Min	Q1	Median	Q3	Max
			Deviation					
SGLT-2 Inhibitors	665,402	259.18	276.01	1	60	155	364	1,722
All Obesity Drugs	404,853	102.72	132.07	1	30	60	120	3,594
<b>Long-Term Therapies</b>								
All Long-Term Obesity Drugs	85,926	105.46	138.43	1	30	60	121	3,405
Lorcaserin	19,824	91.25	112.88	1	30	58	105	1,556
Bupropion and Naltrexone	32,812	86.53	110.21	1	30	30	100	1,148
Liraglutide (Saxenda)	11,221	134.63	142.4	1	30	90	175	970
Phentermine and Topiramate	13,752	130.18	161.46	1	30	74	163	1,819
Orlistat (all brands)	11,791	102.05	166.85	1	30	30	100	3,405
Orlistat (Alli brand only)	140	59.88	82.2	3	30	30	60	640
<b>Short-Term Therapies</b>								
All Short-Term Obesity Drugs	327,051	100.27	127.69	1	30	60	120	3,594
Phentermine	306,647	99.86	125.02	1	30	60	120	3,594
Benzphetamine	1,468	76.3	118.58	2	30	30	79	1,529
Diethylpropion	11,536	87.74	138.76	1	30	30	95	3,296
Phendimetrazine	16,746	81.46	122.92	1	30	30	93	3,301

<sup>1</sup>Descriptive statistics of all episode durations represents each episode's total episode length across all patients



**Table 7b. Descriptive Statistics of all Episode Durations<sup>1</sup> in Days, by Sex in the Sentinel Distributed Database (SDD) between January 1, 2008 and December 31, 2017, Sensitivity Analysis**

Exposures	Total Episodes	Mean	Standard					
			Deviation	Min	Q1	Median	Q3	Max
<b>SGLT-2 Inhibitors</b>	665,402	259.18	276.01	1	60	155	364	1,722
Female	310,376	241.27	262.64	1	60	139	337	1,714
Male	355,003	274.83	286.27	1	64	172	390	1,722
Other	23	265.91	309.89	18	30	108	426	1,087
<b>All Obesity Drugs</b>	404,853	102.72	132.07	1	30	60	120	3,594
Female	336,219	101.47	130.26	1	30	60	120	3,594
Male	68,624	108.85	140.44	1	30	62	127	3,263
Other	10	79.7	83.82	30	30	45	69	281
<b>Long-Term Therapies</b>								
<b>All Long-Term Obesity Drugs</b>	85,926	105.46	138.43	1	30	60	121	3,405
Female	68,716	102.96	135.09	1	30	56	120	3,405
Male	17,208	115.44	150.63	1	30	62	135	2,351
Other	2	60	0	60	60	60	60	60
<b>Lorcaserin</b>	19,824	91.25	112.88	1	30	58	105	1,556
Female	15,823	89.77	110.39	1	30	50	103	1,556
Male	4,000	97.12	122.07	1	30	60	111	1,455
Other	1	60	-	60	60	60	60	60
<b>Bupropion and Naltrexone</b>	32,812	86.53	110.21	1	30	30	100	1,148
Female	26,802	84.11	107.27	1	30	30	97	1,134
Male	6,009	97.3	121.91	1	30	45	116	1,148
Other	1	60	-	60	60	60	60	60
<b>Liraglutide (Saxenda)</b>	11,221	134.63	142.4	1	30	90	175	970
Female	8,951	133.75	141.45	1	30	90	175	970
Male	2,270	138.11	146.07	1	30	90	175	897
Other	0	-	-	-	-	-	-	-
<b>Phentermine and Topiramate (Qsymia)</b>	13,752	130.18	161.46	1	30	74	163	1,819
Female	10,925	127.97	158.14	1	30	72	160	1,532
Male	2,827	138.7	173.47	1	30	78	173	1,819
Other	0	-	-	-	-	-	-	-
<b>Orlistat (all brands)</b>	11,791	102.05	166.85	1	30	30	100	3,405
Female	9,058	96.41	159.67	1	30	30	100	3,405
Male	2,733	120.76	187.52	1	30	52	120	2,351
Other	0	-	-	-	-	-	-	-
<b>Orlistat (Alli brand only)</b>	140	59.88	82.2	3	30	30	60	640
Female	106	51.09	53.72	3	30	30	60	440
Male	34	87.26	135.11	3	30	30	90	640
Other	0	-	-	-	-	-	-	-

**Table 7b. Descriptive Statistics of all Episode Durations<sup>1</sup> in Days, by Sex in the Sentinel Distributed Database (SDD) between January 1, 2008 and December 31, 2017, Sensitivity Analysis**

Exposures	Total Episodes	Mean	Standard Deviation	Min	Q1	Median	Q3	Max
<b>Short-Term Therapies</b>								
<b>All Short-Term Obesity Drugs</b>	327,051	100.27	127.69	1	30	60	120	3,594
Female	274,451	99.36	126.32	1	30	60	119	3,594
Male	52,592	105.02	134.51	1	30	62	122	3,263
Other	8	84.63	94.31	30	30	30	123	281
<b>Phentermine</b>	306,647	99.86	125.02	1	30	60	120	3,594
Female	257,437	98.9	123.61	1	30	60	119	3,594
Male	49,202	104.87	132.02	1	30	62	122	3,263
Other	8	84.63	94.31	30	30	30	123	281
<b>Benzphetamine</b>	1,468	76.3	118.58	2	30	30	79	1,529
Female	1,190	73.82	111.06	2	30	30	76	1,228
Male	278	86.92	146.24	2	30	30	90	1,529
Other	0	-	-	-	-	-	-	-
<b>Diethylpropion</b>	11,536	87.74	138.76	1	30	30	95	3,296
Female	9,676	86.7	137	1	30	30	94	3,296
Male	1,860	93.17	147.49	1	30	30	102	2,772
Other	0	-	-	-	-	-	-	-
<b>Phendimetrazine</b>	16,746	81.46	122.92	1	30	30	93	3,301
Female	14,148	81.06	120.94	1	30	30	94	3,301
Male	2,598	83.66	133.14	1	30	30	92	3,065
Other	0	-	-	-	-	-	-	-

<sup>1</sup>Descriptive statistics of all episode durations represents each episode's total episode length across all patients

**Table 7c. Descriptive Statistics of all Episode Durations<sup>1</sup> in Days, by Age Group in the Sentinel Distributed Database (SDD) between January 1, 2008 and December 31, 2017, Sensitivity Analysis**

Exposures	Total Episodes	Mean	Standard					
			Deviation	Min	Q1	Median	Q3	Max
<b>SGLT-2 Inhibitors</b>	665,402	259.18	276.01	1	60	155	364	1,722
18-44 Years	77,059	233.46	261.35	1	41	131	321	1,713
45-64 Years	333,687	277.68	291.76	1	62	171	394	1,722
65+ Years	254,656	242.72	256.75	1	60	145	340	1,704
<b>All Obesity Drugs</b>	404,853	102.72	132.07	1	30	60	120	3,594
18-44 Years	202,353	97.95	121.51	1	30	60	118	3,594
45-64 Years	169,213	109.03	142.18	1	30	61	127	3,552
65+ Years	33,287	99.7	138.87	1	30	55	113	2,744
<b>Long-Term Therapies</b>								
<b>All Long-Term Obesity Drugs</b>	85,926	105.46	138.43	1	30	60	121	3,405
18-44 Years	34,036	96.52	124.43	1	30	46	112	2,855
45-64 Years	45,488	112.84	147.04	1	30	60	133	3,405
65+ Years	6,402	100.5	142.96	1	30	35	106	1,986
<b>Lorcaserin</b>	19,824	91.25	112.88	1	30	58	105	1,556
18-44 Years	6,973	79.62	92.76	1	30	30	95	1,119
45-64 Years	11,087	99.33	122.78	1	30	60	116	1,556
65+ Years	1,764	86.43	116.07	1	30	30	97	1,230
<b>Bupropion and Naltrexone</b>	32,812	86.53	110.21	1	30	30	100	1,148
18-44 Years	13,473	80.9	103.97	1	30	30	93	1,134
45-64 Years	17,559	92.17	115.89	1	30	31	107	1,148
65+ Years	1,780	73.47	94.27	2	30	30	87	866
<b>Liraglutide (Saxenda)</b>	11,221	134.63	142.4	1	30	90	175	970
18-44 Years	4,844	123.49	130.29	1	30	84	154	970
45-64 Years	6,121	142.93	150.96	1	30	90	184	958
65+ Years	256	146.91	137.04	5	30	90	225	835
<b>Phentermine and Topiramate (Qsymia)</b>	13,752	130.18	161.46	1	30	74	163	1,819
18-44 Years	5,670	125.17	152.62	1	30	73	155	1,578
45-64 Years	7,114	137.17	170.12	1	30	76	172	1,819
65+ Years	968	108.08	142.46	1	30	60	129	1,213
<b>Orlistat (all brands)</b>	11,791	102.05	166.85	1	30	30	100	3,405
18-44 Years	4,348	79.61	127.28	1	30	30	90	2,855
45-64 Years	5,656	112.05	184.61	1	30	33	114	3,405
65+ Years	1,787	125.02	185.37	2	30	60	123	1,986
<b>Orlistat (Alli brand only)</b>	140	59.88	82.2	3	30	30	60	640
18-44 Years	60	46.35	31.82	30	30	30	49	168
45-64 Years	63	79.38	115.56	3	30	35	76	640
65+ Years	17	35.35	19.79	15	30	30	30	90

**Table 7c. Descriptive Statistics of all Episode Durations<sup>1</sup> in Days, by Age Group in the Sentinel Distributed Database (SDD) between January 1, 2008 and December 31, 2017, Sensitivity Analysis**

Exposures	Total Episodes	Mean	Standard Deviation	Min	Q1	Median	Q3	Max
<b>Short-Term Therapies</b>								
<b>All Short-Term Obesity Drugs</b>	327,051	100.27	127.69	1	30	60	120	3,594
18-44 Years	171,676	96.58	118.39	1	30	60	116	3,594
45-64 Years	128,018	105.56	137.21	1	30	61	123	3,552
65+ Years	27,357	98.67	136.57	1	30	60	113	2,744
<b>Phentermine</b>	306,647	99.86	125.02	1	30	60	120	3,594
18-44 Years	163,544	96.43	117.16	1	30	60	116	3,594
45-64 Years	119,028	105.02	133.58	1	30	61	123	3,552
65+ Years	24,075	97.62	131.91	1	30	60	113	2,744
<b>Benzphetamine</b>	1,468	76.3	118.58	2	30	30	79	1,529
18-44 Years	531	55.66	60.88	2	30	30	63	508
45-64 Years	673	91.2	140.63	4	30	30	93	1,228
65+ Years	264	79.8	137.81	2	30	30	72	1,529
<b>Diethylpropion</b>	11,536	87.74	138.76	1	30	30	95	3,296
18-44 Years	4,422	76.32	105.95	1	30	30	90	1,746
45-64 Years	5,055	93.73	152.48	1	30	30	102	3,296
65+ Years	2,059	97.59	161.97	1	30	30	103	2,503
<b>Phendimetrazine</b>	16,746	81.46	122.92	1	30	30	93	3,301
18-44 Years	7,528	73.65	105.86	1	30	30	90	2,223
45-64 Years	7,284	87.94	137.49	1	30	30	98	3,301
65+ Years	1,934	87.44	124.86	3	30	30	101	1,847

<sup>1</sup>Descriptive statistics of all episode durations represents each episode's total episode length across all patients

**Table 8a. Distribution of Days Supplied per Dispensing, by Length Categories in the Sentinel Distributed Database (SDD) between January 1, 2008 and December 31, 2017, Sensitivity Analysis**

Exposures	Total Dispensing		1-15 Days Supplied		16-30 Days Supplied		31-45 Days Supplied		46-60 Days Supplied		61-75 Days Supplied		75-90 Days Supplied		91+ Days Supplied	
	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%
	SGLT-2 Inhibitors	4,281,618	100	178,632	4.2	3,486,411	81.4	25,578	0.6	34,215	0.8	15,647	0.4	538,488	12.6	2,647
All Obesity Drugs	1,117,764	100	72,394	6.5	965,354	86.4	18,139	1.6	27,909	2.5	1,300	0.1	27,690	2.5	4,978	0.4
<b>Long-Term Therapies</b>																
All Long-Term Obesity Drugs	246,007	100	15,341	6.2	213,863	86.9	4,529	1.8	2,051	0.8	445	0.2	9,033	3.7	745	0.3
Lorcaserin	50,024	100	4,228	8.5	43,668	87.3	152	0.3	181	0.4	26	0.1	1,736	3.5	33	0.1
Bupropion and Naltrexone	78,614	100	3,241	4.1	71,036	90.4	1,204	1.5	704	0.9	171	0.2	2,173	2.8	85	0.1
Liraglutide (Saxenda)	39,015	100	1,657	4.2	33,915	86.9	521	1.3	392	1	118	0.3	2,356	6	56	0.1
Phentermine and Topiramate (Qsymia)	53,005	100	4,766	9	46,714	88.1	1,097	2.1	158	0.3	15	0	229	0.4	26	0
Orlistat (all brands)	27,637	100	1,604	5.8	20,515	74.2	1,588	5.7	632	2.3	118	0.4	2,635	9.5	545	2
Orlistat (Alli brand only)	211	100	16	7.6	147	69.7	13	6.2	6	2.8	2	0.9	25	11.8	2	0.9
<b>Short-Term Therapies</b>																
All Short-Term Obesity Drugs	877,532	100	57,412	6.5	756,507	86.2	13,726	1.6	25,944	3	861	0.1	18,824	2.1	4,258	0.5
Phentermine	805,940	100	38,682	4.8	706,939	87.7	12,732	1.6	24,551	3	811	0.1	18,075	2.2	4,150	0.5
Benzphetamine	3,271	100	418	12.8	2,743	83.9	53	1.6	16	0.5	2	0.1	36	1.1	3	0.1
Diethylpropion	28,091	100	2,396	8.5	23,903	85.1	366	1.3	891	3.2	19	0.1	443	1.6	73	0.3
Phendimetrazine	46,567	100	16,695	35.9	28,215	60.6	659	1.4	579	1.2	29	0.1	351	0.8	39	0.1

**Table 8b. Distribution of Days Supplied per Dispensing, by Length Categories, by Sex in the Sentinel Distributed Database (SDD) between January 1, 2008 and December 31, Sensitivity Analysis**

Exposures	Total Dispensing		1-15 Days Supplied		16-30 Days Supplied		31-45 Days Supplied		46-60 Days Supplied		61-75 Days Supplied		75-90 Days Supplied		91+ Days Supplied	
	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%
<b>SGLT-2 Inhibitors</b>																
Female	1,887,929	100	84,191	4.5	1,552,779	82.2	10,720	0.6	14,196	0.8	6,410	0.3	218,678	11.6	955	0.1
Male	2,393,548	100	94,438	3.9	1,933,518	80.8	14,857	0.6	20,017	0.8	9,237	0.4	319,790	13.4	1,691	0.1
Other	141	100	3	2.1	114	80.9	1	0.7	2	1.4	0	0	20	14.2	1	0.7
<b>All Obesity Drugs</b>																
Female	917,749	100	61,545	6.7	791,467	86.2	15,045	1.6	23,530	2.6	1,031	0.1	21,048	2.3	4,083	0.4
Male	199,993	100	10,849	5.4	173,866	86.9	3,093	1.5	4,379	2.2	269	0.1	6,642	3.3	895	0.4
Other	22	100	0	0	21	95.5	1	4.5	0	0	0	0	0	0	0	0
<b>Long-Term Therapies</b>																
<b>All Long-Term Obesity Drugs</b>																
Female	193,287	100	12,356	6.4	168,587	87.2	3,617	1.9	1,536	0.8	341	0.2	6,254	3.2	596	0.3
Male	52,716	100	2,985	5.7	45,272	85.9	912	1.7	515	1	104	0.2	2,779	5.3	149	0.3
Other	4	100	0	0	4	100	0	0	0	0	0	0	0	0	0	0
<b>Lorcaserin</b>																
Female	39,504	100	3,434	8.7	34,547	87.5	124	0.3	137	0.3	15	0	1,221	3.1	26	0.1
Male	10,518	100	794	7.5	9,119	86.7	28	0.3	44	0.4	11	0.1	515	4.9	7	0.1
Other	2	100	0	0	2	100	0	0	0	0	0	0	0	0	0	0
<b>Bupropion and Naltrexone</b>																
Female	62,765	100	2,637	4.2	56,811	90.5	989	1.6	534	0.9	133	0.2	1,593	2.5	68	0.1
Male	15,847	100	604	3.8	14,223	89.8	215	1.4	170	1.1	38	0.2	580	3.7	17	0.1
Other	2	100	0	0	2	100	0	0	0	0	0	0	0	0	0	0
<b>Liraglutide (Saxenda)</b>																
Female	31,044	100	1,323	4.3	27,135	87.4	424	1.4	325	1	84	0.3	1,706	5.5	47	0.2
Male	7,971	100	334	4.2	6,780	85.1	97	1.2	67	0.8	34	0.4	650	8.2	9	0.1
Other	0	0	0	-	0	-	0	-	0	-	0	-	0	-	0	-

**Table 8b. Distribution of Days Supplied per Dispensing, by Length Categories, by Sex in the Sentinel Distributed Database (SDD) between January 1, 2008 and December 31, Sensitivity Analysis**

Exposures	Total Dispensing		1-15 Days Supplied		16-30 Days Supplied		31-45 Days Supplied		46-60 Days Supplied		61-75 Days Supplied		75-90 Days Supplied		91+ Days Supplied	
	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%
<b>Phentermine and Topiramate (Qsymia)</b>																
Female	41,326	100	3,795	9.2	36,344	87.9	854	2.1	130	0.3	15	0	164	0.4	24	0.1
Male	11,679	100	971	8.3	10,370	88.8	243	2.1	28	0.2	0	0	65	0.6	2	0
Other	0	0	0	-	0	-	0	-	0	-	0	-	0	-	0	-
<b>Orlistat (all brands)</b>																
Female	20,468	100	1,292	6.3	15,320	74.8	1,253	6.1	424	2.1	96	0.5	1,652	8.1	431	2.1
Male	7,169	100	312	4.4	5,195	72.5	335	4.7	208	2.9	22	0.3	983	13.7	114	1.6
Other	0	0	0	-	0	-	0	-	0	-	0	-	0	-	0	-
<b>Orlistat (Alli brand only)</b>																
Female	159	100	12	7.5	124	78	10	6.3	6	3.8	2	1.3	5	3.1	0	0
Male	52	100	4	7.7	23	44.2	3	5.8	0	0	0	0	20	38.5	2	3.8
Other	0	0	0	-	0	-	0	-	0	-	0	-	0	-	0	-
<b>Short-Term Therapies</b>																
<b>All Short-Term Obesity Drugs</b>																
Female	729,479	100	49,498	6.8	627,236	86	11,532	1.6	22,063	3	695	0.1	14,943	2	3,512	0.5
Male	148,035	100	7,914	5.3	129,254	87.3	2,193	1.5	3,881	2.6	166	0.1	3,881	2.6	746	0.5
Other	18	100	0	0	17	94.4	1	5.6	0	0	0	0	0	0	0	0
<b>Phentermine</b>																
Female	669,544	100	33,163	5	586,320	87.6	10,726	1.6	20,888	3.1	658	0.1	14,361	2.1	3,428	0.5
Male	136,378	100	5,519	4	120,602	88.4	2,005	1.5	3,663	2.7	153	0.1	3,714	2.7	722	0.5
Other	18	100	0	0	17	94.4	1	5.6	0	0	0	0	0	0	0	0
<b>Benzphetamine</b>																
Female	2,551	100	305	12	2,157	84.6	50	2	10	0.4	2	0.1	24	0.9	3	0.1
Male	720	100	113	15.7	586	81.4	3	0.4	6	0.8	0	0	12	1.7	0	0
Other	0	0	0	-	0	-	0	-	0	-	0	-	0	-	0	-
<b>Diethylpropion</b>																
Female	23,243	100	2,014	8.7	19,720	84.8	327	1.4	758	3.3	13	0.1	359	1.5	52	0.2
Male	4,848	100	382	7.9	4,183	86.3	39	0.8	133	2.7	6	0.1	84	1.7	21	0.4

**Table 8b. Distribution of Days Supplied per Dispensing, by Length Categories, by Sex in the Sentinel Distributed Database (SDD) between January 1, 2008 and December 31, Sensitivity Analysis**

Exposures	Total Dispensing		1-15 Days Supplied		16-30 Days Supplied		31-45 Days Supplied		46-60 Days Supplied		61-75 Days Supplied		75-90 Days Supplied		91+ Days Supplied	
	Number of Patients	%	Number of Patients		Number of Patients		Number of Patients		Number of Patients		Number of Patients		Number of Patients		Number of Patients	
				%		%		%		%		%		%		%
Other	0	0	0	-	0	-	0	-	0	-	0	-	0	-	0	-
<b>Phendimetrazine</b>																
Female	39,584	100	14,740	37.2	23,533	59.5	509	1.3	494	1.2	22	0.1	250	0.6	36	0.1
Male	6,983	100	1,955	28	4,682	67	150	2.1	85	1.2	7	0.1	101	1.4	3	0
Other	0	0	0	-	0	-	0	-	0	-	0	-	0	-	0	-



**Table 8c. Distribution of Days Supplied per Dispensing, by Length Categories, by Age Group in the Sentinel Distributed Database (SDD) between January 1, 2008 and December 31, 2017, Sensitivity Analysis**

Exposures	Total Dispensing		1-15 Days Supplied		16-30 Days Supplied		31-45 Days Supplied		46-60 Days Supplied		61-75 Days Supplied		75-90 Days Supplied		91+ Days Supplied	
	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%
<b>SGLT-2 Inhibitors</b>																
18-44 Years	474,536	100	16,713	3.5	418,014	88.1	2,550	0.5	2,341	0.5	1,037	0.2	33,682	7.1	199	0
45-64 Years	2,385,383	100	85,817	3.6	2,021,963	84.8	12,381	0.5	14,916	0.6	7,455	0.3	241,283	10.1	1,568	0.1
65+ Years	1,421,699	100	76,102	5.4	1,046,434	73.6	10,647	0.7	16,958	1.2	7,155	0.5	263,523	18.5	880	0.1
<b>All Obesity Drugs</b>																
18-44 Years	536,427	100	35,670	6.6	466,061	86.9	8,628	1.6	13,152	2.5	577	0.1	9,752	1.8	2,587	0.5
45-64 Years	494,715	100	31,497	6.4	425,612	86	8,084	1.6	12,435	2.5	614	0.1	14,360	2.9	2,113	0.4
65+ Years	86,622	100	5,227	6	73,681	85.1	1,427	1.6	2,322	2.7	109	0.1	3,578	4.1	278	0.3
<b>Long-Term Therapies</b>																
<b>All Long-Term Obesity Drugs</b>																
18-44 Years	91,328	100	5,575	6.1	80,927	88.6	1,624	1.8	656	0.7	137	0.2	2,168	2.4	241	0.3
45-64 Years	138,544	100	8,199	5.9	120,645	87.1	2,451	1.8	1,175	0.8	246	0.2	5,400	3.9	428	0.3
65+ Years	16,135	100	1,567	9.7	12,291	76.2	454	2.8	220	1.4	62	0.4	1,465	9.1	76	0.5
<b>Lorcaserin</b>																
18-44 Years	15,774	100	1,280	8.1	14,094	89.3	34	0.2	38	0.2	5	0	321	2	2	0
45-64 Years	30,049	100	2,305	7.7	26,327	87.6	94	0.3	110	0.4	16	0.1	1,173	3.9	24	0.1
65+ Years	4,201	100	643	15.3	3,247	77.3	24	0.6	33	0.8	5	0.1	242	5.8	7	0.2
<b>Bupropion and Naltrexone</b>																
18-44 Years	30,677	100	1,220	4	28,061	91.5	431	1.4	255	0.8	49	0.2	626	2	35	0.1
45-64 Years	44,385	100	1,747	3.9	40,033	90.2	668	1.5	389	0.9	104	0.2	1,400	3.2	44	0.1
65+ Years	3,552	100	274	7.7	2,942	82.8	105	3	60	1.7	18	0.5	147	4.1	6	0.2
<b>Liraglutide (Saxenda)</b>																
18-44 Years	15,804	100	659	4.2	14,043	88.9	195	1.2	140	0.9	41	0.3	706	4.5	20	0.1
45-64 Years	22,318	100	968	4.3	19,171	85.9	294	1.3	228	1	70	0.3	1,553	7	34	0.2
65+ Years	893	100	30	3.4	701	78.5	32	3.6	24	2.7	7	0.8	97	10.9	2	0.2

**Table 8c. Distribution of Days Supplied per Dispensing, by Length Categories, by Age Group in the Sentinel Distributed Database (SDD) between January 1, 2008 and December 31, 2017, Sensitivity Analysis**

Exposures	Total Dispensing		1-15 Days Supplied		16-30 Days Supplied		31-45 Days Supplied		46-60 Days Supplied		61-75 Days Supplied		75-90 Days Supplied		91+ Days Supplied	
	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%	Number of Patients	%
<b>Phentermine and Topiramate (Qsymia)</b>																
18-44 Years	20,923	100	1,949	9.3	18,435	88.1	410	2	55	0.3	4	0	58	0.3	12	0.1
45-64 Years	28,957	100	2,439	8.4	25,689	88.7	588	2	83	0.3	8	0	137	0.5	13	0
65+ Years	3,125	100	378	12.1	2,590	82.9	99	3.2	20	0.6	3	0.1	34	1.1	1	0
<b>Orlistat (all brands)</b>																
18-44 Years	8,454	100	493	5.8	6,544	77.4	564	6.7	171	2	37	0.4	473	5.6	172	2
45-64 Years	14,664	100	844	5.8	11,037	75.3	829	5.7	378	2.6	52	0.4	1,211	8.3	313	2.1
65+ Years	4,519	100	267	5.9	2,934	64.9	195	4.3	83	1.8	29	0.6	951	21	60	1.3
<b>Orlistat (Alli brand only)</b>																
18-44 Years	75	100	4	5.3	56	74.7	5	6.7	3	4	1	1.3	4	5.3	2	2.7
45-64 Years	118	100	9	7.6	78	66.1	7	5.9	3	2.5	1	0.8	20	16.9	0	0
65+ Years	18	100	3	16.7	13	72.2	1	5.6	0	0	0	0	1	5.6	0	0
<b>Short-Term Therapies</b>																
<b>All Short-Term Obesity Drugs</b>																
18-44 Years	445,618	100	30,130	6.8	385,551	86.5	7,024	1.6	12,517	2.8	439	0.1	7,610	1.7	2,347	0.5
45-64 Years	360,792	100	23,587	6.5	309,011	85.6	5,716	1.6	11,313	3.1	371	0.1	9,086	2.5	1,708	0.5
65+ Years	71,122	100	3,695	5.2	61,945	87.1	986	1.4	2,114	3	51	0.1	2,128	3	203	0.3
<b>Phentermine</b>																
18-44 Years	416,912	100	20,953	5	367,050	88	6,662	1.6	12,054	2.9	425	0.1	7,446	1.8	2,322	0.6
45-64 Years	327,930	100	15,441	4.7	285,903	87.2	5,237	1.6	10,629	3.2	349	0.1	8,737	2.7	1,634	0.5
65+ Years	61,098	100	2,288	3.7	53,986	88.4	833	1.4	1,868	3.1	37	0.1	1,892	3.1	194	0.3
<b>Benzphetamine</b>																
18-44 Years	912	100	122	13.4	765	83.9	15	1.6	5	0.5	1	0.1	4	0.4	0	0
45-64 Years	1,775	100	237	13.4	1,479	83.3	28	1.6	11	0.6	1	0.1	17	1	2	0.1
65+ Years	584	100	59	10.1	499	85.4	10	1.7	0	0	0	0	15	2.6	1	0.2
<b>Diethylpropion</b>																
18-44 Years	9,639	100	916	9.5	8,270	85.8	95	1	262	2.7	2	0	78	0.8	16	0.2
45-64 Years	13,053	100	1,047	8	11,121	85.2	184	1.4	439	3.4	13	0.1	197	1.5	52	0.4
65+ Years	5,399	100	433	8	4,512	83.6	87	1.6	190	3.5	4	0.1	168	3.1	5	0.1
<b>Phendimetrazine</b>																

**Table 8c. Distribution of Days Supplied per Dispensing, by Length Categories, by Age Group in the Sentinel Distributed Database (SDD) between January 1, 2008 and December 31, 2017, Sensitivity Analysis**

Exposures	Total Dispensing		1-15 Days Supplied		16-30 Days Supplied		31-45 Days Supplied		46-60 Days Supplied		61-75 Days Supplied		75-90 Days Supplied		91+ Days Supplied	
	Number of Patients		Number of Patients		Number of Patients		Number of Patients		Number of Patients		Number of Patients		Number of Patients		Number of Patients	
		%		%		%		%		%		%		%		%
18-44 Years	20,139	100	8,408	41.7	11,085	55	296	1.5	243	1.2	11	0.1	83	0.4	13	0.1
45-64 Years	21,436	100	7,286	34	13,369	62.4	287	1.3	268	1.3	8	0	195	0.9	23	0.1
65+ Years	4,992	100	1,001	20.1	3,761	75.3	76	1.5	68	1.4	10	0.2	73	1.5	3	0.1

**Table 9a. Descriptive Statistics of Days Supplied per Dispensing in the Sentinel Distributed Database (SDD) between January 1, 2008 and December 31, 2017, Sensitivity Analysis**

Exposures	Total Dispensing	Mean	Standard	Min	Q1	Median	Q3	Max
			Deviation					
SGLT-2 Inhibitors	4,281,618	36.91	20.94	1	30	30	30	365
All Obesity Drugs	1,117,764	31.19	13.05	1	30	30	30	1,440
<b>Long-Term Therapies</b>								
All Long-Term Obesity Drugs	246,007	31.4	14.1	1	30	30	30	1,440
Lorcaserin	50,024	30.67	12.68	1	30	30	30	180
Bupropion and Naltrexone	78,614	30.86	11.87	1	30	30	30	270
Liraglutide (Saxenda)	39,015	32.91	16	1	30	30	30	212
Phentermine and Topiramate (Qsymia)	53,005	28.92	7.49	1	30	30	30	268
Orlistat (all brands)	27,637	36.85	24	1	30	30	30	1,440
Orlistat (Alli brand only)	211	37.55	21.54	3	30	30	30	120
<b>Short-Term Therapies</b>								
All Short-Term Obesity Drugs	877,532	31.13	12.74	1	30	30	30	999
Phentermine	805,940	31.61	12.62	1	30	30	30	999
Benzphetamine	3,271	28.33	9.71	1	30	30	30	100
Diethylpropion	28,091	30.22	11.74	1	30	30	30	360
Phendimetrazine	46,567	23.14	12.81	1	9	30	30	360

**Table 9b. Descriptive Statistics of Days Supplied per Dispensing, by Sex in the Sentinel Distributed Database (SDD) between January 1, 2008 and December 31, 2017, Sensitivity Analysis**

Exposures	Total Dispensing	Mean	Standard Deviation	Min	Q1	Median	Q3	Max
<b>SGLT-2 Inhibitors</b>								
Female	1,887,929	36.24	20.26	1	30	30	30	365
Male	2,393,548	37.44	21.45	1	30	30	30	365
Other	141	38.84	22.79	1	30	30	30	120
<b>All Obesity Drugs</b>								
Female	917,749	31.05	12.87	1	30	30	30	1,440
Male	199,993	31.84	13.86	1	30	30	30	999
Other	22	30.05	0.79	28	30	30	30	33
<b>Long-Term Therapies</b>								
<b>All Long-Term Obesity Drugs</b>								
Female	193,287	31.1	13.73	1	30	30	30	1,440
Male	52,716	32.49	15.3	1	30	30	30	181
Other	4	29.5	1	28	29	30	30	30
<b>Lorcaserin</b>								
Female	39,504	30.39	12.15	1	30	30	30	120
Male	10,518	31.72	14.46	1	30	30	30	180
Other	2	29	1.41	28	28	29	30	30
<b>Bupropion and Naltrexone</b>								
Female	62,765	30.68	11.54	1	30	30	30	270
Male	15,847	31.56	13.08	1	30	30	30	180
Other	2	30	0	30	30	30	30	30
<b>Liraglutide (Saxenda)</b>								
Female	31,044	32.59	15.48	1	30	30	30	212
Male	7,971	34.15	17.82	1	30	30	30	162
Other	0	-	-	-	-	-	-	-
<b>Phentermine and Topiramate (Qsymia)</b>								
Female	41,326	28.88	7.53	1	30	30	30	268
Male	11,679	29.07	7.36	1	30	30	30	120
Other	0	-	-	-	-	-	-	-
<b>Orlistat (all brands)</b>								
Female	20,468	35.99	24.26	1	30	30	30	1,440
Male	7,169	39.31	23.09	1	30	30	30	181
Other	0	-	-	-	-	-	-	-
<b>Orlistat (Alli brand only)</b>								
Female	159	32.29	13.74	3	30	30	30	90
Male	52	53.62	31.24	3	30	30	90	120
Other	0	-	-	-	-	-	-	-

**Table 9b. Descriptive Statistics of Days Supplied per Dispensing, by Sex in the Sentinel Distributed Database (SDD) between January 1, 2008 and December 31, 2017, Sensitivity Analysis**

Exposures	Total Dispensing	Mean	Standard Deviation	Min	Q1	Median	Q3	Max
<b>Short-Term Therapies</b>								
<b>All Short-Term Obesity Drugs</b>								
Female	729,479	31.03	12.63	1	30	30	30	720
Male	148,035	31.6	13.3	1	30	30	30	999
Other	18	30.17	0.71	30	30	30	30	33
<b>Phentermine</b>								
Female	669,544	31.54	12.48	1	30	30	30	720
Male	136,378	31.97	13.25	1	30	30	30	999
Other	18	30.17	0.71	30	30	30	30	33
<b>Benzphetamine</b>								
Female	2,551	28.4	9.29	1	30	30	30	100
Male	720	28.09	11.09	1	30	30	30	90
Other	0	-	-	-	-	-	-	-
<b>Diethylpropion</b>								
Female	23,243	30.18	11.7	1	30	30	30	360
Male	4,848	30.4	11.92	1	30	30	30	120
Other	0	-	-	-	-	-	-	-
<b>Phendimetrazine</b>								
Female	39,584	22.73	12.62	1	7	30	30	180
Male	6,983	25.44	13.64	1	15	30	30	360
Other	0	-	-	-	-	-	-	-

**Table 9c. Descriptive Statistics of Days Supplied per Dispensing, by Age Group in the Sentinel Distributed Database (SDD) between January 1, 2008 and December 31, 2017, Sensitivity Analysis**

Exposures	Total Dispensing	Mean	Standard Deviation	Min	Q1	Median	Q3	Max
<b>SGLT-2 Inhibitors</b>								
18-44 Years	474,536	33.55	16.45	1	30	30	30	365
45-64 Years	2,385,383	35.47	19.11	1	30	30	30	365
65+ Years	1,421,699	40.46	24.45	1	30	30	30	365
<b>All Obesity Drugs</b>								
18-44 Years	536,427	30.75	12.34	1	30	30	30	1,440
45-64 Years	494,715	31.46	13.49	1	30	30	30	999
65+ Years	86,622	32.34	14.6	1	30	30	30	360
<b>Long-Term Therapies</b>								
<b>All Long-Term Obesity Drugs</b>								
18-44 Years	91,328	30.56	13.11	1	30	30	30	1,440
45-64 Years	138,544	31.58	13.87	1	30	30	30	420
65+ Years	16,135	34.55	19.79	1	30	30	30	360
<b>Lorcaserin</b>								
18-44 Years	15,774	29.76	10.19	1	30	30	30	100
45-64 Years	30,049	31.07	13.22	1	30	30	30	180
65+ Years	4,201	31.19	16.44	1	30	30	30	120
<b>Bupropion and Naltrexone</b>								
18-44 Years	30,677	30.42	10.74	1	30	30	30	270
45-64 Years	44,385	31.11	12.34	1	30	30	30	210
65+ Years	3,552	31.44	14.82	1	30	30	30	178
<b>Liraglutide (Saxenda)</b>								
18-44 Years	15,804	31.89	14.13	1	30	30	30	180
45-64 Years	22,318	33.47	16.98	1	30	30	30	212
65+ Years	893	36.79	20.14	3	30	30	30	152
<b>Phentermine and Topiramate (Qsymia)</b>								
18-44 Years	20,923	28.75	7.3	1	30	30	30	268
45-64 Years	28,957	29.02	7.38	1	30	30	30	150
65+ Years	3,125	29.14	9.5	1	30	30	30	120
<b>Orlistat (all brands)</b>								
18-44 Years	8,454	34.57	26.79	1	30	30	30	1,440
45-64 Years	14,664	36.19	20.81	1	30	30	30	420
65+ Years	4,519	43.25	26.91	1	30	30	45	360
<b>Orlistat (Alli brand only)</b>								
18-44 Years	75	36.13	19.81	10	30	30	30	120
45-64 Years	118	39.41	23.15	3	30	30	40	90
65+ Years	18	31.22	16.17	12	30	30	30	90

**Table 9c. Descriptive Statistics of Days Supplied per Dispensing, by Age Group in the Sentinel Distributed Database (SDD) between January 1, 2008 and December 31, 2017, Sensitivity Analysis**

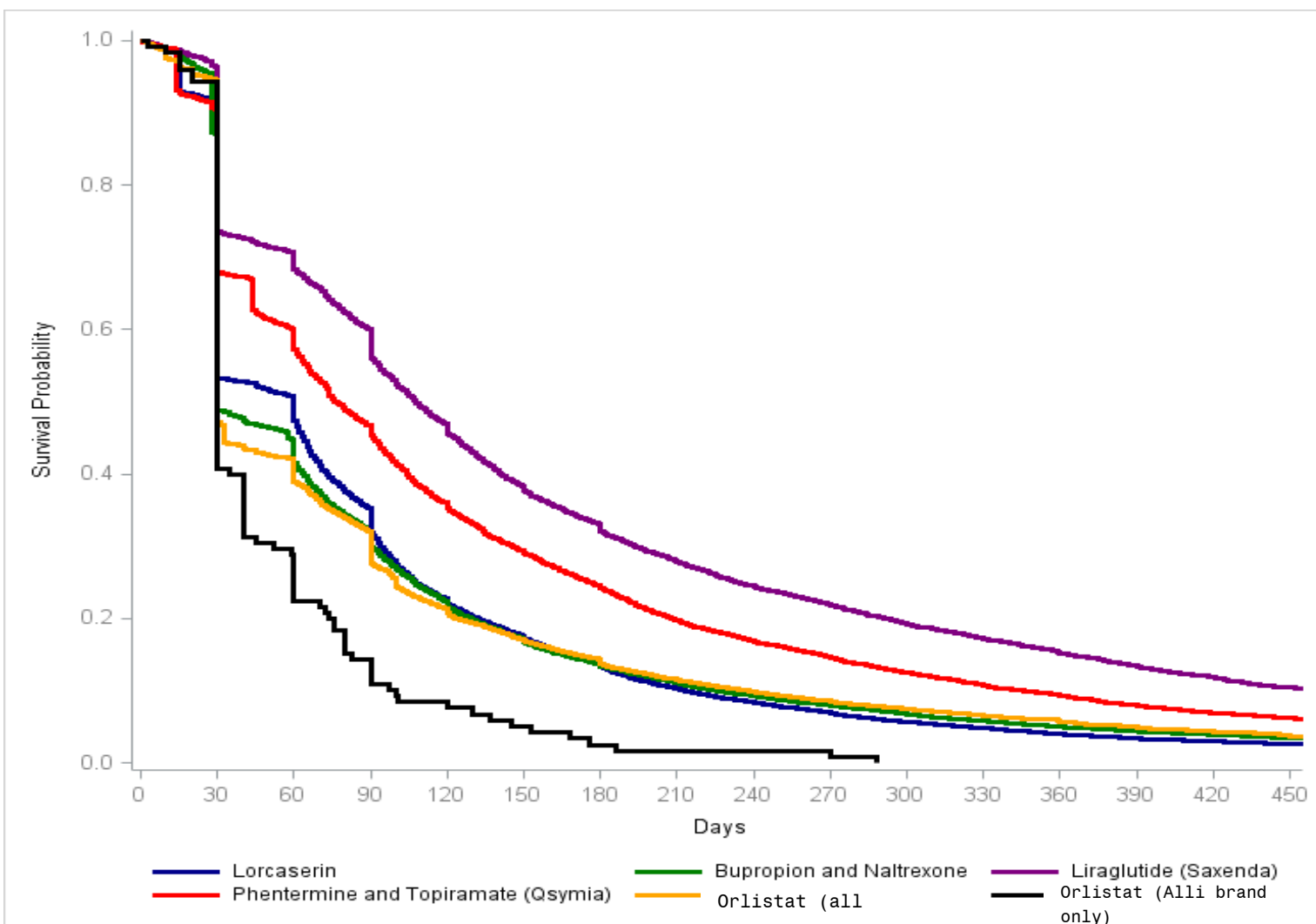
Exposures	Total Dispensing	Mean	Standard Deviation	Min	Q1	Median	Q3	Max
<b>Short-Term Therapies</b>								
<b>All Short-Term Obesity Drugs</b>								
18-44 Years	445,618	30.79	12.18	1	30	30	30	720
45-64 Years	360,792	31.41	13.33	1	30	30	30	999
65+ Years	71,122	31.83	13.07	1	30	30	30	240
<b>Phentermine</b>								
18-44 Years	416,912	31.26	12.03	1	30	30	30	720
45-64 Years	327,930	31.94	13.24	1	30	30	30	999
65+ Years	61,098	32.25	13.02	1	30	30	30	240
<b>Benzphetamine</b>								
18-44 Years	912	27.84	8.24	1	30	30	30	90
45-64 Years	1,775	28.17	9.63	1	30	30	30	100
65+ Years	584	29.59	11.79	1	30	30	30	100
<b>Diethylpropion</b>								
18-44 Years	9,639	29.32	10.25	1	30	30	30	200
45-64 Years	13,053	30.44	12	1	30	30	30	360
65+ Years	5,399	31.27	13.35	1	30	30	30	100
<b>Phendimetrazine</b>								
18-44 Years	20,139	21.6	12.43	1	7	30	30	175
45-64 Years	21,436	23.65	13.08	1	14	30	30	360
65+ Years	4,992	27.16	12.08	1	30	30	30	100



**Table 10. Descriptive Statistics of the Length of the First Gap between Treatment Episodes in Days in the Sentinel Distributed Database (SDD) between January 1, 2008 and December 31, 2017, Sensitivity Analysis**

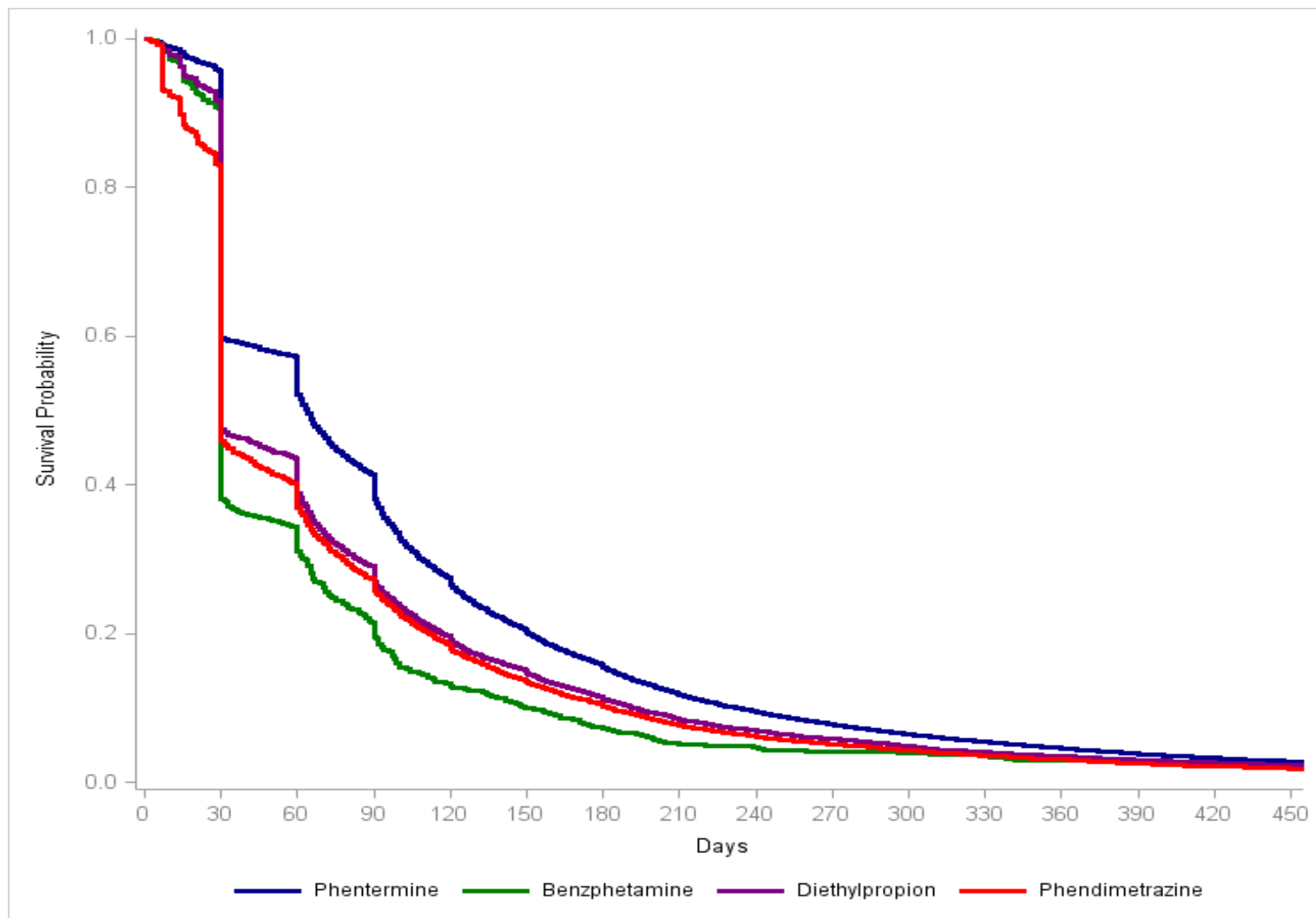
Exposures	Total Gaps	Mean	Standard	Min	Q1	Median	Q3	Max
			Deviation					
SGLT-2 Inhibitors	95,177	181.05	168.33	53	79	115	210	1,617
All Obesity Drugs	78,273	285.21	363.33	57	90	152	314	3,564
<b>Long-Term Therapies</b>								
All Long-Term Obesity Drugs	11,827	209.79	226.26	57	82	127	246	3,200
Lorcaserin	2,053	171.99	158.15	61	79	111	191	1,166
Bupropion and Naltrexone	2,944	160.17	133.52	61	77	109	187	1,108
Liraglutide (Saxenda)	1,396	136.78	95.86	61	75	100	163	743
Phentermine and Topiramate (Qsymia)	1,721	187.51	169.75	57	81	122	225	1,425
Orlistat (all brands)	1,866	215.12	265.34	61	80	123	234	2,512
Orlistat (Alli brand only)	14	122.86	74.07	62	81	107	127	363
<b>Short-Term Therapies</b>								
All Short-Term Obesity Drugs	65,455	286.78	360.83	61	91	154	318	3,446
Phentermine	61,138	286.00	358.58	61	91	154	317	3,446
Benzphetamine	214	287.99	398.70	61	89	153	312	2,909
Diethylpropion	1,838	255.19	305.00	61	86	140	287	2,707
Phendimetrazine	2,811	250.77	305.19	61	85	135	275	2,504

Figure 1a. Drug Persistence Survival Curve for Length of First Treatment Episode by Long-Term Obesity Therapies<sup>1</sup> between January 1, 2008 and December 31, 2017, Sensitivity Analysis



<sup>1</sup>New use of each obesity drug represented in the figures was defined as no previous use of the specific drug of interest in the 183 days preceding the index date (e.g., use of other obesity drugs was permitted). If a second dispensing occurred within 60 days from the last day of the first dispensing, then the episode was bridged and the two dispensings were considered part of the same treatment episode.

