Disclaimer

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

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
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Overview for Request cder_mpl2r_wp008

Request ID: cder_mpl2r_wp008_nsdp_v03

Request Description: The goal of this request was to assess the risk of acute myocardial infarction (AMI) and hospitalized heart failure (hHF) following saxagliptin or sitagliptin use in comparison to one another, to long-acting insulins, to pioglitazone, and to second-generation sulfonylureas in the Sentinel Distributed Database (SDD).

The request had two components: the "replication" analysis aimed to recreate the final analysis from a protocol-based assessment (PBA) of these diabetes drug exposures and health outcomes, while the "updated" analysis featured the same drug comparisons and outcomes but was run on the latest available data and accounted for present-day drugs and analysis tool capabilities.[1,2,3]

Following is a list of reports for the "replication" analysis. The report contained in this file is bolded.

Report 1 investigates AMI incidence among new users of saxagliptin and comparator drugs under "replication" analytic conditions.
Report 2 investigates AMI incidence among new users of sitagliptin and comparator drugs under "replication" analytic conditions.
Report 3 investigates hHF incidence among new users of saxagliptin and comparator drugs under "replication" analytic conditions.
Report 4 investigates hHF incidence among new users of sitagliptin and comparator drugs under "replication" analytic conditions.

Sentinel Routine Querying Module: Cohort Identification and Descriptive Analysis (CIDA) module, with Propensity Score Analysis, version 7.3.4

Data Source: We used data from August 1, 2009 to July 31, 2014 from 13 Data Partners contributing to the SDD. We distributed this request on September 10, 2019. See Appendix A for a list of dates of available data for each Data Partner.

Study Design: This query used a retrospective new-user cohort design. We reported effect estimates for overall populations and for subgroups defined by prior diagnosis of cardiovascular disease (CVD) status, sex, and age group.

Exposures of Interest: The five exposures of interest for this report were paired below into four comparisons. We defined each exposure using National Drug Codes (NDCs). Please see Appendix B for generic names of medical products used to define exposures in this request.

Comparison 1: Saxagliptin vs. sitagliptin
Comparison 2: Saxagliptin vs. pioglitazone
Comparison 3: Saxagliptin vs. long-acting insulins
Comparison 4: Saxagliptin vs. second-generation sulfonylureas

Cohort Eligibility Criteria: We included individuals in our analysis if they were continuously enrolled in health plans with medical and drug coverage for at least 365 days prior to their first qualifying (index) dispensing date, during which gaps in coverage of up to 45 days were allowed. We excluded members who had claims (NDCs) indicating use of either saxagliptin or the comparator drug in the 365 days prior to their index date. Generic names of medical products for incidence criteria are shown in Appendix B. We restricted our analysis to patients classified as male or female sex (excluding "other" and "missing") who were at least 18 years of age at index. We reported outcomes according to the following age categories: 18-29, 30-44, 45-54, 55-64, 65-74, 75-84, and 85 years or greater. This analysis captured only the first valid index date during the query period.

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Inclusion and Exclusion Criteria: For all comparisons, we included patients with either a diabetes diagnosis or a non-short-acting insulin diabetes medication dispensing in the 365 days prior to the index dispensing date. We excluded patients with gestational diabetes, defined as a female patient with a diagnosis signaling pregnancy (such as delivery, miscarriage, or ongoing pregnancy) on the index date or in the 365 days prior to index date (in addition to the aforementioned diabetes diagnosis inclusion criterion). For the pioglitazone comparison only, we additionally excluded individuals with evidence of congestive heart failure in the 365 days prior to index. For the long-acting insulin comparison only, we additionally excluded patients with no diabetes medication other than short-acting insulin in the 365 days prior to index. We defined all inclusion and exclusion criteria using International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) diagnosis codes and National Drug Codes (NDCs). Please see Appendix C for a list of diagnosis codes and Appendix D for generic names of medical products used to define inclusions and exclusions in this request.

Stockpiling Algorithm: For same-day dispensings of the same stockpiling group, we set the number of days supplied to equal the sum of days supplied over these dispensings. We handled the amount supplied value for same-day dispensings in the same way. In situations where a dispensing occurred during the supply period for the previous dispensing, we pushed forward the date of this dispensing as if there were no overlap between consecutive dispensing's days supplied. Finally, we only allowed a dispensing to contribute a maximum of 120 days to an episode.

Follow-Up Time: Follow-up time began on the date of first dispensing and continued for the duration of the exposure episode. We defined exposure episode length using outpatient pharmacy dispensings' days supplied values to create a sequence of continuous exposure. We considered exposure episodes to be continuous across dispensings if gaps in days supplied were less than 33% of the previous dispensing length. Follow-up continued until the last day supplied plus a 12-day extension period, or until the first occurrence of any of the following: 1) disenrollment; 2) death; 3) the end of the query period; 4) the outcome of interest; or 5) use of the comparison drug.

Outcome of Interest: The outcome of interest for this was AMI. We defined the outcome as a primary diagnosis in an inpatient (IP) encounter using ICD-9-CM discharge diagnosis codes. We excluded patients from the analysis if they had a primary diagnosis of AMI in an IP encounter in the 60 days prior to their index date. See Appendix E for a list of ICD-9-CM diagnosis codes used to define AMI in this request.

Patient Characteristics: We generated covariates for three purposes: 1) to describe the characteristics of our analytic cohorts; 2) to include in our propensity score (PS) model; and 3) to define subgroups for stratified analyses by presence of prior CVD conditions. We defined the baseline period for descriptive variables as the 365 days prior to the exposure of interest, not including the index date, except in describing prior AMI, prior hHF, and prior encounters (see details below). We also reported concurrent use of drugs, defined as evidence of use on index date.

Overview for Request cder_mpl2r_wp008

Descriptive and propensity score, baseline only

We assessed the following covariates during only the baseline period and included them in our PS models: age, sex, year of treatment initiation, Combined Comorbidity Index[4], prior AMI in the past 61-365 days (narrow definition), other ischemic heart disease, congestive heart failure, other heart disease, stroke (broad definition), stroke (narrow definition), peripheral arterial disease, coronary revascularization procedures (defined as coronary artery bypass graft or percutaneous coronary intervention), carotid revascularization procedures (defined as carotid bypass or carotid endarterectomy, stenting, angioplasty or atherectomy), lower extremity revascularization (defined as lower extremity bypass, lower extremity amputation, lower extremity endarterectomy, stenting, angioplasty or atherectomy), asthma, cancer (excluding non-melanoma skin cancer), chronic kidney disease (excluding end-stage renal disease), chronic obstructive pulmonary disease, dementia, depression, end-stage renal disease, fracture, human immunodeficiency virus or acquired immunodeficiency syndrome, hyperlipidemia or lipid disorder, hypertension, hypoglycemia, obesity (or weight gain), osteoporosis, peripheral neuropathy, tobacco use, non-acute institutional stay (IS encounter) in prior year, any hospitalization (IP encounter) within prior 30 days, any hospitalization within past 31-365 days, any emergency department (ED encounter) visit within prior 30 days, any emergency department visit within prior 31-365 days, number of outpatient visits (AV encounter) in prior year, and number of unique medications dispensed in prior year.

Descriptive and propensity score, baseline and concurrent use

We assessed the following drug use covariates during the baseline period and, separately, on index date only. We included both baseline and index values of these variables in our PS models: alpha-glucosidase inhibitors, biguanides, other dipeptidyl peptidase-4 (DPP-4) inhibitors, meglitinides, saxagliptin, sitagliptin, pioglitazone, first-generation sulfonylureas, second-generation sulfonylureas, long-acting insulin, short-acting insulin, other thiazolidinediones, other anti-diabetics (defined as glucagon-like peptide-1 (GLP-1) analogues, amylin analog-types or canagliflozin), angiotensin-converting enzyme (ACE) inhibitors, alpha blockers, angiotensin receptor blockers (ARB), beta blockers, calcium channel blockers, direct vasodilators, loop diuretics, aldosterone receptor agonists (ARAs), non-ARA potassium sparing diuretics, thiazide diuretics, renin inhibitors, central alpha-2 receptor agonists, reserpine and derivatives, and lipid-lowering agents. We included in each PS model all exposure drugs of interest other than the treatment and comparator under assessment. For example, the PS model for the saxagliptin versus long-acting insulin comparison included sitagliptin, pioglitazone, and second-generation sulfonylureas, but not long-acting insulins. Saxagliptin is an exception to this, and its handling is detailed below.

Additionally, we grouped a selection of antidiabetic agents into two aggregate “other anti-diabetics” variables based on the previous PBA, one describing use during the baseline period and one describing use on index day. We included both variables in our PS model. These aggregate variables included: alpha-glucosidase inhibitors, other DPP-4 inhibitors, meglitinides, first-generation sulfonylureas, saxagliptin, and other anti-diabetics (defined as GLP-1 analogues, amylin analog-types or canagliflozin). In analyses where saxagliptin was an exposure of interest, we did not include saxagliptin in the definitions of “other anti-diabetics” at baseline or at index.

Similarly, we identified use of the following anti-hypertensive drugs and grouped them into two aggregate variables, one describing use during the baseline period and one describing use on index day. We included both variables in our PS model. The aggregate variables include: central alpha-2 receptor agonists, alpha blockers, ARAs, potassium sparing diuretics, loop diuretics, direct vasodilators, renin inhibitors, reserpine and derivatives, and direct vasodilators.

Descriptive only, baseline only

We assessed the following descriptive variables during the baseline period only and did not include them in PS models: each of the components that make up coronary revascularization procedures, carotid revascularization procedures, lower extremity revascularization procedures covariates, aggregate of all cardiovascular disease covariates previously listed, aggregate of all comorbidity covariates previously listed, aggregates of all anti-diabetic medication in the baseline period and on index day, aggregates of all anti-hypertensive agents in the baseline period and on index day, prior AMI in the previous 61 to 365 days (broad definition), and prior hHF in the previous 61 to 365 days.

Overview for Request cder_mpl2r_wp008

Prior CVD subgroups

We classified patients into "presence of prior CVD" and "no prior CVD" subgroups for stratified analyses. We defined presence of prior CVD conditions according to the following variables, assessed during the baseline period of 365 days prior to the exposure of interest: prior AMI (broad), other ischemic heart disease, heart failure, other heart disease, stroke (broad), peripheral arterial disease, all coronary revascularization procedures, all carotid revascularization procedures, and all lower extremity revascularization.

Care settings

We captured diagnoses and procedures from IP or ambulatory visit (AV) care settings, except for stroke (narrow definition), AMI (narrow definition), and hHF, which required a principal diagnosis in the IP care setting.

Codes

We defined all conditions using ICD-9-CM diagnosis and procedure codes, Healthcare Common Procedure Coding System (HCPCS) codes, and Current Procedural Terminology, Fourth Edition (CPT-4, Category I-III) codes. We defined drug dispensings using NDCs. Please see Appendix F for a list of diagnosis and procedure codes and Appendix G for generic names of medical products used to identify covariates in this request.

Analysis: We estimated propensity scores using the covariates listed above, and adjusted our analytic models via PS matching using 1:1 nearest neighbor matching without replacement using a caliper of 0.01. Each comparator patient was matched one time, at most, to a treatment patient. We estimated adjusted hazard ratios and 95% confidence intervals using Cox regression stratified on Data Partner site (and matched sample in the conditional analysis). We performed subgroup analyses by prior CVD status, sex, and age group (18-64 years, 65 or older). In subgroup analyses, we re-matched patients within subgroups.

Please see Appendices H.1-H.8 for the specifications of parameters for this request and Appendix I for the list of covariates and their use in the PS models and subgroup definition. Note that only comparisons 1 through 4 apply to this report.

Limitations: 1) As with all observational studies, this evaluation was limited in its ability to control for all sources of potential bias. 2) Exposures, outcomes, inclusions, exclusions, episode truncation criteria, and covariates may be misclassified due to imperfect identification algorithms.

Notes: Please contact the Sentinel Operations Center (info@sentinelsystem.org) for questions and to provide comments/suggestions for future enhancements to this document.

[1]Toh S, Reichman M, Graham D, Hampp C, Zhang R, Butler M, Iyer A, Rucker M, Pimentel M, Hamilton J, Lendle S, Fireman B. Prospective Postmarketing Surveillance of Acute Myocardial Infarction in New Users of Saxagliptin: A Population-Based Study. Diabetes Care 2018;41:39-48

[2]Toh S, Hampp C, Reichman M, Graham D, Balakrishnan S, Pucino F, Hamilton J, Lendle S, Iyer A, Rucker M, Pimentel M, Nathwani N, Griffin M, Brown N, Fireman B. Risk for Hospitalized Heart Failure Among New Users of Saxagliptin, Sitagliptin, and Other Antihyperglycemic Drugs: A Retrospective Cohort Study. Ann Intern Med. 2016;164:705-714.

[3]Fireman B, Toh S, Butler M, Go A, Joffe H, Graham D, Nelson J, Daniel G, Selby J. A protocol for active surveillance of acute myocardial infarction in association with the use of a new antidiabetic pharmaceutical agent. Pharmacoepidemiol Drug Saf. 2012 Jan; 21 Suppl 1: 282-90.