Figure 2. Drug Persistence Survival Curve for Length of First Treatment Episode by Short-Term Obesity Therapies<sup>1</sup> between January 1, 2008 and December 31, 2017, Sensitivity Analysis



<sup>1</sup>New use of each obesity drug represented in the figures was defined as no previous use of the specific drug of interest in the 183 days preceding the index date (e.g., use of other obesity drugs was permitted). If a second dispensing occurred within 60 days from the last day of the first dispensing, then the episode was bridged and the two dispensings were considered part of the same treatment episode.

**Appendix A. Dates of Available Data for Each Data Partner (DP) as of Request Distribution Date (December 21, 2018)**

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<b>DP ID</b>	<b>Start Date</b>	<b>End Date</b>
DP01	06/01/2007	12/31/2017
DP02	01/01/2000	10/31/2017
DP03	01/01/2000	12/31/2017
DP04	01/01/2008	12/31/2017
DP05	01/01/2006	12/31/2017
DP06	01/01/2000	12/31/2016
DP07	01/01/2008	09/30/2017
DP08	01/01/2010	12/31/2016
DP09	01/01/2005	12/17/2017
DP10	01/01/2000	03/31/2016
DP11	01/01/2000	05/31/2015
DP12	01/01/2000	12/31/2017
DP13	01/01/2000	12/31/2017
DP14	01/01/2000	12/31/2017
DP15	01/01/2004	12/31/2017
DP16	01/01/2000	12/31/2017
DP17	01/01/2012	06/30/2017

**Appendix B. List of Generic and Brand Names used to Define Exposures in this Request**

<b>Generic Name</b>	<b>Brand Name</b>
<b>Lorcaserin</b>	
lorcaserin HCl	Belviq
lorcaserin HCl	Belviq XR
<b>Bupropion and naltrexone</b>	
naltrexone HCl/bupropion HCl	Contrave
<b>Liraglutide</b>	
liraglutide	Saxenda
<b>Phentermine and topiramate</b>	
phentermine HCl/topiramate	Qsymia
<b>Orlistat</b>	
orlistat	Alli
orlistat	Xenical
<b>Orlistat brand name Alli</b>	
orlistat	Alli
<b>Phentermine</b>	
phentermine HCl	Adipex-P
phentermine HCl	Lomaira
phentermine HCl	phentermine
phentermine HCl	phentermine
phentermine HCl	Suprenza
phentermine HCl	Suprenza
phentermine HCl	Suprenza
<b>Benzphetamine</b>	
benzphetamine HCl	Regimex
benzphetamine HCl	benzphetamine
benzphetamine HCl	Didrex
<b>Diethylpropion</b>	
diethylpropion HCl	diethylpropion
<b>Phendimetrazine</b>	
phendimetrazine tartrate	Bontril PDM
phendimetrazine tartrate	Bontril Slow-Release
phendimetrazine tartrate	Bontril SR
phendimetrazine tartrate	phendimetrazine tartrate
<b>Sodium-glucose Cotransporter-2 (SGLT2) Inhibitors</b>	
canagliflozin	Invokana
canagliflozin/metformin HCl	Invokamet
canagliflozin/metformin HCl	Invokamet XR
dapagliflozin propanediol	Farxiga
dapagliflozin propanediol/metformin HCl	Xigduo XR
dapagliflozin propanediol/saxagliptin HCl	Qtern
empagliflozin	Jardiance
empagliflozin/linagliptin	Glyxambi
empagliflozin/metformin HCl	Synjardy
empagliflozin/metformin HCl	Synjardy XR
ertugliflozin pidolate	Steglatro
ertugliflozin pidolate/metformin HCl	Segluromet
ertugliflozin pidolate/sitagliptin phosphate	Steglujan

**Appendix C. List of International Classification of Diseases, Ninth and Tenth Revisions, Clinical Modification (ICD-9-CM and ICD-10-CM) and International Classification of Diseases, Tenth Revision, Procedure Coding System (ICD-10-PCS) Codes used to Define Covariates in this Request**

Code	Description	Code Type
<b>Obesity</b>		
278.0	Overweight and obesity	ICD-9-CM
278.00	Obesity, unspecified	ICD-9-CM
278.01	Morbid obesity	ICD-9-CM
278.02	Overweight	ICD-9-CM
278.1	Localized adiposity	ICD-9-CM
V45.86	Bariatric surgery status	ICD-9-CM
E65	Localized adiposity	ICD-9-CM
E66.01	Morbid (severe) obesity due to excess calories	ICD-9-CM
E66.0	Other obesity due to excess calories	ICD-9-CM
E66.1	Drug-induced obesity	ICD-9-CM
E66.3	Overweight	ICD-9-CM
E66.8	Other obesity	ICD-9-CM
E66.9	Obesity, unspecified	ICD-9-CM
Z98.84	Bariatric surgery status	ICD-9-CM
44.31	High gastric bypass	ICD-9-CM
44.68	Laparoscopic gastroplasty	ICD-9-CM
44.95	Laparoscopic gastric restrictive procedure	ICD-9-CM
0D1607A	Bypass Stomach to Jejunum with Autologous Tissue Substitute, Open Approach	ICD-10-PCS
0D160JA	Bypass Stomach to Jejunum with Synthetic Substitute, Open Approach	ICD-10-PCS
0D160KA	Bypass Stomach to Jejunum with Nonautologous Tissue Substitute, Open Approach	ICD-10-PCS
0D160ZA	Bypass Stomach to Jejunum, Open Approach	ICD-10-PCS
0D1687A	Bypass Stomach to Jejunum with Autologous Tissue Substitute, Via Natural or Artificial Opening Endoscopic	ICD-10-PCS
0D168JA	Bypass Stomach to Jejunum with Synthetic Substitute, Via Natural or Artificial Opening Endoscopic	ICD-10-PCS
0D168KA	Bypass Stomach to Jejunum with Nonautologous Tissue Substitute, Via Natural or Artificial Opening Endoscopic	ICD-10-PCS
0D168ZA	Bypass Stomach to Jejunum, Via Natural or Artificial Opening Endoscopic	ICD-10-PCS
0DQ64ZZ	Repair Stomach, Percutaneous Endoscopic Approach	ICD-10-PCS
0DV64CZ	Restriction of Stomach with Extraluminal Device, Percutaneous Endoscopic Approach	ICD-10-PCS
V85.3	Body Mass Index between 30-39, adult	ICD-9-CM
V85.30	Body Mass Index 30.0-30.9, adult	ICD-9-CM
V85.31	Body Mass Index 31.0-31.9, adult	ICD-9-CM
V85.32	Body Mass Index 32.0-32.9, adult	ICD-9-CM
V85.33	Body Mass Index 33.0-33.9, adult	ICD-9-CM
V85.34	Body Mass Index 34.0-34.9, adult	ICD-9-CM
V85.35	Body Mass Index 35.0-35.9, adult	ICD-9-CM
V85.36	Body Mass Index 36.0-36.9, adult	ICD-9-CM
V85.37	Body Mass Index 37.0-37.9, adult	ICD-9-CM
V85.38	Body Mass Index 38.0-38.9, adult	ICD-9-CM
V85.39	Body Mass Index 39.0-39.9, adult	ICD-9-CM
Z68.30	Body mass index (BMI) 30.0-30.9, adult	ICD-10-CM
Z68.31	Body mass index (BMI) 31.0-31.9, adult	ICD-10-CM

**Appendix C. List of International Classification of Diseases, Ninth and Tenth Revisions, Clinical Modification (ICD-9-CM and ICD-10-CM) and International Classification of Diseases, Tenth Revision, Procedure Coding System (ICD-10-PCS) Codes used to Define Covariates in this Request**

<b>Code</b>	<b>Description</b>	<b>Code Type</b>
Z68.32	Body mass index (BMI) 32.0-32.9, adult	ICD-10-CM
Z68.33	Body mass index (BMI) 33.0-33.9, adult	ICD-10-CM
Z68.34	Body mass index (BMI) 34.0-34.9, adult	ICD-10-CM
Z68.35	Body mass index (BMI) 35.0-35.9, adult	ICD-10-CM
Z68.36	Body mass index (BMI) 36.0-36.9, adult	ICD-10-CM
Z68.37	Body mass index (BMI) 37.0-37.9, adult	ICD-10-CM
Z68.38	Body mass index (BMI) 38.0-38.9, adult	ICD-10-CM
Z68.39	Body mass index (BMI) 39.0-39.9, adult	ICD-10-CM
V85.4	Body Mass Index 40 and over, adult	ICD-9-CM
V85.41	Body Mass Index 40.0-44.9, adult	ICD-9-CM
V85.42	Body Mass Index 45.0-49.9, adult	ICD-9-CM
V85.43	Body Mass Index 50.0-59.9, adult	ICD-9-CM
V85.44	Body Mass Index 60.0-69.9, adult	ICD-9-CM
Z68.41	Body mass index (BMI) 40.0-44.9, adult	ICD-10-CM
Z68.42	Body mass index (BMI) 45.0-49.9, adult	ICD-10-CM
Z68.43	Body mass index (BMI) 50-59.9, adult	ICD-10-CM
Z68.44	Body mass index (BMI) 60.0-69.9, adult	ICD-10-CM
V85.45	Body Mass Index 70 and over, adult	ICD-9-CM
Z68.45	Body mass index (BMI) 70 or greater, adult	ICD-10-CM
<b>Body mass index less than 19, adult</b>		
V85.0	Body Mass Index less than 19, adult	ICD-9-CM
Z68.1	Body mass index (BMI) 19.9 or less, adult	ICD-10-CM
<b>Body mass index between 19-24, adult</b>		
V85.1	Body Mass Index between 19-24, adult	ICD-9-CM
Z68.20	Body mass index (BMI) 20.0-20.9, adult	ICD-10-CM
Z68.21	Body mass index (BMI) 21.0-21.9, adult	ICD-10-CM
Z68.22	Body mass index (BMI) 22.0-22.9, adult	ICD-10-CM
Z68.23	Body mass index (BMI) 23.0-23.9, adult	ICD-10-CM
Z68.24	Body mass index (BMI) 24.0-24.9, adult	ICD-10-CM
<b>Body mass index between 25-29, adult</b>		
V85.2	Body Mass Index between 25-29, adult	ICD-9-CM
V85.21	Body Mass Index 25.0-25.9, adult	ICD-9-CM
V85.22	Body Mass Index 26.0-26.9, adult	ICD-9-CM
V85.23	Body Mass Index 27.0-27.9, adult	ICD-9-CM
V85.24	Body Mass Index 28.0-28.9, adult	ICD-9-CM
V85.25	Body Mass Index 29.0-29.9, adult	ICD-9-CM
Z68.25	Body mass index (BMI) 25.0-25.9, adult	ICD-10-CM
Z68.26	Body mass index (BMI) 26.0-26.9, adult	ICD-10-CM
Z68.27	Body mass index (BMI) 27.0-27.9, adult	ICD-10-CM
Z68.28	Body mass index (BMI) 28.0-28.9, adult	ICD-10-CM
Z68.29	Body mass index (BMI) 29.0-29.9, adult	ICD-10-CM
<b>Body mass index between 30-39, adult</b>		
V85.3	Body Mass Index between 30-39, adult	ICD-9-CM
V85.30	Body Mass Index 30.0-30.9, adult	ICD-9-CM

**Appendix C. List of International Classification of Diseases, Ninth and Tenth Revisions, Clinical Modification (ICD-9-CM and ICD-10-CM) and International Classification of Diseases, Tenth Revision, Procedure Coding System (ICD-10-PCS) Codes used to Define Covariates in this Request**

<b>Code</b>	<b>Description</b>	<b>Code Type</b>
V85.31	Body Mass Index 31.0-31.9, adult	ICD-9-CM
V85.32	Body Mass Index 32.0-32.9, adult	ICD-9-CM
V85.33	Body Mass Index 33.0-33.9, adult	ICD-9-CM
V85.34	Body Mass Index 34.0-34.9, adult	ICD-9-CM
V85.35	Body Mass Index 35.0-35.9, adult	ICD-9-CM
V85.36	Body Mass Index 36.0-36.9, adult	ICD-9-CM
V85.37	Body Mass Index 37.0-37.9, adult	ICD-9-CM
V85.38	Body Mass Index 38.0-38.9, adult	ICD-9-CM
V85.39	Body Mass Index 39.0-39.9, adult	ICD-9-CM
Z68.30	Body mass index (BMI) 30.0-30.9, adult	ICD-10-CM
Z68.31	Body mass index (BMI) 31.0-31.9, adult	ICD-10-CM
Z68.32	Body mass index (BMI) 32.0-32.9, adult	ICD-10-CM
Z68.33	Body mass index (BMI) 33.0-33.9, adult	ICD-10-CM
Z68.34	Body mass index (BMI) 34.0-34.9, adult	ICD-10-CM
Z68.35	Body mass index (BMI) 35.0-35.9, adult	ICD-10-CM
Z68.36	Body mass index (BMI) 36.0-36.9, adult	ICD-10-CM
Z68.37	Body mass index (BMI) 37.0-37.9, adult	ICD-10-CM
Z68.38	Body mass index (BMI) 38.0-38.9, adult	ICD-10-CM
Z68.39	Body mass index (BMI) 39.0-39.9, adult	ICD-10-CM
<b>Body mass index 40-69, adult</b>		
V85.4	Body Mass Index 40 and over, adult	ICD-9-CM
V85.41	Body Mass Index 40.0-44.9, adult	ICD-9-CM
V85.42	Body Mass Index 45.0-49.9, adult	ICD-9-CM
V85.43	Body Mass Index 50.0-59.9, adult	ICD-9-CM
V85.44	Body Mass Index 60.0-69.9, adult	ICD-9-CM
Z68.41	Body mass index (BMI) 40.0-44.9, adult	ICD-10-CM
Z68.42	Body mass index (BMI) 45.0-49.9, adult	ICD-10-CM
Z68.43	Body mass index (BMI) 50-59.9, adult	ICD-10-CM
Z68.44	Body mass index (BMI) 60.0-69.9, adult	ICD-10-CM
<b>Body mass index 70 and over, adult</b>		
V85.45	Body Mass Index 70 and over, adult	ICD-9-CM
Z68.45	Body mass index (BMI) 70 or greater, adult	ICD-10-CM
<b>Acquired hypothyroidism</b>		
244.0	Postsurgical hypothyroidism	ICD-9-CM
244.1	Other postablative hypothyroidism	ICD-9-CM
244.2	Iodine hypothyroidism	ICD-9-CM
244.3	Other iatrogenic hypothyroidism	ICD-9-CM
244.8	Other specified acquired hypothyroidism	ICD-9-CM
244.9	Unspecified hypothyroidism	ICD-9-CM
E01.8	Other iodine-deficiency related thyroid disorders and allied conditions	ICD-10-CM
E02	Subclinical iodine-deficiency hypothyroidism	ICD-10-CM
E03.2	Hypothyroidism due to medicaments and other exogenous substances	ICD-10-CM
E03.3	Postinfectious hypothyroidism	ICD-10-CM
E03.8	Other specified hypothyroidism	ICD-10-CM



**Appendix C. List of International Classification of Diseases, Ninth and Tenth Revisions, Clinical Modification (ICD-9-CM and ICD-10-CM) and International Classification of Diseases, Tenth Revision, Procedure Coding System (ICD-10-PCS) Codes used to Define Covariates in this Request**

<b>Code</b>	<b>Description</b>	<b>Code Type</b>
E03.9	Hypothyroidism, unspecified	ICD-10-CM
E89.0	Postprocedural hypothyroidism	ICD-10-CM
<b>Acute myocardial infarction</b>		
410.01	Acute myocardial infarction of anterolateral wall, initial episode of care	ICD-9-CM
410.11	Acute myocardial infarction of other anterior wall, initial episode of care	ICD-9-CM
410.21	Acute myocardial infarction of inferolateral wall, initial episode of care	ICD-9-CM
410.31	Acute myocardial infarction of inferoposterior wall, initial episode of care	ICD-9-CM
410.41	Acute myocardial infarction of other inferior wall, initial episode of care	ICD-9-CM
410.51	Acute myocardial infarction of other lateral wall, initial episode of care	ICD-9-CM
410.61	Acute myocardial infarction, true posterior wall infarction, initial episode of care	ICD-9-CM
410.71	Acute myocardial infarction, subendocardial infarction, initial episode of care	ICD-9-CM
410.81	Acute myocardial infarction of other specified sites, initial episode of care	ICD-9-CM
410.91	Acute myocardial infarction, unspecified site, initial episode of care	ICD-9-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
I21.0	ST elevation (STEMI) myocardial infarction involving other coronary artery of anterior wall	ICD-10-CM
I21.11	ST elevation (STEMI) myocardial infarction involving right coronary artery	ICD-10-CM
I21.19	ST elevation (STEMI) myocardial infarction involving other coronary artery of inferior wall	ICD-10-CM
I21.21	ST elevation (STEMI) myocardial infarction involving left circumflex coronary artery	ICD-10-CM
I21.29	ST elevation (STEMI) myocardial infarction involving other sites	ICD-10-CM
I21.3	ST elevation (STEMI) myocardial infarction of unspecified site	ICD-10-CM
I21.4	Non-ST elevation (NSTEMI) myocardial infarction	ICD-10-CM
I21.9	Acute myocardial infarction, unspecified	ICD-10-CM
I21.A1	Myocardial infarction type 2	ICD-10-CM
I21.A9	Other myocardial infarction type	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
I22.2	Subsequent non-ST elevation (NSTEMI) myocardial infarction	ICD-10-CM
I22.8	Subsequent ST elevation (STEMI) myocardial infarction of other sites	ICD-10-CM
I22.9	Subsequent ST elevation (STEMI) myocardial infarction of unspecified site	ICD-10-CM
<b>Alzheimer's disease and related disorders</b>		
290.0	Senile dementia, uncomplicated	ICD-9-CM
290.10	Presenile dementia, uncomplicated	ICD-9-CM
290.11	Presenile dementia with delirium	ICD-9-CM
290.12	Presenile dementia with delusional features	ICD-9-CM
290.13	Presenile dementia with depressive features	ICD-9-CM
290.20	Senile dementia with delusional features	ICD-9-CM
290.21	Senile dementia with depressive features	ICD-9-CM
290.3	Senile dementia with delirium	ICD-9-CM
290.40	Vascular dementia, uncomplicated	ICD-9-CM
290.41	Vascular dementia, with delirium	ICD-9-CM
290.42	Vascular dementia, with delusions	ICD-9-CM
290.43	Vascular dementia, with depressed mood	ICD-9-CM
294.0	Amnestic disorder in conditions classified elsewhere	ICD-9-CM

**Appendix C. List of International Classification of Diseases, Ninth and Tenth Revisions, Clinical Modification (ICD-9-CM and ICD-10-CM) and International Classification of Diseases, Tenth Revision, Procedure Coding System (ICD-10-PCS) Codes used to Define Covariates in this Request**

<b>Code</b>	<b>Description</b>	<b>Code Type</b>
294.10	Dementia in conditions classified elsewhere without behavioral disturbance	ICD-9-CM
294.11	Dementia in conditions classified elsewhere with behavioral disturbance	ICD-9-CM
294.20	Dementia, unspecified, without behavioral disturbance	ICD-9-CM
294.21	Dementia, unspecified, with behavioral disturbance	ICD-9-CM
294.8	Other persistent mental disorders due to conditions classified elsewhere	ICD-9-CM
331.0	Alzheimer's disease	ICD-9-CM
331.11	Pick's disease	ICD-9-CM
331.19	Other frontotemporal dementia	ICD-9-CM
331.2	Senile degeneration of brain	ICD-9-CM
331.7	Cerebral degeneration in diseases classified elsewhere	ICD-9-CM
797	Senility without mention of psychosis	ICD-9-CM
F01.50	Vascular dementia without behavioral disturbance	ICD-10-CM
F01.51	Vascular dementia with behavioral disturbance	ICD-10-CM
F02.80	Dementia in other diseases classified elsewhere without behavioral disturbance	ICD-10-CM
F02.81	Dementia in other diseases classified elsewhere with behavioral disturbance	ICD-10-CM
F03.90	Unspecified dementia without behavioral disturbance	ICD-10-CM
F03.91	Unspecified dementia with behavioral disturbance	ICD-10-CM
F04	Amnestic disorder due to known physiological condition	ICD-10-CM
F05	Delirium due to known physiological condition	ICD-10-CM
F06.1	Catatonic disorder due to known physiological condition	ICD-10-CM
F06.8	Other specified mental disorders due to known physiological condition	ICD-10-CM
G13.8	Systemic atrophy primarily affecting central nervous system in other diseases classified elsewhere	ICD-10-CM
G30.0	Alzheimer's disease with early onset	ICD-10-CM
G30.1	Alzheimer's disease with late onset	ICD-10-CM
G30.8	Other Alzheimer's disease	ICD-10-CM
G30.9	Alzheimer's disease, unspecified	ICD-10-CM
G31.01	Pick's disease	ICD-10-CM
G31.0	Other frontotemporal dementia	ICD-10-CM
G31.1	Senile degeneration of brain, not elsewhere classified	ICD-10-CM
G31.2	Degeneration of nervous system due to alcohol	ICD-10-CM
G94	Other disorders of brain in diseases classified elsewhere	ICD-10-CM
R41.81	Age-related cognitive decline	ICD-10-CM
R54	Age-related physical debility	ICD-10-CM
<b>Anemia</b>		
280.0	Iron deficiency anemia secondary to blood loss (chronic)	ICD-9-CM
280.1	Iron deficiency anemia secondary to inadequate dietary iron intake	ICD-9-CM
280.8	Other specified iron deficiency anemias	ICD-9-CM
280.9	Unspecified iron deficiency anemia	ICD-9-CM
281.0	Pernicious anemia	ICD-9-CM
281.1	Other vitamin B12 deficiency anemia	ICD-9-CM
281.2	Folate-deficiency anemia	ICD-9-CM
281.3	Other specified megaloblastic anemias not elsewhere classified	ICD-9-CM
281.4	Protein-deficiency anemia	ICD-9-CM

**Appendix C. List of International Classification of Diseases, Ninth and Tenth Revisions, Clinical Modification (ICD-9-CM and ICD-10-CM) and International Classification of Diseases, Tenth Revision, Procedure Coding System (ICD-10-PCS) Codes used to Define Covariates in this Request**

<b>Code</b>	<b>Description</b>	<b>Code Type</b>
281.8	Anemia associated with other specified nutritional deficiency	ICD-9-CM
281.9	Unspecified deficiency anemia	ICD-9-CM
282.0	Hereditary spherocytosis	ICD-9-CM
282.1	Hereditary elliptocytosis	ICD-9-CM
282.2	Anemias due to disorders of glutathione metabolism	ICD-9-CM
282.3	Other hemolytic anemias due to enzyme deficiency	ICD-9-CM
282.40	Thalassemia, unspecified	ICD-9-CM
282.41	Sickle-cell thalassemia without crisis	ICD-9-CM
282.42	Sickle-cell thalassemia with crisis	ICD-9-CM
282.43	Alpha thalassemia	ICD-9-CM
282.44	Beta thalassemia	ICD-9-CM
282.45	Delta-beta thalassemia	ICD-9-CM
282.46	Thalassemia minor	ICD-9-CM
282.47	Hemoglobin E-beta thalassemia	ICD-9-CM
282.49	Other thalassemia	ICD-9-CM
282.5	Sickle-cell trait	ICD-9-CM
282.60	Sickle-cell disease, unspecified	ICD-9-CM
282.61	Hb-SS disease without crisis	ICD-9-CM
282.62	Hb-SS disease with crisis	ICD-9-CM
282.63	Sickle-cell/Hb-C disease without crisis	ICD-9-CM
282.64	Sickle-cell/Hb-C disease with crisis	ICD-9-CM
282.68	Other sickle-cell disease without crisis	ICD-9-CM
282.69	Other sickle-cell disease with crisis	ICD-9-CM
282.7	Other hemoglobinopathies	ICD-9-CM
282.8	Other specified hereditary hemolytic anemias	ICD-9-CM
282.9	Unspecified hereditary hemolytic anemia	ICD-9-CM
283.0	Autoimmune hemolytic anemias	ICD-9-CM
283.10	Unspecified non-autoimmune hemolytic anemia	ICD-9-CM
283.11	Hemolytic-uremic syndrome	ICD-9-CM
283.19	Other non-autoimmune hemolytic anemias	ICD-9-CM
283.2	Hemoglobinuria due to hemolysis from external causes	ICD-9-CM
283.9	Acquired hemolytic anemia, unspecified	ICD-9-CM
284.01	Constitutional red blood cell aplasia	ICD-9-CM
284	Other constitutional aplastic anemia	ICD-9-CM
284.11	Antineoplastic chemotherapy induced pancytopenia	ICD-9-CM
284.12	Other drug induced pancytopenia	ICD-9-CM
284.19	Other pancytopenia	ICD-9-CM
284.2	Myelophthisis	ICD-9-CM
284.81	Red cell aplasia (acquired) (adult) (with thymoma)	ICD-9-CM
284.89	Other specified aplastic anemias	ICD-9-CM
284.9	Unspecified aplastic anemia	ICD-9-CM
285.0	Sideroblastic anemia	ICD-9-CM
285.1	Acute posthemorrhagic anemia	ICD-9-CM
285.21	Anemia in chronic kidney disease	ICD-9-CM

**Appendix C. List of International Classification of Diseases, Ninth and Tenth Revisions, Clinical Modification (ICD-9-CM and ICD-10-CM) and International Classification of Diseases, Tenth Revision, Procedure Coding System (ICD-10-PCS) Codes used to Define Covariates in this Request**

<b>Code</b>	<b>Description</b>	<b>Code Type</b>
285.22	Anemia in neoplastic disease	ICD-9-CM
285.29	Anemia of other chronic disease	ICD-9-CM
285.3	Antineoplastic chemotherapy induced anemia	ICD-9-CM
285.8	Other specified anemias	ICD-9-CM
285.9	Unspecified anemia	ICD-9-CM
D50.0	Iron deficiency anemia secondary to blood loss (chronic)	ICD-10-CM
D50.1	Sideropenic dysphagia	ICD-10-CM
D50.8	Other iron deficiency anemias	ICD-10-CM
D50.9	Iron deficiency anemia, unspecified	ICD-10-CM
D51.0	Vitamin B12 deficiency anemia due to intrinsic factor deficiency	ICD-10-CM
D51.1	Vitamin B12 deficiency anemia due to selective vitamin B12 malabsorption with proteinuria	ICD-10-CM
D51.2	Transcobalamin II deficiency	ICD-10-CM
D51.3	Other dietary vitamin B12 deficiency anemia	ICD-10-CM
D51.8	Other vitamin B12 deficiency anemias	ICD-10-CM
D51.9	Vitamin B12 deficiency anemia, unspecified	ICD-10-CM
D52.0	Dietary folate deficiency anemia	ICD-10-CM
D52.1	Drug-induced folate deficiency anemia	ICD-10-CM
D52.8	Other folate deficiency anemias	ICD-10-CM
D52.9	Folate deficiency anemia, unspecified	ICD-10-CM
D53.0	Protein deficiency anemia	ICD-10-CM
D53.1	Other megaloblastic anemias, not elsewhere classified	ICD-10-CM
D53.2	Scorbutic anemia	ICD-10-CM
D53.8	Other specified nutritional anemias	ICD-10-CM
D53.9	Nutritional anemia, unspecified	ICD-10-CM
D55.0	Anemia due to glucose-6-phosphate dehydrogenase [G6PD] deficiency	ICD-10-CM
D55.1	Anemia due to other disorders of glutathione metabolism	ICD-10-CM
D55.2	Anemia due to disorders of glycolytic enzymes	ICD-10-CM
D55.3	Anemia due to disorders of nucleotide metabolism	ICD-10-CM
D55.8	Other anemias due to enzyme disorders	ICD-10-CM
D55.9	Anemia due to enzyme disorder, unspecified	ICD-10-CM
D56.0	Alpha thalassemia	ICD-10-CM
D56.1	Beta thalassemia	ICD-10-CM
D56.2	Delta-beta thalassemia	ICD-10-CM
D56.3	Thalassemia minor	ICD-10-CM
D56.4	Hereditary persistence of fetal hemoglobin [HPFH]	ICD-10-CM
D56.5	Hemoglobin E-beta thalassemia	ICD-10-CM
D56.8	Other thalassemias	ICD-10-CM
D56.9	Thalassemia, unspecified	ICD-10-CM
D57.00	Hb-SS disease with crisis, unspecified	ICD-10-CM
D57.01	Hb-SS disease with acute chest syndrome	ICD-10-CM
D57.02	Hb-SS disease with splenic sequestration	ICD-10-CM
D57.1	Sickle-cell disease without crisis	ICD-10-CM
D57.20	Sickle-cell/Hb-C disease without crisis	ICD-10-CM
D57.211	Sickle-cell/Hb-C disease with acute chest syndrome	ICD-10-CM

**Appendix C. List of International Classification of Diseases, Ninth and Tenth Revisions, Clinical Modification (ICD-9-CM and ICD-10-CM) and International Classification of Diseases, Tenth Revision, Procedure Coding System (ICD-10-PCS) Codes used to Define Covariates in this Request**

<b>Code</b>	<b>Description</b>	<b>Code Type</b>
D57.212	Sickle-cell/Hb-C disease with splenic sequestration	ICD-10-CM
D57.219	Sickle-cell/Hb-C disease with crisis, unspecified	ICD-10-CM
D57.3	Sickle-cell trait	ICD-10-CM
D57.40	Sickle-cell thalassemia without crisis	ICD-10-CM
D57.411	Sickle-cell thalassemia with acute chest syndrome	ICD-10-CM
D57.412	Sickle-cell thalassemia with splenic sequestration	ICD-10-CM
D57.419	Sickle-cell thalassemia with crisis, unspecified	ICD-10-CM
D57.80	Other sickle-cell disorders without crisis	ICD-10-CM
D57.811	Other sickle-cell disorders with acute chest syndrome	ICD-10-CM
D57.812	Other sickle-cell disorders with splenic sequestration	ICD-10-CM
D57.819	Other sickle-cell disorders with crisis, unspecified	ICD-10-CM
D58.0	Hereditary spherocytosis	ICD-10-CM
D58.1	Hereditary elliptocytosis	ICD-10-CM
D58.2	Other hemoglobinopathies	ICD-10-CM
D58.8	Other specified hereditary hemolytic anemias	ICD-10-CM
D58.9	Hereditary hemolytic anemia, unspecified	ICD-10-CM
D59.0	Drug-induced autoimmune hemolytic anemia	ICD-10-CM
D59.1	Other autoimmune hemolytic anemias	ICD-10-CM
D59.2	Drug-induced nonautoimmune hemolytic anemia	ICD-10-CM
D59.3	Hemolytic-uremic syndrome	ICD-10-CM
D59.4	Other nonautoimmune hemolytic anemias	ICD-10-CM
D59.5	Paroxysmal nocturnal hemoglobinuria [Marchiafava-Micheli]	ICD-10-CM
D59.6	Hemoglobinuria due to hemolysis from other external causes	ICD-10-CM
D59.8	Other acquired hemolytic anemias	ICD-10-CM
D59.9	Acquired hemolytic anemia, unspecified	ICD-10-CM
D60.0	Chronic acquired pure red cell aplasia	ICD-10-CM
D60.1	Transient acquired pure red cell aplasia	ICD-10-CM
D60.8	Other acquired pure red cell aplasias	ICD-10-CM
D60.9	Acquired pure red cell aplasia, unspecified	ICD-10-CM
D61.01	Constitutional (pure) red blood cell aplasia	ICD-10-CM
D61.0	Other constitutional aplastic anemia	ICD-10-CM
D61.1	Drug-induced aplastic anemia	ICD-10-CM
D61.2	Aplastic anemia due to other external agents	ICD-10-CM
D61.3	Idiopathic aplastic anemia	ICD-10-CM
D61.810	Antineoplastic chemotherapy induced pancytopenia	ICD-10-CM
D61.811	Other drug-induced pancytopenia	ICD-10-CM
D61.818	Other pancytopenia	ICD-10-CM
D61.82	Myelophthisis	ICD-10-CM
D61.89	Other specified aplastic anemias and other bone marrow failure syndromes	ICD-10-CM
D61.9	Aplastic anemia, unspecified	ICD-10-CM
D62	Acute posthemorrhagic anemia	ICD-10-CM
D63.0	Anemia in neoplastic disease	ICD-10-CM
D63.1	Anemia in chronic kidney disease	ICD-10-CM
D63.8	Anemia in other chronic diseases classified elsewhere	ICD-10-CM

**Appendix C. List of International Classification of Diseases, Ninth and Tenth Revisions, Clinical Modification (ICD-9-CM and ICD-10-CM) and International Classification of Diseases, Tenth Revision, Procedure Coding System (ICD-10-PCS) Codes used to Define Covariates in this Request**

<b>Code</b>	<b>Description</b>	<b>Code Type</b>
D64.0	Hereditary sideroblastic anemia	ICD-10-CM
D64.1	Secondary sideroblastic anemia due to disease	ICD-10-CM
D64.2	Secondary sideroblastic anemia due to drugs and toxins	ICD-10-CM
D64.3	Other sideroblastic anemias	ICD-10-CM
D64.4	Congenital dyserythropoietic anemia	ICD-10-CM
D64.81	Anemia due to antineoplastic chemotherapy	ICD-10-CM
D64.89	Other specified anemias	ICD-10-CM
D64.9	Anemia, unspecified	ICD-10-CM
<b>Asthma</b>		
493.00	Extrinsic asthma, unspecified	ICD-9-CM
493.01	Extrinsic asthma with status asthmaticus	ICD-9-CM
493.02	Extrinsic asthma, with (acute) exacerbation	ICD-9-CM
493.10	Intrinsic asthma, unspecified	ICD-9-CM
493.11	Intrinsic asthma with status asthmaticus	ICD-9-CM
493.12	Intrinsic asthma, with (acute) exacerbation	ICD-9-CM
493.20	Chronic obstructive asthma, unspecified	ICD-9-CM
493.21	Chronic obstructive asthma with status asthmaticus	ICD-9-CM
493.22	Chronic obstructive asthma, with (acute) exacerbation	ICD-9-CM
493.81	Exercise induced bronchospasm	ICD-9-CM
493.82	Cough variant asthma	ICD-9-CM
493.90	Asthma, unspecified, unspecified status	ICD-9-CM
493.91	Asthma, unspecified with status asthmaticus	ICD-9-CM
493.92	Asthma, unspecified, with (acute) exacerbation	ICD-9-CM
J45.20	Mild intermittent asthma, uncomplicated	ICD-10-CM
J45.21	Mild intermittent asthma with (acute) exacerbation	ICD-10-CM
J45.22	Mild intermittent asthma with status asthmaticus	ICD-10-CM
J45.30	Mild persistent asthma, uncomplicated	ICD-10-CM
J45.31	Mild persistent asthma with (acute) exacerbation	ICD-10-CM
J45.32	Mild persistent asthma with status asthmaticus	ICD-10-CM
J45.40	Moderate persistent asthma, uncomplicated	ICD-10-CM
J45.41	Moderate persistent asthma with (acute) exacerbation	ICD-10-CM
J45.42	Moderate persistent asthma with status asthmaticus	ICD-10-CM
J45.50	Severe persistent asthma, uncomplicated	ICD-10-CM
J45.51	Severe persistent asthma with (acute) exacerbation	ICD-10-CM
J45.52	Severe persistent asthma with status asthmaticus	ICD-10-CM
J45.901	Unspecified asthma with (acute) exacerbation	ICD-10-CM
J45.902	Unspecified asthma with status asthmaticus	ICD-10-CM
J45.91CD-9-CM	Unspecified asthma, uncomplicated	ICD-10-CM
J45.990	Exercise induced bronchospasm	ICD-10-CM
J45.991	Cough variant asthma	ICD-10-CM
J45.998	Other asthma	ICD-10-CM
<b>Atrial fibrillation</b>		
427.31	Atrial fibrillation	ICD-9-CM
I48.2	Chronic atrial fibrillation	ICD-10-CM

**Appendix C. List of International Classification of Diseases, Ninth and Tenth Revisions, Clinical Modification (ICD-9-CM and ICD-10-CM) and International Classification of Diseases, Tenth Revision, Procedure Coding System (ICD-10-PCS) Codes used to Define Covariates in this Request**

<b>Code</b>	<b>Description</b>	<b>Code Type</b>
I48.0	Paroxysmal atrial fibrillation	ICD-10-CM
I48.1	Persistent atrial fibrillation	ICD-10-CM
I48.91	Unspecified atrial fibrillation	ICD-10-CM
<b>Benign prostatic hyperplasia</b>		
600.00	Hypertrophy (benign) of prostate without urinary obstruction and other lower urinary tract symptoms [LUTS]	ICD-9-CM
600.01	Hypertrophy (benign) of prostate with urinary obstruction and other lower urinary tract symptoms [LUTS]	ICD-9-CM
600.10	Nodular prostate without urinary obstruction	ICD-9-CM
600.11	Nodular prostate with urinary obstruction	ICD-9-CM
600.20	Benign localized hyperplasia of prostate without urinary obstruction and other lower urinary tract symptoms [LUTS]	ICD-9-CM
600.21	Benign localized hyperplasia of prostate with urinary obstruction and other lower urinary tract symptoms [LUTS]	ICD-9-CM
600.3	Cyst of prostate	ICD-9-CM
600.90	Hyperplasia of prostate, unspecified, without urinary obstruction and other lower urinary tract symptoms [LUTS]	ICD-9-CM
600.91	Hyperplasia of prostate, unspecified, with urinary obstruction and other lower urinary tract symptoms [LUTS]	ICD-9-CM
N40.0	Benign prostatic hyperplasia without lower urinary tract symptoms	ICD-10-CM
N40.1	Benign prostatic hyperplasia with lower urinary tract symptoms	ICD-10-CM
N40.2	Nodular prostate without lower urinary tract symptoms	ICD-10-CM
N40.3	Nodular prostate with lower urinary tract symptoms	ICD-10-CM
N42.83	Cyst of prostate	ICD-10-CM
<b>Chronic kidney disease</b>		
016.00	Tuberculosis of kidney, confirmation unspecified	ICD-9-CM
016.01	Tuberculosis of kidney, bacteriological or histological examination not done	ICD-9-CM
016.02	Tuberculosis of kidney, bacteriological or histological examination unknown (at present)	ICD-9-CM
016.03	Tuberculosis of kidney, tubercle bacilli found (in sputum) by microscopy	ICD-9-CM
016.04	Tuberculosis of kidney, tubercle bacilli not found (in sputum) by microscopy, but found by bacterial culture	ICD-9-CM
016.05	Tuberculosis of kidney, tubercle bacilli not found by bacteriological examination, but tuberculosis confirmed histologically	ICD-9-CM
016.06	Tuberculosis of kidney, tubercle bacilli not found by bacteriological or histological examination, but tuberculosis confirmed by other methods [inoculation of animals]	ICD-9-CM
ICD-9-CM5.4	Syphilis of kidney	ICD-9-CM
189.0	Malignant neoplasm of kidney, except pelvis	ICD-9-CM
189.9	Malignant neoplasm of urinary organ, site unspecified	ICD-9-CM
223.0	Benign neoplasm of kidney, except pelvis	ICD-9-CM
236.91	Neoplasm of uncertain behavior of kidney and ureter	ICD-9-CM
249.40	Secondary diabetes mellitus with renal manifestations, not stated as uncontrolled, or unspecified	ICD-9-CM
249.41	Secondary diabetes mellitus with renal manifestations, uncontrolled	ICD-9-CM
250.40	Diabetes with renal manifestations, type II or unspecified type, not stated as uncontrolled	ICD-9-CM

**Appendix C. List of International Classification of Diseases, Ninth and Tenth Revisions, Clinical Modification (ICD-9-CM and ICD-10-CM) and International Classification of Diseases, Tenth Revision, Procedure Coding System (ICD-10-PCS) Codes used to Define Covariates in this Request**

<b>Code</b>	<b>Description</b>	<b>Code Type</b>
250.41	Diabetes with renal manifestations, type I [juvenile type], not stated as uncontrolled	ICD-9-CM
250.42	Diabetes with renal manifestations, type II or unspecified type, uncontrolled	ICD-9-CM
250.43	Diabetes with renal manifestations, type I [juvenile type], uncontrolled	ICD-9-CM
271.4	Renal glycosuria	ICD-9-CM
274.10	Gouty nephropathy, unspecified	ICD-9-CM
283.11	Hemolytic-uremic syndrome	ICD-9-CM
403.01	Hypertensive chronic kidney disease, malignant, with chronic kidney disease stage V or end stage renal disease	ICD-9-CM
403.11	Hypertensive chronic kidney disease, benign, with chronic kidney disease stage V or end stage renal disease	ICD-9-CM
403.91	Hypertensive chronic kidney disease, unspecified, with chronic kidney disease stage V or end stage renal disease	ICD-9-CM
404.02	Hypertensive heart and chronic kidney disease, malignant, without heart failure and with chronic kidney disease stage V or end stage renal disease	ICD-9-CM
404.03	Hypertensive heart and chronic kidney disease, malignant, with heart failure and with chronic kidney disease stage V or end stage renal disease	ICD-9-CM
404.12	Hypertensive heart and chronic kidney disease, benign, without heart failure and with chronic kidney disease stage V or end stage renal disease	ICD-9-CM
404.13	Hypertensive heart and chronic kidney disease, benign, with heart failure and chronic kidney disease stage V or end stage renal disease	ICD-9-CM
404.92	Hypertensive heart and chronic kidney disease, unspecified, without heart failure and with chronic kidney disease stage V or end stage renal disease	ICD-9-CM
404.93	Hypertensive heart and chronic kidney disease, unspecified, with heart failure and chronic kidney disease stage V or end stage renal disease	ICD-9-CM
440.1	Atherosclerosis of renal artery	ICD-9-CM
442.1	Aneurysm of renal artery	ICD-9-CM
572.4	Hepatorenal syndrome	ICD-9-CM
580.0	Acute glomerulonephritis with lesion of proliferative glomerulonephritis	ICD-9-CM
580.4	Acute glomerulonephritis with lesion of rapidly progressive glomerulonephritis	ICD-9-CM
580.81	Acute glomerulonephritis with other specified pathological lesion in kidney in disease classified elsewhere	ICD-9-CM
580.89	Other acute glomerulonephritis with other specified pathological lesion in kidney	ICD-9-CM
580.9	Acute glomerulonephritis with unspecified pathological lesion in kidney	ICD-9-CM
581.0	Nephrotic syndrome with lesion of proliferative glomerulonephritis	ICD-9-CM
581.1	Nephrotic syndrome with lesion of membranous glomerulonephritis	ICD-9-CM
581.2	Nephrotic syndrome with lesion of membranoproliferative glomerulonephritis	ICD-9-CM
581.3	Nephrotic syndrome with lesion of minimal change glomerulonephritis	ICD-9-CM
581.81	Nephrotic syndrome with other specified pathological lesion in kidney in diseases classified elsewhere	ICD-9-CM
581.89	Other nephrotic syndrome with specified pathological lesion in kidney	ICD-9-CM
581.9	Nephrotic syndrome with unspecified pathological lesion in kidney	ICD-9-CM
582.0	Chronic glomerulonephritis with lesion of proliferative glomerulonephritis	ICD-9-CM
582.1	Chronic glomerulonephritis with lesion of membranous glomerulonephritis	ICD-9-CM
582.2	Chronic glomerulonephritis with lesion of membranoproliferative glomerulonephritis	ICD-9-CM



**Appendix C. List of International Classification of Diseases, Ninth and Tenth Revisions, Clinical Modification (ICD-9-CM and ICD-10-CM) and International Classification of Diseases, Tenth Revision, Procedure Coding System (ICD-10-PCS) Codes used to Define Covariates in this Request**

<b>Code</b>	<b>Description</b>	<b>Code Type</b>
582.4	Chronic glomerulonephritis with lesion of rapidly progressive glomerulonephritis	ICD-9-CM
582.81	Chronic glomerulonephritis with other specified pathological lesion in kidney in diseases classified elsewhere	ICD-9-CM
582.89	Other chronic glomerulonephritis with specified pathological lesion in kidney	ICD-9-CM
582.9	Chronic glomerulonephritis with unspecified pathological lesion in kidney	ICD-9-CM
583.0	Nephritis and nephropathy, not specified as acute or chronic, with lesion of proliferative glomerulonephritis	ICD-9-CM
583.1	Nephritis and nephropathy, not specified as acute or chronic, with lesion of membranous glomerulonephritis	ICD-9-CM
583.2	Nephritis and nephropathy, not specified as acute or chronic, with lesion of membranoproliferative glomerulonephritis	ICD-9-CM
583.4	Nephritis and nephropathy, not specified as acute or chronic, with lesion of rapidly progressive glomerulonephritis	ICD-9-CM
583.6	Nephritis and nephropathy, not specified as acute or chronic, with lesion of renal cortical necrosis	ICD-9-CM
583.7	Nephritis and nephropathy, not specified as acute or chronic, with lesion of renal medullary necrosis	ICD-9-CM
583.81	Nephritis and nephropathy, not specified as acute or chronic, with other specified pathological lesion in kidney, in diseases classified elsewhere	ICD-9-CM
583.89	Other nephritis and nephropathy, not specified as acute or chronic, with specified pathological lesion in kidney	ICD-9-CM
583.9	Nephritis and nephropathy, not specified as acute or chronic, with unspecified pathological lesion in kidney	ICD-9-CM
584.5	Acute kidney failure with lesion of tubular necrosis	ICD-9-CM
584.6	Acute kidney failure with lesion of renal cortical necrosis	ICD-9-CM
584.7	Acute kidney failure with lesion of medullary [papillary] necrosis	ICD-9-CM
584.8	Acute kidney failure with other specified pathological lesion in kidney	ICD-9-CM
584.9	Acute kidney failure, unspecified	ICD-9-CM
585.1	Chronic kidney disease, Stage I	ICD-9-CM
585.2	Chronic kidney disease, Stage II (mild)	ICD-9-CM
585.3	Chronic kidney disease, Stage III (moderate)	ICD-9-CM
585.4	Chronic kidney disease, Stage IV (severe)	ICD-9-CM
585.5	Chronic kidney disease, Stage V	ICD-9-CM
585.6	End stage renal disease	ICD-9-CM
585.9	Chronic kidney disease, unspecified	ICD-9-CM
586	Unspecified renal failure	ICD-9-CM
587	Unspecified renal sclerosis	ICD-9-CM
588.0	Renal osteodystrophy	ICD-9-CM
588.1	Nephrogenic diabetes insipidus	ICD-9-CM
588.81	Secondary hyperparathyroidism (of renal origin)	ICD-9-CM
588.89	Other specified disorders resulting from impaired renal function	ICD-9-CM
588.9	Unspecified disorder resulting from impaired renal function	ICD-9-CM
591	Hydronephrosis	ICD-9-CM
753.12	Congenital polycystic kidney, unspecified type	ICD-9-CM

**Appendix C. List of International Classification of Diseases, Ninth and Tenth Revisions, Clinical Modification (ICD-9-CM and ICD-10-CM) and International Classification of Diseases, Tenth Revision, Procedure Coding System (ICD-10-PCS) Codes used to Define Covariates in this Request**

<b>Code</b>	<b>Description</b>	<b>Code Type</b>
753.13	Congenital polycystic kidney, autosomal dominant	ICD-9-CM
753.14	Congenital polycystic kidney, autosomal recessive	ICD-9-CM
753.15	Congenital renal dysplasia	ICD-9-CM
753.16	Congenital medullary cystic kidney	ICD-9-CM
753.17	Congenital medullary sponge kidney	ICD-9-CM
753.19	Other specified congenital cystic kidney disease	ICD-9-CM
753.20	Unspecified obstructive defect of renal pelvis and ureter	ICD-9-CM
753.21	Congenital obstruction of ureteropelvic junction	ICD-9-CM
753.22	Congenital obstruction of ureterovesical junction	ICD-9-CM
753.23	Congenital ureterocele	ICD-9-CM
753.29	Other obstructive defect of renal pelvis and ureter	ICD-9-CM
794.4	Nonspecific abnormal results of kidney function study	ICD-9-CM
A18.11	Tuberculosis of kidney and ureter	ICD-10-CM
A52.75	Syphilis of kidney and ureter	ICD-10-CM
B52.0	Plasmodium malariae malaria with nephropathy	ICD-10-CM
C64.1	Malignant neoplasm of right kidney, except renal pelvis	ICD-10-CM
C64.2	Malignant neoplasm of left kidney, except renal pelvis	ICD-10-CM
C64.9	Malignant neoplasm of unspecified kidney, except renal pelvis	ICD-10-CM
C68.9	Malignant neoplasm of urinary organ, unspecified	ICD-10-CM
D30.00	Benign neoplasm of unspecified kidney	ICD-10-CM
D30.01	Benign neoplasm of right kidney	ICD-10-CM
D30.02	Benign neoplasm of left kidney	ICD-10-CM
D41.00	Neoplasm of uncertain behavior of unspecified kidney	ICD-10-CM
D41.01	Neoplasm of uncertain behavior of right kidney	ICD-10-CM
D41.02	Neoplasm of uncertain behavior of left kidney	ICD-10-CM
D41.10	Neoplasm of uncertain behavior of unspecified renal pelvis	ICD-10-CM
D41.11	Neoplasm of uncertain behavior of right renal pelvis	ICD-10-CM
D41.12	Neoplasm of uncertain behavior of left renal pelvis	ICD-10-CM
D41.20	Neoplasm of uncertain behavior of unspecified ureter	ICD-10-CM
D41.21	Neoplasm of uncertain behavior of right ureter	ICD-10-CM
D41.22	Neoplasm of uncertain behavior of left ureter	ICD-10-CM
D59.3	Hemolytic-uremic syndrome	ICD-10-CM
E08.21	Diabetes mellitus due to underlying condition with diabetic nephropathy	ICD-10-CM
E08.22	Diabetes mellitus due to underlying condition with diabetic chronic kidney disease	ICD-10-CM
E08.29	Diabetes mellitus due to underlying condition with other diabetic kidney complication	ICD-10-CM
E08.65	Diabetes mellitus due to underlying condition with hyperglycemia	ICD-10-CM
EICD-9-CM.21	Drug or chemical induced diabetes mellitus with diabetic nephropathy	ICD-10-CM
EICD-9-CM.22	Drug or chemical induced diabetes mellitus with diabetic chronic kidney disease	ICD-10-CM
EICD-9-CM.29	Drug or chemical induced diabetes mellitus with other diabetic kidney complication	ICD-10-CM
E10.21	Type 1 diabetes mellitus with diabetic nephropathy	ICD-10-CM
E10.22	Type 1 diabetes mellitus with diabetic chronic kidney disease	ICD-10-CM
E10.29	Type 1 diabetes mellitus with other diabetic kidney complication	ICD-10-CM
E10.65	Type 1 diabetes mellitus with hyperglycemia	ICD-10-CM
E11.21	Type 2 diabetes mellitus with diabetic nephropathy	ICD-10-CM

**Appendix C. List of International Classification of Diseases, Ninth and Tenth Revisions, Clinical Modification (ICD-9-CM and ICD-10-CM) and International Classification of Diseases, Tenth Revision, Procedure Coding System (ICD-10-PCS) Codes used to Define Covariates in this Request**

<b>Code</b>	<b>Description</b>	<b>Code Type</b>
E11.22	Type 2 diabetes mellitus with diabetic chronic kidney disease	ICD-10-CM
E11.29	Type 2 diabetes mellitus with other diabetic kidney complication	ICD-10-CM
E11.65	Type 2 diabetes mellitus with hyperglycemia	ICD-10-CM
E13.21	Other specified diabetes mellitus with diabetic nephropathy	ICD-10-CM
E13.22	Other specified diabetes mellitus with diabetic chronic kidney disease	ICD-10-CM
E13.29	Other specified diabetes mellitus with other diabetic kidney complication	ICD-10-CM
E74.8	Other specified disorders of carbohydrate metabolism	ICD-10-CM
I12.0	Hypertensive chronic kidney disease with stage 5 chronic kidney disease or end stage renal disease	ICD-10-CM
I12.9	Hypertensive chronic kidney disease with stage 1 through stage 4 chronic kidney disease, or unspecified chronic kidney disease	ICD-10-CM
I13.0	Hypertensive heart and chronic kidney disease with heart failure and stage 1 through stage 4 chronic kidney disease, or unspecified chronic kidney disease	ICD-10-CM
I13.10	Hypertensive heart and chronic kidney disease without heart failure, with stage 1 through stage 4 chronic kidney disease, or unspecified chronic kidney disease	ICD-10-CM
I13.11	Hypertensive heart and chronic kidney disease without heart failure, with stage 5 chronic kidney disease, or end stage renal disease	ICD-10-CM
I13.2	Hypertensive heart and chronic kidney disease with heart failure and with stage 5 chronic kidney disease, or end stage renal disease	ICD-10-CM
I70.1	Atherosclerosis of renal artery	ICD-10-CM
I72.2	Aneurysm of renal artery	ICD-10-CM
K76.7	Hepatorenal syndrome	ICD-10-CM
M10.30	Gout due to renal impairment, unspecified site	ICD-10-CM
M10.311	Gout due to renal impairment, right shoulder	ICD-10-CM
M10.312	Gout due to renal impairment, left shoulder	ICD-10-CM
M10.319	Gout due to renal impairment, unspecified shoulder	ICD-10-CM
M10.321	Gout due to renal impairment, right elbow	ICD-10-CM
M10.322	Gout due to renal impairment, left elbow	ICD-10-CM
M10.329	Gout due to renal impairment, unspecified elbow	ICD-10-CM
M10.331	Gout due to renal impairment, right wrist	ICD-10-CM
M10.332	Gout due to renal impairment, left wrist	ICD-10-CM
M10.339	Gout due to renal impairment, unspecified wrist	ICD-10-CM
M10.341	Gout due to renal impairment, right hand	ICD-10-CM
M10.342	Gout due to renal impairment, left hand	ICD-10-CM
M10.349	Gout due to renal impairment, unspecified hand	ICD-10-CM
M10.351	Gout due to renal impairment, right hip	ICD-10-CM
M10.352	Gout due to renal impairment, left hip	ICD-10-CM
M10.359	Gout due to renal impairment, unspecified hip	ICD-10-CM
M10.361	Gout due to renal impairment, right knee	ICD-10-CM
M10.362	Gout due to renal impairment, left knee	ICD-10-CM
M10.369	Gout due to renal impairment, unspecified knee	ICD-10-CM
M10.371	Gout due to renal impairment, right ankle and foot	ICD-10-CM
M10.372	Gout due to renal impairment, left ankle and foot	ICD-10-CM
M10.379	Gout due to renal impairment, unspecified ankle and foot	ICD-10-CM

**Appendix C. List of International Classification of Diseases, Ninth and Tenth Revisions, Clinical Modification (ICD-9-CM and ICD-10-CM) and International Classification of Diseases, Tenth Revision, Procedure Coding System (ICD-10-PCS) Codes used to Define Covariates in this Request**

<b>Code</b>	<b>Description</b>	<b>Code Type</b>
M10.38	Gout due to renal impairment, vertebrae	ICD-10-CM
M10.39	Gout due to renal impairment, multiple sites	ICD-10-CM
M32.14	Glomerular disease in systemic lupus erythematosus	ICD-10-CM
M32.15	Tubulo-interstitial nephropathy in systemic lupus erythematosus	ICD-10-CM
M35.04	Sicca syndrome with tubulo-interstitial nephropathy	ICD-10-CM
N00.0	Acute nephritic syndrome with minor glomerular abnormality	ICD-10-CM
N00.1	Acute nephritic syndrome with focal and segmental glomerular lesions	ICD-10-CM
N00.2	Acute nephritic syndrome with diffuse membranous glomerulonephritis	ICD-10-CM
N00.3	Acute nephritic syndrome with diffuse mesangial proliferative glomerulonephritis	ICD-10-CM
N00.4	Acute nephritic syndrome with diffuse endocapillary proliferative glomerulonephritis	ICD-10-CM
N00.5	Acute nephritic syndrome with diffuse mesangiocapillary glomerulonephritis	ICD-10-CM
N00.6	Acute nephritic syndrome with dense deposit disease	ICD-10-CM
N00.7	Acute nephritic syndrome with diffuse crescentic glomerulonephritis	ICD-10-CM
N00.8	Acute nephritic syndrome with other morphologic changes	ICD-10-CM
N00.9	Acute nephritic syndrome with unspecified morphologic changes	ICD-10-CM
N01.0	Rapidly progressive nephritic syndrome with minor glomerular abnormality	ICD-10-CM
N01.1	Rapidly progressive nephritic syndrome with focal and segmental glomerular lesions	ICD-10-CM
N01.2	Rapidly progressive nephritic syndrome with diffuse membranous glomerulonephritis	ICD-10-CM
N01.3	Rapidly progressive nephritic syndrome with diffuse mesangial proliferative glomerulonephritis	ICD-10-CM
N01.4	Rapidly progressive nephritic syndrome with diffuse endocapillary proliferative glomerulonephritis	ICD-10-CM
N01.5	Rapidly progressive nephritic syndrome with diffuse mesangiocapillary glomerulonephritis	ICD-10-CM
N01.6	Rapidly progressive nephritic syndrome with dense deposit disease	ICD-10-CM
N01.7	Rapidly progressive nephritic syndrome with diffuse crescentic glomerulonephritis	ICD-10-CM
N01.8	Rapidly progressive nephritic syndrome with other morphologic changes	ICD-10-CM
N01.9	Rapidly progressive nephritic syndrome with unspecified morphologic changes	ICD-10-CM
N02.0	Recurrent and persistent hematuria with minor glomerular abnormality	ICD-10-CM
N02.1	Recurrent and persistent hematuria with focal and segmental glomerular lesions	ICD-10-CM
N02.2	Recurrent and persistent hematuria with diffuse membranous glomerulonephritis	ICD-10-CM
N02.3	Recurrent and persistent hematuria with diffuse mesangial proliferative glomerulonephritis	ICD-10-CM
N02.4	Recurrent and persistent hematuria with diffuse endocapillary proliferative glomerulonephritis	ICD-10-CM
N02.5	Recurrent and persistent hematuria with diffuse mesangiocapillary glomerulonephritis	ICD-10-CM
N02.6	Recurrent and persistent hematuria with dense deposit disease	ICD-10-CM
N02.7	Recurrent and persistent hematuria with diffuse crescentic glomerulonephritis	ICD-10-CM
N02.8	Recurrent and persistent hematuria with other morphologic changes	ICD-10-CM
N02.9	Recurrent and persistent hematuria with unspecified morphologic changes	ICD-10-CM
N03.0	Chronic nephritic syndrome with minor glomerular abnormality	ICD-10-CM
N03.1	Chronic nephritic syndrome with focal and segmental glomerular lesions	ICD-10-CM
N03.2	Chronic nephritic syndrome with diffuse membranous glomerulonephritis	ICD-10-CM
N03.3	Chronic nephritic syndrome with diffuse mesangial proliferative glomerulonephritis	ICD-10-CM
N03.4	Chronic nephritic syndrome with diffuse endocapillary proliferative glomerulonephritis	ICD-10-CM
N03.5	Chronic nephritic syndrome with diffuse mesangiocapillary glomerulonephritis	ICD-10-CM

**Appendix C. List of International Classification of Diseases, Ninth and Tenth Revisions, Clinical Modification (ICD-9-CM and ICD-10-CM) and International Classification of Diseases, Tenth Revision, Procedure Coding System (ICD-10-PCS) Codes used to Define Covariates in this Request**

<b>Code</b>	<b>Description</b>	<b>Code Type</b>
N03.6	Chronic nephritic syndrome with dense deposit disease	ICD-10-CM
N03.7	Chronic nephritic syndrome with diffuse crescentic glomerulonephritis	ICD-10-CM
N03.8	Chronic nephritic syndrome with other morphologic changes	ICD-10-CM
N03.9	Chronic nephritic syndrome with unspecified morphologic changes	ICD-10-CM
N04.0	Nephrotic syndrome with minor glomerular abnormality	ICD-10-CM
N04.1	Nephrotic syndrome with focal and segmental glomerular lesions	ICD-10-CM
N04.2	Nephrotic syndrome with diffuse membranous glomerulonephritis	ICD-10-CM
N04.3	Nephrotic syndrome with diffuse mesangial proliferative glomerulonephritis	ICD-10-CM
N04.4	Nephrotic syndrome with diffuse endocapillary proliferative glomerulonephritis	ICD-10-CM
N04.5	Nephrotic syndrome with diffuse mesangiocapillary glomerulonephritis	ICD-10-CM
N04.6	Nephrotic syndrome with dense deposit disease	ICD-10-CM
N04.7	Nephrotic syndrome with diffuse crescentic glomerulonephritis	ICD-10-CM
N04.8	Nephrotic syndrome with other morphologic changes	ICD-10-CM
N04.9	Nephrotic syndrome with unspecified morphologic changes	ICD-10-CM
N05.0	Unspecified nephritic syndrome with minor glomerular abnormality	ICD-10-CM
N05.1	Unspecified nephritic syndrome with focal and segmental glomerular lesions	ICD-10-CM
N05.2	Unspecified nephritic syndrome with diffuse membranous glomerulonephritis	ICD-10-CM
N05.3	Unspecified nephritic syndrome with diffuse mesangial proliferative glomerulonephritis	ICD-10-CM
N05.4	Unspecified nephritic syndrome with diffuse endocapillary proliferative glomerulonephritis	ICD-10-CM
N05.5	Unspecified nephritic syndrome with diffuse mesangiocapillary glomerulonephritis	ICD-10-CM
N05.6	Unspecified nephritic syndrome with dense deposit disease	ICD-10-CM
N05.7	Unspecified nephritic syndrome with diffuse crescentic glomerulonephritis	ICD-10-CM
N05.8	Unspecified nephritic syndrome with other morphologic changes	ICD-10-CM
N05.9	Unspecified nephritic syndrome with unspecified morphologic changes	ICD-10-CM
N06.0	Isolated proteinuria with minor glomerular abnormality	ICD-10-CM
N06.1	Isolated proteinuria with focal and segmental glomerular lesions	ICD-10-CM
N06.2	Isolated proteinuria with diffuse membranous glomerulonephritis	ICD-10-CM
N06.3	Isolated proteinuria with diffuse mesangial proliferative glomerulonephritis	ICD-10-CM
N06.4	Isolated proteinuria with diffuse endocapillary proliferative glomerulonephritis	ICD-10-CM
N06.5	Isolated proteinuria with diffuse mesangiocapillary glomerulonephritis	ICD-10-CM
N06.6	Isolated proteinuria with dense deposit disease	ICD-10-CM
N06.7	Isolated proteinuria with diffuse crescentic glomerulonephritis	ICD-10-CM
N06.8	Isolated proteinuria with other morphologic lesion	ICD-10-CM
N06.9	Isolated proteinuria with unspecified morphologic lesion	ICD-10-CM
N07.0	Hereditary nephropathy, not elsewhere classified with minor glomerular abnormality	ICD-10-CM
N07.1	Hereditary nephropathy, not elsewhere classified with focal and segmental glomerular lesions	ICD-10-CM
N07.2	Hereditary nephropathy, not elsewhere classified with diffuse membranous glomerulonephritis	ICD-10-CM
N07.3	Hereditary nephropathy, not elsewhere classified with diffuse mesangial proliferative glomerulonephritis	ICD-10-CM
N07.4	Hereditary nephropathy, not elsewhere classified with diffuse endocapillary proliferative glomerulonephritis	ICD-10-CM
N07.5	Hereditary nephropathy, not elsewhere classified with diffuse mesangiocapillary glomerulonephritis	ICD-10-CM

**Appendix C. List of International Classification of Diseases, Ninth and Tenth Revisions, Clinical Modification (ICD-9-CM and ICD-10-CM) and International Classification of Diseases, Tenth Revision, Procedure Coding System (ICD-10-PCS) Codes used to Define Covariates in this Request**

<b>Code</b>	<b>Description</b>	<b>Code Type</b>
N07.6	Hereditary nephropathy, not elsewhere classified with dense deposit disease	ICD-10-CM
N07.7	Hereditary nephropathy, not elsewhere classified with diffuse crescentic glomerulonephritis	ICD-10-CM
N07.8	Hereditary nephropathy, not elsewhere classified with other morphologic lesions	ICD-10-CM
N07.9	Hereditary nephropathy, not elsewhere classified with unspecified morphologic lesions	ICD-10-CM
N08	Glomerular disorders in diseases classified elsewhere	ICD-10-CM
N13.1	Hydronephrosis with ureteral stricture, not elsewhere classified	ICD-10-CM
N13.2	Hydronephrosis with renal and ureteral calculous obstruction	ICD-10-CM
N13.30	Unspecified hydronephrosis	ICD-10-CM
N13.39	Other hydronephrosis	ICD-10-CM
N14.0	Analgesic nephropathy	ICD-10-CM
N14.1	Nephropathy induced by other drugs, medicaments and biological substances	ICD-10-CM
N14.2	Nephropathy induced by unspecified drug, medicament or biological substance	ICD-10-CM
N14.3	Nephropathy induced by heavy metals	ICD-10-CM
N14.4	Toxic nephropathy, not elsewhere classified	ICD-10-CM
N15.0	Balkan nephropathy	ICD-10-CM
N15.8	Other specified renal tubulo-interstitial diseases	ICD-10-CM
N15.9	Renal tubulo-interstitial disease, unspecified	ICD-10-CM
N16	Renal tubulo-interstitial disorders in diseases classified elsewhere	ICD-10-CM
N17.0	Acute kidney failure with tubular necrosis	ICD-10-CM
N17.1	Acute kidney failure with acute cortical necrosis	ICD-10-CM
N17.2	Acute kidney failure with medullary necrosis	ICD-10-CM
N17.8	Other acute kidney failure	ICD-10-CM
N17.9	Acute kidney failure, unspecified	ICD-10-CM
N18.1	Chronic kidney disease, stage 1	ICD-10-CM
N18.2	Chronic kidney disease, stage 2 (mild)	ICD-10-CM
N18.3	Chronic kidney disease, stage 3 (moderate)	ICD-10-CM
N18.4	Chronic kidney disease, stage 4 (severe)	ICD-10-CM
N18.5	Chronic kidney disease, stage 5	ICD-10-CM
N18.6	End stage renal disease	ICD-10-CM
N18.9	Chronic kidney disease, unspecified	ICD-10-CM
N19	Unspecified kidney failure	ICD-10-CM
N25.0	Renal osteodystrophy	ICD-10-CM
N25.1	Nephrogenic diabetes insipidus	ICD-10-CM
N25.81	Secondary hyperparathyroidism of renal origin	ICD-10-CM
N25.89	Other disorders resulting from impaired renal tubular function	ICD-10-CM
N25.9	Disorder resulting from impaired renal tubular function, unspecified	ICD-10-CM
N26.1	Atrophy of kidney (terminal)	ICD-10-CM
N26.9	Renal sclerosis, unspecified	ICD-10-CM
Q61.02	Congenital multiple renal cysts	ICD-10-CM
Q61.11	Cystic dilatation of collecting ducts	ICD-10-CM
Q61.19	Other polycystic kidney, infantile type	ICD-10-CM
Q61.2	Polycystic kidney, adult type	ICD-10-CM
Q61.3	Polycystic kidney, unspecified	ICD-10-CM
Q61.4	Renal dysplasia	ICD-10-CM

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<b>Code</b>	<b>Description</b>	<b>Code Type</b>
Q61.5	Medullary cystic kidney	ICD-10-CM
Q61.8	Other cystic kidney diseases	ICD-10-CM
Q62.0	Congenital hydronephrosis	ICD-10-CM
Q62.10	Congenital occlusion of ureter, unspecified	ICD-10-CM
Q62.11	Congenital occlusion of ureteropelvic junction	ICD-10-CM
Q62.12	Congenital occlusion of ureterovesical orifice	ICD-10-CM
Q62.2	Congenital megaureter	ICD-10-CM
Q62.31	Congenital ureterocele, orthotopic	ICD-10-CM
Q62.32	Cecoureterocele	ICD-10-CM
Q62.39	Other obstructive defects of renal pelvis and ureter	ICD-10-CM
R94.4	Abnormal results of kidney function studies	ICD-10-CM
<b>COPD and bronchiectasis</b>		
490	Bronchitis, not specified as acute or chronic	ICD-9-CM
491.0	Simple chronic bronchitis	ICD-9-CM
491.1	Mucopurulent chronic bronchitis	ICD-9-CM
491.20	Obstructive chronic bronchitis, without exacerbation	ICD-9-CM
491.21	Obstructive chronic bronchitis, with (acute) exacerbation	ICD-9-CM
491.22	Obstructive chronic bronchitis with acute bronchitis	ICD-9-CM
491.8	Other chronic bronchitis	ICD-9-CM
491.9	Unspecified chronic bronchitis	ICD-9-CM
492.0	Emphysematous bleb	ICD-9-CM
492.8	Other emphysema	ICD-9-CM
494.0	Bronchiectasis without acute exacerbation	ICD-9-CM
494.1	Bronchiectasis with acute exacerbation	ICD-9-CM
496	Chronic airway obstruction, not elsewhere classified	ICD-9-CM
J40	Bronchitis, not specified as acute or chronic	ICD-10-CM
J41.0	Simple chronic bronchitis	ICD-10-CM
J41.1	Mucopurulent chronic bronchitis	ICD-10-CM
J41.8	Mixed simple and mucopurulent chronic bronchitis	ICD-10-CM
J42	Unspecified chronic bronchitis	ICD-10-CM
J43.0	Unilateral pulmonary emphysema [MacLeod's syndrome]	ICD-10-CM
J43.1	Panlobular emphysema	ICD-10-CM
J43.2	Centrilobular emphysema	ICD-10-CM
J43.8	Other emphysema	ICD-10-CM
J43.9	Emphysema, unspecified	ICD-10-CM
J44.0	Chronic obstructive pulmonary disease with acute lower respiratory infection	ICD-10-CM
J44.1	Chronic obstructive pulmonary disease with (acute) exacerbation	ICD-10-CM
J44.9	Chronic obstructive pulmonary disease, unspecified	ICD-10-CM
J47.0	Bronchiectasis with acute lower respiratory infection	ICD-10-CM
J47.1	Bronchiectasis with (acute) exacerbation	ICD-10-CM
J47.9	Bronchiectasis, uncomplicated	ICD-10-CM
<b>Depression</b>		
296.20	Major depressive disorder, single episode, unspecified	ICD-9-CM
296.21	Major depressive disorder, single episode, mild	ICD-9-CM

**Appendix C. List of International Classification of Diseases, Ninth and Tenth Revisions, Clinical Modification (ICD-9-CM and ICD-10-CM) and International Classification of Diseases, Tenth Revision, Procedure Coding System (ICD-10-PCS) Codes used to Define Covariates in this Request**

<b>Code</b>	<b>Description</b>	<b>Code Type</b>
296.22	Major depressive disorder, single episode, moderate	ICD-9-CM
296.23	Major depressive disorder, single episode, severe, without mention of psychotic behavior	ICD-9-CM
296.24	Major depressive disorder, single episode, severe, specified as with psychotic behavior	ICD-9-CM
296.25	Major depressive disorder, single episode, in partial or unspecified remission	ICD-9-CM
296.26	Major depressive disorder, single episode in full remission	ICD-9-CM
296.30	Major depressive disorder, recurrent episode, unspecified	ICD-9-CM
296.31	Major depressive disorder, recurrent episode, mild	ICD-9-CM
296.32	Major depressive disorder, recurrent episode, moderate	ICD-9-CM
296.33	Major depressive disorder, recurrent episode, severe, without mention of psychotic behavior	ICD-9-CM
296.34	Major depressive disorder, recurrent episode, severe, specified as with psychotic behavior	ICD-9-CM
296.35	Major depressive disorder, recurrent episode, in partial or unspecified remission	ICD-9-CM
296.36	Major depressive disorder, recurrent episode, in full remission	ICD-9-CM
296.51	Bipolar I disorder, most recent episode (or current) depressed, mild	ICD-9-CM
296.52	Bipolar I disorder, most recent episode (or current) depressed, moderate	ICD-9-CM
296.53	Bipolar I disorder, most recent episode (or current) depressed, severe, without mention of psychotic behavior	ICD-9-CM
296.54	Bipolar I disorder, most recent episode (or current) depressed, severe, specified as with psychotic behavior	ICD-9-CM
296.55	Bipolar I disorder, most recent episode (or current) depressed, in partial or unspecified remission	ICD-9-CM
296.56	Bipolar I disorder, most recent episode (or current) depressed, in full remission	ICD-9-CM
296.60	Bipolar I disorder, most recent episode (or current) mixed, unspecified	ICD-9-CM
296.61	Bipolar I disorder, most recent episode (or current) mixed, mild	ICD-9-CM
296.62	Bipolar I disorder, most recent episode (or current) mixed, moderate	ICD-9-CM
296.63	Bipolar I disorder, most recent episode (or current) mixed, severe, without mention of psychotic behavior	ICD-9-CM
296.64	Bipolar I disorder, most recent episode (or current) mixed, severe, specified as with psychotic behavior	ICD-9-CM
296.65	Bipolar I disorder, most recent episode (or current) mixed, in partial or unspecified remission	ICD-9-CM
296.66	Bipolar I disorder, most recent episode (or current) mixed, in full remission	ICD-9-CM
296.89	Other and unspecified bipolar disorders	ICD-9-CM
298.0	Depressive type psychosis	ICD-9-CM
300.4	Dysthymic disorder	ICD-9-CM
31CD-9-CM.1	Prolonged depressive reaction as adjustment reaction	ICD-9-CM
311	Depressive disorder, not elsewhere classified	ICD-9-CM
F31.30	Bipolar disorder, current episode depressed, mild or moderate severity, unspecified	ICD-10-CM
F31.31	Bipolar disorder, current episode depressed, mild	ICD-10-CM
F31.32	Bipolar disorder, current episode depressed, moderate	ICD-10-CM
F31.4	Bipolar disorder, current episode depressed, severe, without psychotic features	ICD-10-CM
F31.5	Bipolar disorder, current episode depressed, severe, with psychotic features	ICD-10-CM
F31.60	Bipolar disorder, current episode mixed, unspecified	ICD-10-CM
F31.61	Bipolar disorder, current episode mixed, mild	ICD-10-CM
F31.62	Bipolar disorder, current episode mixed, moderate	ICD-10-CM
F31.63	Bipolar disorder, current episode mixed, severe, without psychotic features	ICD-10-CM



**Appendix C. List of International Classification of Diseases, Ninth and Tenth Revisions, Clinical Modification (ICD-9-CM and ICD-10-CM) and International Classification of Diseases, Tenth Revision, Procedure Coding System (ICD-10-PCS) Codes used to Define Covariates in this Request**

<b>Code</b>	<b>Description</b>	<b>Code Type</b>
F31.64	Bipolar disorder, current episode mixed, severe, with psychotic features	ICD-10-CM
F31.75	Bipolar disorder, in partial remission, most recent episode depressed	ICD-10-CM
F31.76	Bipolar disorder, in full remission, most recent episode depressed	ICD-10-CM
F31.77	Bipolar disorder, in partial remission, most recent episode mixed	ICD-10-CM
F31.78	Bipolar disorder, in full remission, most recent episode mixed	ICD-10-CM
F31.81	Bipolar II disorder	ICD-10-CM
F32.0	Major depressive disorder, single episode, mild	ICD-10-CM
F32.1	Major depressive disorder, single episode, moderate	ICD-10-CM
F32.2	Major depressive disorder, single episode, severe without psychotic features	ICD-10-CM
F32.3	Major depressive disorder, single episode, severe with psychotic features	ICD-10-CM
F32.4	Major depressive disorder, single episode, in partial remission	ICD-10-CM
F32.5	Major depressive disorder, single episode, in full remission	ICD-10-CM
F32.9	Major depressive disorder, single episode, unspecified	ICD-10-CM
F33.0	Major depressive disorder, recurrent, mild	ICD-10-CM
F33.1	Major depressive disorder, recurrent, moderate	ICD-10-CM
F33.2	Major depressive disorder, recurrent severe without psychotic features	ICD-10-CM
F33.3	Major depressive disorder, recurrent, severe with psychotic symptoms	ICD-10-CM
F33.40	Major depressive disorder, recurrent, in remission, unspecified	ICD-10-CM
F33.41	Major depressive disorder, recurrent, in partial remission	ICD-10-CM
F33.42	Major depressive disorder, recurrent, in full remission	ICD-10-CM
F33.8	Other recurrent depressive disorders	ICD-10-CM
F33.9	Major depressive disorder, recurrent, unspecified	ICD-10-CM
F34.1	Dysthymic disorder	ICD-10-CM
F43.21	Adjustment disorder with depressed mood	ICD-10-CM
F43.23	Adjustment disorder with mixed anxiety and depressed mood	ICD-10-CM
<b>Diabetes</b>		
249.00	Secondary diabetes mellitus without mention of complication, not stated as uncontrolled, or unspecified	ICD-9-CM
249.01	Secondary diabetes mellitus without mention of complication, uncontrolled	ICD-9-CM
249.10	Secondary diabetes mellitus with ketoacidosis, not stated as uncontrolled, or unspecified	ICD-9-CM
249.11	Secondary diabetes mellitus with ketoacidosis, uncontrolled	ICD-9-CM
249.20	Secondary diabetes mellitus with hyperosmolarity, not stated as uncontrolled, or unspecified	ICD-9-CM
249.21	Secondary diabetes mellitus with hyperosmolarity, uncontrolled	ICD-9-CM
249.30	Secondary diabetes mellitus with other coma, not stated as uncontrolled, or unspecified	ICD-9-CM
249.31	Secondary diabetes mellitus with other coma, uncontrolled	ICD-9-CM
249.40	Secondary diabetes mellitus with renal manifestations, not stated as uncontrolled, or unspecified	ICD-9-CM
249.41	Secondary diabetes mellitus with renal manifestations, uncontrolled	ICD-9-CM
249.50	Secondary diabetes mellitus with ophthalmic manifestations, not stated as uncontrolled, or unspecified	ICD-9-CM
249.51	Secondary diabetes mellitus with ophthalmic manifestations, uncontrolled	ICD-9-CM
249.60	Secondary diabetes mellitus with neurological manifestations, not stated as uncontrolled, or unspecified	ICD-9-CM
249.61	Secondary diabetes mellitus with neurological manifestations, uncontrolled	ICD-9-CM

**Appendix C. List of International Classification of Diseases, Ninth and Tenth Revisions, Clinical Modification (ICD-9-CM and ICD-10-CM) and International Classification of Diseases, Tenth Revision, Procedure Coding System (ICD-10-PCS) Codes used to Define Covariates in this Request**

<b>Code</b>	<b>Description</b>	<b>Code Type</b>
249.70	Secondary diabetes mellitus with peripheral circulatory disorders, not stated as uncontrolled, or unspecified	ICD-9-CM
249.71	Secondary diabetes mellitus with peripheral circulatory disorders, uncontrolled	ICD-9-CM
249.80	Secondary diabetes mellitus with other specified manifestations, not stated as uncontrolled, or unspecified	ICD-9-CM
249.81	Secondary diabetes mellitus with other specified manifestations, uncontrolled	ICD-9-CM
249.90	Secondary diabetes mellitus with unspecified complication, not stated as uncontrolled, or unspecified	ICD-9-CM
249.91	Secondary diabetes mellitus with unspecified complication, uncontrolled	ICD-9-CM
250.00	Diabetes mellitus without mention of complication, type II or unspecified type, not stated as uncontrolled	ICD-9-CM
250.01	Diabetes mellitus without mention of complication, type I [juvenile type], not stated as uncontrolled	ICD-9-CM
250.02	Diabetes mellitus without mention of complication, type II or unspecified type, uncontrolled	ICD-9-CM
250.03	Diabetes mellitus without mention of complication, type I [juvenile type], uncontrolled	ICD-9-CM
250.10	Diabetes with ketoacidosis, type II or unspecified type, not stated as uncontrolled	ICD-9-CM
250.11	Diabetes with ketoacidosis, type I [juvenile type], not stated as uncontrolled	ICD-9-CM
250.12	Diabetes with ketoacidosis, type II or unspecified type, uncontrolled	ICD-9-CM
250.13	Diabetes with ketoacidosis, type I [juvenile type], uncontrolled	ICD-9-CM
250.20	Diabetes with hyperosmolarity, type II or unspecified type, not stated as uncontrolled	ICD-9-CM
250.21	Diabetes with hyperosmolarity, type I [juvenile type], not stated as uncontrolled	ICD-9-CM
250.22	Diabetes with hyperosmolarity, type II or unspecified type, uncontrolled	ICD-9-CM
250.23	Diabetes with hyperosmolarity, type I [juvenile type], uncontrolled	ICD-9-CM
250.30	Diabetes with other coma, type II or unspecified type, not stated as uncontrolled	ICD-9-CM
250.31	Diabetes with other coma, type I [juvenile type], not stated as uncontrolled	ICD-9-CM
250.32	Diabetes with other coma, type II or unspecified type, uncontrolled	ICD-9-CM
250.33	Diabetes with other coma, type I [juvenile type], uncontrolled	ICD-9-CM
250.40	Diabetes with renal manifestations, type II or unspecified type, not stated as uncontrolled	ICD-9-CM
250.41	Diabetes with renal manifestations, type I [juvenile type], not stated as uncontrolled	ICD-9-CM
250.42	Diabetes with renal manifestations, type II or unspecified type, uncontrolled	ICD-9-CM
250.43	Diabetes with renal manifestations, type I [juvenile type], uncontrolled	ICD-9-CM
250.50	Diabetes with ophthalmic manifestations, type II or unspecified type, not stated as uncontrolled	ICD-9-CM
250.51	Diabetes with ophthalmic manifestations, type I [juvenile type], not stated as uncontrolled	ICD-9-CM
250.52	Diabetes with ophthalmic manifestations, type II or unspecified type, uncontrolled	ICD-9-CM
250.53	Diabetes with ophthalmic manifestations, type I [juvenile type], uncontrolled	ICD-9-CM
250.60	Diabetes with neurological manifestations, type II or unspecified type, not stated as uncontrolled	ICD-9-CM
250.61	Diabetes with neurological manifestations, type I [juvenile type], not stated as uncontrolled	ICD-9-CM
250.62	Diabetes with neurological manifestations, type II or unspecified type, uncontrolled	ICD-9-CM
250.63	Diabetes with neurological manifestations, type I [juvenile type], uncontrolled	ICD-9-CM
250.70	Diabetes with peripheral circulatory disorders, type II or unspecified type, not stated as uncontrolled	ICD-9-CM