[4]Gagne JJ, Glynn RJ, Avorn J, Levin R, Schneeweiss S. A combined comorbidity score predicted mortality in elderly patients better than existing scores. J Clin Epidemiol. 2011;64(7):749-759

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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

Glossary of Terms for Analyses Using Propensity Score Analysis (PSA) Tool*

Covariate - requester defined binary variable to include in the propensity score estimation model (e.g., diabetes, heart failure, etc.) during requester-defined lookback period. Requester may also choose to add any of the following categorical, continuous, or count metrics to the propensity score estimation model:

1. Age (continuous)
2. Sex
3. Time period (i.e., monitoring period for sequential analyses)
4. Year of exposure
5. Comorbidity score
6. Medical utilization – number of inpatient stays
7. Medical utilization – number of institutional stays
8. Medical utilization – number of emergency department visits
9. Medical utilization – number of outpatient visits
10. Health care utilization – number of other ambulatory encounters (e.g., telemedicine, email consults)
11. Drug utilization – number of dispensings
12. Drug utilization – number of unique generics dispensed
13. Drug Utilization – number of unique drug classes dispensed

Covariate Evaluation Window - specified number of days relative to index date to evaluate the occurrence of covariates of interest. Note: members are required to have continuous enrollment during the covariate evaluation window, regardless of the value included in the "Continuous enrollment before exposure" field.

Individual Level Data Return - program may return individual-level, de-identified datasets to the Sentinel Operations Center (SOC). While the datasets contain a single row per patient for each specified analysis, patient identifiers such as a patient ID are not included in the output. Individual-level datasets are returned to the SOC, aggregated, and used to calculate effect estimates via Cox (proportional hazards) regression.

Mahalanobis Distance - provides a measure of balance across all variables while accounting for their correlation.

Matching Caliper - maximum allowed difference in propensity scores between treatment and control patients. Requester may select any caliper (e.g., 0.01, 0.025, and 0.05).

Matching Ratio - patients in exposed and comparator groups are nearest neighbor matched by a 1:1 or 1:n (up to 10) matching ratio.

Matched Conditional and Unconditional Analysis - in a conditional matched analysis, a Cox model, stratified by Data Partner site and matched set, is run on the matched population. This can be done for both the both 1:1 and 1:n matched cohorts. In an unconditional analysis, a Cox model, stratified by Data Partner site only, is run on the matched population. This can be done for the 1:1 matched cohort only.

Propensity Score Stratification - option to stratify propensity scores based on requester-defined percentiles in the unmatched population. In a stratified analysis, a Cox model, stratified by Data Partner site, is run on the stratified population. Note that all patients identified in exposure and comparator cohorts are used in the analysis.

PSM Tool - performs effect estimation by comparing exposure propensity-score matched parallel new user cohorts. Propensity score estimation and matching are conducted within each Sentinel Data Partner site via distributed programming code; data are returned to the SOC, aggregated, and used to calculate effect estimates.

Risk-set Level Data Return - alternative to the patient-level data return approach. In this approach, the PSM tool will produce de-identified, risk-set level datasets instead of or in addition to individual-level output. Whereas each observation in the patient-level datasets represents one patient in the cohort, each observation in the risk set dataset represents one event. Risk sets are created at the Data Partner site, returned to the SOC, aggregated, and used to calculate effect estimates via case-centered logistic regression.

Subgroup Analysis - may be conducted using any requester-defined covariates. Subgroup analyses may be performed in the unmatched and the matched population.

Glossary of Terms for Analyses Using Propensity Score Analysis (PSA) Tool*

Zero Cell Correction - indicator for whether to screen variables with a zero correction added to each cell in the confounder/outcome 2x2 table. Recommended when the number of exposed outcomes is fewer than 150.

*all terms may not be used in this report

Table 1a. Baseline Characteristics of Saxagliptin vs Sitagliptin with Acute Myocardial Infarction in the Sentinel Distributed Database (SDD) between August 1, 2009 and July 31, 2014, (Replication) (Unmatched, Aggregated), Ratio: 1:1, Caliper:0.01

	Medical Product				Covariate Balance	
	Saxagliptin		Sitagliptin			
Characteristic	Number	Percent	Number	Percent	Absolute Difference	Standardized Difference
Patients	64,069	100.0%	215,762	100.0%	-	-
Demographics	**Mean**	**Standard Deviation**	**Mean**	**Standard Deviation**		
Mean age (years)	57.7	11.0	59.7	11.8	-1.931	-0.169
Age (years)	**Number**	**Percent**	**Number**	**Percent**		
18-29	544	0.8%	1,705	0.8%	0.059	0.007
30-44	8,381	13.1%	24,666	11.4%	1.649	0.050
45-54	17,530	27.4%	51,958	24.1%	3.280	0.075
55-64	21,607	33.7%	67,351	31.2%	2.509	0.054
65-74	10,632	16.6%	43,750	20.3%	-3.682	-0.095
75-84	4,495	7.0%	21,103	9.8%	-2.765	-0.100
85+	880	1.4%	5,229	2.4%	-1.050	-0.077
Sex						
Female	28,088	43.8%	97,124	45.0%	-1.174	-0.024
Male	35,981	56.2%	118,638	55.0%	1.174	0.024
Year						
2009	1,193	1.9%	19,262	8.9%	-7.065	-0.317
2010	11,568	18.1%	44,632	20.7%	-2.630	-0.067
2011	19,592	30.6%	54,989	25.5%	5.094	0.114
2012	17,761	27.7%	49,272	22.8%	4.885	0.113
2013	12,092	19.2%	36,894	17.4%	1.748	0.045
2014	1,863	4.2%	10,713	6.5%	-2.290	-0.102
Recorded history of:						
Prior combined comorbidity raw score	-	-	-	-	-	-
Acute myocardial infarction prior to 60 days before index date (broad)	554	0.9%	2,533	1.2%	-0.309	-0.031
Acute myocardial infarction prior to 60 days before index date (narrow)	241	0.4%	1,018	0.5%	-0.096	-0.015
Acute myocardial infarction (broad)	646	1.0%	3,209	1.5%	-0.479	-0.043
Hospitalized heart failure prior to 60 days before index date	236	0.4%	1,283	0.6%	-0.226	-0.033
Other ischemic heart disease	10,345	16.1%	41,473	19.2%	-3.075	-0.081
Congestive heart failure	3,304	5.2%	15,600	7.2%	-2.073	-0.086
Other heart disease	13,419	20.9%	51,956	24.1%	-3.136	-0.075
Stroke (broad)	3,525	5.5%	14,628	6.8%	-1.278	-0.053
Stroke (narrow)	234	0.4%	1,239	0.6%	-0.209	-0.031
Peripheral arterial disease	2,789	4.4%	10,967	5.1%	-0.730	-0.034
All coronary revascularization procedures	3,042	4.7%	13,105	6.1%	-1.326	-0.059
Coronary artery bypass graft	1,395	2.2%	6,347	2.9%	-0.764	-0.048
Percutaneous coronary intervention	2,121	3.3%	8,873	4.1%	-0.802	-0.042
All carotid revascularization procedures	88	0.1%	379	0.2%	-0.038	-0.010
Carotid endarterectomy, etc.	87	0.1%	376	0.2%	-0.038	-0.010

Table 1a. Baseline Characteristics of Saxagliptin vs Sitagliptin with Acute Myocardial Infarction in the Sentinel Distributed Database (SDD) between August 1, 2009 and July 31, 2014, (Replication) (Unmatched, Aggregated), Ratio: 1:1, Caliper:0.01

	Medical Product				Covariate Balance	
	Saxagliptin		Sitagliptin			
Characteristic	Number	Percent	Number	Percent	Absolute Difference	Standardized Difference
Carotid bypass	1	0.0%	4	0.0%	0.000	-0.001
All lower extremity revascularization	275	0.4%	1,197	0.6%	-0.126	-0.018
Lower extremity endarterectomy, etc.	159	0.2%	712	0.3%	-0.082	-0.015
Lower extremity bypass	52	0.1%	245	0.1%	-0.032	-0.010
Lower extremity amputation	104	0.2%	501	0.2%	-0.070	-0.016
All Prior Cardiovascular Disease Covariates	19,909	31.1%	75,966	35.2%	-4.134	-0.088
Asthma	4,078	6.4%	14,782	6.9%	-0.486	-0.020
Cancer (excluding non-melanoma skin cancer)	3,913	6.1%	15,194	7.0%	-0.935	-0.038
Chronic kidney disease (excluding end stage renal disease)	3,588	5.6%	15,805	7.3%	-1.725	-0.070
Chronic obstructive pulmonary disease	3,878	6.1%	15,583	7.2%	-1.169	-0.047
Dementia	883	1.4%	4,886	2.3%	-0.886	-0.066
Depression	5,619	8.8%	20,657	9.6%	-0.804	-0.028
End stage renal disease (ESRD)	291	0.5%	1,774	0.8%	-0.368	-0.046
Fracture	1,696	2.6%	6,769	3.1%	-0.490	-0.029
Human immunodeficiency virus (HIV) / acquired immunodeficiency syndrome (AIDS)	75	0.1%	425	0.2%	-0.080	-0.020
Hyperlipidemia or lipid disorder	48,586	75.8%	161,221	74.7%	1.112	0.026
Hypertension	48,846	76.2%	165,315	76.6%	-0.379	-0.009
Hypoglycemia	2,311	3.6%	9,868	4.6%	-0.967	-0.049
Obesity (or weight gain)	11,564	18.0%	40,479	18.8%	-0.712	-0.018
Osteoporosis	2,572	4.0%	9,610	4.5%	-0.440	-0.022
Peripheral neuropathy	8,868	13.8%	33,053	15.3%	-1.478	-0.042
Tobacco use	4,237	6.6%	14,995	6.9%	-0.337	-0.013
All comorbidity covariates	59,600	93.0%	200,117	92.7%	0.276	0.011
History of use:						
Alpha-glucosidase inhibitors (B)	297	0.5%	1,237	0.6%	-0.110	-0.015
Biguanides (B)	45,862	71.6%	152,573	70.7%	0.869	0.019
Other dipeptidyl peptidase-4 (DPP-4) inhibitors (B)	506	0.8%	904	0.4%	0.371	0.048
Meglitinides (B)	1,125	1.8%	3,840	1.8%	-0.024	-0.002
Saxagliptin (B)	-	0.0%	-	0.0%	0.000	-
Sitagliptin (B)	-	0.0%	-	0.0%	0.000	-
Pioglitazone (B)	13,003	20.3%	42,352	19.6%	0.666	0.017
First-generation sulfonylureas (B)	15	0.0%	152	0.1%	-0.047	-0.022
Second-generation sulfonylureas (B)	26,785	41.8%	97,491	45.2%	-3.378	-0.068
Long-acting insulins (B)	7,483	11.7%	26,965	12.5%	-0.818	-0.025
Short-acting insulins (B)	2,609	4.1%	10,078	4.7%	-0.599	-0.029
Other thiazolidinediones (B)	2,558	4.0%	8,234	3.8%	0.176	0.009
Other anti-diabetics (B)	3,203	5.0%	8,646	4.0%	0.992	0.048
All anti-diabetics (B)	55,239	86.2%	186,955	86.6%	-0.431	-0.013
Angiotensin-converting enzyme inhibitors (B)	29,028	45.3%	101,047	46.8%	-1.525	-0.031

Table 1a. Baseline Characteristics of Saxagliptin vs Sitagliptin with Acute Myocardial Infarction in the Sentinel Distributed Database (SDD) between August 1, 2009 and July 31, 2014, (Replication) (Unmatched, Aggregated), Ratio: 1:1, Caliper:0.01

	Medical Product				Covariate Balance	
	Saxagliptin		Sitagliptin			
Characteristic	Number	Percent	Number	Percent	Absolute Difference	Standardized Difference
Alpha blockers (B)	1,228	1.9%	5,082	2.4%	-0.439	-0.030
Angiotensin receptor blockers (B)	16,231	25.3%	52,387	24.3%	1.054	0.024
Beta blockers (B)	17,334	27.1%	65,118	30.2%	-3.125	-0.069
Calcium channel blockers (B)	14,444	22.5%	51,120	23.7%	-1.148	-0.027
Direct vasodilators (B)	698	1.1%	2,922	1.4%	-0.265	-0.024
Loop diuretics (B)	6,517	10.2%	26,459	12.3%	-2.091	-0.066
Aldosterone receptor agonists (ARAs) (B)	1,507	2.4%	5,730	2.7%	-0.304	-0.019
Non-ARA potassium sparing diuretics (B)	2,010	3.1%	7,056	3.3%	-0.133	-0.008
Thiazide diuretics (B)	20,386	31.8%	68,610	31.8%	0.020	0.000
Renin inhibitors (B)	753	1.2%	1,877	0.9%	0.305	0.030
Central alpha-2 receptor agonists (B)	1,580	2.5%	5,460	2.5%	-0.064	-0.004
Reserpine and derivatives (B)	84	0.1%	261	0.1%	0.010	0.003
All anti-hypertensive agents (B)	48,809	76.2%	167,215	77.5%	-1.318	-0.031
Lipid lowering agents (B)	42,343	66.1%	144,510	67.0%	-0.887	-0.019
Alpha-glucosidase inhibitors (C)	170	0.3%	742	0.3%	-0.079	-0.014
Biguanides (C)	43,456	67.8%	145,731	67.5%	0.284	0.006
Other DPP-4 inhibitors (C)	150	0.2%	312	0.1%	0.090	0.021
Meglitinides (C)	707	1.1%	2,413	1.1%	-0.015	-0.001
Saxagliptin (C)	64,069	100.0%	-	0.0%	100.000	-
Sitagliptin (C)	-	0.0%	215,762	100.0%	-100.000	-
Pioglitazone (C)	6,479	10.1%	23,372	10.8%	-0.720	-0.024
First-generation sulfonylureas (C)	10	0.0%	107	0.0%	-0.034	-0.019
Second-generation sulfonylureas (C)	19,820	30.9%	74,624	34.6%	-3.651	-0.078
Long-acting insulins (C)	4,875	7.6%	18,308	8.5%	-0.876	-0.032
Short-acting insulins (C)	1,150	1.8%	5,157	2.4%	-0.595	-0.042
Other thiazolidinediones (C)	747	1.2%	2,813	1.3%	-0.138	-0.012
Other anti-diabetics (C)	1,128	1.8%	2,850	1.3%	0.440	0.036
All anti-diabetics (C)	64,069	100.0%	215,762	100.0%	0.000	-
Angiotensin-converting enzyme inhibitors (C)	22,549	35.2%	80,125	37.1%	-1.941	-0.040
Alpha blockers (C)	879	1.4%	3,637	1.7%	-0.314	-0.026
Angiotensin receptor blockers (C)	13,470	21.0%	43,918	20.4%	0.669	0.017
Beta blockers (C)	13,638	21.3%	52,851	24.5%	-3.209	-0.076
Calcium channel blockers (C)	11,671	18.2%	42,088	19.5%	-1.290	-0.033
Direct vasodilators (C)	455	0.7%	2,113	1.0%	-0.269	-0.029
Loop diuretics (C)	4,170	6.5%	17,712	8.2%	-1.700	-0.065
Aldosterone receptor agonists (ARAs) (C)	1,002	1.6%	3,946	1.8%	-0.265	-0.021
Non-ARA potassium sparing diuretics (C)	1,286	2.0%	4,640	2.2%	-0.143	-0.010
Thiazide diuretics (C)	15,528	24.2%	52,707	24.4%	-0.192	-0.004
Renin inhibitors (C)	482	0.8%	1,265	0.6%	0.166	0.020
Central alpha-2 receptor agonists (C)	1,020	1.6%	3,569	1.7%	-0.062	-0.005
Reserpine and derivatives (C)	33	0.1%	141	0.1%	-0.014	-0.006