**Appendix C. List of International Classification of Diseases, Ninth and Tenth Revisions, Clinical Modification (ICD-9-CM and ICD-10-CM) and International Classification of Diseases, Tenth Revision, Procedure Coding System (ICD-10-PCS) Codes used to Define Covariates in this Request**

<b>Code</b>	<b>Description</b>	<b>Code Type</b>
250.71	Diabetes with peripheral circulatory disorders, type I [juvenile type], not stated as uncontrolled	ICD-9-CM
250.72	Diabetes with peripheral circulatory disorders, type II or unspecified type, uncontrolled	ICD-9-CM
250.73	Diabetes with peripheral circulatory disorders, type I [juvenile type], uncontrolled	ICD-9-CM
250.80	Diabetes with other specified manifestations, type II or unspecified type, not stated as uncontrolled	ICD-9-CM
250.81	Diabetes with other specified manifestations, type I [juvenile type], not stated as uncontrolled	ICD-9-CM
250.82	Diabetes with other specified manifestations, type II or unspecified type, uncontrolled	ICD-9-CM
250.83	Diabetes with other specified manifestations, type I [juvenile type], uncontrolled	ICD-9-CM
250.90	Diabetes with unspecified complication, type II or unspecified type, not stated as uncontrolled	ICD-9-CM
250.91	Diabetes with unspecified complication, type I [juvenile type], not stated as uncontrolled	ICD-9-CM
250.92	Diabetes with unspecified complication, type II or unspecified type, uncontrolled	ICD-9-CM
250.93	Diabetes with unspecified complication, type I [juvenile type], uncontrolled	ICD-9-CM
357.2	Polyneuropathy in diabetes	ICD-9-CM
362.01	Background diabetic retinopathy	ICD-9-CM
362.02	Proliferative diabetic retinopathy	ICD-9-CM
362.03	Nonproliferative diabetic retinopathy NOS	ICD-9-CM
362.04	Mild nonproliferative diabetic retinopathy	ICD-9-CM
362.05	Moderate nonproliferative diabetic retinopathy	ICD-9-CM
362.06	Severe nonproliferative diabetic retinopathy	ICD-9-CM
366.41	Diabetic cataract	ICD-9-CM
E08.00	Diabetes mellitus due to underlying condition with hyperosmolarity without nonketotic hyperglycemic-hyperosmolar coma (NKHHC)	ICD-10-CM
E08.01	Diabetes mellitus due to underlying condition with hyperosmolarity with coma	ICD-10-CM
E08.10	Diabetes mellitus due to underlying condition with ketoacidosis without coma	ICD-10-CM
E08.11	Diabetes mellitus due to underlying condition with ketoacidosis with coma	ICD-10-CM
E08.21	Diabetes mellitus due to underlying condition with diabetic nephropathy	ICD-10-CM
E08.22	Diabetes mellitus due to underlying condition with diabetic chronic kidney disease	ICD-10-CM
E08.29	Diabetes mellitus due to underlying condition with other diabetic kidney complication	ICD-10-CM
E08.311	Diabetes mellitus due to underlying condition with unspecified diabetic retinopathy with macular edema	ICD-10-CM
E08.319	Diabetes mellitus due to underlying condition with unspecified diabetic retinopathy without macular edema	ICD-10-CM
E08.321	Diabetes mellitus due to underlying condition with mild nonproliferative diabetic retinopathy with macular edema	ICD-10-CM
E08.3211	Diabetes mellitus due to underlying condition with mild nonproliferative diabetic retinopathy with macular edema, right eye	ICD-10-CM
E08.3212	Diabetes mellitus due to underlying condition with mild nonproliferative diabetic retinopathy with macular edema, left eye	ICD-10-CM
E08.3213	Diabetes mellitus due to underlying condition with mild nonproliferative diabetic retinopathy with macular edema, bilateral	ICD-10-CM
E08.3219	Diabetes mellitus due to underlying condition with mild nonproliferative diabetic retinopathy with macular edema, unspecified eye	ICD-10-CM

**Appendix C. List of International Classification of Diseases, Ninth and Tenth Revisions, Clinical Modification (ICD-9-CM and ICD-10-CM) and International Classification of Diseases, Tenth Revision, Procedure Coding System (ICD-10-PCS) Codes used to Define Covariates in this Request**

<b>Code</b>	<b>Description</b>	<b>Code Type</b>
E08.329	Diabetes mellitus due to underlying condition with mild nonproliferative diabetic retinopathy without macular edema	ICD-10-CM
E08.3291	Diabetes mellitus due to underlying condition with mild nonproliferative diabetic retinopathy without macular edema, right eye	ICD-10-CM
E08.3292	Diabetes mellitus due to underlying condition with mild nonproliferative diabetic retinopathy without macular edema, left eye	ICD-10-CM
E08.3293	Diabetes mellitus due to underlying condition with mild nonproliferative diabetic retinopathy without macular edema, bilateral	ICD-10-CM
E08.3299	Diabetes mellitus due to underlying condition with mild nonproliferative diabetic retinopathy without macular edema, unspecified eye	ICD-10-CM
E08.331	Diabetes mellitus due to underlying condition with moderate nonproliferative diabetic retinopathy with macular edema	ICD-10-CM
E08.3311	Diabetes mellitus due to underlying condition with moderate nonproliferative diabetic retinopathy with macular edema, right eye	ICD-10-CM
E08.3312	Diabetes mellitus due to underlying condition with moderate nonproliferative diabetic retinopathy with macular edema, left eye	ICD-10-CM
E08.3313	Diabetes mellitus due to underlying condition with moderate nonproliferative diabetic retinopathy with macular edema, bilateral	ICD-10-CM
E08.3319	Diabetes mellitus due to underlying condition with moderate nonproliferative diabetic retinopathy with macular edema, unspecified eye	ICD-10-CM
E08.339	Diabetes mellitus due to underlying condition with moderate nonproliferative diabetic retinopathy without macular edema	ICD-10-CM
E08.3391	Diabetes mellitus due to underlying condition with moderate nonproliferative diabetic retinopathy without macular edema, right eye	ICD-10-CM
E08.3392	Diabetes mellitus due to underlying condition with moderate nonproliferative diabetic retinopathy without macular edema, left eye	ICD-10-CM
E08.3393	Diabetes mellitus due to underlying condition with moderate nonproliferative diabetic retinopathy without macular edema, bilateral	ICD-10-CM
E08.3399	Diabetes mellitus due to underlying condition with moderate nonproliferative diabetic retinopathy without macular edema, unspecified eye	ICD-10-CM
E08.341	Diabetes mellitus due to underlying condition with severe nonproliferative diabetic retinopathy with macular edema	ICD-10-CM
E08.3411	Diabetes mellitus due to underlying condition with severe nonproliferative diabetic retinopathy with macular edema, right eye	ICD-10-CM
E08.3412	Diabetes mellitus due to underlying condition with severe nonproliferative diabetic retinopathy with macular edema, left eye	ICD-10-CM
E08.3413	Diabetes mellitus due to underlying condition with severe nonproliferative diabetic retinopathy with macular edema, bilateral	ICD-10-CM
E08.3419	Diabetes mellitus due to underlying condition with severe nonproliferative diabetic retinopathy with macular edema, unspecified eye	ICD-10-CM
E08.349	Diabetes mellitus due to underlying condition with severe nonproliferative diabetic retinopathy without macular edema	ICD-10-CM
E08.3491	Diabetes mellitus due to underlying condition with severe nonproliferative diabetic retinopathy without macular edema, right eye	ICD-10-CM

**Appendix C. List of International Classification of Diseases, Ninth and Tenth Revisions, Clinical Modification (ICD-9-CM and ICD-10-CM) and International Classification of Diseases, Tenth Revision, Procedure Coding System (ICD-10-PCS) Codes used to Define Covariates in this Request**

<b>Code</b>	<b>Description</b>	<b>Code Type</b>
E08.3492	Diabetes mellitus due to underlying condition with severe nonproliferative diabetic retinopathy without macular edema, left eye	ICD-10-CM
E08.3493	Diabetes mellitus due to underlying condition with severe nonproliferative diabetic retinopathy without macular edema, bilateral	ICD-10-CM
E08.3499	Diabetes mellitus due to underlying condition with severe nonproliferative diabetic retinopathy without macular edema, unspecified eye	ICD-10-CM
E08.351	Diabetes mellitus due to underlying condition with proliferative diabetic retinopathy with macular edema	ICD-10-CM
E08.3511	Diabetes mellitus due to underlying condition with proliferative diabetic retinopathy with macular edema, right eye	ICD-10-CM
E08.3512	Diabetes mellitus due to underlying condition with proliferative diabetic retinopathy with macular edema, left eye	ICD-10-CM
E08.3513	Diabetes mellitus due to underlying condition with proliferative diabetic retinopathy with macular edema, bilateral	ICD-10-CM
E08.3519	Diabetes mellitus due to underlying condition with proliferative diabetic retinopathy with macular edema, unspecified eye	ICD-10-CM
E08.3521	Diabetes mellitus due to underlying condition with proliferative diabetic retinopathy with traction retinal detachment involving the macula, right eye	ICD-10-CM
E08.3522	Diabetes mellitus due to underlying condition with proliferative diabetic retinopathy with traction retinal detachment involving the macula, left eye	ICD-10-CM
E08.3523	Diabetes mellitus due to underlying condition with proliferative diabetic retinopathy with traction retinal detachment involving the macula, bilateral	ICD-10-CM
E08.3529	Diabetes mellitus due to underlying condition with proliferative diabetic retinopathy with traction retinal detachment involving the macula, unspecified eye	ICD-10-CM
E08.3531	Diabetes mellitus due to underlying condition with proliferative diabetic retinopathy with traction retinal detachment not involving the macula, right eye	ICD-10-CM
E08.3532	Diabetes mellitus due to underlying condition with proliferative diabetic retinopathy with traction retinal detachment not involving the macula, left eye	ICD-10-CM
E08.3533	Diabetes mellitus due to underlying condition with proliferative diabetic retinopathy with traction retinal detachment not involving the macula, bilateral	ICD-10-CM
E08.3539	Diabetes mellitus due to underlying condition with proliferative diabetic retinopathy with traction retinal detachment not involving the macula, unspecified eye	ICD-10-CM
E08.3541	Diabetes mellitus due to underlying condition with proliferative diabetic retinopathy with combined traction retinal detachment and rhegmatogenous retinal detachment, right eye	ICD-10-CM
E08.3542	Diabetes mellitus due to underlying condition with proliferative diabetic retinopathy with combined traction retinal detachment and rhegmatogenous retinal detachment, left eye	ICD-10-CM
E08.3543	Diabetes mellitus due to underlying condition with proliferative diabetic retinopathy with combined traction retinal detachment and rhegmatogenous retinal detachment, bilateral	ICD-10-CM
E08.3549	Diabetes mellitus due to underlying condition with proliferative diabetic retinopathy with combined traction retinal detachment and rhegmatogenous retinal detachment, unspecified eye	ICD-10-CM
E08.3551	Diabetes mellitus due to underlying condition with stable proliferative diabetic retinopathy, right eye	ICD-10-CM

**Appendix C. List of International Classification of Diseases, Ninth and Tenth Revisions, Clinical Modification (ICD-9-CM and ICD-10-CM) and International Classification of Diseases, Tenth Revision, Procedure Coding System (ICD-10-PCS) Codes used to Define Covariates in this Request**

<b>Code</b>	<b>Description</b>	<b>Code Type</b>
E08.3552	Diabetes mellitus due to underlying condition with stable proliferative diabetic retinopathy, left eye	ICD-10-CM
E08.3553	Diabetes mellitus due to underlying condition with stable proliferative diabetic retinopathy, bilateral	ICD-10-CM
E08.3559	Diabetes mellitus due to underlying condition with stable proliferative diabetic retinopathy, unspecified eye	ICD-10-CM
E08.359	Diabetes mellitus due to underlying condition with proliferative diabetic retinopathy without macular edema	ICD-10-CM
E08.3591	Diabetes mellitus due to underlying condition with proliferative diabetic retinopathy without macular edema, right eye	ICD-10-CM
E08.3592	Diabetes mellitus due to underlying condition with proliferative diabetic retinopathy without macular edema, left eye	ICD-10-CM
E08.3593	Diabetes mellitus due to underlying condition with proliferative diabetic retinopathy without macular edema, bilateral	ICD-10-CM
E08.3599	Diabetes mellitus due to underlying condition with proliferative diabetic retinopathy without macular edema, unspecified eye	ICD-10-CM
E08.36	Diabetes mellitus due to underlying condition with diabetic cataract	ICD-10-CM
E08.37X1	Diabetes mellitus due to underlying condition with diabetic macular edema, resolved following treatment, right eye	ICD-10-CM
E08.37X2	Diabetes mellitus due to underlying condition with diabetic macular edema, resolved following treatment, left eye	ICD-10-CM
E08.37X3	Diabetes mellitus due to underlying condition with diabetic macular edema, resolved following treatment, bilateral	ICD-10-CM
E08.37X9	Diabetes mellitus due to underlying condition with diabetic macular edema, resolved following treatment, unspecified eye	ICD-10-CM
E08.39	Diabetes mellitus due to underlying condition with other diabetic ophthalmic complication	ICD-10-CM
E08.40	Diabetes mellitus due to underlying condition with diabetic neuropathy, unspecified	ICD-10-CM
E08.41	Diabetes mellitus due to underlying condition with diabetic mononeuropathy	ICD-10-CM
E08.42	Diabetes mellitus due to underlying condition with diabetic polyneuropathy	ICD-10-CM
E08.43	Diabetes mellitus due to underlying condition with diabetic autonomic (poly)neuropathy	ICD-10-CM
E08.44	Diabetes mellitus due to underlying condition with diabetic amyotrophy	ICD-10-CM
E08.49	Diabetes mellitus due to underlying condition with other diabetic neurological complication	ICD-10-CM
E08.51	Diabetes mellitus due to underlying condition with diabetic peripheral angiopathy without gangrene	ICD-10-CM
E08.52	Diabetes mellitus due to underlying condition with diabetic peripheral angiopathy with gangrene	ICD-10-CM
E08.59	Diabetes mellitus due to underlying condition with other circulatory complications	ICD-10-CM
E08.610	Diabetes mellitus due to underlying condition with diabetic neuropathic arthropathy	ICD-10-CM
E08.618	Diabetes mellitus due to underlying condition with other diabetic arthropathy	ICD-10-CM
E08.620	Diabetes mellitus due to underlying condition with diabetic dermatitis	ICD-10-CM
E08.621	Diabetes mellitus due to underlying condition with foot ulcer	ICD-10-CM
E08.622	Diabetes mellitus due to underlying condition with other skin ulcer	ICD-10-CM
E08.628	Diabetes mellitus due to underlying condition with other skin complications	ICD-10-CM
E08.630	Diabetes mellitus due to underlying condition with periodontal disease	ICD-10-CM

**Appendix C. List of International Classification of Diseases, Ninth and Tenth Revisions, Clinical Modification (ICD-9-CM and ICD-10-CM) and International Classification of Diseases, Tenth Revision, Procedure Coding System (ICD-10-PCS) Codes used to Define Covariates in this Request**

<b>Code</b>	<b>Description</b>	<b>Code Type</b>
E08.638	Diabetes mellitus due to underlying condition with other oral complications	ICD-10-CM
E08.641	Diabetes mellitus due to underlying condition with hypoglycemia with coma	ICD-10-CM
E08.649	Diabetes mellitus due to underlying condition with hypoglycemia without coma	ICD-10-CM
E08.65	Diabetes mellitus due to underlying condition with hyperglycemia	ICD-10-CM
E08.69	Diabetes mellitus due to underlying condition with other specified complication	ICD-10-CM
E08.8	Diabetes mellitus due to underlying condition with unspecified complications	ICD-10-CM
E08.9	Diabetes mellitus due to underlying condition without complications	ICD-10-CM
EICD-9-CM.00	Drug or chemical induced diabetes mellitus with hyperosmolarity without nonketotic hyperglycemic-hyperosmolar coma (NKHHC)	ICD-10-CM
EICD-9-CM.01	Drug or chemical induced diabetes mellitus with hyperosmolarity with coma	ICD-10-CM
EICD-9-CM.10	Drug or chemical induced diabetes mellitus with ketoacidosis without coma	ICD-10-CM
EICD-9-CM.11	Drug or chemical induced diabetes mellitus with ketoacidosis with coma	ICD-10-CM
EICD-9-CM.21	Drug or chemical induced diabetes mellitus with diabetic nephropathy	ICD-10-CM
EICD-9-CM.22	Drug or chemical induced diabetes mellitus with diabetic chronic kidney disease	ICD-10-CM
EICD-9-CM.29	Drug or chemical induced diabetes mellitus with other diabetic kidney complication	ICD-10-CM
EICD-9-CM.311	Drug or chemical induced diabetes mellitus with unspecified diabetic retinopathy with macular edema	ICD-10-CM
EICD-9-CM.319	Drug or chemical induced diabetes mellitus with unspecified diabetic retinopathy without macular edema	ICD-10-CM
EICD-9-CM.321	Drug or chemical induced diabetes mellitus with mild nonproliferative diabetic retinopathy with macular edema	ICD-10-CM
EICD-9-CM.321	Drug or chemical induced diabetes mellitus with mild nonproliferative diabetic retinopathy with macular edema, right eye	ICD-10-CM
EICD-9-CM.321	Drug or chemical induced diabetes mellitus with mild nonproliferative diabetic retinopathy with macular edema, left eye	ICD-10-CM
EICD-9-CM.321	Drug or chemical induced diabetes mellitus with mild nonproliferative diabetic retinopathy with macular edema, bilateral	ICD-10-CM
EICD-9-CM.321	Drug or chemical induced diabetes mellitus with mild nonproliferative diabetic retinopathy with macular edema, unspecified eye	ICD-10-CM
EICD-9-CM.329	Drug or chemical induced diabetes mellitus with mild nonproliferative diabetic retinopathy without macular edema	ICD-10-CM
EICD-9-CM.329	Drug or chemical induced diabetes mellitus with mild nonproliferative diabetic retinopathy without macular edema, right eye	ICD-10-CM
EICD-9-CM.329	Drug or chemical induced diabetes mellitus with mild nonproliferative diabetic retinopathy without macular edema, left eye	ICD-10-CM
EICD-9-CM.329	Drug or chemical induced diabetes mellitus with mild nonproliferative diabetic retinopathy without macular edema, bilateral	ICD-10-CM
EICD-9-CM.329	Drug or chemical induced diabetes mellitus with mild nonproliferative diabetic retinopathy without macular edema, unspecified eye	ICD-10-CM
EICD-9-CM.331	Drug or chemical induced diabetes mellitus with moderate nonproliferative diabetic retinopathy with macular edema	ICD-10-CM
EICD-9-CM.331	Drug or chemical induced diabetes mellitus with moderate nonproliferative diabetic retinopathy with macular edema, right eye	ICD-10-CM

**Appendix C. List of International Classification of Diseases, Ninth and Tenth Revisions, Clinical Modification (ICD-9-CM and ICD-10-CM) and International Classification of Diseases, Tenth Revision, Procedure Coding System (ICD-10-PCS) Codes used to Define Covariates in this Request**

<b>Code</b>	<b>Description</b>	<b>Code Type</b>
EICD-9-CM.331	Drug or chemical induced diabetes mellitus with moderate nonproliferative diabetic retinopathy with macular edema, left eye	ICD-10-CM
EICD-9-CM.331	Drug or chemical induced diabetes mellitus with moderate nonproliferative diabetic retinopathy with macular edema, bilateral	ICD-10-CM
EICD-9-CM.331	Drug or chemical induced diabetes mellitus with moderate nonproliferative diabetic retinopathy with macular edema, unspecified eye	ICD-10-CM
EICD-9-CM.339	Drug or chemical induced diabetes mellitus with moderate nonproliferative diabetic retinopathy without macular edema	ICD-10-CM
EICD-9-CM.339	Drug or chemical induced diabetes mellitus with moderate nonproliferative diabetic retinopathy without macular edema, right eye	ICD-10-CM
EICD-9-CM.339	Drug or chemical induced diabetes mellitus with moderate nonproliferative diabetic retinopathy without macular edema, left eye	ICD-10-CM
EICD-9-CM.339	Drug or chemical induced diabetes mellitus with moderate nonproliferative diabetic retinopathy without macular edema, bilateral	ICD-10-CM
EICD-9-CM.339	Drug or chemical induced diabetes mellitus with moderate nonproliferative diabetic retinopathy without macular edema, unspecified eye	ICD-10-CM
EICD-9-CM.341	Drug or chemical induced diabetes mellitus with severe nonproliferative diabetic retinopathy with macular edema	ICD-10-CM
EICD-9-CM.341	Drug or chemical induced diabetes mellitus with severe nonproliferative diabetic retinopathy with macular edema, right eye	ICD-10-CM
EICD-9-CM.341	Drug or chemical induced diabetes mellitus with severe nonproliferative diabetic retinopathy with macular edema, left eye	ICD-10-CM
EICD-9-CM.341	Drug or chemical induced diabetes mellitus with severe nonproliferative diabetic retinopathy with macular edema, bilateral	ICD-10-CM
EICD-9-CM.341	Drug or chemical induced diabetes mellitus with severe nonproliferative diabetic retinopathy with macular edema, unspecified eye	ICD-10-CM
EICD-9-CM.349	Drug or chemical induced diabetes mellitus with severe nonproliferative diabetic retinopathy without macular edema	ICD-10-CM
EICD-9-CM.349	Drug or chemical induced diabetes mellitus with severe nonproliferative diabetic retinopathy without macular edema, right eye	ICD-10-CM
EICD-9-CM.349	Drug or chemical induced diabetes mellitus with severe nonproliferative diabetic retinopathy without macular edema, left eye	ICD-10-CM
EICD-9-CM.349	Drug or chemical induced diabetes mellitus with severe nonproliferative diabetic retinopathy without macular edema, bilateral	ICD-10-CM
EICD-9-CM.349	Drug or chemical induced diabetes mellitus with severe nonproliferative diabetic retinopathy without macular edema, unspecified eye	ICD-10-CM
EICD-9-CM.351	Drug or chemical induced diabetes mellitus with proliferative diabetic retinopathy with macular edema	ICD-10-CM
EICD-9-CM.351	Drug or chemical induced diabetes mellitus with proliferative diabetic retinopathy with macular edema, right eye	ICD-10-CM
EICD-9-CM.351	Drug or chemical induced diabetes mellitus with proliferative diabetic retinopathy with macular edema, left eye	ICD-10-CM
EICD-9-CM.351	Drug or chemical induced diabetes mellitus with proliferative diabetic retinopathy with macular edema, bilateral	ICD-10-CM



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<b>Code</b>	<b>Description</b>	<b>Code Type</b>
EICD-9-CM.351	Drug or chemical induced diabetes mellitus with proliferative diabetic retinopathy with macular edema, unspecified eye	ICD-10-CM
EICD-9-CM.352	Drug or chemical induced diabetes mellitus with proliferative diabetic retinopathy with traction retinal detachment involving the macula, right eye	ICD-10-CM
EICD-9-CM.352	Drug or chemical induced diabetes mellitus with proliferative diabetic retinopathy with traction retinal detachment involving the macula, left eye	ICD-10-CM
EICD-9-CM.352	Drug or chemical induced diabetes mellitus with proliferative diabetic retinopathy with traction retinal detachment involving the macula, bilateral	ICD-10-CM
EICD-9-CM.352	Drug or chemical induced diabetes mellitus with proliferative diabetic retinopathy with traction retinal detachment involving the macula, unspecified eye	ICD-10-CM
EICD-9-CM.353	Drug or chemical induced diabetes mellitus with proliferative diabetic retinopathy with traction retinal detachment not involving the macula, right eye	ICD-10-CM
EICD-9-CM.353	Drug or chemical induced diabetes mellitus with proliferative diabetic retinopathy with traction retinal detachment not involving the macula, left eye	ICD-10-CM
EICD-9-CM.353	Drug or chemical induced diabetes mellitus with proliferative diabetic retinopathy with traction retinal detachment not involving the macula, bilateral	ICD-10-CM
EICD-9-CM.353	Drug or chemical induced diabetes mellitus with proliferative diabetic retinopathy with traction retinal detachment not involving the macula, unspecified eye	ICD-10-CM
EICD-9-CM.354	Drug or chemical induced diabetes mellitus with proliferative diabetic retinopathy with combined traction retinal detachment and rhegmatogenous retinal detachment, right eye	ICD-10-CM
EICD-9-CM.354	Drug or chemical induced diabetes mellitus with proliferative diabetic retinopathy with combined traction retinal detachment and rhegmatogenous retinal detachment, left eye	ICD-10-CM
EICD-9-CM.354	Drug or chemical induced diabetes mellitus with proliferative diabetic retinopathy with combined traction retinal detachment and rhegmatogenous retinal detachment, bilateral	ICD-10-CM
EICD-9-CM.354	Drug or chemical induced diabetes mellitus with proliferative diabetic retinopathy with combined traction retinal detachment and rhegmatogenous retinal detachment, unspecified eye	ICD-10-CM
EICD-9-CM.355	Drug or chemical induced diabetes mellitus with stable proliferative diabetic retinopathy, right eye	ICD-10-CM
EICD-9-CM.355	Drug or chemical induced diabetes mellitus with stable proliferative diabetic retinopathy, left eye	ICD-10-CM
EICD-9-CM.355	Drug or chemical induced diabetes mellitus with stable proliferative diabetic retinopathy, bilateral	ICD-10-CM
EICD-9-CM.355	Drug or chemical induced diabetes mellitus with stable proliferative diabetic retinopathy, unspecified eye	ICD-10-CM
EICD-9-CM.359	Drug or chemical induced diabetes mellitus with proliferative diabetic retinopathy without macular edema	ICD-10-CM
EICD-9-CM.359	Drug or chemical induced diabetes mellitus with proliferative diabetic retinopathy without macular edema, right eye	ICD-10-CM
EICD-9-CM.359	Drug or chemical induced diabetes mellitus with proliferative diabetic retinopathy without macular edema, left eye	ICD-10-CM
EICD-9-CM.359	Drug or chemical induced diabetes mellitus with proliferative diabetic retinopathy without macular edema, bilateral	ICD-10-CM

**Appendix C. List of International Classification of Diseases, Ninth and Tenth Revisions, Clinical Modification (ICD-9-CM and ICD-10-CM) and International Classification of Diseases, Tenth Revision, Procedure Coding System (ICD-10-PCS) Codes used to Define Covariates in this Request**

<b>Code</b>	<b>Description</b>	<b>Code Type</b>
EICD-9-CM.359	Drug or chemical induced diabetes mellitus with proliferative diabetic retinopathy without macular edema, unspecified eye	ICD-10-CM
EICD-9-CM.36	Drug or chemical induced diabetes mellitus with diabetic cataract	ICD-10-CM
EICD-9-CM.37X	Drug or chemical induced diabetes mellitus with diabetic macular edema, resolved following treatment, right eye	ICD-10-CM
EICD-9-CM.37X	Drug or chemical induced diabetes mellitus with diabetic macular edema, resolved following treatment, left eye	ICD-10-CM
EICD-9-CM.37X	Drug or chemical induced diabetes mellitus with diabetic macular edema, resolved following treatment, bilateral	ICD-10-CM
EICD-9-CM.37X	Drug or chemical induced diabetes mellitus with diabetic macular edema, resolved following treatment, unspecified eye	ICD-10-CM
EICD-9-CM.39	Drug or chemical induced diabetes mellitus with other diabetic ophthalmic complication	ICD-10-CM
EICD-9-CM.40	Drug or chemical induced diabetes mellitus with neurological complications with diabetic neuropathy, unspecified	ICD-10-CM
EICD-9-CM.41	Drug or chemical induced diabetes mellitus with neurological complications with diabetic mononeuropathy	ICD-10-CM
EICD-9-CM.42	Drug or chemical induced diabetes mellitus with neurological complications with diabetic polyneuropathy	ICD-10-CM
EICD-9-CM.43	Drug or chemical induced diabetes mellitus with neurological complications with diabetic autonomic (poly)neuropathy	ICD-10-CM
EICD-9-CM.44	Drug or chemical induced diabetes mellitus with neurological complications with diabetic amyotrophy	ICD-10-CM
EICD-9-CM.49	Drug or chemical induced diabetes mellitus with neurological complications with other diabetic neurological complication	ICD-10-CM
EICD-9-CM.51	Drug or chemical induced diabetes mellitus with diabetic peripheral angiopathy without gangrene	ICD-10-CM
EICD-9-CM.52	Drug or chemical induced diabetes mellitus with diabetic peripheral angiopathy with gangrene	ICD-10-CM
EICD-9-CM.59	Drug or chemical induced diabetes mellitus with other circulatory complications	ICD-10-CM
EICD-9-CM.610	Drug or chemical induced diabetes mellitus with diabetic neuropathic arthropathy	ICD-10-CM
EICD-9-CM.618	Drug or chemical induced diabetes mellitus with other diabetic arthropathy	ICD-10-CM
EICD-9-CM.620	Drug or chemical induced diabetes mellitus with diabetic dermatitis	ICD-10-CM
EICD-9-CM.621	Drug or chemical induced diabetes mellitus with foot ulcer	ICD-10-CM
EICD-9-CM.622	Drug or chemical induced diabetes mellitus with other skin ulcer	ICD-10-CM
EICD-9-CM.628	Drug or chemical induced diabetes mellitus with other skin complications	ICD-10-CM
EICD-9-CM.630	Drug or chemical induced diabetes mellitus with periodontal disease	ICD-10-CM
EICD-9-CM.638	Drug or chemical induced diabetes mellitus with other oral complications	ICD-10-CM
EICD-9-CM.641	Drug or chemical induced diabetes mellitus with hypoglycemia with coma	ICD-10-CM
EICD-9-CM.649	Drug or chemical induced diabetes mellitus with hypoglycemia without coma	ICD-10-CM
EICD-9-CM.65	Drug or chemical induced diabetes mellitus with hyperglycemia	ICD-10-CM
EICD-9-CM.69	Drug or chemical induced diabetes mellitus with other specified complication	ICD-10-CM
EICD-9-CM.8	Drug or chemical induced diabetes mellitus with unspecified complications	ICD-10-CM
EICD-9-CM.9	Drug or chemical induced diabetes mellitus without complications	ICD-10-CM
E10.10	Type 1 diabetes mellitus with ketoacidosis without coma	ICD-10-CM
E10.11	Type 1 diabetes mellitus with ketoacidosis with coma	ICD-10-CM

**Appendix C. List of International Classification of Diseases, Ninth and Tenth Revisions, Clinical Modification (ICD-9-CM and ICD-10-CM) and International Classification of Diseases, Tenth Revision, Procedure Coding System (ICD-10-PCS) Codes used to Define Covariates in this Request**

<b>Code</b>	<b>Description</b>	<b>Code Type</b>
E10.21	Type 1 diabetes mellitus with diabetic nephropathy	ICD-10-CM
E10.22	Type 1 diabetes mellitus with diabetic chronic kidney disease	ICD-10-CM
E10.29	Type 1 diabetes mellitus with other diabetic kidney complication	ICD-10-CM
E10.311	Type 1 diabetes mellitus with unspecified diabetic retinopathy with macular edema	ICD-10-CM
E10.319	Type 1 diabetes mellitus with unspecified diabetic retinopathy without macular edema	ICD-10-CM
E10.321	Type 1 diabetes mellitus with mild nonproliferative diabetic retinopathy with macular edema	ICD-10-CM
E10.3211	Type 1 diabetes mellitus with mild nonproliferative diabetic retinopathy with macular edema, right eye	ICD-10-CM
E10.3212	Type 1 diabetes mellitus with mild nonproliferative diabetic retinopathy with macular edema, left eye	ICD-10-CM
E10.3213	Type 1 diabetes mellitus with mild nonproliferative diabetic retinopathy with macular edema, bilateral	ICD-10-CM
E10.3219	Type 1 diabetes mellitus with mild nonproliferative diabetic retinopathy with macular edema, unspecified eye	ICD-10-CM
E10.329	Type 1 diabetes mellitus with mild nonproliferative diabetic retinopathy without macular edema	ICD-10-CM
E10.3291	Type 1 diabetes mellitus with mild nonproliferative diabetic retinopathy without macular edema, right eye	ICD-10-CM
E10.3292	Type 1 diabetes mellitus with mild nonproliferative diabetic retinopathy without macular edema, left eye	ICD-10-CM
E10.3293	Type 1 diabetes mellitus with mild nonproliferative diabetic retinopathy without macular edema, bilateral	ICD-10-CM
E10.3299	Type 1 diabetes mellitus with mild nonproliferative diabetic retinopathy without macular edema, unspecified eye	ICD-10-CM
E10.331	Type 1 diabetes mellitus with moderate nonproliferative diabetic retinopathy with macular edema	ICD-10-CM
E10.3311	Type 1 diabetes mellitus with moderate nonproliferative diabetic retinopathy with macular edema, right eye	ICD-10-CM
E10.3312	Type 1 diabetes mellitus with moderate nonproliferative diabetic retinopathy with macular edema, left eye	ICD-10-CM
E10.3313	Type 1 diabetes mellitus with moderate nonproliferative diabetic retinopathy with macular edema, bilateral	ICD-10-CM
E10.3319	Type 1 diabetes mellitus with moderate nonproliferative diabetic retinopathy with macular edema, unspecified eye	ICD-10-CM
E10.339	Type 1 diabetes mellitus with moderate nonproliferative diabetic retinopathy without macular edema	ICD-10-CM
E10.3391	Type 1 diabetes mellitus with moderate nonproliferative diabetic retinopathy without macular edema, right eye	ICD-10-CM
E10.3392	Type 1 diabetes mellitus with moderate nonproliferative diabetic retinopathy without macular edema, left eye	ICD-10-CM
E10.3393	Type 1 diabetes mellitus with moderate nonproliferative diabetic retinopathy without macular edema, bilateral	ICD-10-CM
E10.3399	Type 1 diabetes mellitus with moderate nonproliferative diabetic retinopathy without macular edema, unspecified eye	ICD-10-CM

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<b>Code</b>	<b>Description</b>	<b>Code Type</b>
E10.341	Type 1 diabetes mellitus with severe nonproliferative diabetic retinopathy with macular edema	ICD-10-CM
E10.3411	Type 1 diabetes mellitus with severe nonproliferative diabetic retinopathy with macular edema, right eye	ICD-10-CM
E10.3412	Type 1 diabetes mellitus with severe nonproliferative diabetic retinopathy with macular edema, left eye	ICD-10-CM
E10.3413	Type 1 diabetes mellitus with severe nonproliferative diabetic retinopathy with macular edema, bilateral	ICD-10-CM
E10.3419	Type 1 diabetes mellitus with severe nonproliferative diabetic retinopathy with macular edema, unspecified eye	ICD-10-CM
E10.349	Type 1 diabetes mellitus with severe nonproliferative diabetic retinopathy without macular edema	ICD-10-CM
E10.3491	Type 1 diabetes mellitus with severe nonproliferative diabetic retinopathy without macular edema, right eye	ICD-10-CM
E10.3492	Type 1 diabetes mellitus with severe nonproliferative diabetic retinopathy without macular edema, left eye	ICD-10-CM
E10.3493	Type 1 diabetes mellitus with severe nonproliferative diabetic retinopathy without macular edema, bilateral	ICD-10-CM
E10.3499	Type 1 diabetes mellitus with severe nonproliferative diabetic retinopathy without macular edema, unspecified eye	ICD-10-CM
E10.351	Type 1 diabetes mellitus with proliferative diabetic retinopathy with macular edema	ICD-10-CM
E10.3511	Type 1 diabetes mellitus with proliferative diabetic retinopathy with macular edema, right eye	ICD-10-CM
E10.3512	Type 1 diabetes mellitus with proliferative diabetic retinopathy with macular edema, left eye	ICD-10-CM
E10.3513	Type 1 diabetes mellitus with proliferative diabetic retinopathy with macular edema, bilateral	ICD-10-CM
E10.3519	Type 1 diabetes mellitus with proliferative diabetic retinopathy with macular edema, unspecified eye	ICD-10-CM
E10.359	Type 1 diabetes mellitus with proliferative diabetic retinopathy without macular edema	ICD-10-CM
E10.36	Type 1 diabetes mellitus with diabetic cataract	ICD-10-CM
E10.37X1	Type 1 diabetes mellitus with diabetic macular edema, resolved following treatment, right eye	ICD-10-CM
E10.37X2	Type 1 diabetes mellitus with diabetic macular edema, resolved following treatment, left eye	ICD-10-CM
E10.37X3	Type 1 diabetes mellitus with diabetic macular edema, resolved following treatment, bilateral	ICD-10-CM
E10.37X9	Type 1 diabetes mellitus with diabetic macular edema, resolved following treatment, unspecified eye	ICD-10-CM
E10.39	Type 1 diabetes mellitus with other diabetic ophthalmic complication	ICD-10-CM
E10.40	Type 1 diabetes mellitus with diabetic neuropathy, unspecified	ICD-10-CM
E10.41	Type 1 diabetes mellitus with diabetic mononeuropathy	ICD-10-CM
E10.42	Type 1 diabetes mellitus with diabetic polyneuropathy	ICD-10-CM
E10.43	Type 1 diabetes mellitus with diabetic autonomic (poly)neuropathy	ICD-10-CM
E10.44	Type 1 diabetes mellitus with diabetic amyotrophy	ICD-10-CM
E10.49	Type 1 diabetes mellitus with other diabetic neurological complication	ICD-10-CM
E10.51	Type 1 diabetes mellitus with diabetic peripheral angiopathy without gangrene	ICD-10-CM
E10.52	Type 1 diabetes mellitus with diabetic peripheral angiopathy with gangrene	ICD-10-CM
E10.59	Type 1 diabetes mellitus with other circulatory complications	ICD-10-CM
E10.610	Type 1 diabetes mellitus with diabetic neuropathic arthropathy	ICD-10-CM

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<b>Code</b>	<b>Description</b>	<b>Code Type</b>
E10.618	Type 1 diabetes mellitus with other diabetic arthropathy	ICD-10-CM
E10.620	Type 1 diabetes mellitus with diabetic dermatitis	ICD-10-CM
E10.621	Type 1 diabetes mellitus with foot ulcer	ICD-10-CM
E10.622	Type 1 diabetes mellitus with other skin ulcer	ICD-10-CM
E10.628	Type 1 diabetes mellitus with other skin complications	ICD-10-CM
E10.630	Type 1 diabetes mellitus with periodontal disease	ICD-10-CM
E10.638	Type 1 diabetes mellitus with other oral complications	ICD-10-CM
E10.641	Type 1 diabetes mellitus with hypoglycemia with coma	ICD-10-CM
E10.649	Type 1 diabetes mellitus with hypoglycemia without coma	ICD-10-CM
E10.65	Type 1 diabetes mellitus with hyperglycemia	ICD-10-CM
E10.69	Type 1 diabetes mellitus with other specified complication	ICD-10-CM
E10.8	Type 1 diabetes mellitus with unspecified complications	ICD-10-CM
E10.9	Type 1 diabetes mellitus without complications	ICD-10-CM
E11.00	Type 2 diabetes mellitus with hyperosmolarity without nonketotic hyperglycemic-hyperosmolar coma (NKHHC)	ICD-10-CM
E11.01	Type 2 diabetes mellitus with hyperosmolarity with coma	ICD-10-CM
E11.10	Type 2 diabetes mellitus with ketoacidosis without coma	ICD-10-CM
E11.11	Type 2 diabetes mellitus with ketoacidosis with coma	ICD-10-CM
E11.21	Type 2 diabetes mellitus with diabetic nephropathy	ICD-10-CM
E11.22	Type 2 diabetes mellitus with diabetic chronic kidney disease	ICD-10-CM
E11.29	Type 2 diabetes mellitus with other diabetic kidney complication	ICD-10-CM
E11.311	Type 2 diabetes mellitus with unspecified diabetic retinopathy with macular edema	ICD-10-CM
E11.319	Type 2 diabetes mellitus with unspecified diabetic retinopathy without macular edema	ICD-10-CM
E11.321	Type 2 diabetes mellitus with mild nonproliferative diabetic retinopathy with macular edema	ICD-10-CM
E11.3211	Type 2 diabetes mellitus with mild nonproliferative diabetic retinopathy with macular edema, right eye	ICD-10-CM
E11.3212	Type 2 diabetes mellitus with mild nonproliferative diabetic retinopathy with macular edema, left eye	ICD-10-CM
E11.3213	Type 2 diabetes mellitus with mild nonproliferative diabetic retinopathy with macular edema, bilateral	ICD-10-CM
E11.3219	Type 2 diabetes mellitus with mild nonproliferative diabetic retinopathy with macular edema, unspecified eye	ICD-10-CM
E11.329	Type 2 diabetes mellitus with mild nonproliferative diabetic retinopathy without macular edema	ICD-10-CM
E11.3291	Type 2 diabetes mellitus with mild nonproliferative diabetic retinopathy without macular edema, right eye	ICD-10-CM
E11.3292	Type 2 diabetes mellitus with mild nonproliferative diabetic retinopathy without macular edema, left eye	ICD-10-CM
E11.3293	Type 2 diabetes mellitus with mild nonproliferative diabetic retinopathy without macular edema, bilateral	ICD-10-CM
E11.3299	Type 2 diabetes mellitus with mild nonproliferative diabetic retinopathy without macular edema, unspecified eye	ICD-10-CM
E11.331	Type 2 diabetes mellitus with moderate nonproliferative diabetic retinopathy with macular edema	ICD-10-CM

**Appendix C. List of International Classification of Diseases, Ninth and Tenth Revisions, Clinical Modification (ICD-9-CM and ICD-10-CM) and International Classification of Diseases, Tenth Revision, Procedure Coding System (ICD-10-PCS) Codes used to Define Covariates in this Request**

<b>Code</b>	<b>Description</b>	<b>Code Type</b>
E11.3311	Type 2 diabetes mellitus with moderate nonproliferative diabetic retinopathy with macular edema, right eye	ICD-10-CM
E11.3312	Type 2 diabetes mellitus with moderate nonproliferative diabetic retinopathy with macular edema, left eye	ICD-10-CM
E11.3313	Type 2 diabetes mellitus with moderate nonproliferative diabetic retinopathy with macular edema, bilateral	ICD-10-CM
E11.3319	Type 2 diabetes mellitus with moderate nonproliferative diabetic retinopathy with macular edema, unspecified eye	ICD-10-CM
E11.339	Type 2 diabetes mellitus with moderate nonproliferative diabetic retinopathy without macular edema	ICD-10-CM
E11.3391	Type 2 diabetes mellitus with moderate nonproliferative diabetic retinopathy without macular edema, right eye	ICD-10-CM
E11.3392	Type 2 diabetes mellitus with moderate nonproliferative diabetic retinopathy without macular edema, left eye	ICD-10-CM
E11.3393	Type 2 diabetes mellitus with moderate nonproliferative diabetic retinopathy without macular edema, bilateral	ICD-10-CM
E11.3399	Type 2 diabetes mellitus with moderate nonproliferative diabetic retinopathy without macular edema, unspecified eye	ICD-10-CM
E11.341	Type 2 diabetes mellitus with severe nonproliferative diabetic retinopathy with macular edema	ICD-10-CM
E11.3411	Type 2 diabetes mellitus with severe nonproliferative diabetic retinopathy with macular edema, right eye	ICD-10-CM
E11.3412	Type 2 diabetes mellitus with severe nonproliferative diabetic retinopathy with macular edema, left eye	ICD-10-CM
E11.3413	Type 2 diabetes mellitus with severe nonproliferative diabetic retinopathy with macular edema, bilateral	ICD-10-CM
E11.3419	Type 2 diabetes mellitus with severe nonproliferative diabetic retinopathy with macular edema, unspecified eye	ICD-10-CM
E11.349	Type 2 diabetes mellitus with severe nonproliferative diabetic retinopathy without macular edema	ICD-10-CM
E11.3491	Type 2 diabetes mellitus with severe nonproliferative diabetic retinopathy without macular edema, right eye	ICD-10-CM
E11.3492	Type 2 diabetes mellitus with severe nonproliferative diabetic retinopathy without macular edema, left eye	ICD-10-CM
E11.3493	Type 2 diabetes mellitus with severe nonproliferative diabetic retinopathy without macular edema, bilateral	ICD-10-CM
E11.3499	Type 2 diabetes mellitus with severe nonproliferative diabetic retinopathy without macular edema, unspecified eye	ICD-10-CM
E11.351	Type 2 diabetes mellitus with proliferative diabetic retinopathy with macular edema	ICD-10-CM
E11.3511	Type 2 diabetes mellitus with proliferative diabetic retinopathy with macular edema, right eye	ICD-10-CM
E11.3512	Type 2 diabetes mellitus with proliferative diabetic retinopathy with macular edema, left eye	ICD-10-CM
E11.3513	Type 2 diabetes mellitus with proliferative diabetic retinopathy with macular edema, bilateral	ICD-10-CM
E11.3519	Type 2 diabetes mellitus with proliferative diabetic retinopathy with macular edema, unspecified eye	ICD-10-CM

**Appendix C. List of International Classification of Diseases, Ninth and Tenth Revisions, Clinical Modification (ICD-9-CM and ICD-10-CM) and International Classification of Diseases, Tenth Revision, Procedure Coding System (ICD-10-PCS) Codes used to Define Covariates in this Request**

<b>Code</b>	<b>Description</b>	<b>Code Type</b>
E11.3521	Type 2 diabetes mellitus with proliferative diabetic retinopathy with traction retinal detachment involving the macula, right eye	ICD-10-CM
E11.3522	Type 2 diabetes mellitus with proliferative diabetic retinopathy with traction retinal detachment involving the macula, left eye	ICD-10-CM
E11.3523	Type 2 diabetes mellitus with proliferative diabetic retinopathy with traction retinal detachment involving the macula, bilateral	ICD-10-CM
E11.3529	Type 2 diabetes mellitus with proliferative diabetic retinopathy with traction retinal detachment involving the macula, unspecified eye	ICD-10-CM
E11.3531	Type 2 diabetes mellitus with proliferative diabetic retinopathy with traction retinal detachment not involving the macula, right eye	ICD-10-CM
E11.3532	Type 2 diabetes mellitus with proliferative diabetic retinopathy with traction retinal detachment not involving the macula, left eye	ICD-10-CM
E11.3533	Type 2 diabetes mellitus with proliferative diabetic retinopathy with traction retinal detachment not involving the macula, bilateral	ICD-10-CM
E11.3539	Type 2 diabetes mellitus with proliferative diabetic retinopathy with traction retinal detachment not involving the macula, unspecified eye	ICD-10-CM
E11.3541	Type 2 diabetes mellitus with proliferative diabetic retinopathy with combined traction retinal detachment and rhegmatogenous retinal detachment, right eye	ICD-10-CM
E11.3542	Type 2 diabetes mellitus with proliferative diabetic retinopathy with combined traction retinal detachment and rhegmatogenous retinal detachment, left eye	ICD-10-CM
E11.3543	Type 2 diabetes mellitus with proliferative diabetic retinopathy with combined traction retinal detachment and rhegmatogenous retinal detachment, bilateral	ICD-10-CM
E11.3549	Type 2 diabetes mellitus with proliferative diabetic retinopathy with combined traction retinal detachment and rhegmatogenous retinal detachment, unspecified eye	ICD-10-CM
E11.3551	Type 2 diabetes mellitus with stable proliferative diabetic retinopathy, right eye	ICD-10-CM
E11.3552	Type 2 diabetes mellitus with stable proliferative diabetic retinopathy, left eye	ICD-10-CM
E11.3553	Type 2 diabetes mellitus with stable proliferative diabetic retinopathy, bilateral	ICD-10-CM
E11.3559	Type 2 diabetes mellitus with stable proliferative diabetic retinopathy, unspecified eye	ICD-10-CM
E11.359	Type 2 diabetes mellitus with proliferative diabetic retinopathy without macular edema	ICD-10-CM
E11.3591	Type 2 diabetes mellitus with proliferative diabetic retinopathy without macular edema, right eye	ICD-10-CM
E11.3592	Type 2 diabetes mellitus with proliferative diabetic retinopathy without macular edema, left eye	ICD-10-CM
E11.3593	Type 2 diabetes mellitus with proliferative diabetic retinopathy without macular edema, bilateral	ICD-10-CM
E11.3599	Type 2 diabetes mellitus with proliferative diabetic retinopathy without macular edema, unspecified eye	ICD-10-CM
E11.36	Type 2 diabetes mellitus with diabetic cataract	ICD-10-CM
E11.37X1	Type 2 diabetes mellitus with diabetic macular edema, resolved following treatment, right eye	ICD-10-CM
E11.37X2	Type 2 diabetes mellitus with diabetic macular edema, resolved following treatment, left eye	ICD-10-CM
E11.37X3	Type 2 diabetes mellitus with diabetic macular edema, resolved following treatment, bilateral	ICD-10-CM
E11.37X9	Type 2 diabetes mellitus with diabetic macular edema, resolved following treatment, unspecified eye	ICD-10-CM
E11.39	Type 2 diabetes mellitus with other diabetic ophthalmic complication	ICD-10-CM

**Appendix C. List of International Classification of Diseases, Ninth and Tenth Revisions, Clinical Modification (ICD-9-CM and ICD-10-CM) and International Classification of Diseases, Tenth Revision, Procedure Coding System (ICD-10-PCS) Codes used to Define Covariates in this Request**

<b>Code</b>	<b>Description</b>	<b>Code Type</b>
E11.40	Type 2 diabetes mellitus with diabetic neuropathy, unspecified	ICD-10-CM
E11.41	Type 2 diabetes mellitus with diabetic mononeuropathy	ICD-10-CM
E11.42	Type 2 diabetes mellitus with diabetic polyneuropathy	ICD-10-CM
E11.43	Type 2 diabetes mellitus with diabetic autonomic (poly)neuropathy	ICD-10-CM
E11.44	Type 2 diabetes mellitus with diabetic amyotrophy	ICD-10-CM
E11.49	Type 2 diabetes mellitus with other diabetic neurological complication	ICD-10-CM
E11.51	Type 2 diabetes mellitus with diabetic peripheral angiopathy without gangrene	ICD-10-CM
E11.52	Type 2 diabetes mellitus with diabetic peripheral angiopathy with gangrene	ICD-10-CM
E11.59	Type 2 diabetes mellitus with other circulatory complications	ICD-10-CM
E11.610	Type 2 diabetes mellitus with diabetic neuropathic arthropathy	ICD-10-CM
E11.618	Type 2 diabetes mellitus with other diabetic arthropathy	ICD-10-CM
E11.620	Type 2 diabetes mellitus with diabetic dermatitis	ICD-10-CM
E11.621	Type 2 diabetes mellitus with foot ulcer	ICD-10-CM
E11.622	Type 2 diabetes mellitus with other skin ulcer	ICD-10-CM
E11.628	Type 2 diabetes mellitus with other skin complications	ICD-10-CM
E11.630	Type 2 diabetes mellitus with periodontal disease	ICD-10-CM
E11.638	Type 2 diabetes mellitus with other oral complications	ICD-10-CM
E11.641	Type 2 diabetes mellitus with hypoglycemia with coma	ICD-10-CM
E11.649	Type 2 diabetes mellitus with hypoglycemia without coma	ICD-10-CM
E11.65	Type 2 diabetes mellitus with hyperglycemia	ICD-10-CM
E11.69	Type 2 diabetes mellitus with other specified complication	ICD-10-CM
E11.8	Type 2 diabetes mellitus with unspecified complications	ICD-10-CM
E11.9	Type 2 diabetes mellitus without complications	ICD-10-CM
E13.00	Other specified diabetes mellitus with hyperosmolarity without nonketotic hyperglycemic-hyperosmolar coma (NKHHC)	ICD-10-CM
E13.01	Other specified diabetes mellitus with hyperosmolarity with coma	ICD-10-CM
E13.10	Other specified diabetes mellitus with ketoacidosis without coma	ICD-10-CM
E13.11	Other specified diabetes mellitus with ketoacidosis with coma	ICD-10-CM
E13.21	Other specified diabetes mellitus with diabetic nephropathy	ICD-10-CM
E13.22	Other specified diabetes mellitus with diabetic chronic kidney disease	ICD-10-CM
E13.29	Other specified diabetes mellitus with other diabetic kidney complication	ICD-10-CM
E13.311	Other specified diabetes mellitus with unspecified diabetic retinopathy with macular edema	ICD-10-CM
E13.319	Other specified diabetes mellitus with unspecified diabetic retinopathy without macular edema	ICD-10-CM
E13.321	Other specified diabetes mellitus with mild nonproliferative diabetic retinopathy with macular edema	ICD-10-CM
E13.3211	Other specified diabetes mellitus with mild nonproliferative diabetic retinopathy with macular edema, right eye	ICD-10-CM
E13.3212	Other specified diabetes mellitus with mild nonproliferative diabetic retinopathy with macular edema, left eye	ICD-10-CM
E13.3213	Other specified diabetes mellitus with mild nonproliferative diabetic retinopathy with macular edema, bilateral	ICD-10-CM
E13.3219	Other specified diabetes mellitus with mild nonproliferative diabetic retinopathy with macular edema, unspecified eye	ICD-10-CM



**Appendix C. List of International Classification of Diseases, Ninth and Tenth Revisions, Clinical Modification (ICD-9-CM and ICD-10-CM) and International Classification of Diseases, Tenth Revision, Procedure Coding System (ICD-10-PCS) Codes used to Define Covariates in this Request**

<b>Code</b>	<b>Description</b>	<b>Code Type</b>
E13.329	Other specified diabetes mellitus with mild nonproliferative diabetic retinopathy without macular edema	ICD-10-CM
E13.3291	Other specified diabetes mellitus with mild nonproliferative diabetic retinopathy without macular edema, right eye	ICD-10-CM
E13.3292	Other specified diabetes mellitus with mild nonproliferative diabetic retinopathy without macular edema, left eye	ICD-10-CM
E13.3293	Other specified diabetes mellitus with mild nonproliferative diabetic retinopathy without macular edema, bilateral	ICD-10-CM
E13.3299	Other specified diabetes mellitus with mild nonproliferative diabetic retinopathy without macular edema, unspecified eye	ICD-10-CM
E13.331	Other specified diabetes mellitus with moderate nonproliferative diabetic retinopathy with macular edema	ICD-10-CM
E13.3311	Other specified diabetes mellitus with moderate nonproliferative diabetic retinopathy with macular edema, right eye	ICD-10-CM
E13.3312	Other specified diabetes mellitus with moderate nonproliferative diabetic retinopathy with macular edema, left eye	ICD-10-CM
E13.3313	Other specified diabetes mellitus with moderate nonproliferative diabetic retinopathy with macular edema, bilateral	ICD-10-CM
E13.3319	Other specified diabetes mellitus with moderate nonproliferative diabetic retinopathy with macular edema, unspecified eye	ICD-10-CM
E13.339	Other specified diabetes mellitus with moderate nonproliferative diabetic retinopathy without macular edema	ICD-10-CM
E13.3391	Other specified diabetes mellitus with moderate nonproliferative diabetic retinopathy without macular edema, right eye	ICD-10-CM
E13.3392	Other specified diabetes mellitus with moderate nonproliferative diabetic retinopathy without macular edema, left eye	ICD-10-CM
E13.3393	Other specified diabetes mellitus with moderate nonproliferative diabetic retinopathy without macular edema, bilateral	ICD-10-CM
E13.3399	Other specified diabetes mellitus with moderate nonproliferative diabetic retinopathy without macular edema, unspecified eye	ICD-10-CM
E13.341	Other specified diabetes mellitus with severe nonproliferative diabetic retinopathy with macular edema	ICD-10-CM
E13.3411	Other specified diabetes mellitus with severe nonproliferative diabetic retinopathy with macular edema, right eye	ICD-10-CM
E13.3412	Other specified diabetes mellitus with severe nonproliferative diabetic retinopathy with macular edema, left eye	ICD-10-CM
E13.3413	Other specified diabetes mellitus with severe nonproliferative diabetic retinopathy with macular edema, bilateral	ICD-10-CM
E13.3419	Other specified diabetes mellitus with severe nonproliferative diabetic retinopathy with macular edema, unspecified eye	ICD-10-CM
E13.349	Other specified diabetes mellitus with severe nonproliferative diabetic retinopathy without macular edema	ICD-10-CM
E13.3491	Other specified diabetes mellitus with severe nonproliferative diabetic retinopathy without macular edema, right eye	ICD-10-CM

**Appendix C. List of International Classification of Diseases, Ninth and Tenth Revisions, Clinical Modification (ICD-9-CM and ICD-10-CM) and International Classification of Diseases, Tenth Revision, Procedure Coding System (ICD-10-PCS) Codes used to Define Covariates in this Request**

<b>Code</b>	<b>Description</b>	<b>Code Type</b>
E13.3492	Other specified diabetes mellitus with severe nonproliferative diabetic retinopathy without macular edema, left eye	ICD-10-CM
E13.3493	Other specified diabetes mellitus with severe nonproliferative diabetic retinopathy without macular edema, bilateral	ICD-10-CM
E13.3499	Other specified diabetes mellitus with severe nonproliferative diabetic retinopathy without macular edema, unspecified eye	ICD-10-CM
E13.351	Other specified diabetes mellitus with proliferative diabetic retinopathy with macular edema	ICD-10-CM
E13.3511	Other specified diabetes mellitus with proliferative diabetic retinopathy with macular edema, right eye	ICD-10-CM
E13.3512	Other specified diabetes mellitus with proliferative diabetic retinopathy with macular edema, left eye	ICD-10-CM
E13.3513	Other specified diabetes mellitus with proliferative diabetic retinopathy with macular edema, bilateral	ICD-10-CM
E13.3519	Other specified diabetes mellitus with proliferative diabetic retinopathy with macular edema, unspecified eye	ICD-10-CM
E13.3521	Other specified diabetes mellitus with proliferative diabetic retinopathy with traction retinal detachment involving the macula, right eye	ICD-10-CM
E13.3522	Other specified diabetes mellitus with proliferative diabetic retinopathy with traction retinal detachment involving the macula, left eye	ICD-10-CM
E13.3523	Other specified diabetes mellitus with proliferative diabetic retinopathy with traction retinal detachment involving the macula, bilateral	ICD-10-CM
E13.3529	Other specified diabetes mellitus with proliferative diabetic retinopathy with traction retinal detachment involving the macula, unspecified eye	ICD-10-CM
E13.3531	Other specified diabetes mellitus with proliferative diabetic retinopathy with traction retinal detachment not involving the macula, right eye	ICD-10-CM
E13.3532	Other specified diabetes mellitus with proliferative diabetic retinopathy with traction retinal detachment not involving the macula, left eye	ICD-10-CM
E13.3533	Other specified diabetes mellitus with proliferative diabetic retinopathy with traction retinal detachment not involving the macula, bilateral	ICD-10-CM
E13.3539	Other specified diabetes mellitus with proliferative diabetic retinopathy with traction retinal detachment not involving the macula, unspecified eye	ICD-10-CM
E13.3541	Other specified diabetes mellitus with proliferative diabetic retinopathy with combined traction retinal detachment and rhegmatogenous retinal detachment, right eye	ICD-10-CM
E13.3542	Other specified diabetes mellitus with proliferative diabetic retinopathy with combined traction retinal detachment and rhegmatogenous retinal detachment, left eye	ICD-10-CM
E13.3543	Other specified diabetes mellitus with proliferative diabetic retinopathy with combined traction retinal detachment and rhegmatogenous retinal detachment, bilateral	ICD-10-CM
E13.3549	Other specified diabetes mellitus with proliferative diabetic retinopathy with combined traction retinal detachment and rhegmatogenous retinal detachment, unspecified eye	ICD-10-CM
E13.3551	Other specified diabetes mellitus with stable proliferative diabetic retinopathy, right eye	ICD-10-CM
E13.3552	Other specified diabetes mellitus with stable proliferative diabetic retinopathy, left eye	ICD-10-CM
E13.3553	Other specified diabetes mellitus with stable proliferative diabetic retinopathy, bilateral	ICD-10-CM
E13.3559	Other specified diabetes mellitus with stable proliferative diabetic retinopathy, unspecified eye	ICD-10-CM

**Appendix C. List of International Classification of Diseases, Ninth and Tenth Revisions, Clinical Modification (ICD-9-CM and ICD-10-CM) and International Classification of Diseases, Tenth Revision, Procedure Coding System (ICD-10-PCS) Codes used to Define Covariates in this Request**

<b>Code</b>	<b>Description</b>	<b>Code Type</b>
E13.359	Other specified diabetes mellitus with proliferative diabetic retinopathy without macular edema	ICD-10-CM
E13.36	Other specified diabetes mellitus with diabetic cataract	ICD-10-CM
E13.39	Other specified diabetes mellitus with other diabetic ophthalmic complication	ICD-10-CM
E13.40	Other specified diabetes mellitus with diabetic neuropathy, unspecified	ICD-10-CM
E13.41	Other specified diabetes mellitus with diabetic mononeuropathy	ICD-10-CM
E13.42	Other specified diabetes mellitus with diabetic polyneuropathy	ICD-10-CM
E13.43	Other specified diabetes mellitus with diabetic autonomic (poly)neuropathy	ICD-10-CM
E13.44	Other specified diabetes mellitus with diabetic amyotrophy	ICD-10-CM
E13.49	Other specified diabetes mellitus with other diabetic neurological complication	ICD-10-CM
E13.51	Other specified diabetes mellitus with diabetic peripheral angiopathy without gangrene	ICD-10-CM
E13.52	Other specified diabetes mellitus with diabetic peripheral angiopathy with gangrene	ICD-10-CM
E13.59	Other specified diabetes mellitus with other circulatory complications	ICD-10-CM
E13.610	Other specified diabetes mellitus with diabetic neuropathic arthropathy	ICD-10-CM
E13.618	Other specified diabetes mellitus with other diabetic arthropathy	ICD-10-CM
E13.620	Other specified diabetes mellitus with diabetic dermatitis	ICD-10-CM
E13.621	Other specified diabetes mellitus with foot ulcer	ICD-10-CM
E13.622	Other specified diabetes mellitus with other skin ulcer	ICD-10-CM
E13.628	Other specified diabetes mellitus with other skin complications	ICD-10-CM
E13.630	Other specified diabetes mellitus with periodontal disease	ICD-10-CM
E13.638	Other specified diabetes mellitus with other oral complications	ICD-10-CM
E13.641	Other specified diabetes mellitus with hypoglycemia with coma	ICD-10-CM
E13.649	Other specified diabetes mellitus with hypoglycemia without coma	ICD-10-CM
E13.65	Other specified diabetes mellitus with hyperglycemia	ICD-10-CM
E13.69	Other specified diabetes mellitus with other specified complication	ICD-10-CM
E13.8	Other specified diabetes mellitus with unspecified complications	ICD-10-CM
E13.9	Other specified diabetes mellitus without complications	ICD-10-CM
<b>Glaucoma</b>		
362.85	Retinal nerve fiber bundle defects	ICD-9-CM
365.00	Unspecified preglaucoma	ICD-9-CM
365.01	Borderline glaucoma, open angle with borderline findings, low risk	ICD-9-CM
365.02	Borderline glaucoma with anatomical narrow angle	ICD-9-CM
365.03	Borderline glaucoma with steroid responders	ICD-9-CM
365.04	Borderline glaucoma with ocular hypertension	ICD-9-CM
365.10	Unspecified open-angle glaucoma	ICD-9-CM
365.11	Primary open-angle glaucoma	ICD-9-CM
365.12	Low tension open-angle glaucoma	ICD-9-CM
365.13	Pigmentary open-angle glaucoma	ICD-9-CM
365.15	Residual stage of open angle glaucoma	ICD-9-CM
365.20	Unspecified primary angle-closure glaucoma	ICD-9-CM
365.21	Intermittent angle-closure glaucoma	ICD-9-CM
365.22	Acute angle-closure glaucoma	ICD-9-CM
365.23	Chronic angle-closure glaucoma	ICD-9-CM
365.24	Residual stage of angle-closure glaucoma	ICD-9-CM

**Appendix C. List of International Classification of Diseases, Ninth and Tenth Revisions, Clinical Modification (ICD-9-CM and ICD-10-CM) and International Classification of Diseases, Tenth Revision, Procedure Coding System (ICD-10-PCS) Codes used to Define Covariates in this Request**

<b>Code</b>	<b>Description</b>	<b>Code Type</b>
365.31	Corticosteroid-induced glaucoma, glaucomatous stage	ICD-9-CM
365.32	Corticosteroid-induced glaucoma, residual stage	ICD-9-CM
365.41	Glaucoma associated with chamber angle anomalies	ICD-9-CM
365.42	Glaucoma associated with anomalies of iris	ICD-9-CM
365.43	Glaucoma associated with other anterior segment anomalies	ICD-9-CM
365.51	Phacolytic glaucoma	ICD-9-CM
365.52	Pseudoexfoliation glaucoma	ICD-9-CM
365.59	Glaucoma associated with other lens disorders	ICD-9-CM
365.60	Glaucoma associated with unspecified ocular disorder	ICD-9-CM
365.61	Glaucoma associated with pupillary block	ICD-9-CM
365.62	Glaucoma associated with ocular inflammations	ICD-9-CM
365.63	Glaucoma associated with vascular disorders of eye	ICD-9-CM
365.64	Glaucoma associated with tumors or cysts	ICD-9-CM
365.65	Glaucoma associated with ocular trauma	ICD-9-CM
365.81	Hypersecretion glaucoma	ICD-9-CM
365.82	Glaucoma with increased episcleral venous pressure	ICD-9-CM
365.83	Aqueous misdirection	ICD-9-CM
365.89	Other specified glaucoma	ICD-9-CM
365.9	Unspecified glaucoma	ICD-9-CM
377.14	Glaucomatous atrophy (cupping) of optic disc	ICD-9-CM
H40.001	Preglaucoma, unspecified, right eye	ICD-10-CM
H40.002	Preglaucoma, unspecified, left eye	ICD-10-CM
H40.003	Preglaucoma, unspecified, bilateral	ICD-10-CM
H40.01CD-9-CM	Preglaucoma, unspecified, unspecified eye	ICD-10-CM
H40.011	Open angle with borderline findings, low risk, right eye	ICD-10-CM
H40.012	Open angle with borderline findings, low risk, left eye	ICD-10-CM
H40.013	Open angle with borderline findings, low risk, bilateral	ICD-10-CM
H40.019	Open angle with borderline findings, low risk, unspecified eye	ICD-10-CM
H40.031	Anatomical narrow angle, right eye	ICD-10-CM
H40.032	Anatomical narrow angle, left eye	ICD-10-CM
H40.033	Anatomical narrow angle, bilateral	ICD-10-CM
H40.039	Anatomical narrow angle, unspecified eye	ICD-10-CM
H40.041	Steroid responder, right eye	ICD-10-CM
H40.042	Steroid responder, left eye	ICD-10-CM
H40.043	Steroid responder, bilateral	ICD-10-CM
H40.049	Steroid responder, unspecified eye	ICD-10-CM
H40.051	Ocular hypertension, right eye	ICD-10-CM
H40.052	Ocular hypertension, left eye	ICD-10-CM
H40.053	Ocular hypertension, bilateral	ICD-10-CM
H40.059	Ocular hypertension, unspecified eye	ICD-10-CM
H40.10X0	Unspecified open-angle glaucoma, stage unspecified	ICD-10-CM
H40.10X1	Unspecified open-angle glaucoma, mild stage	ICD-10-CM
H40.10X2	Unspecified open-angle glaucoma, moderate stage	ICD-10-CM
H40.10X3	Unspecified open-angle glaucoma, severe stage	ICD-10-CM

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<b>Code</b>	<b>Description</b>	<b>Code Type</b>
H40.10X4	Unspecified open-angle glaucoma, indeterminate stage	ICD-10-CM
H40.1110	Primary open-angle glaucoma, right eye, stage unspecified	ICD-10-CM
H40.1111	Primary open-angle glaucoma, right eye, mild stage	ICD-10-CM
H40.1112	Primary open-angle glaucoma, right eye, moderate stage	ICD-10-CM
H40.1113	Primary open-angle glaucoma, right eye, severe stage	ICD-10-CM
H40.1114	Primary open-angle glaucoma, right eye, indeterminate stage	ICD-10-CM
H40.1120	Primary open-angle glaucoma, left eye, stage unspecified	ICD-10-CM
H40.1121	Primary open-angle glaucoma, left eye, mild stage	ICD-10-CM
H40.1122	Primary open-angle glaucoma, left eye, moderate stage	ICD-10-CM
H40.1123	Primary open-angle glaucoma, left eye, severe stage	ICD-10-CM
H40.1124	Primary open-angle glaucoma, left eye, indeterminate stage	ICD-10-CM
H40.1130	Primary open-angle glaucoma, bilateral, stage unspecified	ICD-10-CM
H40.1131	Primary open-angle glaucoma, bilateral, mild stage	ICD-10-CM
H40.1132	Primary open-angle glaucoma, bilateral, moderate stage	ICD-10-CM
H40.1133	Primary open-angle glaucoma, bilateral, severe stage	ICD-10-CM
H40.1134	Primary open-angle glaucoma, bilateral, indeterminate stage	ICD-10-CM
H40.1190	Primary open-angle glaucoma, unspecified eye, stage unspecified	ICD-10-CM
H40.1191	Primary open-angle glaucoma, unspecified eye, mild stage	ICD-10-CM
H40.1192	Primary open-angle glaucoma, unspecified eye, moderate stage	ICD-10-CM
H40.1193	Primary open-angle glaucoma, unspecified eye, severe stage	ICD-10-CM
H40.1194	Primary open-angle glaucoma, unspecified eye, indeterminate stage	ICD-10-CM
H40.11X0	Primary open-angle glaucoma, stage unspecified	ICD-10-CM
H40.11X1	Primary open-angle glaucoma, mild stage	ICD-10-CM
H40.11X2	Primary open-angle glaucoma, moderate stage	ICD-10-CM
H40.11X3	Primary open-angle glaucoma, severe stage	ICD-10-CM
H40.11X4	Primary open-angle glaucoma, indeterminate stage	ICD-10-CM
H40.1210	Low-tension glaucoma, right eye, stage unspecified	ICD-10-CM
H40.1211	Low-tension glaucoma, right eye, mild stage	ICD-10-CM
H40.1212	Low-tension glaucoma, right eye, moderate stage	ICD-10-CM
H40.1213	Low-tension glaucoma, right eye, severe stage	ICD-10-CM
H40.1214	Low-tension glaucoma, right eye, indeterminate stage	ICD-10-CM
H40.1220	Low-tension glaucoma, left eye, stage unspecified	ICD-10-CM
H40.1221	Low-tension glaucoma, left eye, mild stage	ICD-10-CM
H40.1222	Low-tension glaucoma, left eye, moderate stage	ICD-10-CM
H40.1223	Low-tension glaucoma, left eye, severe stage	ICD-10-CM
H40.1224	Low-tension glaucoma, left eye, indeterminate stage	ICD-10-CM
H40.1230	Low-tension glaucoma, bilateral, stage unspecified	ICD-10-CM
H40.1231	Low-tension glaucoma, bilateral, mild stage	ICD-10-CM
H40.1232	Low-tension glaucoma, bilateral, moderate stage	ICD-10-CM
H40.1233	Low-tension glaucoma, bilateral, severe stage	ICD-10-CM
H40.1234	Low-tension glaucoma, bilateral, indeterminate stage	ICD-10-CM
H40.1290	Low-tension glaucoma, unspecified eye, stage unspecified	ICD-10-CM
H40.1291	Low-tension glaucoma, unspecified eye, mild stage	ICD-10-CM
H40.1292	Low-tension glaucoma, unspecified eye, moderate stage	ICD-10-CM

**Appendix C. List of International Classification of Diseases, Ninth and Tenth Revisions, Clinical Modification (ICD-9-CM and ICD-10-CM) and International Classification of Diseases, Tenth Revision, Procedure Coding System (ICD-10-PCS) Codes used to Define Covariates in this Request**

<b>Code</b>	<b>Description</b>	<b>Code Type</b>
H40.1293	Low-tension glaucoma, unspecified eye, severe stage	ICD-10-CM
H40.1294	Low-tension glaucoma, unspecified eye, indeterminate stage	ICD-10-CM
H40.1310	Pigmentary glaucoma, right eye, stage unspecified	ICD-10-CM
H40.1311	Pigmentary glaucoma, right eye, mild stage	ICD-10-CM
H40.1312	Pigmentary glaucoma, right eye, moderate stage	ICD-10-CM
H40.1313	Pigmentary glaucoma, right eye, severe stage	ICD-10-CM
H40.1314	Pigmentary glaucoma, right eye, indeterminate stage	ICD-10-CM
H40.1320	Pigmentary glaucoma, left eye, stage unspecified	ICD-10-CM
H40.1321	Pigmentary glaucoma, left eye, mild stage	ICD-10-CM
H40.1322	Pigmentary glaucoma, left eye, moderate stage	ICD-10-CM
H40.1323	Pigmentary glaucoma, left eye, severe stage	ICD-10-CM
H40.1324	Pigmentary glaucoma, left eye, indeterminate stage	ICD-10-CM
H40.1330	Pigmentary glaucoma, bilateral, stage unspecified	ICD-10-CM
H40.1331	Pigmentary glaucoma, bilateral, mild stage	ICD-10-CM
H40.1332	Pigmentary glaucoma, bilateral, moderate stage	ICD-10-CM
H40.1333	Pigmentary glaucoma, bilateral, severe stage	ICD-10-CM
H40.1334	Pigmentary glaucoma, bilateral, indeterminate stage	ICD-10-CM
H40.1390	Pigmentary glaucoma, unspecified eye, stage unspecified	ICD-10-CM
H40.1391	Pigmentary glaucoma, unspecified eye, mild stage	ICD-10-CM
H40.1392	Pigmentary glaucoma, unspecified eye, moderate stage	ICD-10-CM
H40.1393	Pigmentary glaucoma, unspecified eye, severe stage	ICD-10-CM
H40.1394	Pigmentary glaucoma, unspecified eye, indeterminate stage	ICD-10-CM
H40.1410	Capsular glaucoma with pseudoexfoliation of lens, right eye, stage unspecified	ICD-10-CM
H40.1411	Capsular glaucoma with pseudoexfoliation of lens, right eye, mild stage	ICD-10-CM
H40.1412	Capsular glaucoma with pseudoexfoliation of lens, right eye, moderate stage	ICD-10-CM
H40.1413	Capsular glaucoma with pseudoexfoliation of lens, right eye, severe stage	ICD-10-CM
H40.1414	Capsular glaucoma with pseudoexfoliation of lens, right eye, indeterminate stage	ICD-10-CM
H40.1420	Capsular glaucoma with pseudoexfoliation of lens, left eye, stage unspecified	ICD-10-CM
H40.1421	Capsular glaucoma with pseudoexfoliation of lens, left eye, mild stage	ICD-10-CM
H40.1422	Capsular glaucoma with pseudoexfoliation of lens, left eye, moderate stage	ICD-10-CM
H40.1423	Capsular glaucoma with pseudoexfoliation of lens, left eye, severe stage	ICD-10-CM
H40.1424	Capsular glaucoma with pseudoexfoliation of lens, left eye, indeterminate stage	ICD-10-CM
H40.1430	Capsular glaucoma with pseudoexfoliation of lens, bilateral, stage unspecified	ICD-10-CM
H40.1431	Capsular glaucoma with pseudoexfoliation of lens, bilateral, mild stage	ICD-10-CM
H40.1432	Capsular glaucoma with pseudoexfoliation of lens, bilateral, moderate stage	ICD-10-CM
H40.1433	Capsular glaucoma with pseudoexfoliation of lens, bilateral, severe stage	ICD-10-CM
H40.1434	Capsular glaucoma with pseudoexfoliation of lens, bilateral, indeterminate stage	ICD-10-CM
H40.1490	Capsular glaucoma with pseudoexfoliation of lens, unspecified eye, stage unspecified	ICD-10-CM
H40.1491	Capsular glaucoma with pseudoexfoliation of lens, unspecified eye, mild stage	ICD-10-CM
H40.1492	Capsular glaucoma with pseudoexfoliation of lens, unspecified eye, moderate stage	ICD-10-CM
H40.1493	Capsular glaucoma with pseudoexfoliation of lens, unspecified eye, severe stage	ICD-10-CM
H40.1494	Capsular glaucoma with pseudoexfoliation of lens, unspecified eye, indeterminate stage	ICD-10-CM
H40.151	Residual stage of open-angle glaucoma, right eye	ICD-10-CM
H40.152	Residual stage of open-angle glaucoma, left eye	ICD-10-CM

**Appendix C. List of International Classification of Diseases, Ninth and Tenth Revisions, Clinical Modification (ICD-9-CM and ICD-10-CM) and International Classification of Diseases, Tenth Revision, Procedure Coding System (ICD-10-PCS) Codes used to Define Covariates in this Request**

<b>Code</b>	<b>Description</b>	<b>Code Type</b>
H40.153	Residual stage of open-angle glaucoma, bilateral	ICD-10-CM
H40.159	Residual stage of open-angle glaucoma, unspecified eye	ICD-10-CM
H40.20X0	Unspecified primary angle-closure glaucoma, stage unspecified	ICD-10-CM
H40.20X1	Unspecified primary angle-closure glaucoma, mild stage	ICD-10-CM
H40.20X2	Unspecified primary angle-closure glaucoma, moderate stage	ICD-10-CM
H40.20X3	Unspecified primary angle-closure glaucoma, severe stage	ICD-10-CM
H40.20X4	Unspecified primary angle-closure glaucoma, indeterminate stage	ICD-10-CM
H40.211	Acute angle-closure glaucoma, right eye	ICD-10-CM
H40.212	Acute angle-closure glaucoma, left eye	ICD-10-CM
H40.213	Acute angle-closure glaucoma, bilateral	ICD-10-CM
H40.219	Acute angle-closure glaucoma, unspecified eye	ICD-10-CM
H40.2210	Chronic angle-closure glaucoma, right eye, stage unspecified	ICD-10-CM
H40.2211	Chronic angle-closure glaucoma, right eye, mild stage	ICD-10-CM
H40.2212	Chronic angle-closure glaucoma, right eye, moderate stage	ICD-10-CM
H40.2213	Chronic angle-closure glaucoma, right eye, severe stage	ICD-10-CM
H40.2214	Chronic angle-closure glaucoma, right eye, indeterminate stage	ICD-10-CM
H40.2220	Chronic angle-closure glaucoma, left eye, stage unspecified	ICD-10-CM
H40.2221	Chronic angle-closure glaucoma, left eye, mild stage	ICD-10-CM
H40.2222	Chronic angle-closure glaucoma, left eye, moderate stage	ICD-10-CM
H40.2223	Chronic angle-closure glaucoma, left eye, severe stage	ICD-10-CM
H40.2224	Chronic angle-closure glaucoma, left eye, indeterminate stage	ICD-10-CM
H40.2230	Chronic angle-closure glaucoma, bilateral, stage unspecified	ICD-10-CM
H40.2231	Chronic angle-closure glaucoma, bilateral, mild stage	ICD-10-CM
H40.2232	Chronic angle-closure glaucoma, bilateral, moderate stage	ICD-10-CM
H40.2233	Chronic angle-closure glaucoma, bilateral, severe stage	ICD-10-CM
H40.2234	Chronic angle-closure glaucoma, bilateral, indeterminate stage	ICD-10-CM
H40.2290	Chronic angle-closure glaucoma, unspecified eye, stage unspecified	ICD-10-CM
H40.2291	Chronic angle-closure glaucoma, unspecified eye, mild stage	ICD-10-CM
H40.2292	Chronic angle-closure glaucoma, unspecified eye, moderate stage	ICD-10-CM
H40.2293	Chronic angle-closure glaucoma, unspecified eye, severe stage	ICD-10-CM
H40.2294	Chronic angle-closure glaucoma, unspecified eye, indeterminate stage	ICD-10-CM
H40.231	Intermittent angle-closure glaucoma, right eye	ICD-10-CM
H40.232	Intermittent angle-closure glaucoma, left eye	ICD-10-CM
H40.233	Intermittent angle-closure glaucoma, bilateral	ICD-10-CM
H40.239	Intermittent angle-closure glaucoma, unspecified eye	ICD-10-CM
H40.241	Residual stage of angle-closure glaucoma, right eye	ICD-10-CM
H40.242	Residual stage of angle-closure glaucoma, left eye	ICD-10-CM
H40.243	Residual stage of angle-closure glaucoma, bilateral	ICD-10-CM
H40.249	Residual stage of angle-closure glaucoma, unspecified eye	ICD-10-CM
H40.30X0	Glaucoma secondary to eye trauma, unspecified eye, stage unspecified	ICD-10-CM
H40.30X1	Glaucoma secondary to eye trauma, unspecified eye, mild stage	ICD-10-CM
H40.30X2	Glaucoma secondary to eye trauma, unspecified eye, moderate stage	ICD-10-CM
H40.30X3	Glaucoma secondary to eye trauma, unspecified eye, severe stage	ICD-10-CM
H40.30X4	Glaucoma secondary to eye trauma, unspecified eye, indeterminate stage	ICD-10-CM

**Appendix C. List of International Classification of Diseases, Ninth and Tenth Revisions, Clinical Modification (ICD-9-CM and ICD-10-CM) and International Classification of Diseases, Tenth Revision, Procedure Coding System (ICD-10-PCS) Codes used to Define Covariates in this Request**

<b>Code</b>	<b>Description</b>	<b>Code Type</b>
H40.31X0	Glaucoma secondary to eye trauma, right eye, stage unspecified	ICD-10-CM
H40.31X1	Glaucoma secondary to eye trauma, right eye, mild stage	ICD-10-CM
H40.31X2	Glaucoma secondary to eye trauma, right eye, moderate stage	ICD-10-CM
H40.31X3	Glaucoma secondary to eye trauma, right eye, severe stage	ICD-10-CM
H40.31X4	Glaucoma secondary to eye trauma, right eye, indeterminate stage	ICD-10-CM
H40.32X0	Glaucoma secondary to eye trauma, left eye, stage unspecified	ICD-10-CM
H40.32X1	Glaucoma secondary to eye trauma, left eye, mild stage	ICD-10-CM
H40.32X2	Glaucoma secondary to eye trauma, left eye, moderate stage	ICD-10-CM
H40.32X3	Glaucoma secondary to eye trauma, left eye, severe stage	ICD-10-CM
H40.33X0	Glaucoma secondary to eye trauma, bilateral, stage unspecified	ICD-10-CM
H40.33X1	Glaucoma secondary to eye trauma, bilateral, mild stage	ICD-10-CM
H40.33X2	Glaucoma secondary to eye trauma, bilateral, moderate stage	ICD-10-CM
H40.33X3	Glaucoma secondary to eye trauma, bilateral, severe stage	ICD-10-CM
H40.33X4	Glaucoma secondary to eye trauma, bilateral, indeterminate stage	ICD-10-CM
H40.40X0	Glaucoma secondary to eye inflammation, unspecified eye, stage unspecified	ICD-10-CM
H40.40X1	Glaucoma secondary to eye inflammation, unspecified eye, mild stage	ICD-10-CM
H40.40X2	Glaucoma secondary to eye inflammation, unspecified eye, moderate stage	ICD-10-CM
H40.40X3	Glaucoma secondary to eye inflammation, unspecified eye, severe stage	ICD-10-CM
H40.40X4	Glaucoma secondary to eye inflammation, unspecified eye, indeterminate stage	ICD-10-CM
H40.41X0	Glaucoma secondary to eye inflammation, right eye, stage unspecified	ICD-10-CM
H40.41X1	Glaucoma secondary to eye inflammation, right eye, mild stage	ICD-10-CM
H40.41X2	Glaucoma secondary to eye inflammation, right eye, moderate stage	ICD-10-CM
H40.41X3	Glaucoma secondary to eye inflammation, right eye, severe stage	ICD-10-CM
H40.41X4	Glaucoma secondary to eye inflammation, right eye, indeterminate stage	ICD-10-CM
H40.42X0	Glaucoma secondary to eye inflammation, left eye, stage unspecified	ICD-10-CM
H40.42X1	Glaucoma secondary to eye inflammation, left eye, mild stage	ICD-10-CM
H40.42X2	Glaucoma secondary to eye inflammation, left eye, moderate stage	ICD-10-CM
H40.42X3	Glaucoma secondary to eye inflammation, left eye, severe stage	ICD-10-CM
H40.42X4	Glaucoma secondary to eye inflammation, left eye, indeterminate stage	ICD-10-CM
H40.43X0	Glaucoma secondary to eye inflammation, bilateral, stage unspecified	ICD-10-CM
H40.43X1	Glaucoma secondary to eye inflammation, bilateral, mild stage	ICD-10-CM
H40.43X2	Glaucoma secondary to eye inflammation, bilateral, moderate stage	ICD-10-CM
H40.43X3	Glaucoma secondary to eye inflammation, bilateral, severe stage	ICD-10-CM
H40.43X4	Glaucoma secondary to eye inflammation, bilateral, indeterminate stage	ICD-10-CM
H40.50X0	Glaucoma secondary to other eye disorders, unspecified eye, stage unspecified	ICD-10-CM
H40.50X1	Glaucoma secondary to other eye disorders, unspecified eye, mild stage	ICD-10-CM
H40.50X2	Glaucoma secondary to other eye disorders, unspecified eye, moderate stage	ICD-10-CM
H40.50X3	Glaucoma secondary to other eye disorders, unspecified eye, severe stage	ICD-10-CM
H40.50X4	Glaucoma secondary to other eye disorders, unspecified eye, indeterminate stage	ICD-10-CM
H40.51X0	Glaucoma secondary to other eye disorders, right eye, stage unspecified	ICD-10-CM
H40.51X1	Glaucoma secondary to other eye disorders, right eye, mild stage	ICD-10-CM
H40.51X2	Glaucoma secondary to other eye disorders, right eye, moderate stage	ICD-10-CM
H40.51X3	Glaucoma secondary to other eye disorders, right eye, severe stage	ICD-10-CM
H40.51X4	Glaucoma secondary to other eye disorders, right eye, indeterminate stage	ICD-10-CM