Table 1a. Baseline Characteristics of Saxagliptin vs Sitagliptin with Acute Myocardial Infarction in the Sentinel Distributed Database (SDD) between August 1, 2009 and July 31, 2014, (Replication) (Unmatched, Aggregated), Ratio: 1:1, Caliper:0.01

	Medical Product				Covariate Balance	
	Saxagliptin		Sitagliptin			
Characteristic	Number	Percent	Number	Percent	Absolute Difference	Standardized Difference
All anti-hypertensive agents (C)	42,882	66.9%	150,070	69.6%	-2.623	-0.056
Lipid lowering agents (C)	34,932	54.5%	121,855	56.5%	-1.954	-0.039
Health Service Utilization Intensity:						
Non-acute institutional stay (IS visit) during prior year	1,968	3.1%	10,279	4.8%	-1.692	-0.087
Any inpatient hospital encounter (IP visit) within prior 30 day	1,208	1.9%	10,272	4.8%	-2.875	-0.161
Any inpatient hospital encounter (IP visit) 31-365 days prior to index date	6,209	9.7%	26,022	12.1%	-2.369	-0.076
Any emergency room encounter (ED visit) within prior 30 days	2,113	3.3%	10,096	4.7%	-1.381	-0.071
Any emergency room encounter (ED visit) 31-365 days prior to index date	11,717	18.3%	43,470	20.1%	-1.859	-0.047
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of ambulatory encounters (AV)	13.7	13.0	14.9	14.7	-1.196	-0.086
Mean number of emergency room encounters (ED)	0.3	1.1	0.4	1.1	-0.058	-0.052
Mean number of inpatient hospital encounters (IP)	0.1	0.5	0.2	0.7	-0.075	-0.121
Mean number of non-acute institutional encounters (IS)	0.1	0.5	0.1	0.7	-0.036	-0.062
Mean number of other ambulatory encounters (OA)	3.0	5.5	3.4	6.8	-0.407	-0.065
Mean number of unique drug classes	8.0	4.8	8.3	4.9	-0.245	-0.051
Mean number of generics	9.2	5.6	9.5	5.7	-0.285	-0.051
Mean number of filled prescriptions	36.7	28.2	38.1	29.5	-1.358	-0.047

Table 1b. Baseline Characteristics of Saxagliptin vs Sitagliptin with Acute Myocardial Infarction in the Sentinel Distributed Database (SDD) between August 1, 2009 and July 31, 2014, (Replication) (Matched, Aggregated), Ratio: 1:1, Caliper:0.01

	Medical Product				Covariate Balance	
	Saxagliptin		Sitagliptin			
Characteristic	Number	Percent	Number	Percent	Absolute Difference	Standardized Difference
Patients	63,821	100.0%	63,821	30.1%	-	-
Demographics	**Mean**	**Standard Deviation**	**Mean**	**Standard Deviation**		
Mean age (years)	57.7	11.0	57.8	11.4	-0.039	-0.003
Age (years)	**Number**	**Percent**	**Number**	**Percent**		
18-29	541	0.8%	670	1.0%	-0.202	-0.021
30-44	8,361	13.1%	8,747	13.7%	-0.605	-0.018
45-54	17,461	27.4%	17,233	27.0%	0.357	0.008
55-64	21,504	33.7%	20,280	31.8%	1.918	0.041
65-74	10,597	16.6%	11,278	17.7%	-1.067	-0.028
75-84	4,482	7.0%	4,667	7.3%	-0.290	-0.011
85+	875	1.4%	946	1.5%	-0.111	-0.009
Sex						
Female	27,976	43.8%	27,928	43.8%	0.075	0.002
Male	35,845	56.2%	35,893	56.2%	-0.075	-0.002
Year						
2009	1,193	1.9%	1,199	1.9%	-0.009	-0.001
2010	11,515	18.0%	11,235	17.6%	0.439	0.011
2011	19,506	30.6%	19,666	30.8%	-0.251	-0.005
2012	17,696	27.7%	17,762	27.8%	-0.103	-0.002
2013	12,060	19.2%	12,101	19.2%	-0.065	-0.002
2014	1,851	4.2%	1,858	4.3%	-0.016	-0.001
Recorded history of:						
Prior combined comorbidity raw score	-	-	-	-	-	-
Acute myocardial infarction prior to 60 days before index date (broad)	553	0.9%	588	0.9%	-0.055	-0.006
Acute myocardial infarction prior to 60 days before index date (narrow)	240	0.4%	264	0.4%	-0.038	-0.006
Acute myocardial infarction (broad)	645	1.0%	697	1.1%	-0.081	-0.008
Hospitalized heart failure prior to 60 days before index date	236	0.4%	258	0.4%	-0.034	-0.006
Other ischemic heart disease	10,313	16.2%	10,553	16.5%	-0.376	-0.010
Congestive heart failure	3,289	5.2%	3,317	5.2%	-0.044	-0.002
Other heart disease	13,381	21.0%	13,384	21.0%	-0.005	0.000
Stroke (broad)	3,513	5.5%	3,547	5.6%	-0.053	-0.002
Stroke (narrow)	228	0.4%	221	0.3%	0.011	0.002
Peripheral arterial disease	2,780	4.4%	2,798	4.4%	-0.028	-0.001
All coronary revascularization procedures	3,033	4.8%	3,091	4.8%	-0.091	-0.004
Coronary artery bypass graft	1,390	2.2%	1,447	2.3%	-0.089	-0.006
Percutaneous coronary intervention	2,114	3.3%	2,091	3.3%	0.036	0.002
All carotid revascularization procedures	86	0.1%	84	0.1%	0.003	0.001
Carotid endarterectomy, etc.	86	0.1%	84	0.1%	0.003	0.001

Table 1b. Baseline Characteristics of Saxagliptin vs Sitagliptin with Acute Myocardial Infarction in the Sentinel Distributed Database (SDD) between August 1, 2009 and July 31, 2014, (Replication) (Matched, Aggregated), Ratio: 1:1, Caliper:0.01

	Medical Product				Covariate Balance	
	Saxagliptin		Sitagliptin			
Characteristic	Number	Percent	Number	Percent	Absolute Difference	Standardized Difference
Carotid bypass	-	0.0%	-	0.0%	0.000	-
All lower extremity revascularization	274	0.4%	251	0.4%	0.036	0.006
Lower extremity endarterectomy, etc.	159	0.2%	156	0.2%	0.005	0.001
Lower extremity bypass	52	0.1%	48	0.1%	0.006	0.002
Lower extremity amputation	103	0.2%	87	0.1%	0.025	0.007
All Prior Cardiovascular Disease Covariates	19,841	31.1%	20,010	31.4%	-0.265	-0.006
Asthma	4,058	6.4%	3,997	6.3%	0.096	0.004
Cancer (excluding non-melanoma skin cancer)	3,904	6.1%	3,907	6.1%	-0.005	0.000
Chronic kidney disease (excluding end stage renal disease)	3,573	5.6%	3,558	5.6%	0.024	0.001
Chronic obstructive pulmonary disease	3,865	6.1%	3,894	6.1%	-0.045	-0.002
Dementia	881	1.4%	849	1.3%	0.050	0.004
Depression	5,594	8.8%	5,643	8.8%	-0.077	-0.003
End stage renal disease (ESRD)	291	0.5%	306	0.5%	-0.024	-0.003
Fracture	1,689	2.6%	1,679	2.6%	0.016	0.001
Human immunodeficiency virus (HIV) / acquired immunodeficiency syndrome (AIDS)	75	0.1%	78	0.1%	-0.005	-0.001
Hyperlipidemia or lipid disorder	48,404	75.8%	48,469	75.9%	-0.102	-0.002
Hypertension	48,666	76.3%	48,810	76.5%	-0.226	-0.005
Hypoglycemia	2,301	3.6%	2,348	3.7%	-0.074	-0.004
Obesity (or weight gain)	11,502	18.0%	11,539	18.1%	-0.058	-0.002
Osteoporosis	2,562	4.0%	2,545	4.0%	0.027	0.001
Peripheral neuropathy	8,837	13.8%	8,770	13.7%	0.105	0.003
Tobacco use	4,212	6.6%	4,342	6.8%	-0.204	-0.008
All comorbidity covariates	59,380	93.0%	59,248	92.8%	0.207	0.008
History of use:						
Alpha-glucosidase inhibitors (B)	296	0.5%	366	0.6%	-0.110	-0.015
Biguanides (B)	45,677	71.6%	45,995	72.1%	-0.498	-0.011
Other dipeptidyl peptidase-4 (DPP-4) inhibitors (B)	504	0.8%	319	0.5%	0.290	0.036
Meglitinides (B)	1,123	1.8%	1,194	1.9%	-0.111	-0.008
Saxagliptin (B)	-	0.0%	-	0.0%	0.000	-
Sitagliptin (B)	-	0.0%	-	0.0%	0.000	-
Pioglitazone (B)	12,926	20.3%	12,976	20.3%	-0.078	-0.002
First-generation sulfonylureas (B)	14	0.0%	25	0.0%	-0.017	-0.010
Second-generation sulfonylureas (B)	26,660	41.8%	26,878	42.1%	-0.342	-0.007
Long-acting insulins (B)	7,438	11.7%	7,312	11.5%	0.197	0.006
Short-acting insulins (B)	2,592	4.1%	2,568	4.0%	0.038	0.002
Other thiazolidinediones (B)	2,543	4.0%	2,581	4.0%	-0.060	-0.003
Other anti-diabetics (B)	3,186	5.0%	3,108	4.9%	0.122	0.006
All anti-diabetics (B)	55,003	86.2%	55,368	86.8%	-0.572	-0.017
Angiotensin-converting enzyme inhibitors (B)	28,906	45.3%	28,996	45.4%	-0.141	-0.003

Table 1b. Baseline Characteristics of Saxagliptin vs Sitagliptin with Acute Myocardial Infarction in the Sentinel Distributed Database (SDD) between August 1, 2009 and July 31, 2014, (Replication) (Matched, Aggregated), Ratio: 1:1, Caliper:0.01