**Appendix C. List of International Classification of Diseases, Ninth and Tenth Revisions, Clinical Modification (ICD-9-CM and ICD-10-CM) and International Classification of Diseases, Tenth Revision, Procedure Coding System (ICD-10-PCS) Codes used to Define Covariates in this Request**

<b>Code</b>	<b>Description</b>	<b>Code Type</b>
H40.52X0	Glaucoma secondary to other eye disorders, left eye, stage unspecified	ICD-10-CM
H40.52X1	Glaucoma secondary to other eye disorders, left eye, mild stage	ICD-10-CM
H40.52X2	Glaucoma secondary to other eye disorders, left eye, moderate stage	ICD-10-CM
H40.52X3	Glaucoma secondary to other eye disorders, left eye, severe stage	ICD-10-CM
H40.52X4	Glaucoma secondary to other eye disorders, left eye, indeterminate stage	ICD-10-CM
H40.53X0	Glaucoma secondary to other eye disorders, bilateral, stage unspecified	ICD-10-CM
H40.53X1	Glaucoma secondary to other eye disorders, bilateral, mild stage	ICD-10-CM
H40.53X2	Glaucoma secondary to other eye disorders, bilateral, moderate stage	ICD-10-CM
H40.53X3	Glaucoma secondary to other eye disorders, bilateral, severe stage	ICD-10-CM
H40.53X4	Glaucoma secondary to other eye disorders, bilateral, indeterminate stage	ICD-10-CM
H40.60X0	Glaucoma secondary to drugs, unspecified eye, stage unspecified	ICD-10-CM
H40.60X1	Glaucoma secondary to drugs, unspecified eye, mild stage	ICD-10-CM
H40.60X2	Glaucoma secondary to drugs, unspecified eye, moderate stage	ICD-10-CM
H40.60X3	Glaucoma secondary to drugs, unspecified eye, severe stage	ICD-10-CM
H40.60X4	Glaucoma secondary to drugs, unspecified eye, indeterminate stage	ICD-10-CM
H40.61X0	Glaucoma secondary to drugs, right eye, stage unspecified	ICD-10-CM
H40.61X1	Glaucoma secondary to drugs, right eye, mild stage	ICD-10-CM
H40.61X2	Glaucoma secondary to drugs, right eye, moderate stage	ICD-10-CM
H40.61X3	Glaucoma secondary to drugs, right eye, severe stage	ICD-10-CM
H40.61X4	Glaucoma secondary to drugs, right eye, indeterminate stage	ICD-10-CM
H40.62X0	Glaucoma secondary to drugs, left eye, stage unspecified	ICD-10-CM
H40.62X1	Glaucoma secondary to drugs, left eye, mild stage	ICD-10-CM
H40.62X2	Glaucoma secondary to drugs, left eye, moderate stage	ICD-10-CM
H40.62X3	Glaucoma secondary to drugs, left eye, severe stage	ICD-10-CM
H40.62X4	Glaucoma secondary to drugs, left eye, indeterminate stage	ICD-10-CM
H40.63X0	Glaucoma secondary to drugs, bilateral, stage unspecified	ICD-10-CM
H40.63X1	Glaucoma secondary to drugs, bilateral, mild stage	ICD-10-CM
H40.63X2	Glaucoma secondary to drugs, bilateral, moderate stage	ICD-10-CM
H40.63X3	Glaucoma secondary to drugs, bilateral, severe stage	ICD-10-CM
H40.63X4	Glaucoma secondary to drugs, bilateral, indeterminate stage	ICD-10-CM
H40.811	Glaucoma with increased episcleral venous pressure, right eye	ICD-10-CM
H40.812	Glaucoma with increased episcleral venous pressure, left eye	ICD-10-CM
H40.813	Glaucoma with increased episcleral venous pressure, bilateral	ICD-10-CM
H40.819	Glaucoma with increased episcleral venous pressure, unspecified eye	ICD-10-CM
H40.821	Hypersecretion glaucoma, right eye	ICD-10-CM
H40.822	Hypersecretion glaucoma, left eye	ICD-10-CM
H40.823	Hypersecretion glaucoma, bilateral	ICD-10-CM
H40.829	Hypersecretion glaucoma, unspecified eye	ICD-10-CM
H40.831	Aqueous misdirection, right eye	ICD-10-CM
H40.832	Aqueous misdirection, left eye	ICD-10-CM
H40.833	Aqueous misdirection, bilateral	ICD-10-CM
H40.839	Aqueous misdirection, unspecified eye	ICD-10-CM
H40.89	Other specified glaucoma	ICD-10-CM
H40.9	Unspecified glaucoma	ICD-10-CM

**Appendix C. List of International Classification of Diseases, Ninth and Tenth Revisions, Clinical Modification (ICD-9-CM and ICD-10-CM) and International Classification of Diseases, Tenth Revision, Procedure Coding System (ICD-10-PCS) Codes used to Define Covariates in this Request**

<b>Code</b>	<b>Description</b>	<b>Code Type</b>
H42	Glaucoma in diseases classified elsewhere	ICD-10-CM
H44.511	Absolute glaucoma, right eye	ICD-10-CM
H44.512	Absolute glaucoma, left eye	ICD-10-CM
H44.513	Absolute glaucoma, bilateral	ICD-10-CM
H44.519	Absolute glaucoma, unspecified eye	ICD-10-CM
H47.231	Glaucomatous optic atrophy, right eye	ICD-10-CM
H47.232	Glaucomatous optic atrophy, left eye	ICD-10-CM
H47.233	Glaucomatous optic atrophy, bilateral	ICD-10-CM
H47.239	Glaucomatous optic atrophy, unspecified eye	ICD-10-CM
Q15.0	Congenital glaucoma	ICD-10-CM
<b>Heart failure</b>		
398.91	Rheumatic heart failure (congestive)	ICD-9-CM
402.01	Malignant hypertensive heart disease with heart failure	ICD-9-CM
402.11	Benign hypertensive heart disease with heart failure	ICD-9-CM
402.91	Hypertensive heart disease, unspecified, with heart failure	ICD-9-CM
404.01	Hypertensive heart and chronic kidney disease, malignant, with heart failure and with chronic kidney disease stage I through stage IV, or unspecified	ICD-9-CM
404.03	Hypertensive heart and chronic kidney disease, malignant, with heart failure and with chronic kidney disease stage V or end stage renal disease	ICD-9-CM
404.11	Hypertensive heart and chronic kidney disease, benign, with heart failure and with chronic kidney disease stage I through stage IV, or unspecified	ICD-9-CM
404.13	Hypertensive heart and chronic kidney disease, benign, with heart failure and chronic kidney disease stage V or end stage renal disease	ICD-9-CM
404.91	Hypertensive heart and chronic kidney disease, unspecified, with heart failure and with chronic kidney disease stage I through stage IV, or unspecified	ICD-9-CM
404.93	Hypertensive heart and chronic kidney disease, unspecified, with heart failure and chronic kidney disease stage V or end stage renal disease	ICD-9-CM
428.0	Congestive heart failure, unspecified	ICD-9-CM
428.1	Left heart failure	ICD-9-CM
428.20	Unspecified systolic heart failure	ICD-9-CM
428.21	Acute systolic heart failure	ICD-9-CM
428.22	Chronic systolic heart failure	ICD-9-CM
428.23	Acute on chronic systolic heart failure	ICD-9-CM
428.30	Unspecified diastolic heart failure	ICD-9-CM
428.31	Acute diastolic heart failure	ICD-9-CM
428.32	Chronic diastolic heart failure	ICD-9-CM
428.33	Acute on chronic diastolic heart failure	ICD-9-CM
428.40	Unspecified combined systolic and diastolic heart failure	ICD-9-CM
428.41	Acute combined systolic and diastolic heart failure	ICD-9-CM
428.42	Chronic combined systolic and diastolic heart failure	ICD-9-CM
428.43	Acute on chronic combined systolic and diastolic heart failure	ICD-9-CM
428.9	Unspecified heart failure	ICD-9-CM
IICD-9-CM.81	Rheumatic heart failure	ICD-10-CM
I11.0	Hypertensive heart disease with heart failure	ICD-10-CM

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<b>Code</b>	<b>Description</b>	<b>Code Type</b>
I13.0	Hypertensive heart and chronic kidney disease with heart failure and stage 1 through stage 4 chronic kidney disease, or unspecified chronic kidney disease	ICD-10-CM
I13.2	Hypertensive heart and chronic kidney disease with heart failure and with stage 5 chronic kidney disease, or end stage renal disease	ICD-10-CM
I50.1	Left ventricular failure, unspecified	ICD-10-CM
I50.20	Unspecified systolic (congestive) heart failure	ICD-10-CM
I50.21	Acute systolic (congestive) heart failure	ICD-10-CM
I50.22	Chronic systolic (congestive) heart failure	ICD-10-CM
I50.23	Acute on chronic systolic (congestive) heart failure	ICD-10-CM
I50.30	Unspecified diastolic (congestive) heart failure	ICD-10-CM
I50.31	Acute diastolic (congestive) heart failure	ICD-10-CM
I50.32	Chronic diastolic (congestive) heart failure	ICD-10-CM
I50.33	Acute on chronic diastolic (congestive) heart failure	ICD-10-CM
I50.40	Unspecified combined systolic (congestive) and diastolic (congestive) heart failure	ICD-10-CM
I50.41	Acute combined systolic (congestive) and diastolic (congestive) heart failure	ICD-10-CM
I50.42	Chronic combined systolic (congestive) and diastolic (congestive) heart failure	ICD-10-CM
I50.43	Acute on chronic combined systolic (congestive) and diastolic (congestive) heart failure	ICD-10-CM
I50.810	Right heart failure, unspecified	ICD-10-CM
I50.811	Acute right heart failure	ICD-10-CM
I50.812	Chronic right heart failure	ICD-10-CM
I50.813	Acute on chronic right heart failure	ICD-10-CM
I50.814	Right heart failure due to left heart failure	ICD-10-CM
I50.82	Biventricular heart failure	ICD-10-CM
I50.83	High output heart failure	ICD-10-CM
I50.84	End stage heart failure	ICD-10-CM
I50.89	Other heart failure	ICD-10-CM
I50.9	Heart failure, unspecified	ICD-10-CM
<b>Hyperlipidemia</b>		
272.0	Pure hypercholesterolemia	ICD-9-CM
272.1	Pure hyperglyceridemia	ICD-9-CM
272.2	Mixed hyperlipidemia	ICD-9-CM
272.3	Hyperchylomicronemia	ICD-9-CM
272.4	Other and unspecified hyperlipidemia	ICD-9-CM
E78.0	Pure hypercholesterolemia	ICD-10-CM
E78.1	Pure hyperglyceridemia	ICD-10-CM
E78.2	Mixed hyperlipidemia	ICD-10-CM
E78.3	Hyperchylomicronemia	ICD-10-CM
E78.4	Other hyperlipidemia	ICD-10-CM
E78.5	Hyperlipidemia, unspecified	ICD-10-CM
<b>Hypertension</b>		
362.11	Hypertensive retinopathy	ICD-9-CM
401.0	Essential hypertension, malignant	ICD-9-CM
401.1	Essential hypertension, benign	ICD-9-CM
401.9	Unspecified essential hypertension	ICD-9-CM

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<b>Code</b>	<b>Description</b>	<b>Code Type</b>
402.00	Malignant hypertensive heart disease without heart failure	ICD-9-CM
402.01	Malignant hypertensive heart disease with heart failure	ICD-9-CM
402.10	Benign hypertensive heart disease without heart failure	ICD-9-CM
402.11	Benign hypertensive heart disease with heart failure	ICD-9-CM
402.90	Unspecified hypertensive heart disease without heart failure	ICD-9-CM
402.91	Hypertensive heart disease, unspecified, with heart failure	ICD-9-CM
403.00	Hypertensive chronic kidney disease, malignant, with chronic kidney disease stage I through stage IV, or unspecified	ICD-9-CM
403.01	Hypertensive chronic kidney disease, malignant, with chronic kidney disease stage V or end stage renal disease	ICD-9-CM
403.10	Hypertensive chronic kidney disease, benign, with chronic kidney disease stage I through stage IV, or unspecified	ICD-9-CM
403.11	Hypertensive chronic kidney disease, benign, with chronic kidney disease stage V or end stage renal disease	ICD-9-CM
403.90	Hypertensive chronic kidney disease, unspecified, with chronic kidney disease stage I through stage IV, or unspecified	ICD-9-CM
403.91	Hypertensive chronic kidney disease, unspecified, with chronic kidney disease stage V or end stage renal disease	ICD-9-CM
404.00	Hypertensive heart and chronic kidney disease, malignant, without heart failure and with chronic kidney disease stage I through stage IV, or unspecified	ICD-9-CM
404.01	Hypertensive heart and chronic kidney disease, malignant, with heart failure and with chronic kidney disease stage I through stage IV, or unspecified	ICD-9-CM
404.02	Hypertensive heart and chronic kidney disease, malignant, without heart failure and with chronic kidney disease stage V or end stage renal disease	ICD-9-CM
404.03	Hypertensive heart and chronic kidney disease, malignant, with heart failure and with chronic kidney disease stage V or end stage renal disease	ICD-9-CM
404.10	Hypertensive heart and chronic kidney disease, benign, without heart failure and with chronic kidney disease stage I through stage IV, or unspecified	ICD-9-CM
404.11	Hypertensive heart and chronic kidney disease, benign, with heart failure and with chronic kidney disease stage I through stage IV, or unspecified	ICD-9-CM
404.12	Hypertensive heart and chronic kidney disease, benign, without heart failure and with chronic kidney disease stage V or end stage renal disease	ICD-9-CM
404.13	Hypertensive heart and chronic kidney disease, benign, with heart failure and chronic kidney disease stage V or end stage renal disease	ICD-9-CM
404.90	Hypertensive heart and chronic kidney disease, unspecified, without heart failure and with chronic kidney disease stage I through stage IV, or unspecified	ICD-9-CM
404.91	Hypertensive heart and chronic kidney disease, unspecified, with heart failure and with chronic kidney disease stage I through stage IV, or unspecified	ICD-9-CM
404.92	Hypertensive heart and chronic kidney disease, unspecified, without heart failure and with chronic kidney disease stage V or end stage renal disease	ICD-9-CM
404.93	Hypertensive heart and chronic kidney disease, unspecified, with heart failure and chronic kidney disease stage V or end stage renal disease	ICD-9-CM
405.01	Secondary renovascular hypertension, malignant	ICD-9-CM
405	Other secondary hypertension, malignant	ICD-9-CM

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<b>Code</b>	<b>Description</b>	<b>Code Type</b>
405.11	Secondary renovascular hypertension, benign	ICD-9-CM
405.19	Other secondary hypertension, benign	ICD-9-CM
405.91	Secondary renovascular hypertension, unspecified	ICD-9-CM
405.99	Other secondary hypertension, unspecified	ICD-9-CM
437.2	Hypertensive encephalopathy	ICD-9-CM
H35.031	Hypertensive retinopathy, right eye	ICD-10-CM
H35.032	Hypertensive retinopathy, left eye	ICD-10-CM
H35.033	Hypertensive retinopathy, bilateral	ICD-10-CM
H35.039	Hypertensive retinopathy, unspecified eye	ICD-10-CM
I10	Essential (primary) hypertension	ICD-10-CM
I11.0	Hypertensive heart disease with heart failure	ICD-10-CM
I11.9	Hypertensive heart disease without heart failure	ICD-10-CM
I12.0	Hypertensive chronic kidney disease with stage 5 chronic kidney disease or end stage renal disease	ICD-10-CM
I12.9	Hypertensive chronic kidney disease with stage 1 through stage 4 chronic kidney disease, or unspecified chronic kidney disease	ICD-10-CM
I13.0	Hypertensive heart and chronic kidney disease with heart failure and stage 1 through stage 4 chronic kidney disease, or unspecified chronic kidney disease	ICD-10-CM
I13.10	Hypertensive heart and chronic kidney disease without heart failure, with stage 1 through stage 4 chronic kidney disease, or unspecified chronic kidney disease	ICD-10-CM
I13.11	Hypertensive heart and chronic kidney disease without heart failure, with stage 5 chronic kidney disease, or end stage renal disease	ICD-10-CM
I13.2	Hypertensive heart and chronic kidney disease with heart failure and with stage 5 chronic kidney disease, or end stage renal disease	ICD-10-CM
I15.0	Renovascular hypertension	ICD-10-CM
I15.1	Hypertension secondary to other renal disorders	ICD-10-CM
I15.2	Hypertension secondary to endocrine disorders	ICD-10-CM
I15.8	Other secondary hypertension	ICD-10-CM
I15.9	Secondary hypertension, unspecified	ICD-10-CM
I67.4	Hypertensive encephalopathy	ICD-10-CM
N26.2	Page kidney	ICD-10-CM
<b>Ischemic heart disease</b>		
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
410.02	Acute myocardial infarction of anterolateral wall, subsequent 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
410.12	Acute myocardial infarction of other anterior wall, subsequent 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
410.22	Acute myocardial infarction of inferolateral wall, subsequent 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
410.32	Acute myocardial infarction of inferoposterior wall, subsequent episode of care	ICD-9-CM

**Appendix C. List of International Classification of Diseases, Ninth and Tenth Revisions, Clinical Modification (ICD-9-CM and ICD-10-CM) and International Classification of Diseases, Tenth Revision, Procedure Coding System (ICD-10-PCS) Codes used to Define Covariates in this Request**

<b>Code</b>	<b>Description</b>	<b>Code Type</b>
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
410.42	Acute myocardial infarction of other inferior wall, subsequent 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
410.52	Acute myocardial infarction of other lateral wall, subsequent 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
410.62	Acute myocardial infarction, true posterior wall infarction, subsequent 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
410.72	Acute myocardial infarction, subendocardial infarction, subsequent 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
410.82	Acute myocardial infarction of other specified sites, subsequent 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
410.92	Acute myocardial infarction, unspecified site, subsequent episode of care	ICD-9-CM
411.0	Postmyocardial infarction syndrome	ICD-9-CM
411.1	Intermediate coronary syndrome	ICD-9-CM
411.81	Acute coronary occlusion without myocardial infarction	ICD-9-CM
411.89	Other acute and subacute form of ischemic heart disease	ICD-9-CM
412	Old myocardial infarction	ICD-9-CM
413.0	Angina decubitus	ICD-9-CM
413.1	Prinzmetal angina	ICD-9-CM
413.9	Other and unspecified angina pectoris	ICD-9-CM
414.00	Coronary atherosclerosis of unspecified type of vessel, native or graft	ICD-9-CM
414.01	Coronary atherosclerosis of native coronary artery	ICD-9-CM
414.02	Coronary atherosclerosis of autologous vein bypass graft	ICD-9-CM
414.03	Coronary atherosclerosis of nonautologous biological bypass graft	ICD-9-CM
414.04	Coronary atherosclerosis of artery bypass graft	ICD-9-CM
414.05	Coronary atherosclerosis of unspecified type of bypass graft	ICD-9-CM
414.06	Coronary atherosclerosis, of native coronary artery of transplanted heart	ICD-9-CM
414.07	Coronary atherosclerosis, of bypass graft (artery) (vein) of transplanted heart	ICD-9-CM
414.12	Dissection of coronary artery	ICD-9-CM
414.2	Chronic total occlusion of coronary artery	ICD-9-CM
414.3	Coronary atherosclerosis due to lipid rich plaque	ICD-9-CM
414.4	Coronary atherosclerosis due to calcified coronary lesion	ICD-9-CM
414.8	Other specified forms of chronic ischemic heart disease	ICD-9-CM
414.9	Unspecified chronic ischemic heart disease	ICD-9-CM
I20.0	Unstable angina	ICD-10-CM
I20.1	Angina pectoris with documented spasm	ICD-10-CM
I20.8	Other forms of angina pectoris	ICD-10-CM
I20.9	Angina pectoris, unspecified	ICD-10-CM

**Appendix C. List of International Classification of Diseases, Ninth and Tenth Revisions, Clinical Modification (ICD-9-CM and ICD-10-CM) and International Classification of Diseases, Tenth Revision, Procedure Coding System (ICD-10-PCS) Codes used to Define Covariates in this Request**

<b>Code</b>	<b>Description</b>	<b>Code Type</b>
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
I21.0	ST elevation (STEMI) myocardial infarction involving other coronary artery of anterior wall	ICD-10-CM
I21.11	ST elevation (STEMI) myocardial infarction involving right coronary artery	ICD-10-CM
I21.19	ST elevation (STEMI) myocardial infarction involving other coronary artery of inferior wall	ICD-10-CM
I21.21	ST elevation (STEMI) myocardial infarction involving left circumflex coronary artery	ICD-10-CM
I21.29	ST elevation (STEMI) myocardial infarction involving other sites	ICD-10-CM
I21.3	ST elevation (STEMI) myocardial infarction of unspecified site	ICD-10-CM
I21.4	Non-ST elevation (NSTEMI) myocardial infarction	ICD-10-CM
I21.A1	Myocardial infarction type 2	ICD-10-CM
I21.A9	Other myocardial infarction type	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
I22.2	Subsequent non-ST elevation (NSTEMI) myocardial infarction	ICD-10-CM
I22.8	Subsequent ST elevation (STEMI) myocardial infarction of other sites	ICD-10-CM
I22.9	Subsequent ST elevation (STEMI) myocardial infarction of unspecified site	ICD-10-CM
I23.0	Hemopericardium as current complication following acute myocardial infarction	ICD-10-CM
I23.1	Atrial septal defect as current complication following acute myocardial infarction	ICD-10-CM
I23.2	Ventricular septal defect as current complication following acute myocardial infarction	ICD-10-CM
I23.3	Rupture of cardiac wall without hemopericardium as current complication following acute myocardial infarction	ICD-10-CM
I23.4	Rupture of chordae tendineae as current complication following acute myocardial infarction	ICD-10-CM
I23.5	Rupture of papillary muscle as current complication following acute myocardial infarction	ICD-10-CM
I23.6	Thrombosis of atrium, auricular appendage, and ventricle as current complications following acute myocardial infarction	ICD-10-CM
I23.7	Postinfarction angina	ICD-10-CM
I23.8	Other current complications following acute myocardial infarction	ICD-10-CM
I24.0	Acute coronary thrombosis not resulting in myocardial infarction	ICD-10-CM
I24.1	Dressler's syndrome	ICD-10-CM
I24.8	Other forms of acute ischemic heart disease	ICD-10-CM
I24.9	Acute ischemic heart disease, unspecified	ICD-10-CM
I25.10	Atherosclerotic heart disease of native coronary artery without angina pectoris	ICD-10-CM
I25.110	Atherosclerotic heart disease of native coronary artery with unstable angina pectoris	ICD-10-CM
I25.111	Atherosclerotic heart disease of native coronary artery with angina pectoris with documented spasm	ICD-10-CM
I25.118	Atherosclerotic heart disease of native coronary artery with other forms of angina pectoris	ICD-10-CM
I25.119	Atherosclerotic heart disease of native coronary artery with unspecified angina pectoris	ICD-10-CM
I25.2	Old myocardial infarction	ICD-10-CM
I25.3	Aneurysm of heart	ICD-10-CM
I25.41	Coronary artery aneurysm	ICD-10-CM
I25.42	Coronary artery dissection	ICD-10-CM
I25.5	Ischemic cardiomyopathy	ICD-10-CM
I25.6	Silent myocardial ischemia	ICD-10-CM
I25.700	Atherosclerosis of coronary artery bypass graft(s), unspecified, with unstable angina pectoris	ICD-10-CM

**Appendix C. List of International Classification of Diseases, Ninth and Tenth Revisions, Clinical Modification (ICD-9-CM and ICD-10-CM) and International Classification of Diseases, Tenth Revision, Procedure Coding System (ICD-10-PCS) Codes used to Define Covariates in this Request**

<b>Code</b>	<b>Description</b>	<b>Code Type</b>
I25.701	Atherosclerosis of coronary artery bypass graft(s), unspecified, with angina pectoris with documented spasm	ICD-10-CM
I25.708	Atherosclerosis of coronary artery bypass graft(s), unspecified, with other forms of angina pectoris	ICD-10-CM
I25.71CD-9-CM	Atherosclerosis of coronary artery bypass graft(s), unspecified, with unspecified angina pectoris	ICD-10-CM
I25.710	Atherosclerosis of autologous vein coronary artery bypass graft(s) with unstable angina pectoris	ICD-10-CM
I25.711	Atherosclerosis of autologous vein coronary artery bypass graft(s) with angina pectoris with documented spasm	ICD-10-CM
I25.718	Atherosclerosis of autologous vein coronary artery bypass graft(s) with other forms of angina pectoris	ICD-10-CM
I25.719	Atherosclerosis of autologous vein coronary artery bypass graft(s) with unspecified angina pectoris	ICD-10-CM
I25.720	Atherosclerosis of autologous artery coronary artery bypass graft(s) with unstable angina pectoris	ICD-10-CM
I25.721	Atherosclerosis of autologous artery coronary artery bypass graft(s) with angina pectoris with documented spasm	ICD-10-CM
I25.728	Atherosclerosis of autologous artery coronary artery bypass graft(s) with other forms of angina pectoris	ICD-10-CM
I25.729	Atherosclerosis of autologous artery coronary artery bypass graft(s) with unspecified angina pectoris	ICD-10-CM
I25.730	Atherosclerosis of nonautologous biological coronary artery bypass graft(s) with unstable angina pectoris	ICD-10-CM
I25.731	Atherosclerosis of nonautologous biological coronary artery bypass graft(s) with angina pectoris with documented spasm	ICD-10-CM
I25.738	Atherosclerosis of nonautologous biological coronary artery bypass graft(s) with other forms of angina pectoris	ICD-10-CM
I25.739	Atherosclerosis of nonautologous biological coronary artery bypass graft(s) with unspecified angina pectoris	ICD-10-CM
I25.750	Atherosclerosis of native coronary artery of transplanted heart with unstable angina	ICD-10-CM
I25.751	Atherosclerosis of native coronary artery of transplanted heart with angina pectoris with documented spasm	ICD-10-CM
I25.758	Atherosclerosis of native coronary artery of transplanted heart with other forms of angina pectoris	ICD-10-CM
I25.759	Atherosclerosis of native coronary artery of transplanted heart with unspecified angina pectoris	ICD-10-CM
I25.760	Atherosclerosis of bypass graft of coronary artery of transplanted heart with unstable angina	ICD-10-CM
I25.761	Atherosclerosis of bypass graft of coronary artery of transplanted heart with angina pectoris with documented spasm	ICD-10-CM
I25.768	Atherosclerosis of bypass graft of coronary artery of transplanted heart with other forms of angina pectoris	ICD-10-CM
I25.769	Atherosclerosis of bypass graft of coronary artery of transplanted heart with unspecified angina pectoris	ICD-10-CM



**Appendix C. List of International Classification of Diseases, Ninth and Tenth Revisions, Clinical Modification (ICD-9-CM and ICD-10-CM) and International Classification of Diseases, Tenth Revision, Procedure Coding System (ICD-10-PCS) Codes used to Define Covariates in this Request**

<b>Code</b>	<b>Description</b>	<b>Code Type</b>
I25.790	Atherosclerosis of other coronary artery bypass graft(s) with unstable angina pectoris	ICD-10-CM
I25.791	Atherosclerosis of other coronary artery bypass graft(s) with angina pectoris with documented spasm	ICD-10-CM
I25.798	Atherosclerosis of other coronary artery bypass graft(s) with other forms of angina pectoris	ICD-10-CM
I25.799	Atherosclerosis of other coronary artery bypass graft(s) with unspecified angina pectoris	ICD-10-CM
I25.810	Atherosclerosis of coronary artery bypass graft(s) without angina pectoris	ICD-10-CM
I25.811	Atherosclerosis of native coronary artery of transplanted heart without angina pectoris	ICD-10-CM
I25.812	Atherosclerosis of bypass graft of coronary artery of transplanted heart without angina pectoris	ICD-10-CM
I25.82	Chronic total occlusion of coronary artery	ICD-10-CM
I25.83	Coronary atherosclerosis due to lipid rich plaque	ICD-10-CM
I25.84	Coronary atherosclerosis due to calcified coronary lesion	ICD-10-CM
I25.89	Other forms of chronic ischemic heart disease	ICD-10-CM
I25.9	Chronic ischemic heart disease, unspecified	ICD-10-CM
<b>Osteoporosis</b>		
733.00	Unspecified osteoporosis	ICD-9-CM
733.01	Senile osteoporosis	ICD-9-CM
733.02	Idiopathic osteoporosis	ICD-9-CM
733.03	Disuse osteoporosis	ICD-9-CM
733	Other osteoporosis	ICD-9-CM
M81.0	Age-related osteoporosis without current pathological fracture	ICD-10-CM
M81.6	Localized osteoporosis [Lequesne]	ICD-10-CM
M81.8	Other osteoporosis without current pathological fracture	ICD-10-CM
<b>Rheumatoid arthritis/osteoarthritis</b>		
714.0	Rheumatoid arthritis	ICD-9-CM
714.1	Felty's syndrome	ICD-9-CM
714.2	Other rheumatoid arthritis with visceral or systemic involvement	ICD-9-CM
714.30	Polyarticular juvenile rheumatoid arthritis, chronic or unspecified	ICD-9-CM
714.31	Polyarticular juvenile rheumatoid arthritis, acute	ICD-9-CM
714.32	Pauciarticular juvenile rheumatoid arthritis	ICD-9-CM
714.33	Monoarticular juvenile rheumatoid arthritis	ICD-9-CM
715.00	Generalized osteoarthritis, unspecified site	ICD-9-CM
715.04	Generalized osteoarthritis, involving hand	ICD-9-CM
715	Generalized osteoarthritis, involving multiple sites	ICD-9-CM
715.10	Primary localized osteoarthritis, unspecified site	ICD-9-CM
715.11	Primary localized osteoarthritis, shoulder region	ICD-9-CM
715.12	Primary localized osteoarthritis, upper arm	ICD-9-CM
715.13	Primary localized osteoarthritis, forearm	ICD-9-CM
715.14	Primary localized osteoarthritis, hand	ICD-9-CM
715.15	Primary localized osteoarthritis, pelvic region and thigh	ICD-9-CM
715.16	Primary localized osteoarthritis, lower leg	ICD-9-CM
715.17	Primary localized osteoarthritis, ankle and foot	ICD-9-CM
715.18	Primary localized osteoarthritis, other specified sites	ICD-9-CM
715.20	Secondary localized osteoarthritis, unspecified site	ICD-9-CM

**Appendix C. List of International Classification of Diseases, Ninth and Tenth Revisions, Clinical Modification (ICD-9-CM and ICD-10-CM) and International Classification of Diseases, Tenth Revision, Procedure Coding System (ICD-10-PCS) Codes used to Define Covariates in this Request**

<b>Code</b>	<b>Description</b>	<b>Code Type</b>
715.21	Secondary localized osteoarthritis, shoulder region	ICD-9-CM
715.22	Secondary localized osteoarthritis, upper arm	ICD-9-CM
715.23	Secondary localized osteoarthritis, forearm	ICD-9-CM
715.24	Secondary localized osteoarthritis, involving hand	ICD-9-CM
715.25	Secondary localized osteoarthritis, pelvic region and thigh	ICD-9-CM
715.26	Secondary localized osteoarthritis, lower leg	ICD-9-CM
715.27	Secondary localized osteoarthritis, ankle and foot	ICD-9-CM
715.28	Secondary localized osteoarthritis, other specified site	ICD-9-CM
715.30	Localized osteoarthritis not specified whether primary or secondary, unspecified site	ICD-9-CM
715.31	Localized osteoarthritis not specified whether primary or secondary, shoulder region	ICD-9-CM
715.32	Localized osteoarthritis not specified whether primary or secondary, upper arm	ICD-9-CM
715.33	Localized osteoarthritis not specified whether primary or secondary, forearm	ICD-9-CM
715.34	Localized osteoarthritis not specified whether primary or secondary, hand	ICD-9-CM
715.35	Localized osteoarthritis not specified whether primary or secondary, pelvic region and thigh	ICD-9-CM
715.36	Localized osteoarthritis not specified whether primary or secondary, lower leg	ICD-9-CM
715.37	Localized osteoarthritis not specified whether primary or secondary, ankle and foot	ICD-9-CM
715.38	Localized osteoarthritis not specified whether primary or secondary, other specified sites	ICD-9-CM
715.80	Osteoarthritis involving more than one site, but not specified as generalized, unspecified site	ICD-9-CM
715.89	Osteoarthritis involving multiple sites, but not specified as generalized	ICD-9-CM
715.90	Osteoarthritis, unspecified whether generalized or localized, unspecified site	ICD-9-CM
715.91	Osteoarthritis, unspecified whether generalized or localized, shoulder region	ICD-9-CM
715.92	Osteoarthritis, unspecified whether generalized or localized, upper arm	ICD-9-CM
715.93	Osteoarthritis, unspecified whether generalized or localized, forearm	ICD-9-CM
715.94	Osteoarthritis, unspecified whether generalized or localized, hand	ICD-9-CM
715.95	Osteoarthritis, unspecified whether generalized or localized, pelvic region and thigh	ICD-9-CM
715.96	Osteoarthritis, unspecified whether generalized or localized, lower leg	ICD-9-CM
715.97	Osteoarthritis, unspecified whether generalized or localized, ankle and foot	ICD-9-CM
715.98	Osteoarthritis, unspecified whether generalized or localized, other specified sites	ICD-9-CM
720.0	Ankylosing spondylitis	ICD-9-CM
721.0	Cervical spondylosis without myelopathy	ICD-9-CM
721.1	Cervical spondylosis with myelopathy	ICD-9-CM
721.2	Thoracic spondylosis without myelopathy	ICD-9-CM
721.3	Lumbosacral spondylosis without myelopathy	ICD-9-CM
721.90	Spondylosis of unspecified site without mention of myelopathy	ICD-9-CM
721.91	Spondylosis of unspecified site with myelopathy	ICD-9-CM
M05.00	Felty's syndrome, unspecified site	ICD-10-CM
M05.011	Felty's syndrome, right shoulder	ICD-10-CM
M05.012	Felty's syndrome, left shoulder	ICD-10-CM
M05.019	Felty's syndrome, unspecified shoulder	ICD-10-CM
M05.021	Felty's syndrome, right elbow	ICD-10-CM
M05.022	Felty's syndrome, left elbow	ICD-10-CM
M05.029	Felty's syndrome, unspecified elbow	ICD-10-CM
M05.031	Felty's syndrome, right wrist	ICD-10-CM
M05.032	Felty's syndrome, left wrist	ICD-10-CM

**Appendix C. List of International Classification of Diseases, Ninth and Tenth Revisions, Clinical Modification (ICD-9-CM and ICD-10-CM) and International Classification of Diseases, Tenth Revision, Procedure Coding System (ICD-10-PCS) Codes used to Define Covariates in this Request**

<b>Code</b>	<b>Description</b>	<b>Code Type</b>
M05.039	Felty's syndrome, unspecified wrist	ICD-10-CM
M05.041	Felty's syndrome, right hand	ICD-10-CM
M05.042	Felty's syndrome, left hand	ICD-10-CM
M05.049	Felty's syndrome, unspecified hand	ICD-10-CM
M05.051	Felty's syndrome, right hip	ICD-10-CM
M05.052	Felty's syndrome, left hip	ICD-10-CM
M05.059	Felty's syndrome, unspecified hip	ICD-10-CM
M05.061	Felty's syndrome, right knee	ICD-10-CM
M05.062	Felty's syndrome, left knee	ICD-10-CM
M05.069	Felty's syndrome, unspecified knee	ICD-10-CM
M05.071	Felty's syndrome, right ankle and foot	ICD-10-CM
M05.072	Felty's syndrome, left ankle and foot	ICD-10-CM
M05.079	Felty's syndrome, unspecified ankle and foot	ICD-10-CM
M05.0	Felty's syndrome, multiple sites	ICD-10-CM
M05.20	Rheumatoid vasculitis with rheumatoid arthritis of unspecified site	ICD-10-CM
M05.211	Rheumatoid vasculitis with rheumatoid arthritis of right shoulder	ICD-10-CM
M05.212	Rheumatoid vasculitis with rheumatoid arthritis of left shoulder	ICD-10-CM
M05.219	Rheumatoid vasculitis with rheumatoid arthritis of unspecified shoulder	ICD-10-CM
M05.221	Rheumatoid vasculitis with rheumatoid arthritis of right elbow	ICD-10-CM
M05.222	Rheumatoid vasculitis with rheumatoid arthritis of left elbow	ICD-10-CM
M05.229	Rheumatoid vasculitis with rheumatoid arthritis of unspecified elbow	ICD-10-CM
M05.231	Rheumatoid vasculitis with rheumatoid arthritis of right wrist	ICD-10-CM
M05.232	Rheumatoid vasculitis with rheumatoid arthritis of left wrist	ICD-10-CM
M05.239	Rheumatoid vasculitis with rheumatoid arthritis of unspecified wrist	ICD-10-CM
M05.241	Rheumatoid vasculitis with rheumatoid arthritis of right hand	ICD-10-CM
M05.242	Rheumatoid vasculitis with rheumatoid arthritis of left hand	ICD-10-CM
M05.249	Rheumatoid vasculitis with rheumatoid arthritis of unspecified hand	ICD-10-CM
M05.251	Rheumatoid vasculitis with rheumatoid arthritis of right hip	ICD-10-CM
M05.252	Rheumatoid vasculitis with rheumatoid arthritis of left hip	ICD-10-CM
M05.259	Rheumatoid vasculitis with rheumatoid arthritis of unspecified hip	ICD-10-CM
M05.261	Rheumatoid vasculitis with rheumatoid arthritis of right knee	ICD-10-CM
M05.262	Rheumatoid vasculitis with rheumatoid arthritis of left knee	ICD-10-CM
M05.269	Rheumatoid vasculitis with rheumatoid arthritis of unspecified knee	ICD-10-CM
M05.271	Rheumatoid vasculitis with rheumatoid arthritis of right ankle and foot	ICD-10-CM
M05.272	Rheumatoid vasculitis with rheumatoid arthritis of left ankle and foot	ICD-10-CM
M05.279	Rheumatoid vasculitis with rheumatoid arthritis of unspecified ankle and foot	ICD-10-CM
M05.29	Rheumatoid vasculitis with rheumatoid arthritis of multiple sites	ICD-10-CM
M05.30	Rheumatoid heart disease with rheumatoid arthritis of unspecified site	ICD-10-CM
M05.311	Rheumatoid heart disease with rheumatoid arthritis of right shoulder	ICD-10-CM
M05.312	Rheumatoid heart disease with rheumatoid arthritis of left shoulder	ICD-10-CM
M05.319	Rheumatoid heart disease with rheumatoid arthritis of unspecified shoulder	ICD-10-CM
M05.321	Rheumatoid heart disease with rheumatoid arthritis of right elbow	ICD-10-CM
M05.322	Rheumatoid heart disease with rheumatoid arthritis of left elbow	ICD-10-CM
M05.329	Rheumatoid heart disease with rheumatoid arthritis of unspecified elbow	ICD-10-CM

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<b>Code</b>	<b>Description</b>	<b>Code Type</b>
M05.331	Rheumatoid heart disease with rheumatoid arthritis of right wrist	ICD-10-CM
M05.332	Rheumatoid heart disease with rheumatoid arthritis of left wrist	ICD-10-CM
M05.339	Rheumatoid heart disease with rheumatoid arthritis of unspecified wrist	ICD-10-CM
M05.341	Rheumatoid heart disease with rheumatoid arthritis of right hand	ICD-10-CM
M05.342	Rheumatoid heart disease with rheumatoid arthritis of left hand	ICD-10-CM
M05.349	Rheumatoid heart disease with rheumatoid arthritis of unspecified hand	ICD-10-CM
M05.351	Rheumatoid heart disease with rheumatoid arthritis of right hip	ICD-10-CM
M05.352	Rheumatoid heart disease with rheumatoid arthritis of left hip	ICD-10-CM
M05.359	Rheumatoid heart disease with rheumatoid arthritis of unspecified hip	ICD-10-CM
M05.361	Rheumatoid heart disease with rheumatoid arthritis of right knee	ICD-10-CM
M05.362	Rheumatoid heart disease with rheumatoid arthritis of left knee	ICD-10-CM
M05.369	Rheumatoid heart disease with rheumatoid arthritis of unspecified knee	ICD-10-CM
M05.371	Rheumatoid heart disease with rheumatoid arthritis of right ankle and foot	ICD-10-CM
M05.372	Rheumatoid heart disease with rheumatoid arthritis of left ankle and foot	ICD-10-CM
M05.379	Rheumatoid heart disease with rheumatoid arthritis of unspecified ankle and foot	ICD-10-CM
M05.39	Rheumatoid heart disease with rheumatoid arthritis of multiple sites	ICD-10-CM
M05.40	Rheumatoid myopathy with rheumatoid arthritis of unspecified site	ICD-10-CM
M05.411	Rheumatoid myopathy with rheumatoid arthritis of right shoulder	ICD-10-CM
M05.412	Rheumatoid myopathy with rheumatoid arthritis of left shoulder	ICD-10-CM
M05.419	Rheumatoid myopathy with rheumatoid arthritis of unspecified shoulder	ICD-10-CM
M05.421	Rheumatoid myopathy with rheumatoid arthritis of right elbow	ICD-10-CM
M05.422	Rheumatoid myopathy with rheumatoid arthritis of left elbow	ICD-10-CM
M05.429	Rheumatoid myopathy with rheumatoid arthritis of unspecified elbow	ICD-10-CM
M05.431	Rheumatoid myopathy with rheumatoid arthritis of right wrist	ICD-10-CM
M05.432	Rheumatoid myopathy with rheumatoid arthritis of left wrist	ICD-10-CM
M05.439	Rheumatoid myopathy with rheumatoid arthritis of unspecified wrist	ICD-10-CM
M05.441	Rheumatoid myopathy with rheumatoid arthritis of right hand	ICD-10-CM
M05.442	Rheumatoid myopathy with rheumatoid arthritis of left hand	ICD-10-CM
M05.449	Rheumatoid myopathy with rheumatoid arthritis of unspecified hand	ICD-10-CM
M05.451	Rheumatoid myopathy with rheumatoid arthritis of right hip	ICD-10-CM
M05.452	Rheumatoid myopathy with rheumatoid arthritis of left hip	ICD-10-CM
M05.459	Rheumatoid myopathy with rheumatoid arthritis of unspecified hip	ICD-10-CM
M05.461	Rheumatoid myopathy with rheumatoid arthritis of right knee	ICD-10-CM
M05.462	Rheumatoid myopathy with rheumatoid arthritis of left knee	ICD-10-CM
M05.469	Rheumatoid myopathy with rheumatoid arthritis of unspecified knee	ICD-10-CM
M05.471	Rheumatoid myopathy with rheumatoid arthritis of right ankle and foot	ICD-10-CM
M05.472	Rheumatoid myopathy with rheumatoid arthritis of left ankle and foot	ICD-10-CM
M05.479	Rheumatoid myopathy with rheumatoid arthritis of unspecified ankle and foot	ICD-10-CM
M05.49	Rheumatoid myopathy with rheumatoid arthritis of multiple sites	ICD-10-CM
M05.50	Rheumatoid polyneuropathy with rheumatoid arthritis of unspecified site	ICD-10-CM
M05.511	Rheumatoid polyneuropathy with rheumatoid arthritis of right shoulder	ICD-10-CM
M05.512	Rheumatoid polyneuropathy with rheumatoid arthritis of left shoulder	ICD-10-CM
M05.519	Rheumatoid polyneuropathy with rheumatoid arthritis of unspecified shoulder	ICD-10-CM
M05.521	Rheumatoid polyneuropathy with rheumatoid arthritis of right elbow	ICD-10-CM