	Medical Product				Covariate Balance	
	Saxagliptin		Sitagliptin			
Characteristic	Number	Percent	Number	Percent	Absolute Difference	Standardized Difference
Alpha blockers (B)	1,222	1.9%	1,298	2.0%	-0.119	-0.009
Angiotensin receptor blockers (B)	16,177	25.3%	16,233	25.4%	-0.088	-0.002
Beta blockers (B)	17,264	27.1%	17,368	27.2%	-0.163	-0.004
Calcium channel blockers (B)	14,399	22.6%	14,270	22.4%	0.202	0.005
Direct vasodilators (B)	698	1.1%	681	1.1%	0.027	0.003
Loop diuretics (B)	6,485	10.2%	6,538	10.2%	-0.083	-0.003
Aldosterone receptor agonists (ARAs) (B)	1,500	2.4%	1,500	2.4%	0.000	0.000
Non-ARA potassium sparing diuretics (B)	1,999	3.1%	1,983	3.1%	0.025	0.001
Thiazide diuretics (B)	20,315	31.8%	20,236	31.7%	0.124	0.003
Renin inhibitors (B)	751	1.2%	589	0.9%	0.254	0.025
Central alpha-2 receptor agonists (B)	1,579	2.5%	1,486	2.3%	0.146	0.010
Reserpine and derivatives (B)	84	0.1%	83	0.1%	0.002	0.000
All anti-hypertensive agents (B)	48,613	76.2%	48,717	76.3%	-0.163	-0.004
Lipid lowering agents (B)	42,159	66.1%	42,321	66.3%	-0.254	-0.005
Alpha-glucosidase inhibitors (C)	169	0.3%	215	0.3%	-0.072	-0.013
Biguanides (C)	43,301	67.8%	43,270	67.8%	0.049	0.001
Other DPP-4 inhibitors (C)	149	0.2%	103	0.2%	0.072	0.016
Meglitinides (C)	705	1.1%	716	1.1%	-0.017	-0.002
Saxagliptin (C)	63,821	100.0%	-	0.0%	100.000	-
Sitagliptin (C)	-	0.0%	63,821	100.0%	-100.000	-
Pioglitazone (C)	6,443	10.1%	6,546	10.3%	-0.161	-0.005
First-generation sulfonylureas (C)	10	0.0%	18	0.0%	-0.013	-0.008
Second-generation sulfonylureas (C)	19,726	30.9%	19,930	31.2%	-0.320	-0.007
Long-acting insulins (C)	4,849	7.6%	4,801	7.5%	0.075	0.003
Short-acting insulins (C)	1,140	1.8%	1,126	1.8%	0.022	0.002
Other thiazolidinediones (C)	744	1.2%	744	1.2%	0.000	0.000
Other anti-diabetics (C)	1,126	1.8%	1,082	1.7%	0.069	0.005
All anti-diabetics (C)	63,821	100.0%	63,821	100.0%	0.000	-
Angiotensin-converting enzyme inhibitors (C)	22,457	35.2%	22,585	35.4%	-0.201	-0.004
Alpha blockers (C)	875	1.4%	920	1.4%	-0.071	-0.006
Angiotensin receptor blockers (C)	13,425	21.0%	13,495	21.1%	-0.110	-0.003
Beta blockers (C)	13,583	21.3%	13,644	21.4%	-0.096	-0.002
Calcium channel blockers (C)	11,637	18.2%	11,560	18.1%	0.121	0.003
Direct vasodilators (C)	455	0.7%	473	0.7%	-0.028	-0.003
Loop diuretics (C)	4,146	6.5%	4,136	6.5%	0.016	0.001
Aldosterone receptor agonists (ARAs) (C)	997	1.6%	1,005	1.6%	-0.013	-0.001
Non-ARA potassium sparing diuretics (C)	1,279	2.0%	1,286	2.0%	-0.011	-0.001
Thiazide diuretics (C)	15,477	24.3%	15,430	24.2%	0.074	0.002
Renin inhibitors (C)	482	0.8%	395	0.6%	0.136	0.017
Central alpha-2 receptor agonists (C)	1,020	1.6%	961	1.5%	0.092	0.007
Reserpine and derivatives (C)	33	0.1%	52	0.1%	-0.030	-0.012

Table 1b. Baseline Characteristics of Saxagliptin vs Sitagliptin with Acute Myocardial Infarction in the Sentinel Distributed Database (SDD) between August 1, 2009 and July 31, 2014, (Replication) (Matched, Aggregated), Ratio: 1:1, Caliper:0.01

	Medical Product				Covariate Balance	
	Saxagliptin		Sitagliptin			
Characteristic	Number	Percent	Number	Percent	Absolute Difference	Standardized Difference
All anti-hypertensive agents (C)	42,717	66.9%	42,897	67.2%	-0.282	-0.006
Lipid lowering agents (C)	34,793	54.5%	34,959	54.8%	-0.260	-0.005
Health Service Utilization Intensity:						
Non-acute institutional stay (IS visit) during prior year	1,967	3.1%	2,003	3.1%	-0.056	-0.003
Any inpatient hospital encounter (IP visit) within prior 30 day	1,203	1.9%	1,219	1.9%	-0.025	-0.002
Any inpatient hospital encounter (IP visit) 31-365 days prior to index date	6,182	9.7%	6,331	9.9%	-0.233	-0.008
Any emergency room encounter (ED visit) within prior 30 days	2,102	3.3%	2,122	3.3%	-0.031	-0.002
Any emergency room encounter (ED visit) 31-365 days prior to index date	11,660	18.3%	11,733	18.4%	-0.114	-0.003
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of ambulatory encounters (AV)	13.7	13.0	13.7	12.9	0.001	0.000
Mean number of emergency room encounters (ED)	0.3	1.1	0.3	1.0	-0.006	-0.005
Mean number of inpatient hospital encounters (IP)	0.1	0.5	0.2	0.6	-0.007	-0.013
Mean number of non-acute institutional encounters (IS)	0.1	0.5	0.1	0.6	-0.004	-0.007
Mean number of other ambulatory encounters (OA)	3.0	5.5	3.0	5.5	-0.002	0.000
Mean number of unique drug classes	8.0	4.8	8.1	4.8	-0.024	-0.005
Mean number of generics	9.2	5.6	9.2	5.6	-0.025	-0.005
Mean number of filled prescriptions	36.7	28.2	36.9	28.7	-0.211	-0.007

Table 1c. Baseline Characteristics of Saxagliptin vs Pioglitazone with Acute Myocardial Infarction in the Sentinel Distributed Database (SDD) between August 1, 2009 and July 31, 2014, (Replication) (Unmatched, Aggregated), Ratio: 1:1, Caliper:0.01

	Medical Product				Covariate Balance	
	Saxagliptin		Pioglitazone			
Characteristic	Number	Percent	Number	Percent	Absolute Difference	Standardized Difference
Patients	60,020	100.0%	134,898	100.0%	-	-
Demographics	**Mean**	**Standard Deviation**	**Mean**	**Standard Deviation**		
Mean age (years)	56.8	10.8	58.5	11.4	-1.693	-0.152
Age (years)	**Number**	**Percent**	**Number**	**Percent**		
18-29	549	0.9%	1,350	1.0%	-0.086	-0.009
30-44	8,455	14.1%	16,690	12.4%	1.715	0.051
45-54	17,384	29.0%	34,409	25.5%	3.456	0.078
55-64	20,599	34.3%	43,363	32.1%	2.175	0.046
65-74	8,922	14.9%	26,402	19.6%	-4.707	-0.125
75-84	3,472	5.8%	10,720	7.9%	-2.162	-0.086
85+	639	1.1%	1,964	1.5%	-0.391	-0.035
Sex						
Female	27,456	45.7%	56,427	41.8%	3.915	0.079
Male	32,564	54.3%	78,471	58.2%	-3.915	-0.079
Year						
2009	1,005	1.7%	20,295	15.0%	-13.370	-0.498
2010	9,561	15.9%	54,521	40.4%	-24.487	-0.566
2011	15,718	26.2%	31,058	23.0%	3.165	0.074
2012	18,126	30.2%	11,878	8.8%	21.395	0.561
2013	13,673	23.1%	13,246	10.0%	13.064	0.357
2014	1,937	5.2%	3,900	3.8%	1.352	0.065
Recorded history of:						
Prior combined comorbidity raw score	-	-	-	-	-	-
Acute myocardial infarction prior to 60 days before index date (broad)	305	0.5%	691	0.5%	-0.004	-0.001
Acute myocardial infarction prior to 60 days before index date (narrow)	133	0.2%	277	0.2%	0.016	0.004
Acute myocardial infarction (broad)	362	0.6%	837	0.6%	-0.017	-0.002
Hospitalized heart failure prior to 60 days before index date	-	0.0%	-	0.0%	0.000	-
Other ischemic heart disease	8,097	13.5%	17,911	13.3%	0.213	0.006
Congestive heart failure	-	0.0%	-	0.0%	0.000	-
Other heart disease	10,509	17.5%	22,434	16.6%	0.879	0.023
Stroke (broad)	2,783	4.6%	6,279	4.7%	-0.018	-0.001
Stroke (narrow)	200	0.3%	492	0.4%	-0.031	-0.005
Peripheral arterial disease	2,190	3.6%	5,151	3.8%	-0.170	-0.009
All coronary revascularization procedures	2,121	3.5%	4,695	3.5%	0.053	0.003
Coronary artery bypass graft	907	1.5%	2,097	1.6%	-0.043	-0.004
Percutaneous coronary intervention	1,480	2.5%	3,144	2.3%	0.135	0.009
All carotid revascularization procedures	68	0.1%	166	0.1%	-0.010	-0.003
Carotid endarterectomy, etc.	67	0.1%	165	0.1%	-0.011	-0.003

Table 1c. Baseline Characteristics of Saxagliptin vs Pioglitazone with Acute Myocardial Infarction in the Sentinel Distributed Database (SDD) between August 1, 2009 and July 31, 2014, (Replication) (Unmatched, Aggregated), Ratio: 1:1, Caliper:0.01

	Medical Product				Covariate Balance	
	Saxagliptin		Pioglitazone			
Characteristic	Number	Percent	Number	Percent	Absolute Difference	Standardized Difference
Carotid bypass	1	0.0%	1	0.0%	0.001	0.003
All lower extremity revascularization	198	0.3%	554	0.4%	-0.081	-0.013
Lower extremity endarterectomy, etc.	109	0.2%	298	0.2%	-0.039	-0.009
Lower extremity bypass	29	0.0%	89	0.1%	-0.018	-0.007
Lower extremity amputation	81	0.1%	245	0.2%	-0.047	-0.012
All Prior Cardiovascular Disease Covariates	16,189	27.0%	35,618	26.4%	0.569	0.013
Asthma	3,707	6.2%	7,964	5.9%	0.273	0.011
Cancer (excluding non-melanoma skin cancer)	3,402	5.7%	7,678	5.7%	-0.024	-0.001
Chronic kidney disease (excluding end stage renal disease)	2,626	4.4%	8,750	6.5%	-2.111	-0.093
Chronic obstructive pulmonary disease	2,831	4.7%	6,721	5.0%	-0.266	-0.012
Dementia	628	1.0%	1,986	1.5%	-0.426	-0.038
Depression	5,199	8.7%	11,563	8.6%	0.090	0.003
End stage renal disease (ESRD)	173	0.3%	716	0.5%	-0.243	-0.038
Fracture	1,370	2.3%	3,537	2.6%	-0.339	-0.022
Human immunodeficiency virus (HIV) / acquired immunodeficiency syndrome (AIDS)	74	0.1%	312	0.2%	-0.108	-0.026
Hyperlipidemia or lipid disorder	44,978	74.9%	98,060	72.7%	2.246	0.051
Hypertension	45,021	75.0%	98,830	73.3%	1.747	0.040
Hypoglycemia	1,899	3.2%	5,863	4.3%	-1.182	-0.062
Obesity (or weight gain)	10,675	17.8%	21,194	15.7%	2.075	0.056
Osteoporosis	2,311	3.9%	5,098	3.8%	0.071	0.004
Peripheral neuropathy	7,857	13.1%	19,255	14.3%	-1.183	-0.034
Tobacco use	3,762	6.3%	8,214	6.1%	0.179	0.007
All comorbidity covariates	55,606	92.6%	122,275	90.6%	2.003	0.072
History of use:						
Alpha-glucosidase inhibitors (B)	262	0.4%	800	0.6%	-0.157	-0.022
Biguanides (B)	43,867	73.1%	95,317	70.7%	2.429	0.054
Other dipeptidyl peptidase-4 (DPP-4) inhibitors (B)	540	0.9%	696	0.5%	0.384	0.046
Meglitinides (B)	959	1.6%	2,197	1.6%	-0.031	-0.002
Saxagliptin (B)	-	0.0%	-	0.0%	0.000	-
Sitagliptin (B)	12,096	20.2%	21,382	15.9%	4.303	0.112
Pioglitazone (B)	-	0.0%	-	0.0%	0.000	-
First-generation sulfonylureas (B)	13	0.0%	500	0.4%	-0.349	-0.079
Second-generation sulfonylureas (B)	24,379	40.6%	65,855	48.8%	-8.200	-0.165
Long-acting insulins (B)	7,044	11.7%	17,146	12.7%	-0.974	-0.030
Short-acting insulins (B)	2,328	3.9%	6,442	4.8%	-0.897	-0.044
Other thiazolidinediones (B)	2,223	3.7%	21,218	15.7%	-12.025	-0.415
Other anti-diabetics (B)	2,930	4.9%	7,331	5.4%	-0.553	-0.025
All anti-diabetics (B)	51,630	86.0%	117,626	87.2%	-1.175	-0.035
Angiotensin-converting enzyme inhibitors (B)	26,129	43.5%	64,298	47.7%	-4.130	-0.083

Table 1c. Baseline Characteristics of Saxagliptin vs Pioglitazone with Acute Myocardial Infarction in the Sentinel Distributed Database (SDD) between August 1, 2009 and July 31, 2014, (Replication) (Unmatched, Aggregated), Ratio: 1:1, Caliper:0.01

	Medical Product				Covariate Balance	
	Saxagliptin		Pioglitazone			
Characteristic	Number	Percent	Number	Percent	Absolute Difference	Standardized Difference
Alpha blockers (B)	993	1.7%	3,389	2.5%	-0.858	-0.060
Angiotensin receptor blockers (B)	15,020	25.0%	29,123	21.6%	3.436	0.081
Beta blockers (B)	14,642	24.4%	34,351	25.5%	-1.069	-0.025
Calcium channel blockers (B)	12,967	21.6%	28,834	21.4%	0.230	0.006
Direct vasodilators (B)	489	0.8%	1,065	0.8%	0.025	0.003
Loop diuretics (B)	4,081	6.8%	9,336	6.9%	-0.121	-0.005
Aldosterone receptor agonists (ARAs) (B)	964	1.6%	1,697	1.3%	0.348	0.029
Non-ARA potassium sparing diuretics (B)	1,817	3.0%	4,133	3.1%	-0.036	-0.002
Thiazide diuretics (B)	18,948	31.6%	41,999	31.1%	0.436	0.009
Renin inhibitors (B)	597	1.0%	979	0.7%	0.269	0.029
Central alpha-2 receptor agonists (B)	1,306	2.2%	2,846	2.1%	0.066	0.005
Reserpine and derivatives (B)	81	0.1%	100	0.1%	0.061	0.019
All anti-hypertensive agents (B)	44,695	74.5%	101,419	75.2%	-0.715	-0.016
Lipid lowering agents (B)	38,547	64.2%	89,719	66.5%	-2.285	-0.048
Alpha-glucosidase inhibitors (C)	133	0.2%	486	0.4%	-0.139	-0.026
Biguanides (C)	41,858	69.7%	83,574	62.0%	7.787	0.165
Other DPP-4 inhibitors (C)	173	0.3%	944	0.7%	-0.412	-0.059
Meglitinides (C)	573	1.0%	1,399	1.0%	-0.082	-0.008
Saxagliptin (C)	60,020	100.0%	-	0.0%	100.000	-
Sitagliptin (C)	3,646	6.1%	16,237	12.0%	-5.962	-0.209
Pioglitazone (C)	-	0.0%	134,898	100.0%	-100.000	-
First-generation sulfonylureas (C)	7	0.0%	319	0.2%	-0.225	-0.064
Second-generation sulfonylureas (C)	17,875	29.8%	54,113	40.1%	-10.332	-0.218
Long-acting insulins (C)	4,608	7.7%	12,031	8.9%	-1.241	-0.045
Short-acting insulins (C)	1,074	1.8%	3,609	2.7%	-0.886	-0.060
Other thiazolidinediones (C)	761	1.3%	8,697	6.4%	-5.179	-0.271
Other anti-diabetics (C)	1,049	1.7%	4,780	3.5%	-1.796	-0.112
All anti-diabetics (C)	60,020	100.0%	134,898	100.0%	0.000	-
Angiotensin-converting enzyme inhibitors (C)	20,247	33.7%	53,133	39.4%	-5.654	-0.118
Alpha blockers (C)	722	1.2%	2,569	1.9%	-0.701	-0.057
Angiotensin receptor blockers (C)	12,535	20.9%	24,646	18.3%	2.615	0.066
Beta blockers (C)	11,401	19.0%	27,986	20.7%	-1.751	-0.044
Calcium channel blockers (C)	10,569	17.6%	24,463	18.1%	-0.525	-0.014
Direct vasodilators (C)	307	0.5%	786	0.6%	-0.071	-0.010
Loop diuretics (C)	2,461	4.1%	5,847	4.3%	-0.234	-0.012
Aldosterone receptor agonists (ARAs) (C)	646	1.1%	1,213	0.9%	0.177	0.018
Non-ARA potassium sparing diuretics (C)	1,172	2.0%	2,905	2.2%	-0.201	-0.014
Thiazide diuretics (C)	14,543	24.2%	33,492	24.8%	-0.597	-0.014
Renin inhibitors (C)	361	0.6%	688	0.5%	0.091	0.012
Central alpha-2 receptor agonists (C)	832	1.4%	1,970	1.5%	-0.074	-0.006
Reserpine and derivatives (C)	31	0.1%	52	0.0%	0.013	0.006

Table 1c. Baseline Characteristics of Saxagliptin vs Pioglitazone with Acute Myocardial Infarction in the Sentinel Distributed Database (SDD) between August 1, 2009 and July 31, 2014, (Replication) (Unmatched, Aggregated), Ratio: 1:1, Caliper:0.01

	Medical Product				Covariate Balance	
	Saxagliptin		Pioglitazone			
Characteristic	Number	Percent	Number	Percent	Absolute Difference	Standardized Difference
All anti-hypertensive agents (C)	38,867	64.8%	91,589	67.9%	-3.138	-0.066
Lipid lowering agents (C)	31,645	52.7%	77,455	57.4%	-4.693	-0.094
Health Service Utilization Intensity:						
Non-acute institutional stay (IS visit) during prior year	1,258	2.1%	3,898	2.9%	-0.794	-0.051
Any inpatient hospital encounter (IP visit) within prior 30 day	846	1.4%	3,571	2.6%	-1.238	-0.088
Any inpatient hospital encounter (IP visit) 31-365 days prior to index date	4,583	7.6%	11,027	8.2%	-0.539	-0.020
Any emergency room encounter (ED visit) within prior 30 days	1,845	3.1%	5,315	3.9%	-0.866	-0.047
Any emergency room encounter (ED visit) 31-365 days prior to index date	10,492	17.5%	23,606	17.5%	-0.018	0.000
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of ambulatory encounters (AV)	13.0	12.3	12.6	12.5	0.431	0.035
Mean number of emergency room encounters (ED)	0.3	1.0	0.3	0.9	-0.011	-0.012
Mean number of inpatient hospital encounters (IP)	0.1	0.4	0.1	0.5	-0.024	-0.055
Mean number of non-acute institutional encounters (IS)	0.0	0.4	0.1	0.5	-0.014	-0.030
Mean number of other ambulatory encounters (OA)	2.8	4.3	3.0	5.3	-0.295	-0.061
Mean number of unique drug classes	7.8	4.6	7.5	4.5	0.246	0.054
Mean number of generics	8.9	5.3	8.7	5.3	0.172	0.032
Mean number of filled prescriptions	35.4	27.3	34.8	27.3	0.622	0.023

Table 1d. Baseline Characteristics of Saxagliptin vs Pioglitazone with Acute Myocardial Infarction in the Sentinel Distributed Database (SDD) between August 1, 2009 and July 31, 2014, (Replication) (Matched, Aggregated), Ratio: 1:1, Caliper:0.01

	Medical Product				Covariate Balance	
	Saxagliptin		Pioglitazone			
Characteristic	Number	Percent	Number	Percent	Absolute Difference	Standardized Difference
Patients	44,558	74.7%	44,558	36.4%	-	-
Demographics	**Mean**	**Standard Deviation**	**Mean**	**Standard Deviation**		
Mean age (years)	57.5	11.0	57.5	11.4	-0.032	-0.003
Age (years)	**Number**	**Percent**	**Number**	**Percent**		
18-29	382	0.9%	573	1.3%	-0.429	-0.042
30-44	5,996	13.5%	6,098	13.7%	-0.229	-0.007
45-54	12,368	27.8%	12,085	27.1%	0.635	0.014
55-64	14,957	33.6%	14,236	31.9%	1.618	0.034
65-74	7,290	16.4%	7,984	17.9%	-1.558	-0.041
75-84	2,992	6.7%	3,047	6.8%	-0.123	-0.005
85+	573	1.3%	535	1.2%	0.085	0.008
Sex						
Female	19,560	43.9%	19,706	44.2%	-0.328	-0.007
Male	24,998	56.1%	24,852	55.8%	0.328	0.007
Year						
2009	1,001	2.2%	1,257	2.8%	-0.575	-0.037
2010	9,427	21.2%	9,171	20.6%	0.575	0.014
2011	14,116	31.7%	13,782	30.9%	0.750	0.016
2012	8,791	19.7%	9,249	20.8%	-1.028	-0.026
2013	9,395	21.3%	9,356	21.2%	0.088	0.002
2014	1,828	5.9%	1,743	5.6%	0.273	0.012
Recorded history of:						
Prior combined comorbidity raw score	-	-	-	-	-	-
Acute myocardial infarction prior to 60 days before index date (broad)	229	0.5%	235	0.5%	-0.013	-0.002
Acute myocardial infarction prior to 60 days before index date (narrow)	99	0.2%	96	0.2%	0.007	0.001
Acute myocardial infarction (broad)	277	0.6%	265	0.6%	0.027	0.003
Hospitalized heart failure prior to 60 days before index date	-	0.0%	-	0.0%	0.000	-
Other ischemic heart disease	6,118	13.7%	6,088	13.7%	0.067	0.002
Congestive heart failure	-	0.0%	-	0.0%	0.000	-
Other heart disease	7,816	17.5%	7,745	17.4%	0.159	0.004
Stroke (broad)	2,155	4.8%	2,149	4.8%	0.013	0.001
Stroke (narrow)	160	0.4%	146	0.3%	0.031	0.005
Peripheral arterial disease	1,668	3.7%	1,693	3.8%	-0.056	-0.003
All coronary revascularization procedures	1,613	3.6%	1,582	3.6%	0.070	0.004
Coronary artery bypass graft	715	1.6%	672	1.5%	0.097	0.008
Percutaneous coronary intervention	1,106	2.5%	1,092	2.5%	0.031	0.002
All carotid revascularization procedures	49	0.1%	49	0.1%	0.000	0.000
Carotid endarterectomy, etc.	49	0.1%	49	0.1%	0.000	0.000

Table 1d. Baseline Characteristics of Saxagliptin vs Pioglitazone with Acute Myocardial Infarction in the Sentinel Distributed Database (SDD) between August 1, 2009 and July 31, 2014, (Replication) (Matched, Aggregated), Ratio: 1:1, Caliper:0.01

	Medical Product				Covariate Balance	
	Saxagliptin		Pioglitazone			
Characteristic	Number	Percent	Number	Percent	Absolute Difference	Standardized Difference
Carotid bypass	-	0.0%	-	0.0%	0.000	-
All lower extremity revascularization	162	0.4%	157	0.4%	0.011	0.002
Lower extremity endarterectomy, etc.	85	0.2%	95	0.2%	-0.022	-0.005
Lower extremity bypass	23	0.1%	25	0.1%	-0.004	-0.002
Lower extremity amputation	71	0.2%	63	0.1%	0.018	0.005
All Prior Cardiovascular Disease Covariates	12,154	27.3%	12,055	27.1%	0.222	0.005
Asthma	2,669	6.0%	2,693	6.0%	-0.054	-0.002
Cancer (excluding non-melanoma skin cancer)	2,540	5.7%	2,576	5.8%	-0.081	-0.003
Chronic kidney disease (excluding end stage renal disease)	2,217	5.0%	2,248	5.0%	-0.070	-0.003
Chronic obstructive pulmonary disease	2,196	4.9%	2,183	4.9%	0.029	0.001
Dementia	547	1.2%	538	1.2%	0.020	0.002
Depression	3,867	8.7%	3,867	8.7%	0.000	0.000
End stage renal disease (ESRD)	159	0.4%	164	0.4%	-0.011	-0.002
Fracture	1,088	2.4%	1,071	2.4%	0.038	0.002
Human immunodeficiency virus (HIV) / acquired immunodeficiency syndrome (AIDS)	65	0.1%	62	0.1%	0.007	0.002
Hyperlipidemia or lipid disorder	33,123	74.3%	33,231	74.6%	-0.242	-0.006
Hypertension	33,243	74.6%	33,312	74.8%	-0.155	-0.004
Hypoglycemia	1,482	3.3%	1,540	3.5%	-0.130	-0.007
Obesity (or weight gain)	7,579	17.0%	7,658	17.2%	-0.177	-0.005
Osteoporosis	1,720	3.9%	1,709	3.8%	0.025	0.001
Peripheral neuropathy	6,071	13.6%	6,062	13.6%	0.020	0.001
Tobacco use	2,776	6.2%	2,733	6.1%	0.097	0.004
All comorbidity covariates	41,155	92.4%	40,912	91.8%	0.545	0.020
History of use:						
Alpha-glucosidase inhibitors (B)	219	0.5%	189	0.4%	0.067	0.010
Biguanides (B)	31,960	71.7%	32,110	72.1%	-0.337	-0.007
Other dipeptidyl peptidase-4 (DPP-4) inhibitors (B)	430	1.0%	481	1.1%	-0.114	-0.011
Meglitinides (B)	846	1.9%	496	1.1%	0.785	0.065
Saxagliptin (B)	-	0.0%	-	0.0%	0.000	-
Sitagliptin (B)	6,601	14.8%	6,886	15.5%	-0.640	-0.018
Pioglitazone (B)	-	0.0%	-	0.0%	0.000	-
First-generation sulfonylureas (B)	12	0.0%	9	0.0%	0.007	0.004
Second-generation sulfonylureas (B)	19,047	42.7%	19,359	43.4%	-0.700	-0.014
Long-acting insulins (B)	5,434	12.2%	5,446	12.2%	-0.027	-0.001
Short-acting insulins (B)	1,925	4.3%	1,947	4.4%	-0.049	-0.002
Other thiazolidinediones (B)	2,195	4.9%	2,351	5.3%	-0.350	-0.016
Other anti-diabetics (B)	2,452	5.5%	2,620	5.9%	-0.377	-0.016
All anti-diabetics (B)	38,207	85.7%	37,780	84.8%	0.958	0.027
Angiotensin-converting enzyme inhibitors (B)	19,955	44.8%	19,924	44.7%	0.070	0.001

Table 1d. Baseline Characteristics of Saxagliptin vs Pioglitazone with Acute Myocardial Infarction in the Sentinel Distributed Database (SDD) between August 1, 2009 and July 31, 2014, (Replication) (Matched, Aggregated), Ratio: 1:1, Caliper:0.01