**Appendix C. List of International Classification of Diseases, Ninth and Tenth Revisions, Clinical Modification (ICD-9-CM and ICD-10-CM) and International Classification of Diseases, Tenth Revision, Procedure Coding System (ICD-10-PCS) Codes used to Define Covariates in this Request**

<b>Code</b>	<b>Description</b>	<b>Code Type</b>
M05.522	Rheumatoid polyneuropathy with rheumatoid arthritis of left elbow	ICD-10-CM
M05.529	Rheumatoid polyneuropathy with rheumatoid arthritis of unspecified elbow	ICD-10-CM
M05.531	Rheumatoid polyneuropathy with rheumatoid arthritis of right wrist	ICD-10-CM
M05.532	Rheumatoid polyneuropathy with rheumatoid arthritis of left wrist	ICD-10-CM
M05.539	Rheumatoid polyneuropathy with rheumatoid arthritis of unspecified wrist	ICD-10-CM
M05.541	Rheumatoid polyneuropathy with rheumatoid arthritis of right hand	ICD-10-CM
M05.542	Rheumatoid polyneuropathy with rheumatoid arthritis of left hand	ICD-10-CM
M05.549	Rheumatoid polyneuropathy with rheumatoid arthritis of unspecified hand	ICD-10-CM
M05.551	Rheumatoid polyneuropathy with rheumatoid arthritis of right hip	ICD-10-CM
M05.552	Rheumatoid polyneuropathy with rheumatoid arthritis of left hip	ICD-10-CM
M05.559	Rheumatoid polyneuropathy with rheumatoid arthritis of unspecified hip	ICD-10-CM
M05.561	Rheumatoid polyneuropathy with rheumatoid arthritis of right knee	ICD-10-CM
M05.562	Rheumatoid polyneuropathy with rheumatoid arthritis of left knee	ICD-10-CM
M05.569	Rheumatoid polyneuropathy with rheumatoid arthritis of unspecified knee	ICD-10-CM
M05.571	Rheumatoid polyneuropathy with rheumatoid arthritis of right ankle and foot	ICD-10-CM
M05.572	Rheumatoid polyneuropathy with rheumatoid arthritis of left ankle and foot	ICD-10-CM
M05.579	Rheumatoid polyneuropathy with rheumatoid arthritis of unspecified ankle and foot	ICD-10-CM
M05.59	Rheumatoid polyneuropathy with rheumatoid arthritis of multiple sites	ICD-10-CM
M05.60	Rheumatoid arthritis of unspecified site with involvement of other organs and systems	ICD-10-CM
M05.611	Rheumatoid arthritis of right shoulder with involvement of other organs and systems	ICD-10-CM
M05.612	Rheumatoid arthritis of left shoulder with involvement of other organs and systems	ICD-10-CM
M05.619	Rheumatoid arthritis of unspecified shoulder with involvement of other organs and systems	ICD-10-CM
M05.621	Rheumatoid arthritis of right elbow with involvement of other organs and systems	ICD-10-CM
M05.622	Rheumatoid arthritis of left elbow with involvement of other organs and systems	ICD-10-CM
M05.629	Rheumatoid arthritis of unspecified elbow with involvement of other organs and systems	ICD-10-CM
M05.631	Rheumatoid arthritis of right wrist with involvement of other organs and systems	ICD-10-CM
M05.632	Rheumatoid arthritis of left wrist with involvement of other organs and systems	ICD-10-CM
M05.639	Rheumatoid arthritis of unspecified wrist with involvement of other organs and systems	ICD-10-CM
M05.641	Rheumatoid arthritis of right hand with involvement of other organs and systems	ICD-10-CM
M05.642	Rheumatoid arthritis of left hand with involvement of other organs and systems	ICD-10-CM
M05.649	Rheumatoid arthritis of unspecified hand with involvement of other organs and systems	ICD-10-CM
M05.651	Rheumatoid arthritis of right hip with involvement of other organs and systems	ICD-10-CM
M05.652	Rheumatoid arthritis of left hip with involvement of other organs and systems	ICD-10-CM
M05.659	Rheumatoid arthritis of unspecified hip with involvement of other organs and systems	ICD-10-CM
M05.661	Rheumatoid arthritis of right knee with involvement of other organs and systems	ICD-10-CM
M05.662	Rheumatoid arthritis of left knee with involvement of other organs and systems	ICD-10-CM
M05.669	Rheumatoid arthritis of unspecified knee with involvement of other organs and systems	ICD-10-CM
M05.671	Rheumatoid arthritis of right ankle and foot with involvement of other organs and systems	ICD-10-CM
M05.672	Rheumatoid arthritis of left ankle and foot with involvement of other organs and systems	ICD-10-CM
M05.679	Rheumatoid arthritis of unspecified ankle and foot with involvement of other organs and systems	ICD-10-CM
M05.69	Rheumatoid arthritis of multiple sites with involvement of other organs and systems	ICD-10-CM
M05.70	Rheumatoid arthritis with rheumatoid factor of unspecified site without organ or systems involvement	ICD-10-CM

**Appendix C. List of International Classification of Diseases, Ninth and Tenth Revisions, Clinical Modification (ICD-9-CM and ICD-10-CM) and International Classification of Diseases, Tenth Revision, Procedure Coding System (ICD-10-PCS) Codes used to Define Covariates in this Request**

<b>Code</b>	<b>Description</b>	<b>Code Type</b>
M05.711	Rheumatoid arthritis with rheumatoid factor of right shoulder without organ or systems involvement	ICD-10-CM
M05.712	Rheumatoid arthritis with rheumatoid factor of left shoulder without organ or systems involvement	ICD-10-CM
M05.719	Rheumatoid arthritis with rheumatoid factor of unspecified shoulder without organ or systems involvement	ICD-10-CM
M05.721	Rheumatoid arthritis with rheumatoid factor of right elbow without organ or systems involvement	ICD-10-CM
M05.722	Rheumatoid arthritis with rheumatoid factor of left elbow without organ or systems involvement	ICD-10-CM
M05.729	Rheumatoid arthritis with rheumatoid factor of unspecified elbow without organ or systems involvement	ICD-10-CM
M05.731	Rheumatoid arthritis with rheumatoid factor of right wrist without organ or systems involvement	ICD-10-CM
M05.732	Rheumatoid arthritis with rheumatoid factor of left wrist without organ or systems involvement	ICD-10-CM
M05.739	Rheumatoid arthritis with rheumatoid factor of unspecified wrist without organ or systems involvement	ICD-10-CM
M05.741	Rheumatoid arthritis with rheumatoid factor of right hand without organ or systems involvement	ICD-10-CM
M05.742	Rheumatoid arthritis with rheumatoid factor of left hand without organ or systems involvement	ICD-10-CM
M05.749	Rheumatoid arthritis with rheumatoid factor of unspecified hand without organ or systems involvement	ICD-10-CM
M05.751	Rheumatoid arthritis with rheumatoid factor of right hip without organ or systems involvement	ICD-10-CM
M05.752	Rheumatoid arthritis with rheumatoid factor of left hip without organ or systems involvement	ICD-10-CM
M05.759	Rheumatoid arthritis with rheumatoid factor of unspecified hip without organ or systems involvement	ICD-10-CM
M05.761	Rheumatoid arthritis with rheumatoid factor of right knee without organ or systems involvement	ICD-10-CM
M05.762	Rheumatoid arthritis with rheumatoid factor of left knee without organ or systems involvement	ICD-10-CM
M05.769	Rheumatoid arthritis with rheumatoid factor of unspecified knee without organ or systems involvement	ICD-10-CM
M05.771	Rheumatoid arthritis with rheumatoid factor of right ankle and foot without organ or systems involvement	ICD-10-CM
M05.772	Rheumatoid arthritis with rheumatoid factor of left ankle and foot without organ or systems involvement	ICD-10-CM
M05.779	Rheumatoid arthritis with rheumatoid factor of unspecified ankle and foot without organ or systems involvement	ICD-10-CM
M05.79	Rheumatoid arthritis with rheumatoid factor of multiple sites without organ or systems involvement	ICD-10-CM

**Appendix C. List of International Classification of Diseases, Ninth and Tenth Revisions, Clinical Modification (ICD-9-CM and ICD-10-CM) and International Classification of Diseases, Tenth Revision, Procedure Coding System (ICD-10-PCS) Codes used to Define Covariates in this Request**

<b>Code</b>	<b>Description</b>	<b>Code Type</b>
M05.80	Other rheumatoid arthritis with rheumatoid factor of unspecified site	ICD-10-CM
M05.811	Other rheumatoid arthritis with rheumatoid factor of right shoulder	ICD-10-CM
M05.812	Other rheumatoid arthritis with rheumatoid factor of left shoulder	ICD-10-CM
M05.819	Other rheumatoid arthritis with rheumatoid factor of unspecified shoulder	ICD-10-CM
M05.821	Other rheumatoid arthritis with rheumatoid factor of right elbow	ICD-10-CM
M05.822	Other rheumatoid arthritis with rheumatoid factor of left elbow	ICD-10-CM
M05.829	Other rheumatoid arthritis with rheumatoid factor of unspecified elbow	ICD-10-CM
M05.831	Other rheumatoid arthritis with rheumatoid factor of right wrist	ICD-10-CM
M05.832	Other rheumatoid arthritis with rheumatoid factor of left wrist	ICD-10-CM
M05.839	Other rheumatoid arthritis with rheumatoid factor of unspecified wrist	ICD-10-CM
M05.841	Other rheumatoid arthritis with rheumatoid factor of right hand	ICD-10-CM
M05.842	Other rheumatoid arthritis with rheumatoid factor of left hand	ICD-10-CM
M05.849	Other rheumatoid arthritis with rheumatoid factor of unspecified hand	ICD-10-CM
M05.851	Other rheumatoid arthritis with rheumatoid factor of right hip	ICD-10-CM
M05.852	Other rheumatoid arthritis with rheumatoid factor of left hip	ICD-10-CM
M05.859	Other rheumatoid arthritis with rheumatoid factor of unspecified hip	ICD-10-CM
M05.861	Other rheumatoid arthritis with rheumatoid factor of right knee	ICD-10-CM
M05.862	Other rheumatoid arthritis with rheumatoid factor of left knee	ICD-10-CM
M05.869	Other rheumatoid arthritis with rheumatoid factor of unspecified knee	ICD-10-CM
M05.871	Other rheumatoid arthritis with rheumatoid factor of right ankle and foot	ICD-10-CM
M05.872	Other rheumatoid arthritis with rheumatoid factor of left ankle and foot	ICD-10-CM
M05.879	Other rheumatoid arthritis with rheumatoid factor of unspecified ankle and foot	ICD-10-CM
M05.89	Other rheumatoid arthritis with rheumatoid factor of multiple sites	ICD-10-CM
M05.9	Rheumatoid arthritis with rheumatoid factor, unspecified	ICD-10-CM
M06.00	Rheumatoid arthritis without rheumatoid factor, unspecified site	ICD-10-CM
M06.011	Rheumatoid arthritis without rheumatoid factor, right shoulder	ICD-10-CM
M06.012	Rheumatoid arthritis without rheumatoid factor, left shoulder	ICD-10-CM
M06.019	Rheumatoid arthritis without rheumatoid factor, unspecified shoulder	ICD-10-CM
M06.021	Rheumatoid arthritis without rheumatoid factor, right elbow	ICD-10-CM
M06.022	Rheumatoid arthritis without rheumatoid factor, left elbow	ICD-10-CM
M06.029	Rheumatoid arthritis without rheumatoid factor, unspecified elbow	ICD-10-CM
M06.031	Rheumatoid arthritis without rheumatoid factor, right wrist	ICD-10-CM
M06.032	Rheumatoid arthritis without rheumatoid factor, left wrist	ICD-10-CM
M06.039	Rheumatoid arthritis without rheumatoid factor, unspecified wrist	ICD-10-CM
M06.041	Rheumatoid arthritis without rheumatoid factor, right hand	ICD-10-CM
M06.042	Rheumatoid arthritis without rheumatoid factor, left hand	ICD-10-CM
M06.049	Rheumatoid arthritis without rheumatoid factor, unspecified hand	ICD-10-CM
M06.051	Rheumatoid arthritis without rheumatoid factor, right hip	ICD-10-CM
M06.052	Rheumatoid arthritis without rheumatoid factor, left hip	ICD-10-CM
M06.059	Rheumatoid arthritis without rheumatoid factor, unspecified hip	ICD-10-CM
M06.061	Rheumatoid arthritis without rheumatoid factor, right knee	ICD-10-CM
M06.062	Rheumatoid arthritis without rheumatoid factor, left knee	ICD-10-CM
M06.069	Rheumatoid arthritis without rheumatoid factor, unspecified knee	ICD-10-CM
M06.071	Rheumatoid arthritis without rheumatoid factor, right ankle and foot	ICD-10-CM

**Appendix C. List of International Classification of Diseases, Ninth and Tenth Revisions, Clinical Modification (ICD-9-CM and ICD-10-CM) and International Classification of Diseases, Tenth Revision, Procedure Coding System (ICD-10-PCS) Codes used to Define Covariates in this Request**

<b>Code</b>	<b>Description</b>	<b>Code Type</b>
M06.072	Rheumatoid arthritis without rheumatoid factor, left ankle and foot	ICD-10-CM
M06.079	Rheumatoid arthritis without rheumatoid factor, unspecified ankle and foot	ICD-10-CM
M06.08	Rheumatoid arthritis without rheumatoid factor, vertebrae	ICD-10-CM
M06.0	Rheumatoid arthritis without rheumatoid factor, multiple sites	ICD-10-CM
M06.1	Adult-onset Still's disease	ICD-10-CM
M06.20	Rheumatoid bursitis, unspecified site	ICD-10-CM
M06.211	Rheumatoid bursitis, right shoulder	ICD-10-CM
M06.212	Rheumatoid bursitis, left shoulder	ICD-10-CM
M06.219	Rheumatoid bursitis, unspecified shoulder	ICD-10-CM
M06.221	Rheumatoid bursitis, right elbow	ICD-10-CM
M06.222	Rheumatoid bursitis, left elbow	ICD-10-CM
M06.229	Rheumatoid bursitis, unspecified elbow	ICD-10-CM
M06.231	Rheumatoid bursitis, right wrist	ICD-10-CM
M06.232	Rheumatoid bursitis, left wrist	ICD-10-CM
M06.239	Rheumatoid bursitis, unspecified wrist	ICD-10-CM
M06.241	Rheumatoid bursitis, right hand	ICD-10-CM
M06.242	Rheumatoid bursitis, left hand	ICD-10-CM
M06.249	Rheumatoid bursitis, unspecified hand	ICD-10-CM
M06.251	Rheumatoid bursitis, right hip	ICD-10-CM
M06.252	Rheumatoid bursitis, left hip	ICD-10-CM
M06.259	Rheumatoid bursitis, unspecified hip	ICD-10-CM
M06.261	Rheumatoid bursitis, right knee	ICD-10-CM
M06.262	Rheumatoid bursitis, left knee	ICD-10-CM
M06.269	Rheumatoid bursitis, unspecified knee	ICD-10-CM
M06.271	Rheumatoid bursitis, right ankle and foot	ICD-10-CM
M06.272	Rheumatoid bursitis, left ankle and foot	ICD-10-CM
M06.279	Rheumatoid bursitis, unspecified ankle and foot	ICD-10-CM
M06.28	Rheumatoid bursitis, vertebrae	ICD-10-CM
M06.29	Rheumatoid bursitis, multiple sites	ICD-10-CM
M06.30	Rheumatoid nodule, unspecified site	ICD-10-CM
M06.311	Rheumatoid nodule, right shoulder	ICD-10-CM
M06.312	Rheumatoid nodule, left shoulder	ICD-10-CM
M06.319	Rheumatoid nodule, unspecified shoulder	ICD-10-CM
M06.321	Rheumatoid nodule, right elbow	ICD-10-CM
M06.322	Rheumatoid nodule, left elbow	ICD-10-CM
M06.329	Rheumatoid nodule, unspecified elbow	ICD-10-CM
M06.331	Rheumatoid nodule, right wrist	ICD-10-CM
M06.332	Rheumatoid nodule, left wrist	ICD-10-CM
M06.339	Rheumatoid nodule, unspecified wrist	ICD-10-CM
M06.341	Rheumatoid nodule, right hand	ICD-10-CM
M06.342	Rheumatoid nodule, left hand	ICD-10-CM
M06.349	Rheumatoid nodule, unspecified hand	ICD-10-CM
M06.351	Rheumatoid nodule, right hip	ICD-10-CM
M06.352	Rheumatoid nodule, left hip	ICD-10-CM



**Appendix C. List of International Classification of Diseases, Ninth and Tenth Revisions, Clinical Modification (ICD-9-CM and ICD-10-CM) and International Classification of Diseases, Tenth Revision, Procedure Coding System (ICD-10-PCS) Codes used to Define Covariates in this Request**

<b>Code</b>	<b>Description</b>	<b>Code Type</b>
M06.359	Rheumatoid nodule, unspecified hip	ICD-10-CM
M06.361	Rheumatoid nodule, right knee	ICD-10-CM
M06.362	Rheumatoid nodule, left knee	ICD-10-CM
M06.369	Rheumatoid nodule, unspecified knee	ICD-10-CM
M06.371	Rheumatoid nodule, right ankle and foot	ICD-10-CM
M06.372	Rheumatoid nodule, left ankle and foot	ICD-10-CM
M06.379	Rheumatoid nodule, unspecified ankle and foot	ICD-10-CM
M06.38	Rheumatoid nodule, vertebrae	ICD-10-CM
M06.39	Rheumatoid nodule, multiple sites	ICD-10-CM
M06.80	Other specified rheumatoid arthritis, unspecified site	ICD-10-CM
M06.811	Other specified rheumatoid arthritis, right shoulder	ICD-10-CM
M06.812	Other specified rheumatoid arthritis, left shoulder	ICD-10-CM
M06.819	Other specified rheumatoid arthritis, unspecified shoulder	ICD-10-CM
M06.821	Other specified rheumatoid arthritis, right elbow	ICD-10-CM
M06.822	Other specified rheumatoid arthritis, left elbow	ICD-10-CM
M06.829	Other specified rheumatoid arthritis, unspecified elbow	ICD-10-CM
M06.831	Other specified rheumatoid arthritis, right wrist	ICD-10-CM
M06.832	Other specified rheumatoid arthritis, left wrist	ICD-10-CM
M06.839	Other specified rheumatoid arthritis, unspecified wrist	ICD-10-CM
M06.841	Other specified rheumatoid arthritis, right hand	ICD-10-CM
M06.842	Other specified rheumatoid arthritis, left hand	ICD-10-CM
M06.849	Other specified rheumatoid arthritis, unspecified hand	ICD-10-CM
M06.851	Other specified rheumatoid arthritis, right hip	ICD-10-CM
M06.852	Other specified rheumatoid arthritis, left hip	ICD-10-CM
M06.859	Other specified rheumatoid arthritis, unspecified hip	ICD-10-CM
M06.861	Other specified rheumatoid arthritis, right knee	ICD-10-CM
M06.862	Other specified rheumatoid arthritis, left knee	ICD-10-CM
M06.869	Other specified rheumatoid arthritis, unspecified knee	ICD-10-CM
M06.871	Other specified rheumatoid arthritis, right ankle and foot	ICD-10-CM
M06.872	Other specified rheumatoid arthritis, left ankle and foot	ICD-10-CM
M06.879	Other specified rheumatoid arthritis, unspecified ankle and foot	ICD-10-CM
M06.88	Other specified rheumatoid arthritis, vertebrae	ICD-10-CM
M06.89	Other specified rheumatoid arthritis, multiple sites	ICD-10-CM
M06.9	Rheumatoid arthritis, unspecified	ICD-10-CM
M08.00	Unspecified juvenile rheumatoid arthritis of unspecified site	ICD-10-CM
M08.011	Unspecified juvenile rheumatoid arthritis, right shoulder	ICD-10-CM
M08.012	Unspecified juvenile rheumatoid arthritis, left shoulder	ICD-10-CM
M08.019	Unspecified juvenile rheumatoid arthritis, unspecified shoulder	ICD-10-CM
M08.021	Unspecified juvenile rheumatoid arthritis, right elbow	ICD-10-CM
M08.022	Unspecified juvenile rheumatoid arthritis, left elbow	ICD-10-CM
M08.029	Unspecified juvenile rheumatoid arthritis, unspecified elbow	ICD-10-CM
M08.031	Unspecified juvenile rheumatoid arthritis, right wrist	ICD-10-CM
M08.032	Unspecified juvenile rheumatoid arthritis, left wrist	ICD-10-CM
M08.039	Unspecified juvenile rheumatoid arthritis, unspecified wrist	ICD-10-CM

**Appendix C. List of International Classification of Diseases, Ninth and Tenth Revisions, Clinical Modification (ICD-9-CM and ICD-10-CM) and International Classification of Diseases, Tenth Revision, Procedure Coding System (ICD-10-PCS) Codes used to Define Covariates in this Request**

<b>Code</b>	<b>Description</b>	<b>Code Type</b>
M08.041	Unspecified juvenile rheumatoid arthritis, right hand	ICD-10-CM
M08.042	Unspecified juvenile rheumatoid arthritis, left hand	ICD-10-CM
M08.049	Unspecified juvenile rheumatoid arthritis, unspecified hand	ICD-10-CM
M08.051	Unspecified juvenile rheumatoid arthritis, right hip	ICD-10-CM
M08.052	Unspecified juvenile rheumatoid arthritis, left hip	ICD-10-CM
M08.059	Unspecified juvenile rheumatoid arthritis, unspecified hip	ICD-10-CM
M08.061	Unspecified juvenile rheumatoid arthritis, right knee	ICD-10-CM
M08.062	Unspecified juvenile rheumatoid arthritis, left knee	ICD-10-CM
M08.069	Unspecified juvenile rheumatoid arthritis, unspecified knee	ICD-10-CM
M08.071	Unspecified juvenile rheumatoid arthritis, right ankle and foot	ICD-10-CM
M08.072	Unspecified juvenile rheumatoid arthritis, left ankle and foot	ICD-10-CM
M08.079	Unspecified juvenile rheumatoid arthritis, unspecified ankle and foot	ICD-10-CM
M08.08	Unspecified juvenile rheumatoid arthritis, vertebrae	ICD-10-CM
M08.0	Unspecified juvenile rheumatoid arthritis, multiple sites	ICD-10-CM
M08.1	Juvenile ankylosing spondylitis	ICD-10-CM
M08.20	Juvenile rheumatoid arthritis with systemic onset, unspecified site	ICD-10-CM
M08.211	Juvenile rheumatoid arthritis with systemic onset, right shoulder	ICD-10-CM
M08.212	Juvenile rheumatoid arthritis with systemic onset, left shoulder	ICD-10-CM
M08.219	Juvenile rheumatoid arthritis with systemic onset, unspecified shoulder	ICD-10-CM
M08.221	Juvenile rheumatoid arthritis with systemic onset, right elbow	ICD-10-CM
M08.222	Juvenile rheumatoid arthritis with systemic onset, left elbow	ICD-10-CM
M08.229	Juvenile rheumatoid arthritis with systemic onset, unspecified elbow	ICD-10-CM
M08.231	Juvenile rheumatoid arthritis with systemic onset, right wrist	ICD-10-CM
M08.232	Juvenile rheumatoid arthritis with systemic onset, left wrist	ICD-10-CM
M08.239	Juvenile rheumatoid arthritis with systemic onset, unspecified wrist	ICD-10-CM
M08.241	Juvenile rheumatoid arthritis with systemic onset, right hand	ICD-10-CM
M08.242	Juvenile rheumatoid arthritis with systemic onset, left hand	ICD-10-CM
M08.249	Juvenile rheumatoid arthritis with systemic onset, unspecified hand	ICD-10-CM
M08.251	Juvenile rheumatoid arthritis with systemic onset, right hip	ICD-10-CM
M08.252	Juvenile rheumatoid arthritis with systemic onset, left hip	ICD-10-CM
M08.259	Juvenile rheumatoid arthritis with systemic onset, unspecified hip	ICD-10-CM
M08.261	Juvenile rheumatoid arthritis with systemic onset, right knee	ICD-10-CM
M08.262	Juvenile rheumatoid arthritis with systemic onset, left knee	ICD-10-CM
M08.269	Juvenile rheumatoid arthritis with systemic onset, unspecified knee	ICD-10-CM
M08.271	Juvenile rheumatoid arthritis with systemic onset, right ankle and foot	ICD-10-CM
M08.272	Juvenile rheumatoid arthritis with systemic onset, left ankle and foot	ICD-10-CM
M08.279	Juvenile rheumatoid arthritis with systemic onset, unspecified ankle and foot	ICD-10-CM
M08.28	Juvenile rheumatoid arthritis with systemic onset, vertebrae	ICD-10-CM
M08.29	Juvenile rheumatoid arthritis with systemic onset, multiple sites	ICD-10-CM
M08.3	Juvenile rheumatoid polyarthritis (seronegative)	ICD-10-CM
M08.40	Pauciarticular juvenile rheumatoid arthritis, unspecified site	ICD-10-CM
M08.411	Pauciarticular juvenile rheumatoid arthritis, right shoulder	ICD-10-CM
M08.412	Pauciarticular juvenile rheumatoid arthritis, left shoulder	ICD-10-CM
M08.419	Pauciarticular juvenile rheumatoid arthritis, unspecified shoulder	ICD-10-CM

**Appendix C. List of International Classification of Diseases, Ninth and Tenth Revisions, Clinical Modification (ICD-9-CM and ICD-10-CM) and International Classification of Diseases, Tenth Revision, Procedure Coding System (ICD-10-PCS) Codes used to Define Covariates in this Request**

<b>Code</b>	<b>Description</b>	<b>Code Type</b>
M08.421	Pauciarticular juvenile rheumatoid arthritis, right elbow	ICD-10-CM
M08.422	Pauciarticular juvenile rheumatoid arthritis, left elbow	ICD-10-CM
M08.429	Pauciarticular juvenile rheumatoid arthritis, unspecified elbow	ICD-10-CM
M08.431	Pauciarticular juvenile rheumatoid arthritis, right wrist	ICD-10-CM
M08.432	Pauciarticular juvenile rheumatoid arthritis, left wrist	ICD-10-CM
M08.439	Pauciarticular juvenile rheumatoid arthritis, unspecified wrist	ICD-10-CM
M08.441	Pauciarticular juvenile rheumatoid arthritis, right hand	ICD-10-CM
M08.442	Pauciarticular juvenile rheumatoid arthritis, left hand	ICD-10-CM
M08.449	Pauciarticular juvenile rheumatoid arthritis, unspecified hand	ICD-10-CM
M08.451	Pauciarticular juvenile rheumatoid arthritis, right hip	ICD-10-CM
M08.452	Pauciarticular juvenile rheumatoid arthritis, left hip	ICD-10-CM
M08.459	Pauciarticular juvenile rheumatoid arthritis, unspecified hip	ICD-10-CM
M08.461	Pauciarticular juvenile rheumatoid arthritis, right knee	ICD-10-CM
M08.462	Pauciarticular juvenile rheumatoid arthritis, left knee	ICD-10-CM
M08.469	Pauciarticular juvenile rheumatoid arthritis, unspecified knee	ICD-10-CM
M08.471	Pauciarticular juvenile rheumatoid arthritis, right ankle and foot	ICD-10-CM
M08.472	Pauciarticular juvenile rheumatoid arthritis, left ankle and foot	ICD-10-CM
M08.479	Pauciarticular juvenile rheumatoid arthritis, unspecified ankle and foot	ICD-10-CM
M08.48	Pauciarticular juvenile rheumatoid arthritis, vertebrae	ICD-10-CM
M08.80	Other juvenile arthritis, unspecified site	ICD-10-CM
M08.811	Other juvenile arthritis, right shoulder	ICD-10-CM
M08.812	Other juvenile arthritis, left shoulder	ICD-10-CM
M08.819	Other juvenile arthritis, unspecified shoulder	ICD-10-CM
M08.821	Other juvenile arthritis, right elbow	ICD-10-CM
M08.822	Other juvenile arthritis, left elbow	ICD-10-CM
M08.829	Other juvenile arthritis, unspecified elbow	ICD-10-CM
M08.831	Other juvenile arthritis, right wrist	ICD-10-CM
M08.832	Other juvenile arthritis, left wrist	ICD-10-CM
M08.839	Other juvenile arthritis, unspecified wrist	ICD-10-CM
M08.841	Other juvenile arthritis, right hand	ICD-10-CM
M08.842	Other juvenile arthritis, left hand	ICD-10-CM
M08.849	Other juvenile arthritis, unspecified hand	ICD-10-CM
M08.851	Other juvenile arthritis, right hip	ICD-10-CM
M08.852	Other juvenile arthritis, left hip	ICD-10-CM
M08.859	Other juvenile arthritis, unspecified hip	ICD-10-CM
M08.861	Other juvenile arthritis, right knee	ICD-10-CM
M08.862	Other juvenile arthritis, left knee	ICD-10-CM
M08.869	Other juvenile arthritis, unspecified knee	ICD-10-CM
M08.871	Other juvenile arthritis, right ankle and foot	ICD-10-CM
M08.872	Other juvenile arthritis, left ankle and foot	ICD-10-CM
M08.879	Other juvenile arthritis, unspecified ankle and foot	ICD-10-CM
M08.88	Other juvenile arthritis, other specified site	ICD-10-CM
M08.89	Other juvenile arthritis, multiple sites	ICD-10-CM
M08.90	Juvenile arthritis, unspecified, unspecified site	ICD-10-CM

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<b>Code</b>	<b>Description</b>	<b>Code Type</b>
M08.911	Juvenile arthritis, unspecified, right shoulder	ICD-10-CM
M08.912	Juvenile arthritis, unspecified, left shoulder	ICD-10-CM
M08.919	Juvenile arthritis, unspecified, unspecified shoulder	ICD-10-CM
M08.921	Juvenile arthritis, unspecified, right elbow	ICD-10-CM
M08.922	Juvenile arthritis, unspecified, left elbow	ICD-10-CM
M08.929	Juvenile arthritis, unspecified, unspecified elbow	ICD-10-CM
M08.931	Juvenile arthritis, unspecified, right wrist	ICD-10-CM
M08.932	Juvenile arthritis, unspecified, left wrist	ICD-10-CM
M08.939	Juvenile arthritis, unspecified, unspecified wrist	ICD-10-CM
M08.941	Juvenile arthritis, unspecified, right hand	ICD-10-CM
M08.942	Juvenile arthritis, unspecified, left hand	ICD-10-CM
M08.949	Juvenile arthritis, unspecified, unspecified hand	ICD-10-CM
M08.951	Juvenile arthritis, unspecified, right hip	ICD-10-CM
M08.952	Juvenile arthritis, unspecified, left hip	ICD-10-CM
M08.959	Juvenile arthritis, unspecified, unspecified hip	ICD-10-CM
M08.961	Juvenile arthritis, unspecified, right knee	ICD-10-CM
M08.962	Juvenile arthritis, unspecified, left knee	ICD-10-CM
M08.969	Juvenile arthritis, unspecified, unspecified knee	ICD-10-CM
M08.971	Juvenile arthritis, unspecified, right ankle and foot	ICD-10-CM
M08.972	Juvenile arthritis, unspecified, left ankle and foot	ICD-10-CM
M08.979	Juvenile arthritis, unspecified, unspecified ankle and foot	ICD-10-CM
M08.98	Juvenile arthritis, unspecified, vertebrae	ICD-10-CM
M08.99	Juvenile arthritis, unspecified, multiple sites	ICD-10-CM
M15.0	Primary generalized (osteo)arthritis	ICD-10-CM
M15.1	Heberden's nodes (with arthropathy)	ICD-10-CM
M15.2	Bouchard's nodes (with arthropathy)	ICD-10-CM
M15.3	Secondary multiple arthritis	ICD-10-CM
M15.4	Erosive (osteo)arthritis	ICD-10-CM
M15.8	Other polyosteoarthritis	ICD-10-CM
M15.9	Polyosteoarthritis, unspecified	ICD-10-CM
M16.0	Bilateral primary osteoarthritis of hip	ICD-10-CM
M16.10	Unilateral primary osteoarthritis, unspecified hip	ICD-10-CM
M16.11	Unilateral primary osteoarthritis, right hip	ICD-10-CM
M16.12	Unilateral primary osteoarthritis, left hip	ICD-10-CM
M16.2	Bilateral osteoarthritis resulting from hip dysplasia	ICD-10-CM
M16.30	Unilateral osteoarthritis resulting from hip dysplasia, unspecified hip	ICD-10-CM
M16.31	Unilateral osteoarthritis resulting from hip dysplasia, right hip	ICD-10-CM
M16.32	Unilateral osteoarthritis resulting from hip dysplasia, left hip	ICD-10-CM
M16.4	Bilateral post-traumatic osteoarthritis of hip	ICD-10-CM
M16.50	Unilateral post-traumatic osteoarthritis, unspecified hip	ICD-10-CM
M16.51	Unilateral post-traumatic osteoarthritis, right hip	ICD-10-CM
M16.52	Unilateral post-traumatic osteoarthritis, left hip	ICD-10-CM
M16.6	Other bilateral secondary osteoarthritis of hip	ICD-10-CM
M16.7	Other unilateral secondary osteoarthritis of hip	ICD-10-CM

**Appendix C. List of International Classification of Diseases, Ninth and Tenth Revisions, Clinical Modification (ICD-9-CM and ICD-10-CM) and International Classification of Diseases, Tenth Revision, Procedure Coding System (ICD-10-PCS) Codes used to Define Covariates in this Request**

<b>Code</b>	<b>Description</b>	<b>Code Type</b>
M16.9	Osteoarthritis of hip, unspecified	ICD-10-CM
M17.0	Bilateral primary osteoarthritis of knee	ICD-10-CM
M17.10	Unilateral primary osteoarthritis, unspecified knee	ICD-10-CM
M17.11	Unilateral primary osteoarthritis, right knee	ICD-10-CM
M17.12	Unilateral primary osteoarthritis, left knee	ICD-10-CM
M17.2	Bilateral post-traumatic osteoarthritis of knee	ICD-10-CM
M17.30	Unilateral post-traumatic osteoarthritis, unspecified knee	ICD-10-CM
M17.31	Unilateral post-traumatic osteoarthritis, right knee	ICD-10-CM
M17.32	Unilateral post-traumatic osteoarthritis, left knee	ICD-10-CM
M17.4	Other bilateral secondary osteoarthritis of knee	ICD-10-CM
M17.5	Other unilateral secondary osteoarthritis of knee	ICD-10-CM
M17.9	Osteoarthritis of knee, unspecified	ICD-10-CM
M18.0	Bilateral primary osteoarthritis of first carpometacarpal joints	ICD-10-CM
M18.10	Unilateral primary osteoarthritis of first carpometacarpal joint, unspecified hand	ICD-10-CM
M18.11	Unilateral primary osteoarthritis of first carpometacarpal joint, right hand	ICD-10-CM
M18.12	Unilateral primary osteoarthritis of first carpometacarpal joint, left hand	ICD-10-CM
M18.2	Bilateral post-traumatic osteoarthritis of first carpometacarpal joints	ICD-10-CM
M18.30	Unilateral post-traumatic osteoarthritis of first carpometacarpal joint, unspecified hand	ICD-10-CM
M18.31	Unilateral post-traumatic osteoarthritis of first carpometacarpal joint, right hand	ICD-10-CM
M18.32	Unilateral post-traumatic osteoarthritis of first carpometacarpal joint, left hand	ICD-10-CM
M18.4	Other bilateral secondary osteoarthritis of first carpometacarpal joints	ICD-10-CM
M18.50	Other unilateral secondary osteoarthritis of first carpometacarpal joint, unspecified hand	ICD-10-CM
M18.51	Other unilateral secondary osteoarthritis of first carpometacarpal joint, right hand	ICD-10-CM
M18.52	Other unilateral secondary osteoarthritis of first carpometacarpal joint, left hand	ICD-10-CM
M18.9	Osteoarthritis of first carpometacarpal joint, unspecified	ICD-10-CM
M19.011	Primary osteoarthritis, right shoulder	ICD-10-CM
M19.012	Primary osteoarthritis, left shoulder	ICD-10-CM
M19.019	Primary osteoarthritis, unspecified shoulder	ICD-10-CM
M19.021	Primary osteoarthritis, right elbow	ICD-10-CM
M19.022	Primary osteoarthritis, left elbow	ICD-10-CM
M19.029	Primary osteoarthritis, unspecified elbow	ICD-10-CM
M19.031	Primary osteoarthritis, right wrist	ICD-10-CM
M19.032	Primary osteoarthritis, left wrist	ICD-10-CM
M19.039	Primary osteoarthritis, unspecified wrist	ICD-10-CM
M19.041	Primary osteoarthritis, right hand	ICD-10-CM
M19.042	Primary osteoarthritis, left hand	ICD-10-CM
M19.049	Primary osteoarthritis, unspecified hand	ICD-10-CM
M19.071	Primary osteoarthritis, right ankle and foot	ICD-10-CM
M19.072	Primary osteoarthritis, left ankle and foot	ICD-10-CM
M19.079	Primary osteoarthritis, unspecified ankle and foot	ICD-10-CM
M19.111	Post-traumatic osteoarthritis, right shoulder	ICD-10-CM
M19.112	Post-traumatic osteoarthritis, left shoulder	ICD-10-CM
M19.119	Post-traumatic osteoarthritis, unspecified shoulder	ICD-10-CM
M19.121	Post-traumatic osteoarthritis, right elbow	ICD-10-CM

**Appendix C. List of International Classification of Diseases, Ninth and Tenth Revisions, Clinical Modification (ICD-9-CM and ICD-10-CM) and International Classification of Diseases, Tenth Revision, Procedure Coding System (ICD-10-PCS) Codes used to Define Covariates in this Request**

<b>Code</b>	<b>Description</b>	<b>Code Type</b>
M19.122	Post-traumatic osteoarthritis, left elbow	ICD-10-CM
M19.129	Post-traumatic osteoarthritis, unspecified elbow	ICD-10-CM
M19.131	Post-traumatic osteoarthritis, right wrist	ICD-10-CM
M19.132	Post-traumatic osteoarthritis, left wrist	ICD-10-CM
M19.139	Post-traumatic osteoarthritis, unspecified wrist	ICD-10-CM
M19.141	Post-traumatic osteoarthritis, right hand	ICD-10-CM
M19.142	Post-traumatic osteoarthritis, left hand	ICD-10-CM
M19.149	Post-traumatic osteoarthritis, unspecified hand	ICD-10-CM
M19.171	Post-traumatic osteoarthritis, right ankle and foot	ICD-10-CM
M19.172	Post-traumatic osteoarthritis, left ankle and foot	ICD-10-CM
M19.179	Post-traumatic osteoarthritis, unspecified ankle and foot	ICD-10-CM
M19.211	Secondary osteoarthritis, right shoulder	ICD-10-CM
M19.212	Secondary osteoarthritis, left shoulder	ICD-10-CM
M19.219	Secondary osteoarthritis, unspecified shoulder	ICD-10-CM
M19.221	Secondary osteoarthritis, right elbow	ICD-10-CM
M19.222	Secondary osteoarthritis, left elbow	ICD-10-CM
M19.229	Secondary osteoarthritis, unspecified elbow	ICD-10-CM
M19.231	Secondary osteoarthritis, right wrist	ICD-10-CM
M19.232	Secondary osteoarthritis, left wrist	ICD-10-CM
M19.239	Secondary osteoarthritis, unspecified wrist	ICD-10-CM
M19.241	Secondary osteoarthritis, right hand	ICD-10-CM
M19.242	Secondary osteoarthritis, left hand	ICD-10-CM
M19.249	Secondary osteoarthritis, unspecified hand	ICD-10-CM
M19.271	Secondary osteoarthritis, right ankle and foot	ICD-10-CM
M19.272	Secondary osteoarthritis, left ankle and foot	ICD-10-CM
M19.279	Secondary osteoarthritis, unspecified ankle and foot	ICD-10-CM
M19.90	Unspecified osteoarthritis, unspecified site	ICD-10-CM
M19.91	Primary osteoarthritis, unspecified site	ICD-10-CM
M19.92	Post-traumatic osteoarthritis, unspecified site	ICD-10-CM
M19.93	Secondary osteoarthritis, unspecified site	ICD-10-CM
M45.0	Ankylosing spondylitis of multiple sites in spine	ICD-10-CM
M45.1	Ankylosing spondylitis of occipito-atlanto-axial region	ICD-10-CM
M45.2	Ankylosing spondylitis of cervical region	ICD-10-CM
M45.3	Ankylosing spondylitis of cervicothoracic region	ICD-10-CM
M45.4	Ankylosing spondylitis of thoracic region	ICD-10-CM
M45.5	Ankylosing spondylitis of thoracolumbar region	ICD-10-CM
M45.6	Ankylosing spondylitis lumbar region	ICD-10-CM
M45.7	Ankylosing spondylitis of lumbosacral region	ICD-10-CM
M45.8	Ankylosing spondylitis sacral and sacrococcygeal region	ICD-10-CM
M45.9	Ankylosing spondylitis of unspecified sites in spine	ICD-10-CM
M47.011	Anterior spinal artery compression syndromes, occipito-atlanto-axial region	ICD-10-CM
M47.012	Anterior spinal artery compression syndromes, cervical region	ICD-10-CM
M47.013	Anterior spinal artery compression syndromes, cervicothoracic region	ICD-10-CM
M47.014	Anterior spinal artery compression syndromes, thoracic region	ICD-10-CM

**Appendix C. List of International Classification of Diseases, Ninth and Tenth Revisions, Clinical Modification (ICD-9-CM and ICD-10-CM) and International Classification of Diseases, Tenth Revision, Procedure Coding System (ICD-10-PCS) Codes used to Define Covariates in this Request**