	Medical Product				Covariate Balance	
	Saxagliptin		Pioglitazone			
Characteristic	Number	Percent	Number	Percent	Absolute Difference	Standardized Difference
Alpha blockers (B)	790	1.8%	902	2.0%	-0.251	-0.018
Angiotensin receptor blockers (B)	10,360	23.3%	10,523	23.6%	-0.366	-0.009
Beta blockers (B)	10,991	24.7%	11,028	24.7%	-0.083	-0.002
Calcium channel blockers (B)	9,587	21.5%	9,600	21.5%	-0.029	-0.001
Direct vasodilators (B)	366	0.8%	358	0.8%	0.018	0.002
Loop diuretics (B)	3,147	7.1%	2,981	6.7%	0.373	0.015
Aldosterone receptor agonists (ARAs) (B)	726	1.6%	662	1.5%	0.144	0.012
Non-ARA potassium sparing diuretics (B)	1,325	3.0%	1,349	3.0%	-0.054	-0.003
Thiazide diuretics (B)	13,815	31.0%	13,871	31.1%	-0.126	-0.003
Renin inhibitors (B)	439	1.0%	368	0.8%	0.159	0.017
Central alpha-2 receptor agonists (B)	950	2.1%	960	2.2%	-0.022	-0.002
Reserpine and derivatives (B)	53	0.1%	59	0.1%	-0.013	-0.004
All anti-hypertensive agents (B)	33,048	74.2%	33,025	74.1%	0.052	0.001
Lipid lowering agents (B)	28,478	63.9%	28,602	64.2%	-0.278	-0.006
Alpha-glucosidase inhibitors (C)	112	0.3%	106	0.2%	0.013	0.003
Biguanides (C)	29,232	65.6%	28,914	64.9%	0.714	0.015
Other DPP-4 inhibitors (C)	136	0.3%	634	1.4%	-1.118	-0.121
Meglitinides (C)	514	1.2%	305	0.7%	0.469	0.049
Saxagliptin (C)	44,558	100.0%	-	0.0%	100.000	-
Sitagliptin (C)	2,959	6.6%	2,882	6.5%	0.173	0.007
Pioglitazone (C)	-	0.0%	44,558	100.0%	-100.000	-
First-generation sulfonylureas (C)	7	0.0%	9	0.0%	-0.004	-0.003
Second-generation sulfonylureas (C)	14,544	32.6%	14,710	33.0%	-0.373	-0.008
Long-acting insulins (C)	3,658	8.2%	3,631	8.1%	0.061	0.002
Short-acting insulins (C)	938	2.1%	939	2.1%	-0.002	0.000
Other thiazolidinediones (C)	756	1.7%	830	1.9%	-0.166	-0.013
Other anti-diabetics (C)	870	2.0%	1,810	4.1%	-2.110	-0.124
All anti-diabetics (C)	44,558	100.0%	44,558	100.0%	0.000	-
Angiotensin-converting enzyme inhibitors (C)	15,825	35.5%	15,767	35.4%	0.130	0.003
Alpha blockers (C)	586	1.3%	662	1.5%	-0.171	-0.015
Angiotensin receptor blockers (C)	8,729	19.6%	8,815	19.8%	-0.193	-0.005
Beta blockers (C)	8,709	19.5%	8,701	19.5%	0.018	0.000
Calcium channel blockers (C)	7,951	17.8%	7,898	17.7%	0.119	0.003
Direct vasodilators (C)	236	0.5%	256	0.6%	-0.045	-0.006
Loop diuretics (C)	1,930	4.3%	1,800	4.0%	0.292	0.015
Aldosterone receptor agonists (ARAs) (C)	492	1.1%	452	1.0%	0.090	0.009
Non-ARA potassium sparing diuretics (C)	873	2.0%	896	2.0%	-0.052	-0.004
Thiazide diuretics (C)	10,753	24.1%	10,763	24.2%	-0.022	-0.001
Renin inhibitors (C)	296	0.7%	237	0.5%	0.132	0.017
Central alpha-2 receptor agonists (C)	622	1.4%	633	1.4%	-0.025	-0.002
Reserpine and derivatives (C)	22	0.0%	23	0.1%	-0.002	-0.001

Table 1d. Baseline Characteristics of Saxagliptin vs Pioglitazone with Acute Myocardial Infarction in the Sentinel Distributed Database (SDD) between August 1, 2009 and July 31, 2014, (Replication) (Matched, Aggregated), Ratio: 1:1, Caliper:0.01

	Medical Product				Covariate Balance	
	Saxagliptin		Pioglitazone			
Characteristic	Number	Percent	Number	Percent	Absolute Difference	Standardized Difference
All anti-hypertensive agents (C)	29,089	65.3%	29,246	65.6%	-0.352	-0.007
Lipid lowering agents (C)	23,922	53.7%	23,883	53.6%	0.088	0.002
Health Service Utilization Intensity:						
Non-acute institutional stay (IS visit) during prior year	1,083	2.4%	1,085	2.4%	-0.004	0.000
Any inpatient hospital encounter (IP visit) within prior 30 day	763	1.7%	753	1.7%	0.022	0.002
Any inpatient hospital encounter (IP visit) 31-365 days prior to index date	3,517	7.9%	3,541	7.9%	-0.054	-0.002
Any emergency room encounter (ED visit) within prior 30 days	1,503	3.4%	1,449	3.3%	0.121	0.007
Any emergency room encounter (ED visit) 31-365 days prior to index date	7,750	17.4%	7,697	17.3%	0.119	0.003
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of ambulatory encounters (AV)	12.9	11.9	13.0	12.8	-0.076	-0.006
Mean number of emergency room encounters (ED)	0.3	1.0	0.3	1.0	-0.012	-0.011
Mean number of inpatient hospital encounters (IP)	0.1	0.4	0.1	0.4	-0.005	-0.012
Mean number of non-acute institutional encounters (IS)	0.0	0.4	0.0	0.5	-0.001	-0.003
Mean number of other ambulatory encounters (OA)	2.7	4.4	2.7	5.2	0.009	0.002
Mean number of unique drug classes	7.7	4.5	7.7	4.7	-0.013	-0.003
Mean number of generics	8.8	5.3	8.8	5.5	-0.063	-0.012
Mean number of filled prescriptions	35.0	27.2	34.6	27.7	0.475	0.017

Table 1e. Baseline Characteristics of Saxagliptin vs Long-Acting Insulins with Acute Myocardial Infarction in the Sentinel Distributed Database (SDD) between August 1, 2009 and July 31, 2014, (Replication) (Unmatched, Aggregated), Ratio: 1:1, Caliper:0.01

	Medical Product				Covariate Balance	
	Saxagliptin		Long-Acting Insulins			
Characteristic	Number	Percent	Number	Percent	Absolute Difference	Standardized Difference
Patients	70,517	100.0%	311,850	100.0%	-	-
Demographics	**Mean**	**Standard Deviation**	**Mean**	**Standard Deviation**		
Mean age (years)	57.7	10.9	59.4	12.8	-1.721	-0.145
Age (years)	**Number**	**Percent**	**Number**	**Percent**		
18-29	537	0.8%	6,344	2.0%	-1.273	-0.109
30-44	9,045	12.8%	38,580	12.4%	0.455	0.014
45-54	19,473	27.6%	70,424	22.6%	5.032	0.116
55-64	24,431	34.6%	91,021	29.2%	5.458	0.117
65-74	11,306	16.0%	63,787	20.5%	-4.421	-0.115
75-84	4,782	6.8%	32,553	10.4%	-3.657	-0.131
85+	943	1.3%	9,141	2.9%	-1.594	-0.110
Sex						
Female	30,700	43.5%	140,486	45.0%	-1.514	-0.030
Male	39,817	56.5%	171,364	55.0%	1.514	0.030
Year						
2009	1,254	1.8%	28,311	9.1%	-7.300	-0.326
2010	12,038	17.1%	66,734	21.4%	-4.328	-0.110
2011	19,996	28.4%	68,047	21.8%	6.536	0.151
2012	21,203	30.1%	68,079	21.8%	8.237	0.189
2013	14,112	20.3%	62,887	20.8%	-0.582	-0.014
2014	1,914	4.3%	17,792	7.2%	-2.944	-0.127
Recorded history of:						
Prior combined comorbidity raw score	-	-	-	-	-	-
Acute myocardial infarction prior to 60 days before index date (broad)	515	0.7%	5,054	1.6%	-0.890	-0.083
Acute myocardial infarction prior to 60 days before index date (narrow)	209	0.3%	1,930	0.6%	-0.323	-0.048
Acute myocardial infarction (broad)	596	0.8%	7,524	2.4%	-1.568	-0.124
Hospitalized heart failure prior to 60 days before index date	210	0.3%	3,813	1.2%	-0.925	-0.107
Other ischemic heart disease	10,663	15.1%	70,887	22.7%	-7.610	-0.195
Congestive heart failure	3,080	4.4%	38,086	12.2%	-7.845	-0.287
Other heart disease	13,889	19.7%	90,620	29.1%	-9.363	-0.219
Stroke (broad)	3,549	5.0%	26,695	8.6%	-3.527	-0.140
Stroke (narrow)	218	0.3%	4,200	1.3%	-1.038	-0.115
Peripheral arterial disease	2,730	3.9%	20,502	6.6%	-2.703	-0.122
All coronary revascularization procedures	2,970	4.2%	26,531	8.5%	-4.296	-0.177
Coronary artery bypass graft	1,359	1.9%	13,791	4.4%	-2.495	-0.143
Percutaneous coronary intervention	2,039	2.9%	17,907	5.7%	-2.851	-0.141

Table 1e. Baseline Characteristics of Saxagliptin vs Long-Acting Insulins with Acute Myocardial Infarction in the Sentinel Distributed Database (SDD) between August 1, 2009 and July 31, 2014, (Replication) (Unmatched, Aggregated), Ratio: 1:1, Caliper:0.01

	Medical Product				Covariate Balance	
	Saxagliptin		Long-Acting Insulins			
Characteristic	Number	Percent	Number	Percent	Absolute Difference	Standardized Difference
All carotid revascularization procedures	86	0.1%	741	0.2%	-0.116	-0.027
Carotid endarterectomy, etc.	86	0.1%	738	0.2%	-0.115	-0.027
Carotid bypass	-	0.0%	3	0.0%	-0.001	-
All lower extremity revascularization	220	0.3%	4,289	1.4%	-1.063	-0.116
Lower extremity endarterectomy, etc.	140	0.2%	1,850	0.6%	-0.395	-0.063
Lower extremity bypass	45	0.1%	723	0.2%	-0.168	-0.044
Lower extremity amputation	69	0.1%	2,611	0.8%	-0.739	-0.109
All Prior Cardiovascular Disease Covariates	20,744	29.4%	128,766	41.3%	-11.874	-0.250
Asthma	4,245	6.0%	26,924	8.6%	-2.614	-0.100
Cancer (excluding non-melanoma skin cancer)	4,244	6.0%	27,582	8.8%	-2.826	-0.108
Chronic kidney disease (excluding end stage renal disease)	3,557	5.0%	41,347	13.3%	-8.214	-0.288
Chronic obstructive pulmonary disease	3,813	5.4%	33,575	10.8%	-5.359	-0.198
Dementia	843	1.2%	11,497	3.7%	-2.491	-0.162
Depression	5,723	8.1%	40,988	13.1%	-5.028	-0.164
End stage renal disease (ESRD)	231	0.3%	7,907	2.5%	-2.208	-0.187
Fracture	1,711	2.4%	12,870	4.1%	-1.701	-0.096
Human immunodeficiency virus (HIV) / acquired immunodeficiency syndrome (AIDS)	89	0.1%	969	0.3%	-0.185	-0.040
Hyperlipidemia or lipid disorder	53,603	76.0%	215,484	69.1%	6.916	0.155
Hypertension	53,469	75.8%	235,741	75.6%	0.230	0.005
Hypoglycemia	2,110	3.0%	29,308	9.4%	-6.406	-0.268
Obesity (or weight gain)	12,082	17.1%	70,891	22.7%	-5.599	-0.140
Osteoporosis	2,787	4.0%	12,567	4.0%	-0.078	-0.004
Peripheral neuropathy	8,727	12.4%	67,033	21.5%	-9.120	-0.245
Tobacco use	4,386	6.2%	36,919	11.8%	-5.619	-0.197
All comorbidity covariates	65,530	92.9%	285,110	91.4%	1.503	0.056
History of use:						
Alpha-glucosidase inhibitors (B)	346	0.5%	2,875	0.9%	-0.431	-0.052
Biguanides (B)	52,382	74.3%	201,048	64.5%	9.813	0.214
Other dipeptidyl peptidase-4 (DPP-4) inhibitors (B)	591	0.8%	2,717	0.9%	-0.033	-0.004
Meglitinides (B)	1,262	1.8%	6,650	2.1%	-0.343	-0.025
Saxagliptin (B)	-	0.0%	-	0.0%	0.000	-
Sitagliptin (B)	13,821	19.6%	54,131	17.4%	2.242	0.058
Pioglitazone (B)	14,332	20.3%	54,279	17.4%	2.919	0.075
First-generation sulfonylureas (B)	15	0.0%	1,556	0.5%	-0.478	-0.094
Second-generation sulfonylureas (B)	30,588	43.4%	178,966	57.4%	-14.012	-0.283
Long-acting insulins (B)	-	0.0%	1	0.0%	0.000	-
Short-acting insulins (B)	376	0.5%	19,529	6.3%	-5.729	-0.320

Table 1e. Baseline Characteristics of Saxagliptin vs Long-Acting Insulins with Acute Myocardial Infarction in the Sentinel Distributed Database (SDD) between August 1, 2009 and July 31, 2014, (Replication) (Unmatched, Aggregated), Ratio: 1:1, Caliper:0.01

	Medical Product				Covariate Balance	
	Saxagliptin		Long-Acting Insulins			
Characteristic	Number	Percent	Number	Percent	Absolute Difference	Standardized Difference
Other thiazolidinediones (B)	2,669	3.8%	6,420	2.1%	1.726	0.103
Other anti-diabetics (B)	3,103	4.4%	26,985	8.7%	-4.253	-0.173
All anti-diabetics (B)	61,720	87.5%	251,638	80.7%	6.833	0.188
Angiotensin-converting enzyme inhibitors (B)	31,387	44.5%	150,006	48.1%	-3.592	-0.072
Alpha blockers (B)	1,312	1.9%	10,475	3.4%	-1.498	-0.094
Angiotensin receptor blockers (B)	18,079	25.6%	63,077	20.2%	5.411	0.129
Beta blockers (B)	18,299	25.9%	107,379	34.4%	-8.483	-0.186
Calcium channel blockers (B)	15,516	22.0%	76,085	24.4%	-2.395	-0.057
Direct vasodilators (B)	657	0.9%	7,717	2.5%	-1.543	-0.119
Loop diuretics (B)	6,177	8.8%	53,809	17.3%	-8.495	-0.255
Aldosterone receptor agonists (ARAs) (B)	1,463	2.1%	11,550	3.7%	-1.629	-0.097
Non-ARA potassium sparing diuretics (B)	2,169	3.1%	8,994	2.9%	0.192	0.011
Thiazide diuretics (B)	22,370	31.7%	92,277	29.6%	2.133	0.046
Renin inhibitors (B)	774	1.1%	1,966	0.6%	0.467	0.050
Central alpha-2 receptor agonists (B)	1,552	2.2%	10,916	3.5%	-1.300	-0.078
Reserpine and derivatives (B)	101	0.1%	288	0.1%	0.051	0.015
All anti-hypertensive agents (B)	53,502	75.9%	239,709	76.9%	-0.996	-0.023
Lipid lowering agents (B)	47,103	66.8%	199,197	63.9%	2.921	0.061
Alpha-glucosidase inhibitors (C)	197	0.3%	1,527	0.5%	-0.210	-0.034
Biguanides (C)	48,701	69.1%	147,701	47.4%	21.700	0.451
Other DPP-4 inhibitors (C)	182	0.3%	1,859	0.6%	-0.338	-0.052
Meglitinides (C)	774	1.1%	3,936	1.3%	-0.165	-0.015
Saxagliptin (C)	70,517	100.0%	-	0.0%	100.000	-
Sitagliptin (C)	4,305	6.1%	33,886	10.9%	-4.761	-0.171
Pioglitazone (C)	7,198	10.2%	28,367	9.1%	1.111	0.038
First-generation sulfonylureas (C)	11	0.0%	970	0.3%	-0.295	-0.073
Second-generation sulfonylureas (C)	22,902	32.5%	132,069	42.4%	-9.873	-0.205
Long-acting insulins (C)	-	0.0%	311,850	100.0%	-100.000	-
Short-acting insulins (C)	152	0.2%	54,359	17.4%	-17.216	-0.637
Other thiazolidinediones (C)	782	1.1%	2,052	0.7%	0.451	0.048
Other anti-diabetics (C)	1,199	1.7%	13,082	4.2%	-2.495	-0.148
All anti-diabetics (C)	70,517	100.0%	311,850	100.0%	0.000	-
Angiotensin-converting enzyme inhibitors (C)	24,407	34.6%	117,675	37.7%	-3.123	-0.065
Alpha blockers (C)	950	1.3%	7,562	2.4%	-1.078	-0.079
Angiotensin receptor blockers (C)	15,060	21.4%	48,951	15.7%	5.660	0.146
Beta blockers (C)	14,389	20.4%	89,649	28.7%	-8.342	-0.195
Calcium channel blockers (C)	12,633	17.9%	61,671	19.8%	-1.861	-0.048
Direct vasodilators (C)	423	0.6%	6,211	2.0%	-1.392	-0.123
Loop diuretics (C)	3,893	5.5%	39,088	12.5%	-7.014	-0.247
Aldosterone receptor agonists (ARAs) (C)	983	1.4%	8,110	2.6%	-1.207	-0.086

Table 1e. Baseline Characteristics of Saxagliptin vs Long-Acting Insulins with Acute Myocardial Infarction in the Sentinel Distributed Database (SDD) between August 1, 2009 and July 31, 2014, (Replication) (Unmatched, Aggregated), Ratio: 1:1, Caliper:0.01

	Medical Product				Covariate Balance	
	Saxagliptin		Long-Acting Insulins			
Characteristic	Number	Percent	Number	Percent	Absolute Difference	Standardized Difference
Non-ARA potassium sparing diuretics (C)	1,407	2.0%	5,505	1.8%	0.230	0.017
Thiazide diuretics (C)	17,118	24.3%	65,923	21.1%	3.136	0.075
Renin inhibitors (C)	492	0.7%	1,043	0.3%	0.363	0.051
Central alpha-2 receptor agonists (C)	1,004	1.4%	7,644	2.5%	-1.027	-0.075
Reserpine and derivatives (C)	44	0.1%	102	0.0%	0.030	0.014
All anti-hypertensive agents (C)	46,858	66.4%	215,865	69.2%	-2.772	-0.059
Lipid lowering agents (C)	38,700	54.9%	161,428	51.8%	3.116	0.062
Health Service Utilization Intensity:						
Non-acute institutional stay (IS visit) during prior year	1,714	2.4%	29,186	9.4%	-6.928	-0.297
Any inpatient hospital encounter (IP visit) within prior 30 day	1,021	1.4%	55,787	17.9%	-16.441	-0.579
Any inpatient hospital encounter (IP visit) 31-365 days prior to index date	5,865	8.3%	58,218	18.7%	-10.351	-0.307
Any emergency room encounter (ED visit) within prior 30 days	2,068	2.9%	40,181	12.9%	-9.952	-0.375
Any emergency room encounter (ED visit) 31-365 days prior to index date	11,993	17.0%	84,559	27.1%	-10.108	-0.246
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of ambulatory encounters (AV)	13.2	12.4	16.2	17.8	-2.994	-0.195
Mean number of emergency room encounters (ED)	0.3	1.0	0.7	1.7	-0.400	-0.289
Mean number of inpatient hospital encounters (IP)	0.1	0.5	0.5	1.0	-0.377	-0.477
Mean number of non-acute institutional encounters (IS)	0.0	0.4	0.2	1.3	-0.183	-0.190
Mean number of other ambulatory encounters (OA)	2.9	4.8	5.9	9.7	-3.039	-0.395
Mean number of unique drug classes	7.8	4.6	8.8	5.5	-1.055	-0.209
Mean number of generics	9.0	5.3	10.3	6.4	-1.292	-0.220
Mean number of filled prescriptions	36.6	27.5	38.3	31.3	-1.640	-0.056

Table 1f. Baseline Characteristics of Saxagliptin vs Long-Acting Insulins with Acute Myocardial Infarction in the Sentinel Distributed Database (SDD) between August 1, 2009 and July 31, 2014, (Replication) (Matched, Aggregated), Ratio: 1:1, Caliper:0.01

	Medical Product				Covariate Balance	
	Saxagliptin		Long-Acting Insulins			
Characteristic	Number	Percent	Number	Percent	Absolute Difference	Standardized Difference
Patients	57,649	82.3%	57,649	23.0%	-	-
Demographics	**Mean**	**Standard Deviation**	**Mean**	**Standard Deviation**		
Mean age (years)	57.9	11.2	58.1	11.6	-0.171	-0.015
Age (years)	**Number**	**Percent**	**Number**	**Percent**		
18-29	475	0.8%	763	1.3%	-0.500	-0.048
30-44	7,561	13.1%	7,500	13.0%	0.106	0.003
45-54	15,500	26.9%	14,747	25.6%	1.306	0.030
55-64	19,191	33.3%	18,753	32.5%	0.760	0.016
65-74	9,720	16.9%	10,567	18.3%	-1.469	-0.039
75-84	4,319	7.5%	4,381	7.6%	-0.108	-0.004
85+	883	1.5%	938	1.6%	-0.095	-0.008
Sex						
Female	25,441	44.1%	25,615	44.4%	-0.302	-0.006
Male	32,208	55.9%	32,034	55.6%	0.302	0.006
Year						
2009	1,249	2.2%	1,352	2.3%	-0.179	-0.012
2010	11,189	19.4%	11,137	19.3%	0.090	0.002
2011	15,550	27.0%	15,645	27.1%	-0.165	-0.004
2012	15,720	27.3%	15,998	27.8%	-0.482	-0.011
2013	12,087	21.2%	11,760	20.6%	0.573	0.014
2014	1,854	4.8%	1,757	4.6%	0.252	0.012
Recorded history of:						
Prior combined comorbidity raw score	-	-	-	-	-	-
Acute myocardial infarction prior to 60 days before index date (broad)	467	0.8%	476	0.8%	-0.016	-0.002
Acute myocardial infarction prior to 60 days before index date (narrow)	191	0.3%	189	0.3%	0.003	0.001
Acute myocardial infarction (broad)	537	0.9%	562	1.0%	-0.043	-0.004
Hospitalized heart failure prior to 60 days before index date	206	0.4%	218	0.4%	-0.021	-0.003
Other ischemic heart disease	9,380	16.3%	9,462	16.4%	-0.142	-0.004
Congestive heart failure	2,874	5.0%	3,017	5.2%	-0.248	-0.011
Other heart disease	11,914	20.7%	12,070	20.9%	-0.271	-0.007
Stroke (broad)	3,111	5.4%	3,163	5.5%	-0.090	-0.004
Stroke (narrow)	205	0.4%	224	0.4%	-0.033	-0.005
Peripheral arterial disease	2,461	4.3%	2,428	4.2%	0.057	0.003
All coronary revascularization procedures	2,665	4.6%	2,745	4.8%	-0.139	-0.007
Coronary artery bypass graft	1,242	2.2%	1,293	2.2%	-0.088	-0.006
Percutaneous coronary intervention	1,817	3.2%	1,834	3.2%	-0.029	-0.002

Table 1f. Baseline Characteristics of Saxagliptin vs Long-Acting Insulins with Acute Myocardial Infarction in the Sentinel Distributed Database (SDD) between August 1, 2009 and July 31, 2014, (Replication) (Matched, Aggregated), Ratio: 1:1, Caliper:0.01

	Medical Product				Covariate Balance	
	Saxagliptin		Long-Acting Insulins			
Characteristic	Number	Percent	Number	Percent	Absolute Difference	Standardized Difference
All carotid revascularization procedures	81	0.1%	91	0.2%	-0.017	-0.004
Carotid endarterectomy, etc.	81	0.1%	91	0.2%	-0.017	-0.004
Carotid bypass	-	0.0%	-	0.0%	0.000	-
All lower extremity revascularization	211	0.4%	204	0.4%	0.012	0.002
Lower extremity endarterectomy, etc.	133	0.2%	124	0.2%	0.016	0.003
Lower extremity bypass	45	0.1%	34	0.1%	0.019	0.007
Lower extremity amputation	67	0.1%	76	0.1%	-0.016	-0.004
All Prior Cardiovascular Disease Covariates	17,824	30.9%	18,148	31.5%	-0.562	-0.012
Asthma	3,593	6.2%	3,518	6.1%	0.130	0.005
Cancer (excluding non-melanoma skin cancer)	3,717	6.4%	3,727	6.5%	-0.017	-0.001
Chronic kidney disease (excluding end stage renal disease)	3,327	5.8%	3,371	5.8%	-0.076	-0.003
Chronic obstructive pulmonary disease	3,423	5.9%	3,446	6.0%	-0.040	-0.002
Dementia	802	1.4%	825	1.4%	-0.040	-0.003
Depression	5,125	8.9%	5,028	8.7%	0.168	0.006
End stage renal disease (ESRD)	229	0.4%	268	0.5%	-0.068	-0.010
Fracture	1,512	2.6%	1,556	2.7%	-0.076	-0.005
Human immunodeficiency virus (HIV) / acquired immunodeficiency syndrome (AIDS)	87	0.2%	81	0.1%	0.010	0.003
Hyperlipidemia or lipid disorder	42,834	74.3%	43,031	74.6%	-0.342	-0.008
Hypertension	43,533	75.5%	43,682	75.8%	-0.258	-0.006
Hypoglycemia	1,946	3.4%	1,903	3.3%	0.075	0.004
Obesity (or weight gain)	10,180	17.7%	10,323	17.9%	-0.248	-0.006
Osteoporosis	2,205	3.8%	2,276	3.9%	-0.123	-0.006
Peripheral neuropathy	7,949	13.8%	7,843	13.6%	0.184	0.005
Tobacco use	3,860	6.7%	3,736	6.5%	0.215	0.009
All comorbidity covariates	53,354	92.5%	52,916	91.8%	0.760	0.028
History of use:						
Alpha-glucosidase inhibitors (B)	340	0.6%	227	0.4%	0.196	0.028
Biguanides (B)	42,428	73.6%	42,655	74.0%	-0.394	-0.009
Other dipeptidyl peptidase-4 (DPP-4) inhibitors (B)	582	1.0%	474	0.8%	0.187	0.020
Meglitinides (B)	1,245	2.2%	721	1.3%	0.909	0.070
Saxagliptin (B)	-	0.0%	-	0.0%	0.000	-
Sitagliptin (B)	10,415	18.1%	10,606	18.4%	-0.331	-0.009
Pioglitazone (B)	11,729	20.3%	11,875	20.6%	-0.253	-0.006
First-generation sulfonylureas (B)	15	0.0%	7	0.0%	0.014	0.010
Second-generation sulfonylureas (B)	28,494	49.4%	28,213	48.9%	0.487	0.010
Long-acting insulins (B)	-	0.0%	-	0.0%	0.000	-
Short-acting insulins (B)	376	0.7%	463	0.8%	-0.151	-0.018

Table 1f. Baseline Characteristics of Saxagliptin vs Long-Acting Insulins with Acute Myocardial Infarction in the Sentinel Distributed Database (SDD) between August 1, 2009 and July 31, 2014, (Replication) (Matched, Aggregated), Ratio: 1:1, Caliper:0.01