<b>Code</b>	<b>Description</b>	<b>Code Type</b>
M47.015	Anterior spinal artery compression syndromes, thoracolumbar region	ICD-10-CM
M47.016	Anterior spinal artery compression syndromes, lumbar region	ICD-10-CM
M47.019	Anterior spinal artery compression syndromes, site unspecified	ICD-10-CM
M47.021	Vertebral artery compression syndromes, occipito-atlanto-axial region	ICD-10-CM
M47.022	Vertebral artery compression syndromes, cervical region	ICD-10-CM
M47.029	Vertebral artery compression syndromes, site unspecified	ICD-10-CM
M47.10	Other spondylosis with myelopathy, site unspecified	ICD-10-CM
M47.11	Other spondylosis with myelopathy, occipito-atlanto-axial region	ICD-10-CM
M47.12	Other spondylosis with myelopathy, cervical region	ICD-10-CM
M47.13	Other spondylosis with myelopathy, cervicothoracic region	ICD-10-CM
M47.20	Other spondylosis with radiculopathy, site unspecified	ICD-10-CM
M47.21	Other spondylosis with radiculopathy, occipito-atlanto-axial region	ICD-10-CM
M47.22	Other spondylosis with radiculopathy, cervical region	ICD-10-CM
M47.23	Other spondylosis with radiculopathy, cervicothoracic region	ICD-10-CM
M47.24	Other spondylosis with radiculopathy, thoracic region	ICD-10-CM
M47.25	Other spondylosis with radiculopathy, thoracolumbar region	ICD-10-CM
M47.26	Other spondylosis with radiculopathy, lumbar region	ICD-10-CM
M47.27	Other spondylosis with radiculopathy, lumbosacral region	ICD-10-CM
M47.28	Other spondylosis with radiculopathy, sacral and sacrococcygeal region	ICD-10-CM
M47.811	Spondylosis without myelopathy or radiculopathy, occipito-atlanto-axial region	ICD-10-CM
M47.812	Spondylosis without myelopathy or radiculopathy, cervical region	ICD-10-CM
M47.813	Spondylosis without myelopathy or radiculopathy, cervicothoracic region	ICD-10-CM
M47.814	Spondylosis without myelopathy or radiculopathy, thoracic region	ICD-10-CM
M47.815	Spondylosis without myelopathy or radiculopathy, thoracolumbar region	ICD-10-CM
M47.816	Spondylosis without myelopathy or radiculopathy, lumbar region	ICD-10-CM
M47.817	Spondylosis without myelopathy or radiculopathy, lumbosacral region	ICD-10-CM
M47.818	Spondylosis without myelopathy or radiculopathy, sacral and sacrococcygeal region	ICD-10-CM
M47.819	Spondylosis without myelopathy or radiculopathy, site unspecified	ICD-10-CM
M47.891	Other spondylosis, occipito-atlanto-axial region	ICD-10-CM
M47.892	Other spondylosis, cervical region	ICD-10-CM
M47.893	Other spondylosis, cervicothoracic region	ICD-10-CM
M47.894	Other spondylosis, thoracic region	ICD-10-CM
M47.895	Other spondylosis, thoracolumbar region	ICD-10-CM
M47.896	Other spondylosis, lumbar region	ICD-10-CM
M47.897	Other spondylosis, lumbosacral region	ICD-10-CM
M47.898	Other spondylosis, sacral and sacrococcygeal region	ICD-10-CM
M47.899	Other spondylosis, site unspecified	ICD-10-CM
M47.9	Spondylosis, unspecified	ICD-10-CM
M48.8X1	Other specified spondylopathies, occipito-atlanto-axial region	ICD-10-CM
M48.8X2	Other specified spondylopathies, cervical region	ICD-10-CM
M48.8X3	Other specified spondylopathies, cervicothoracic region	ICD-10-CM
M48.8X4	Other specified spondylopathies, thoracic region	ICD-10-CM
M48.8X5	Other specified spondylopathies, thoracolumbar region	ICD-10-CM
M48.8X6	Other specified spondylopathies, lumbar region	ICD-10-CM

**Appendix C. List of International Classification of Diseases, Ninth and Tenth Revisions, Clinical Modification (ICD-9-CM and ICD-10-CM) and International Classification of Diseases, Tenth Revision, Procedure Coding System (ICD-10-PCS) Codes used to Define Covariates in this Request**

<b>Code</b>	<b>Description</b>	<b>Code Type</b>
M48.8X7	Other specified spondylopathies, lumbosacral region	ICD-10-CM
M48.8X8	Other specified spondylopathies, sacral and sacrococcygeal region	ICD-10-CM
M48.8X9	Other specified spondylopathies, site unspecified	ICD-10-CM
<b>Stroke/transient ischemic attack</b>		
430	Subarachnoid hemorrhage	ICD-9-CM
431	Intracerebral hemorrhage	ICD-9-CM
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
434.00	Cerebral thrombosis without mention of cerebral infarction	ICD-9-CM
434.01	Cerebral thrombosis with cerebral infarction	ICD-9-CM
434.10	Cerebral embolism without mention of cerebral infarction	ICD-9-CM
434.11	Cerebral embolism with cerebral infarction	ICD-9-CM
434.90	Unspecified cerebral artery occlusion without mention of cerebral infarction	ICD-9-CM
434.91	Unspecified cerebral artery occlusion with cerebral infarction	ICD-9-CM
435.0	Basilar artery syndrome	ICD-9-CM
435.1	Vertebral artery syndrome	ICD-9-CM
435.3	Vertebrobasilar artery syndrome	ICD-9-CM
435.8	Other specified transient cerebral ischemias	ICD-9-CM
435.9	Unspecified transient cerebral ischemia	ICD-9-CM
436	Acute, but ill-defined, cerebrovascular disease	ICD-9-CM
997.02	Iatrogenic cerebrovascular infarction or hemorrhage	ICD-9-CM
G45.0	Vertebro-basilar artery syndrome	ICD-10-CM
G45.1	Carotid artery syndrome (hemispheric)	ICD-10-CM
G45.2	Multiple and bilateral precerebral artery syndromes	ICD-10-CM
G45.8	Other transient cerebral ischemic attacks and related syndromes	ICD-10-CM
G45.9	Transient cerebral ischemic attack, unspecified	ICD-10-CM
G46.0	Middle cerebral artery syndrome	ICD-10-CM
G46.1	Anterior cerebral artery syndrome	ICD-10-CM
G46.2	Posterior cerebral artery syndrome	ICD-10-CM
G46.3	Brain stem stroke syndrome	ICD-10-CM
G46.4	Cerebellar stroke syndrome	ICD-10-CM
G46.5	Pure motor lacunar syndrome	ICD-10-CM
G46.6	Pure sensory lacunar syndrome	ICD-10-CM
G46.7	Other lacunar syndromes	ICD-10-CM
G46.8	Other vascular syndromes of brain in cerebrovascular diseases	ICD-10-CM
G97.31	Intraoperative hemorrhage and hematoma of a nervous system organ or structure complicating a nervous system procedure	ICD-10-CM
G97.32	Intraoperative hemorrhage and hematoma of a nervous system organ or structure complicating other procedure	ICD-10-CM
I60.00	Nontraumatic subarachnoid hemorrhage from unspecified carotid siphon and bifurcation	ICD-10-CM



**Appendix C. List of International Classification of Diseases, Ninth and Tenth Revisions, Clinical Modification (ICD-9-CM and ICD-10-CM) and International Classification of Diseases, Tenth Revision, Procedure Coding System (ICD-10-PCS) Codes used to Define Covariates in this Request**

<b>Code</b>	<b>Description</b>	<b>Code Type</b>
160.01	Nontraumatic subarachnoid hemorrhage from right carotid siphon and bifurcation	ICD-10-CM
160.02	Nontraumatic subarachnoid hemorrhage from left carotid siphon and bifurcation	ICD-10-CM
160.10	Nontraumatic subarachnoid hemorrhage from unspecified middle cerebral artery	ICD-10-CM
160.11	Nontraumatic subarachnoid hemorrhage from right middle cerebral artery	ICD-10-CM
160.12	Nontraumatic subarachnoid hemorrhage from left middle cerebral artery	ICD-10-CM
160.20	Nontraumatic subarachnoid hemorrhage from unspecified anterior communicating artery	ICD-10-CM
160.21	Nontraumatic subarachnoid hemorrhage from right anterior communicating artery	ICD-10-CM
160.22	Nontraumatic subarachnoid hemorrhage from left anterior communicating artery	ICD-10-CM
160.30	Nontraumatic subarachnoid hemorrhage from unspecified posterior communicating artery	ICD-10-CM
160.31	Nontraumatic subarachnoid hemorrhage from right posterior communicating artery	ICD-10-CM
160.32	Nontraumatic subarachnoid hemorrhage from left posterior communicating artery	ICD-10-CM
160.4	Nontraumatic subarachnoid hemorrhage from basilar artery	ICD-10-CM
160.50	Nontraumatic subarachnoid hemorrhage from unspecified vertebral artery	ICD-10-CM
160.51	Nontraumatic subarachnoid hemorrhage from right vertebral artery	ICD-10-CM
160.52	Nontraumatic subarachnoid hemorrhage from left vertebral artery	ICD-10-CM
160.6	Nontraumatic subarachnoid hemorrhage from other intracranial arteries	ICD-10-CM
160.7	Nontraumatic subarachnoid hemorrhage from unspecified intracranial artery	ICD-10-CM
160.8	Other nontraumatic subarachnoid hemorrhage	ICD-10-CM
160.9	Nontraumatic subarachnoid hemorrhage, unspecified	ICD-10-CM
161.0	Nontraumatic intracerebral hemorrhage in hemisphere, subcortical	ICD-10-CM
161.1	Nontraumatic intracerebral hemorrhage in hemisphere, cortical	ICD-10-CM
161.2	Nontraumatic intracerebral hemorrhage in hemisphere, unspecified	ICD-10-CM
161.3	Nontraumatic intracerebral hemorrhage in brain stem	ICD-10-CM
161.4	Nontraumatic intracerebral hemorrhage in cerebellum	ICD-10-CM
161.5	Nontraumatic intracerebral hemorrhage, intraventricular	ICD-10-CM
161.6	Nontraumatic intracerebral hemorrhage, multiple localized	ICD-10-CM
161.8	Other nontraumatic intracerebral hemorrhage	ICD-10-CM
161.9	Nontraumatic intracerebral hemorrhage, unspecified	ICD-10-CM
163.00	Cerebral infarction due to thrombosis of unspecified precerebral artery	ICD-10-CM
163.011	Cerebral infarction due to thrombosis of right vertebral artery	ICD-10-CM
163.012	Cerebral infarction due to thrombosis of left vertebral artery	ICD-10-CM
163.013	Cerebral infarction due to thrombosis of bilateral vertebral arteries	ICD-10-CM
163.019	Cerebral infarction due to thrombosis of unspecified vertebral artery	ICD-10-CM
163.02	Cerebral infarction due to thrombosis of basilar artery	ICD-10-CM
163.031	Cerebral infarction due to thrombosis of right carotid artery	ICD-10-CM
163.032	Cerebral infarction due to thrombosis of left carotid artery	ICD-10-CM
163.039	Cerebral infarction due to thrombosis of unspecified carotid artery	ICD-10-CM
163.0	Cerebral infarction due to thrombosis of other precerebral artery	ICD-10-CM
163.10	Cerebral infarction due to embolism of unspecified precerebral artery	ICD-10-CM
163.111	Cerebral infarction due to embolism of right vertebral artery	ICD-10-CM
163.112	Cerebral infarction due to embolism of left vertebral artery	ICD-10-CM
163.119	Cerebral infarction due to embolism of unspecified vertebral artery	ICD-10-CM
163.12	Cerebral infarction due to embolism of basilar artery	ICD-10-CM
163.131	Cerebral infarction due to embolism of right carotid artery	ICD-10-CM

**Appendix C. List of International Classification of Diseases, Ninth and Tenth Revisions, Clinical Modification (ICD-9-CM and ICD-10-CM) and International Classification of Diseases, Tenth Revision, Procedure Coding System (ICD-10-PCS) Codes used to Define Covariates in this Request**

<b>Code</b>	<b>Description</b>	<b>Code Type</b>
163.132	Cerebral infarction due to embolism of left carotid artery	ICD-10-CM
163.139	Cerebral infarction due to embolism of unspecified carotid artery	ICD-10-CM
163.19	Cerebral infarction due to embolism of other precerebral artery	ICD-10-CM
163.20	Cerebral infarction due to unspecified occlusion or stenosis of unspecified precerebral arteries	ICD-10-CM
163.211	Cerebral infarction due to unspecified occlusion or stenosis of right vertebral artery	ICD-10-CM
163.212	Cerebral infarction due to unspecified occlusion or stenosis of left vertebral artery	ICD-10-CM
163.213	Cerebral infarction due to unspecified occlusion or stenosis of bilateral vertebral arteries	ICD-10-CM
163.219	Cerebral infarction due to unspecified occlusion or stenosis of unspecified vertebral arteries	ICD-10-CM
163.22	Cerebral infarction due to unspecified occlusion or stenosis of basilar artery	ICD-10-CM
163.231	Cerebral infarction due to unspecified occlusion or stenosis of right carotid arteries	ICD-10-CM
163.232	Cerebral infarction due to unspecified occlusion or stenosis of left carotid arteries	ICD-10-CM
163.233	Cerebral infarction due to unspecified occlusion or stenosis of bilateral carotid arteries	ICD-10-CM
163.239	Cerebral infarction due to unspecified occlusion or stenosis of unspecified carotid arteries	ICD-10-CM
163.29	Cerebral infarction due to unspecified occlusion or stenosis of other precerebral arteries	ICD-10-CM
163.30	Cerebral infarction due to thrombosis of unspecified cerebral artery	ICD-10-CM
163.311	Cerebral infarction due to thrombosis of right middle cerebral artery	ICD-10-CM
163.312	Cerebral infarction due to thrombosis of left middle cerebral artery	ICD-10-CM
163.313	Cerebral infarction due to thrombosis of bilateral middle cerebral arteries	ICD-10-CM
163.319	Cerebral infarction due to thrombosis of unspecified middle cerebral artery	ICD-10-CM
163.321	Cerebral infarction due to thrombosis of right anterior cerebral artery	ICD-10-CM
163.322	Cerebral infarction due to thrombosis of left anterior cerebral artery	ICD-10-CM
163.323	Cerebral infarction due to thrombosis of bilateral anterior cerebral arteries	ICD-10-CM
163.329	Cerebral infarction due to thrombosis of unspecified anterior cerebral artery	ICD-10-CM
163.331	Cerebral infarction due to thrombosis of right posterior cerebral artery	ICD-10-CM
163.332	Cerebral infarction due to thrombosis of left posterior cerebral artery	ICD-10-CM
163.333	Cerebral infarction to thrombosis of bilateral posterior cerebral arteries	ICD-10-CM
163.339	Cerebral infarction due to thrombosis of unspecified posterior cerebral artery	ICD-10-CM
163.341	Cerebral infarction due to thrombosis of right cerebellar artery	ICD-10-CM
163.342	Cerebral infarction due to thrombosis of left cerebellar artery	ICD-10-CM
163.343	Cerebral infarction to thrombosis of bilateral cerebellar arteries	ICD-10-CM
163.349	Cerebral infarction due to thrombosis of unspecified cerebellar artery	ICD-10-CM
163.39	Cerebral infarction due to thrombosis of other cerebral artery	ICD-10-CM
163.40	Cerebral infarction due to embolism of unspecified cerebral artery	ICD-10-CM
163.411	Cerebral infarction due to embolism of right middle cerebral artery	ICD-10-CM
163.412	Cerebral infarction due to embolism of left middle cerebral artery	ICD-10-CM
163.413	Cerebral infarction due to embolism of bilateral middle cerebral arteries	ICD-10-CM
163.419	Cerebral infarction due to embolism of unspecified middle cerebral artery	ICD-10-CM
163.421	Cerebral infarction due to embolism of right anterior cerebral artery	ICD-10-CM
163.422	Cerebral infarction due to embolism of left anterior cerebral artery	ICD-10-CM
163.423	Cerebral infarction due to embolism of bilateral anterior cerebral arteries	ICD-10-CM
163.429	Cerebral infarction due to embolism of unspecified anterior cerebral artery	ICD-10-CM
163.431	Cerebral infarction due to embolism of right posterior cerebral artery	ICD-10-CM
163.432	Cerebral infarction due to embolism of left posterior cerebral artery	ICD-10-CM
163.433	Cerebral infarction due to embolism of bilateral posterior cerebral arteries	ICD-10-CM

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<b>Code</b>	<b>Description</b>	<b>Code Type</b>
163.439	Cerebral infarction due to embolism of unspecified posterior cerebral artery	ICD-10-CM
163.441	Cerebral infarction due to embolism of right cerebellar artery	ICD-10-CM
163.442	Cerebral infarction due to embolism of left cerebellar artery	ICD-10-CM
163.443	Cerebral infarction due to embolism of bilateral cerebellar arteries	ICD-10-CM
163.449	Cerebral infarction due to embolism of unspecified cerebellar artery	ICD-10-CM
163.49	Cerebral infarction due to embolism of other cerebral artery	ICD-10-CM
163.50	Cerebral infarction due to unspecified occlusion or stenosis of unspecified cerebral artery	ICD-10-CM
163.511	Cerebral infarction due to unspecified occlusion or stenosis of right middle cerebral artery	ICD-10-CM
163.512	Cerebral infarction due to unspecified occlusion or stenosis of left middle cerebral artery	ICD-10-CM
163.513	Cerebral infarction due to unspecified occlusion or stenosis of bilateral middle cerebral arteries	ICD-10-CM
163.519	Cerebral infarction due to unspecified occlusion or stenosis of unspecified middle cerebral artery	ICD-10-CM
163.521	Cerebral infarction due to unspecified occlusion or stenosis of right anterior cerebral artery	ICD-10-CM
163.522	Cerebral infarction due to unspecified occlusion or stenosis of left anterior cerebral artery	ICD-10-CM
163.523	Cerebral infarction due to unspecified occlusion or stenosis of bilateral anterior cerebral arteries	ICD-10-CM
163.529	Cerebral infarction due to unspecified occlusion or stenosis of unspecified anterior cerebral artery	ICD-10-CM
163.531	Cerebral infarction due to unspecified occlusion or stenosis of right posterior cerebral artery	ICD-10-CM
163.532	Cerebral infarction due to unspecified occlusion or stenosis of left posterior cerebral artery	ICD-10-CM
163.533	Cerebral infarction due to unspecified occlusion or stenosis of bilateral posterior cerebral arteries	ICD-10-CM
163.539	Cerebral infarction due to unspecified occlusion or stenosis of unspecified posterior cerebral artery	ICD-10-CM
163.541	Cerebral infarction due to unspecified occlusion or stenosis of right cerebellar artery	ICD-10-CM
163.542	Cerebral infarction due to unspecified occlusion or stenosis of left cerebellar artery	ICD-10-CM
163.543	Cerebral infarction due to unspecified occlusion or stenosis of bilateral cerebellar arteries	ICD-10-CM
163.549	Cerebral infarction due to unspecified occlusion or stenosis of unspecified cerebellar artery	ICD-10-CM
163.59	Cerebral infarction due to unspecified occlusion or stenosis of other cerebral artery	ICD-10-CM
163.6	Cerebral infarction due to cerebral venous thrombosis, nonpyogenic	ICD-10-CM
163.8	Other cerebral infarction	ICD-10-CM
163.9	Cerebral infarction, unspecified	ICD-10-CM
166.01	Occlusion and stenosis of right middle cerebral artery	ICD-10-CM
166.02	Occlusion and stenosis of left middle cerebral artery	ICD-10-CM
166.03	Occlusion and stenosis of bilateral middle cerebral arteries	ICD-10-CM
166.0	Occlusion and stenosis of unspecified middle cerebral artery	ICD-10-CM
166.11	Occlusion and stenosis of right anterior cerebral artery	ICD-10-CM
166.12	Occlusion and stenosis of left anterior cerebral artery	ICD-10-CM
166.13	Occlusion and stenosis of bilateral anterior cerebral arteries	ICD-10-CM
166.19	Occlusion and stenosis of unspecified anterior cerebral artery	ICD-10-CM
166.21	Occlusion and stenosis of right posterior cerebral artery	ICD-10-CM
166.22	Occlusion and stenosis of left posterior cerebral artery	ICD-10-CM
166.23	Occlusion and stenosis of bilateral posterior cerebral arteries	ICD-10-CM

**Appendix C. List of International Classification of Diseases, Ninth and Tenth Revisions, Clinical Modification (ICD-9-CM and ICD-10-CM) and International Classification of Diseases, Tenth Revision, Procedure Coding System (ICD-10-PCS) Codes used to Define Covariates in this Request**

<b>Code</b>	<b>Description</b>	<b>Code Type</b>
I66.29	Occlusion and stenosis of unspecified posterior cerebral artery	ICD-10-CM
I66.3	Occlusion and stenosis of cerebellar arteries	ICD-10-CM
I66.8	Occlusion and stenosis of other cerebral arteries	ICD-10-CM
I66.9	Occlusion and stenosis of unspecified cerebral artery	ICD-10-CM
I67.841	Reversible cerebrovascular vasoconstriction syndrome	ICD-10-CM
I67.848	Other cerebrovascular vasospasm and vasoconstriction	ICD-10-CM
I67.89	Other cerebrovascular disease	ICD-10-CM
I97.810	Intraoperative cerebrovascular infarction during cardiac surgery	ICD-10-CM
I97.811	Intraoperative cerebrovascular infarction during other surgery	ICD-10-CM
I97.820	Postprocedural cerebrovascular infarction following cardiac surgery	ICD-10-CM
I97.821	Postprocedural cerebrovascular infarction following other surgery	ICD-10-CM
<b>Breast cancer</b>		
174.0	Malignant neoplasm of nipple and areola of female breast	ICD-9-CM
174.1	Malignant neoplasm of central portion of female breast	ICD-9-CM
174.2	Malignant neoplasm of upper-inner quadrant of female breast	ICD-9-CM
174.3	Malignant neoplasm of lower-inner quadrant of female breast	ICD-9-CM
174.4	Malignant neoplasm of upper-outer quadrant of female breast	ICD-9-CM
174.5	Malignant neoplasm of lower-outer quadrant of female breast	ICD-9-CM
174.6	Malignant neoplasm of axillary tail of female breast	ICD-9-CM
174.8	Malignant neoplasm of other specified sites of female breast	ICD-9-CM
174.9	Malignant neoplasm of breast (female), unspecified site	ICD-9-CM
175.0	Malignant neoplasm of nipple and areola of male breast	ICD-9-CM
175.9	Malignant neoplasm of other and unspecified sites of male breast	ICD-9-CM
233.0	Carcinoma in situ of breast	ICD-9-CM
V10.3	Personal history of malignant neoplasm of breast	ICD-9-CM
C50.011	Malignant neoplasm of nipple and areola, right female breast	ICD-10-CM
C50.012	Malignant neoplasm of nipple and areola, left female breast	ICD-10-CM
C50.019	Malignant neoplasm of nipple and areola, unspecified female breast	ICD-10-CM
C50.021	Malignant neoplasm of nipple and areola, right male breast	ICD-10-CM
C50.022	Malignant neoplasm of nipple and areola, left male breast	ICD-10-CM
C50.029	Malignant neoplasm of nipple and areola, unspecified male breast	ICD-10-CM
C50.111	Malignant neoplasm of central portion of right female breast	ICD-10-CM
C50.112	Malignant neoplasm of central portion of left female breast	ICD-10-CM
C50.119	Malignant neoplasm of central portion of unspecified female breast	ICD-10-CM
C50.121	Malignant neoplasm of central portion of right male breast	ICD-10-CM
C50.122	Malignant neoplasm of central portion of left male breast	ICD-10-CM
C50.129	Malignant neoplasm of central portion of unspecified male breast	ICD-10-CM
C50.211	Malignant neoplasm of upper-inner quadrant of right female breast	ICD-10-CM
C50.212	Malignant neoplasm of upper-inner quadrant of left female breast	ICD-10-CM
C50.219	Malignant neoplasm of upper-inner quadrant of unspecified female breast	ICD-10-CM
C50.221	Malignant neoplasm of upper-inner quadrant of right male breast	ICD-10-CM
C50.222	Malignant neoplasm of upper-inner quadrant of left male breast	ICD-10-CM
C50.229	Malignant neoplasm of upper-inner quadrant of unspecified male breast	ICD-10-CM
C50.311	Malignant neoplasm of lower-inner quadrant of right female breast	ICD-10-CM

**Appendix C. List of International Classification of Diseases, Ninth and Tenth Revisions, Clinical Modification (ICD-9-CM and ICD-10-CM) and International Classification of Diseases, Tenth Revision, Procedure Coding System (ICD-10-PCS) Codes used to Define Covariates in this Request**

<b>Code</b>	<b>Description</b>	<b>Code Type</b>
C50.312	Malignant neoplasm of lower-inner quadrant of left female breast	ICD-10-CM
C50.319	Malignant neoplasm of lower-inner quadrant of unspecified female breast	ICD-10-CM
C50.321	Malignant neoplasm of lower-inner quadrant of right male breast	ICD-10-CM
C50.322	Malignant neoplasm of lower-inner quadrant of left male breast	ICD-10-CM
C50.329	Malignant neoplasm of lower-inner quadrant of unspecified male breast	ICD-10-CM
C50.411	Malignant neoplasm of upper-outer quadrant of right female breast	ICD-10-CM
C50.412	Malignant neoplasm of upper-outer quadrant of left female breast	ICD-10-CM
C50.419	Malignant neoplasm of upper-outer quadrant of unspecified female breast	ICD-10-CM
C50.421	Malignant neoplasm of upper-outer quadrant of right male breast	ICD-10-CM
C50.422	Malignant neoplasm of upper-outer quadrant of left male breast	ICD-10-CM
C50.429	Malignant neoplasm of upper-outer quadrant of unspecified male breast	ICD-10-CM
C50.511	Malignant neoplasm of lower-outer quadrant of right female breast	ICD-10-CM
C50.512	Malignant neoplasm of lower-outer quadrant of left female breast	ICD-10-CM
C50.519	Malignant neoplasm of lower-outer quadrant of unspecified female breast	ICD-10-CM
C50.521	Malignant neoplasm of lower-outer quadrant of right male breast	ICD-10-CM
C50.522	Malignant neoplasm of lower-outer quadrant of left male breast	ICD-10-CM
C50.529	Malignant neoplasm of lower-outer quadrant of unspecified male breast	ICD-10-CM
C50.611	Malignant neoplasm of axillary tail of right female breast	ICD-10-CM
C50.612	Malignant neoplasm of axillary tail of left female breast	ICD-10-CM
C50.619	Malignant neoplasm of axillary tail of unspecified female breast	ICD-10-CM
C50.621	Malignant neoplasm of axillary tail of right male breast	ICD-10-CM
C50.622	Malignant neoplasm of axillary tail of left male breast	ICD-10-CM
C50.629	Malignant neoplasm of axillary tail of unspecified male breast	ICD-10-CM
C50.811	Malignant neoplasm of overlapping sites of right female breast	ICD-10-CM
C50.812	Malignant neoplasm of overlapping sites of left female breast	ICD-10-CM
C50.819	Malignant neoplasm of overlapping sites of unspecified female breast	ICD-10-CM
C50.821	Malignant neoplasm of overlapping sites of right male breast	ICD-10-CM
C50.822	Malignant neoplasm of overlapping sites of left male breast	ICD-10-CM
C50.829	Malignant neoplasm of overlapping sites of unspecified male breast	ICD-10-CM
C50.911	Malignant neoplasm of unspecified site of right female breast	ICD-10-CM
C50.912	Malignant neoplasm of unspecified site of left female breast	ICD-10-CM
C50.919	Malignant neoplasm of unspecified site of unspecified female breast	ICD-10-CM
C50.921	Malignant neoplasm of unspecified site of right male breast	ICD-10-CM
C50.922	Malignant neoplasm of unspecified site of left male breast	ICD-10-CM
C50.929	Malignant neoplasm of unspecified site of unspecified male breast	ICD-10-CM
D05.00	Lobular carcinoma in situ of unspecified breast	ICD-10-CM
D05.01	Lobular carcinoma in situ of right breast	ICD-10-CM
D05.02	Lobular carcinoma in situ of left breast	ICD-10-CM
D05.10	Intraductal carcinoma in situ of unspecified breast	ICD-10-CM
D05.11	Intraductal carcinoma in situ of right breast	ICD-10-CM
D05.12	Intraductal carcinoma in situ of left breast	ICD-10-CM
D05.80	Other specified type of carcinoma in situ of unspecified breast	ICD-10-CM
D05.81	Other specified type of carcinoma in situ of right breast	ICD-10-CM
D05.82	Other specified type of carcinoma in situ of left breast	ICD-10-CM

**Appendix C. List of International Classification of Diseases, Ninth and Tenth Revisions, Clinical Modification (ICD-9-CM and ICD-10-CM) and International Classification of Diseases, Tenth Revision, Procedure Coding System (ICD-10-PCS) Codes used to Define Covariates in this Request**

<b>Code</b>	<b>Description</b>	<b>Code Type</b>
D05.90	Unspecified type of carcinoma in situ of unspecified breast	ICD-10-CM
D05.91	Unspecified type of carcinoma in situ of right breast	ICD-10-CM
D05.92	Unspecified type of carcinoma in situ of left breast	ICD-10-CM
Z85.3	Personal history of malignant neoplasm of breast	ICD-10-CM
<b>Colorectal cancer</b>		
153.0	Malignant neoplasm of hepatic flexure	ICD-9-CM
153.1	Malignant neoplasm of transverse colon	ICD-9-CM
153.2	Malignant neoplasm of descending colon	ICD-9-CM
153.3	Malignant neoplasm of sigmoid colon	ICD-9-CM
153.4	Malignant neoplasm of cecum	ICD-9-CM
153.5	Malignant neoplasm of appendix	ICD-9-CM
153.6	Malignant neoplasm of ascending colon	ICD-9-CM
153.7	Malignant neoplasm of splenic flexure	ICD-9-CM
153.8	Malignant neoplasm of other specified sites of large intestine	ICD-9-CM
153.9	Malignant neoplasm of colon, unspecified site	ICD-9-CM
154.0	Malignant neoplasm of rectosigmoid junction	ICD-9-CM
154.1	Malignant neoplasm of rectum	ICD-9-CM
230.3	Carcinoma in situ of colon	ICD-9-CM
230.4	Carcinoma in situ of rectum	ICD-9-CM
V10.05	Personal history of malignant neoplasm of large intestine	ICD-9-CM
V10.06	Personal history of malignant neoplasm of rectum, rectosigmoid junction, and anus	ICD-9-CM
C18.0	Malignant neoplasm of cecum	ICD-10-CM
C18.1	Malignant neoplasm of appendix	ICD-10-CM
C18.2	Malignant neoplasm of ascending colon	ICD-10-CM
C18.3	Malignant neoplasm of hepatic flexure	ICD-10-CM
C18.4	Malignant neoplasm of transverse colon	ICD-10-CM
C18.5	Malignant neoplasm of splenic flexure	ICD-10-CM
C18.6	Malignant neoplasm of descending colon	ICD-10-CM
C18.7	Malignant neoplasm of sigmoid colon	ICD-10-CM
C18.8	Malignant neoplasm of overlapping sites of colon	ICD-10-CM
C18.9	Malignant neoplasm of colon, unspecified	ICD-10-CM
C19	Malignant neoplasm of rectosigmoid junction	ICD-10-CM
C20	Malignant neoplasm of rectum	ICD-10-CM
D01.0	Carcinoma in situ of colon	ICD-10-CM
D01.1	Carcinoma in situ of rectosigmoid junction	ICD-10-CM
D01.2	Carcinoma in situ of rectum	ICD-10-CM
Z85.038	Personal history of other malignant neoplasm of large intestine	ICD-10-CM
Z85.040	Personal history of malignant carcinoid tumor of rectum	ICD-10-CM
Z85.048	Personal history of other malignant neoplasm of rectum, rectosigmoid junction, and anus	ICD-10-CM
<b>Prostate cancer</b>		
185	Malignant neoplasm of prostate	ICD-9-CM
233.4	Carcinoma in situ of prostate	ICD-9-CM
V10.46	Personal history of malignant neoplasm of prostate	ICD-9-CM
C61	Malignant neoplasm of prostate	ICD-10-CM

**Appendix C. List of International Classification of Diseases, Ninth and Tenth Revisions, Clinical Modification (ICD-9-CM and ICD-10-CM) and International Classification of Diseases, Tenth Revision, Procedure Coding System (ICD-10-PCS) Codes used to Define Covariates in this Request**

<b>Code</b>	<b>Description</b>	<b>Code Type</b>
D07.5	Carcinoma in situ of prostate	ICD-10-CM
Z85.46	Personal history of malignant neoplasm of prostate	ICD-10-CM
<b>Lung cancer</b>		
162.2	Malignant neoplasm of main bronchus	ICD-9-CM
162.3	Malignant neoplasm of upper lobe, bronchus, or lung	ICD-9-CM
162.4	Malignant neoplasm of middle lobe, bronchus, or lung	ICD-9-CM
162.5	Malignant neoplasm of lower lobe, bronchus, or lung	ICD-9-CM
162.8	Malignant neoplasm of other parts of bronchus or lung	ICD-9-CM
162.9	Malignant neoplasm of bronchus and lung, unspecified site	ICD-9-CM
231.2	Carcinoma in situ of bronchus and lung	ICD-9-CM
V10.11	Personal history of malignant neoplasm of bronchus and lung	ICD-9-CM
C34.00	Malignant neoplasm of unspecified main bronchus	ICD-10-CM
C34.01	Malignant neoplasm of right main bronchus	ICD-10-CM
C34.02	Malignant neoplasm of left main bronchus	ICD-10-CM
C34.10	Malignant neoplasm of upper lobe, unspecified bronchus or lung	ICD-10-CM
C34.11	Malignant neoplasm of upper lobe, right bronchus or lung	ICD-10-CM
C34.12	Malignant neoplasm of upper lobe, left bronchus or lung	ICD-10-CM
C34.2	Malignant neoplasm of middle lobe, bronchus or lung	ICD-10-CM
C34.30	Malignant neoplasm of lower lobe, unspecified bronchus or lung	ICD-10-CM
C34.31	Malignant neoplasm of lower lobe, right bronchus or lung	ICD-10-CM
C34.32	Malignant neoplasm of lower lobe, left bronchus or lung	ICD-10-CM
C34.80	Malignant neoplasm of overlapping sites of unspecified bronchus and lung	ICD-10-CM
C34.81	Malignant neoplasm of overlapping sites of right bronchus and lung	ICD-10-CM
C34.82	Malignant neoplasm of overlapping sites of left bronchus and lung	ICD-10-CM
C34.90	Malignant neoplasm of unspecified part of unspecified bronchus or lung	ICD-10-CM
C34.91	Malignant neoplasm of unspecified part of right bronchus or lung	ICD-10-CM
C34.92	Malignant neoplasm of unspecified part of left bronchus or lung	ICD-10-CM
D02.20	Carcinoma in situ of unspecified bronchus and lung	ICD-10-CM
D02.21	Carcinoma in situ of right bronchus and lung	ICD-10-CM
D02.22	Carcinoma in situ of left bronchus and lung	ICD-10-CM
Z85.110	Personal history of malignant carcinoid tumor of bronchus and lung	ICD-10-CM
Z85.118	Personal history of other malignant neoplasm of bronchus and lung	ICD-10-CM
<b>Endometrial cancer</b>		
182	Malignant neoplasm of corpus uteri, except isthmus	ICD-9-CM
233.2	Carcinoma in situ of other and unspecified parts of uterus	ICD-9-CM
V10.42	Personal history of malignant neoplasm of other parts of the uterus	ICD-9-CM
C54.1	Malignant neoplasm of endometrium	ICD-10-CM
C54.2	Malignant neoplasm of myometrium	ICD-10-CM
C54.3	Malignant neoplasm of fundus uteri	ICD-10-CM
C54.8	Malignant neoplasm of overlapping sites of corpus uteri	ICD-10-CM
C54.9	Malignant neoplasm of corpus uteri, unspecified	ICD-10-CM
D07.0	Carcinoma in situ of endometrium	ICD-10-CM
Z85.42	Personal history of malignant neoplasm of other parts of uterus	ICD-10-CM

**Appendix D. List of Generic and Brand Names used to Define Covariates in this Request**

<b>Generic Name</b>	<b>Brand Name</b>
<b>Lorcaserin</b>	
lorcaserin HCl	Belviq
lorcaserin HCl	Belviq XR
<b>Bupropion and naltrexone</b>	
naltrexone HCl/bupropion HCl	Contrave
<b>Liraglutide</b>	
liraglutide	Saxenda
<b>Phentermine and topiramate</b>	
phentermine HCl/topiramate	Qsymia
<b>Orlistat</b>	
orlistat	Alli
orlistat	Xenical
<b>Orlistat brand name Alli</b>	
orlistat	Alli
<b>Phentermine</b>	
phentermine HCl	Adipex-P
phentermine HCl	Lomaira
phentermine HCl	phentermine
phentermine HCl	phentermine
phentermine HCl	Suprenza
phentermine HCl	Suprenza
phentermine HCl	Suprenza
<b>Benzphetamine</b>	
benzphetamine HCl	Regimex
benzphetamine HCl	benzphetamine
benzphetamine HCl	Didrex
<b>Diethylpropion</b>	
diethylpropion HCl	diethylpropion
<b>Phendimetrazine</b>	
phendimetrazine tartrate	Bontril PDM
phendimetrazine tartrate	Bontril Slow-Release
phendimetrazine tartrate	Bontril SR
phendimetrazine tartrate	phendimetrazine tartrate



### Appendix E. Specifications Defining Parameters in the Sensitivity Analysis for this Report

This request executed the Cohort Identification and Descriptive Analysis (CIDA) tool, version 7.0.1, to evaluate utilization patterns of obesity drugs in the Sentinel Distributed Database (SDD).

**Query period:** January 1, 2008 - December 31, 2017  
**Coverage requirement:** Medical and drug coverage  
**Pre-index enrollment requirement:** 183 Days  
**Post-index enrollment requirement:** 0 Days  
**Enrollment gap:** 45 Days  
**Age groups:** 18-44, 45-64, 65+ years  
**Stratifications:** Sex, age group  
**Episode duration categories:** 1-30 Days, 31-60 Days, 61-90 Days, 91-120 Days, 121-150 Days, 151-183 Days, 184-365 Days, 366-547 Days, 548-730 Days, 730+ Days  
**Days supplied categories:** 1-15 Days, 16-30 Days, 31-45 Days, 46-60 Days, 61-75 Days, 75-90 Days, 91+ Days

Scenario	Index exposure	Cohort definition	Exposure			Baseline	
			Incident exposure washout period	Incident with respect to:	Treatment episode gap	Censor treatment episode at evidence of:	Covariates
1	SGLT-2 inhibitors	Include all valid exposure episodes during query period; only the first valid exposure episode's incidence is assessed using washout criteria	183 Days	SGLT-2 inhibitors	60 days	Death; Disenrollment; Query end date; Data Partner end date	See Appendices C and D
2	All obesity drugs	Include all valid exposure episodes during query period; only the first valid exposure episode's incidence is assessed using washout criteria	183 Days	All obesity drugs	60 days	Death; Disenrollment; Query end date; Data Partner end date	See Appendices C and D
3	All long-term obesity drugs (Lorcaserin, bupropion and naltrexone, liraglutide, phentermine and topiramate, orlistat)	Include all valid exposure episodes during query period; only the first valid exposure episode's incidence is assessed using washout criteria	183 Days	All long-term obesity drugs (Lorcaserin, bupropion and naltrexone, liraglutide, phentermine and topiramate, orlistat)	60 days	Death; Disenrollment; Query end date; Data Partner end date	See Appendices C and D

Scenario	Exposure				Baseline		
	Index exposure	Cohort definition	Incident exposure washout period	Incident with respect to:	Treatment episode gap	Censor treatment episode at evidence of:	Covariates
4	All short-term obesity drugs (Phentermine, benzphetamine, diethylpropion, phendimetrazine)	Include all valid exposure episodes during query period; only the first valid exposure episode's incidence is assessed using washout criteria	183 Days	All short-term obesity drugs (Phentermine, benzphetamine, diethylpropion, phendimetrazine)	60 days	Death; Disenrollment; Query end date; Data Partner end date	See Appendices C and D
5	Lorcaserin	Include all valid exposure episodes during query period; only the first valid exposure episode's incidence is assessed using washout criteria	183 Days	Lorcaserin	60 days	Death; Disenrollment; Query end date; Data Partner end date	See Appendices C and D
6	Bupropion and naltrexone	Include all valid exposure episodes during query period; only the first valid exposure episode's incidence is assessed using washout criteria	183 Days	Bupropion and naltrexone	60 days	Death; Disenrollment; Query end date; Data Partner end date	See Appendices C and D
7	Liraglutide	Include all valid exposure episodes during query period; only the first valid exposure episode's incidence is assessed using washout criteria	183 Days	Liraglutide	60 days	Death; Disenrollment; Query end date; Data Partner end date	See Appendices C and D
8	Phentermine and topiramate	Include all valid exposure episodes during query period; only the first valid exposure episode's incidence is assessed using washout criteria	183 Days	Phentermine and topiramate	60 days	Death; Disenrollment; Query end date; Data Partner end date	See Appendices C and D
9	Orlistat (including Alli)	Include all valid exposure episodes during query period; only the first valid exposure episode's incidence is assessed using washout criteria	183 Days	Orlistat (including Alli)	60 days	Death; Disenrollment; Query end date; Data Partner end date	See Appendices C and D

Scenario	Exposure				Baseline		
	Index exposure	Cohort definition	Incident exposure washout period	Incident with respect to:	Treatment episode gap	Censor treatment episode at evidence of:	Covariates
10	Orlistat brand name Alli	Include all valid exposure episodes during query period; only the first valid exposure episode's incidence is assessed using washout criteria	183 Days	Orlistat brand name Alli	60 days	Death; Disenrollment; Query end date; Data Partner end date	See Appendices C and D
11	Phentermine	Include all valid exposure episodes during query period; only the first valid exposure episode's incidence is assessed using washout criteria	183 Days	Phentermine	60 days	Death; Disenrollment; Query end date; Data Partner end date	See Appendices C and D
12	Benzphetamine	Include all valid exposure episodes during query period; only the first valid exposure episode's incidence is assessed using washout criteria	183 Days	Benzphetamine	60 days	Death; Disenrollment; Query end date; Data Partner end date	See Appendices C and D
13	Diethylpropion	Include all valid exposure episodes during query period; only the first valid exposure episode's incidence is assessed using washout criteria	183 Days	Diethylpropion	60 days	Death; Disenrollment; Query end date; Data Partner end date	See Appendices C and D
14	Phendimetrazine	Include all valid exposure episodes during query period; only the first valid exposure episode's incidence is assessed using washout criteria	183 Days	Phendimetrazine	60 days	Death; Disenrollment; Query end date; Data Partner end date	See Appendices C and D

International Classification of Diseases, Ninth and Tenth Revisions, Clinical Modification (ICD-9-CM and ICD-10-CM), International Classification of Diseases, Tenth Revision, Procedure Coding System (ICD-10-PCS), Healthcare Common Procedure Coding System (HCPCS), and Current Procedural Terminology, Fourth Edition (CPT-4) codes are provided by Optum360.

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