	Medical Product				Covariate Balance	
	Saxagliptin		Long-Acting Insulins			
Characteristic	Number	Percent	Number	Percent	Absolute Difference	Standardized Difference
Other thiazolidinediones (B)	1,960	3.4%	1,992	3.5%	-0.056	-0.003
Other anti-diabetics (B)	3,073	5.3%	4,194	7.3%	-1.945	-0.080
All anti-diabetics (B)	50,943	88.4%	47,949	83.2%	5.193	0.149
Angiotensin-converting enzyme inhibitors (B)	26,463	45.9%	26,437	45.9%	0.045	0.001
Alpha blockers (B)	1,147	2.0%	1,263	2.2%	-0.201	-0.014
Angiotensin receptor blockers (B)	13,530	23.5%	13,961	24.2%	-0.748	-0.018
Beta blockers (B)	15,647	27.1%	15,820	27.4%	-0.300	-0.007
Calcium channel blockers (B)	12,763	22.1%	12,984	22.5%	-0.383	-0.009
Direct vasodilators (B)	609	1.1%	734	1.3%	-0.217	-0.020
Loop diuretics (B)	5,641	9.8%	6,266	10.9%	-1.084	-0.036
Aldosterone receptor agonists (ARAs) (B)	1,309	2.3%	1,323	2.3%	-0.024	-0.002
Non-ARA potassium sparing diuretics (B)	1,870	3.2%	1,573	2.7%	0.515	0.030
Thiazide diuretics (B)	17,865	31.0%	18,170	31.5%	-0.529	-0.011
Renin inhibitors (B)	644	1.1%	428	0.7%	0.375	0.039
Central alpha-2 receptor agonists (B)	1,384	2.4%	1,452	2.5%	-0.118	-0.008
Reserpine and derivatives (B)	82	0.1%	72	0.1%	0.017	0.005
All anti-hypertensive agents (B)	43,689	75.8%	43,603	75.6%	0.149	0.003
Lipid lowering agents (B)	37,644	65.3%	38,076	66.0%	-0.749	-0.016
Alpha-glucosidase inhibitors (C)	192	0.3%	111	0.2%	0.141	0.027
Biguanides (C)	36,539	63.4%	36,977	64.1%	-0.760	-0.016
Other DPP-4 inhibitors (C)	176	0.3%	366	0.6%	-0.330	-0.048
Meglitinides (C)	761	1.3%	440	0.8%	0.557	0.055
Saxagliptin (C)	57,649	100.0%	-	0.0%	100.000	-
Sitagliptin (C)	4,156	7.2%	4,129	7.2%	0.047	0.002
Pioglitazone (C)	6,072	10.5%	6,123	10.6%	-0.088	-0.003
First-generation sulfonylureas (C)	11	0.0%	7	0.0%	0.007	0.006
Second-generation sulfonylureas (C)	21,301	36.9%	21,097	36.6%	0.354	0.007
Long-acting insulins (C)	-	0.0%	57,649	100.0%	-100.000	-
Short-acting insulins (C)	152	0.3%	290	0.5%	-0.239	-0.039
Other thiazolidinediones (C)	609	1.1%	634	1.1%	-0.043	-0.004
Other anti-diabetics (C)	1,186	2.1%	2,317	4.0%	-1.962	-0.114
All anti-diabetics (C)	57,649	100.0%	57,649	100.0%	0.000	-
Angiotensin-converting enzyme inhibitors (C)	20,645	35.8%	20,559	35.7%	0.149	0.003
Alpha blockers (C)	829	1.4%	919	1.6%	-0.156	-0.013
Angiotensin receptor blockers (C)	11,066	19.2%	11,440	19.8%	-0.649	-0.016
Beta blockers (C)	12,356	21.4%	12,526	21.7%	-0.295	-0.007
Calcium channel blockers (C)	10,308	17.9%	10,454	18.1%	-0.253	-0.007
Direct vasodilators (C)	389	0.7%	491	0.9%	-0.177	-0.020
Loop diuretics (C)	3,569	6.2%	4,160	7.2%	-1.025	-0.041
Aldosterone receptor agonists (ARAs) (C)	861	1.5%	933	1.6%	-0.125	-0.010

Table 1f. Baseline Characteristics of Saxagliptin vs Long-Acting Insulins with Acute Myocardial Infarction in the Sentinel Distributed Database (SDD) between August 1, 2009 and July 31, 2014, (Replication) (Matched, Aggregated), Ratio: 1:1, Caliper:0.01

	Medical Product				Covariate Balance	
	Saxagliptin		Long-Acting Insulins			
Characteristic	Number	Percent	Number	Percent	Absolute Difference	Standardized Difference
Non-ARA potassium sparing diuretics (C)	1,212	2.1%	1,019	1.8%	0.335	0.024
Thiazide diuretics (C)	13,557	23.5%	13,778	23.9%	-0.383	-0.009
Renin inhibitors (C)	410	0.7%	238	0.4%	0.298	0.040
Central alpha-2 receptor agonists (C)	897	1.6%	984	1.7%	-0.151	-0.012
Reserpine and derivatives (C)	37	0.1%	28	0.0%	0.016	0.007
All anti-hypertensive agents (C)	38,212	66.3%	38,451	66.7%	-0.415	-0.009
Lipid lowering agents (C)	30,694	53.2%	31,091	53.9%	-0.689	-0.014
Health Service Utilization Intensity:						
Non-acute institutional stay (IS visit) during prior year	1,699	2.9%	1,692	2.9%	0.012	0.001
Any inpatient hospital encounter (IP visit) within prior 30 day	1,014	1.8%	1,214	2.1%	-0.347	-0.025
Any inpatient hospital encounter (IP visit) 31-365 days prior to index date	5,411	9.4%	5,454	9.5%	-0.075	-0.003
Any emergency room encounter (ED visit) within prior 30 days	2,028	3.5%	2,120	3.7%	-0.160	-0.009
Any emergency room encounter (ED visit) 31-365 days prior to index date	10,767	18.7%	10,640	18.5%	0.220	0.006
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of ambulatory encounters (AV)	13.7	12.9	13.8	13.5	-0.099	-0.007
Mean number of emergency room encounters (ED)	0.3	1.0	0.3	1.0	-0.017	-0.017
Mean number of inpatient hospital encounters (IP)	0.1	0.5	0.1	0.5	-0.011	-0.022
Mean number of non-acute institutional encounters (IS)	0.1	0.4	0.1	0.6	-0.006	-0.011
Mean number of other ambulatory encounters (OA)	3.0	5.1	3.1	6.2	-0.140	-0.025
Mean number of unique drug classes	7.9	4.6	7.9	4.8	-0.023	-0.005
Mean number of generics	9.2	5.4	9.3	5.7	-0.096	-0.017
Mean number of filled prescriptions	37.2	28.0	36.9	29.8	0.261	0.009

Table 1g. Baseline Characteristics of Saxagliptin vs Second-Generation Sulfonylureas with Acute Myocardial Infarction in the Sentinel Distributed Database (SDD) between August 1, 2009 and July 31, 2014, (Replication) (Unmatched, Aggregated), Ratio: 1:1, Caliper:0.01

	Medical Product				Covariate Balance	
	Saxagliptin		Second-Generation Sulfonylureas			
Characteristic	Number	Percent	Number	Percent	Absolute Difference	Standardized Difference
Patients	44,489	100.0%	437,224	100.0%	-	-
Demographics	**Mean**	**Standard Deviation**	**Mean**	**Standard Deviation**		
Mean age (years)	56.4	10.9	59.6	12.2	-3.206	-0.278
Age (years)	**Number**	**Percent**	**Number**	**Percent**		
18-29	421	0.9%	4,384	1.0%	-0.056	-0.006
30-44	6,548	14.7%	53,757	12.3%	2.423	0.071
45-54	13,076	29.4%	104,722	24.0%	5.440	0.123
55-64	15,666	35.2%	129,515	29.6%	5.591	0.120
65-74	6,037	13.6%	88,146	20.2%	-6.591	-0.177
75-84	2,306	5.2%	44,290	10.1%	-4.947	-0.187
85+	435	1.0%	12,410	2.8%	-1.861	-0.136
Sex						
Female	19,857	44.6%	195,146	44.6%	0.001	0.000
Male	24,632	55.4%	242,078	55.4%	-0.001	0.000
Year						
2009	727	1.6%	42,026	9.6%	-7.978	-0.352
2010	6,908	15.5%	101,920	23.3%	-7.783	-0.198
2011	12,652	28.4%	97,681	22.3%	6.097	0.140
2012	13,785	31.0%	89,927	20.6%	10.417	0.240
2013	9,103	20.7%	81,008	19.1%	1.597	0.040
2014	1,314	4.8%	24,662	7.2%	-2.475	-0.104
Recorded history of:						
Prior combined comorbidity raw score	-	-	-	-	-	-
Acute myocardial infarction prior to 60 days before index date (broad)	323	0.7%	4,631	1.1%	-0.333	-0.035
Acute myocardial infarction prior to 60 days before index date (narrow)	139	0.3%	1,859	0.4%	-0.113	-0.019
Acute myocardial infarction (broad)	373	0.8%	6,103	1.4%	-0.557	-0.053
Hospitalized heart failure prior to 60 days before index date	116	0.3%	2,727	0.6%	-0.363	-0.055
Other ischemic heart disease	6,371	14.3%	75,876	17.4%	-3.034	-0.083
Congestive heart failure	1,848	4.2%	32,640	7.5%	-3.311	-0.142
Other heart disease	8,571	19.3%	97,178	22.2%	-2.961	-0.073
Stroke (broad)	2,111	4.7%	26,141	6.0%	-1.234	-0.055
Stroke (narrow)	160	0.4%	3,137	0.7%	-0.358	-0.049
Peripheral arterial disease	1,606	3.6%	20,163	4.6%	-1.002	-0.050
All coronary revascularization procedures	1,795	4.0%	25,137	5.7%	-1.715	-0.080
Coronary artery bypass graft	835	1.9%	12,288	2.8%	-0.934	-0.062
Percutaneous coronary intervention	1,257	2.8%	16,867	3.9%	-1.032	-0.057

Table 1g. Baseline Characteristics of Saxagliptin vs Second-Generation Sulfonylureas with Acute Myocardial Infarction in the Sentinel Distributed Database (SDD) between August 1, 2009 and July 31, 2014, (Replication) (Unmatched, Aggregated), Ratio: 1:1, Caliper:0.01

	Medical Product				Covariate Balance	
	Saxagliptin		Second-Generation Sulfonylureas			
Characteristic	Number	Percent	Number	Percent	Absolute Difference	Standardized Difference
All carotid revascularization procedures	47	0.1%	687	0.2%	-0.051	-0.014
Carotid endarterectomy, etc.	46	0.1%	685	0.2%	-0.053	-0.015
Carotid bypass	1	0.0%	2	0.0%	0.002	0.005
All lower extremity revascularization	147	0.3%	2,581	0.6%	-0.260	-0.038
Lower extremity endarterectomy, etc.	77	0.2%	1,311	0.3%	-0.127	-0.026
Lower extremity bypass	28	0.1%	497	0.1%	-0.051	-0.017
Lower extremity amputation	62	0.1%	1,277	0.3%	-0.153	-0.033
All Prior Cardiovascular Disease Covariates	12,687	28.5%	142,969	32.7%	-4.182	-0.091
Asthma	2,924	6.6%	32,607	7.5%	-0.885	-0.035
Cancer (excluding non-melanoma skin cancer)	2,565	5.8%	30,491	7.0%	-1.208	-0.049
Chronic kidney disease (excluding end stage renal disease)	1,859	4.2%	38,548	8.8%	-4.638	-0.189
Chronic obstructive pulmonary disease	2,408	5.4%	35,636	8.2%	-2.738	-0.109
Dementia	525	1.2%	10,789	2.5%	-1.288	-0.096
Depression	3,945	8.9%	45,546	10.4%	-1.550	-0.053
End stage renal disease (ESRD)	178	0.4%	4,318	1.0%	-0.587	-0.071
Fracture	1,106	2.5%	13,240	3.0%	-0.542	-0.033
Human immunodeficiency virus (HIV) / acquired immunodeficiency syndrome (AIDS)	73	0.2%	979	0.2%	-0.060	-0.014
Hyperlipidemia or lipid disorder	33,294	74.8%	295,203	67.5%	7.319	0.162
Hypertension	32,839	73.8%	315,502	72.2%	1.653	0.037
Hypoglycemia	1,324	3.0%	23,800	5.4%	-2.467	-0.123
Obesity (or weight gain)	8,006	18.0%	83,213	19.0%	-1.037	-0.027
Osteoporosis	1,798	4.0%	17,405	4.0%	0.061	0.003
Peripheral neuropathy	5,377	12.1%	62,470	14.3%	-2.202	-0.065
Tobacco use	2,817	6.3%	39,432	9.0%	-2.687	-0.101
All comorbidity covariates	41,117	92.4%	389,986	89.2%	3.225	0.112
History of use:						
Alpha-glucosidase inhibitors (B)	122	0.3%	1,199	0.3%	0.000	0.000
Biguanides (B)	30,551	68.7%	279,013	63.8%	4.856	0.103
Other dipeptidyl peptidase-4 (DPP-4) inhibitors (B)	340	0.8%	2,210	0.5%	0.259	0.033
Meglitinides (B)	921	2.1%	5,169	1.2%	0.888	0.070
Saxagliptin (B)	-	0.0%	-	0.0%	0.000	-
Sitagliptin (B)	8,086	18.2%	47,233	10.8%	7.372	0.211
Pioglitazone (B)	7,863	17.7%	46,179	10.6%	7.112	0.205
First-generation sulfonylureas (B)	13	0.0%	4,314	1.0%	-0.957	-0.135
Second-generation sulfonylureas (B)	-	0.0%	2	0.0%	0.000	-
Long-acting insulins (B)	5,551	12.5%	45,155	10.3%	2.150	0.068
Short-acting insulins (B)	2,218	5.0%	16,606	3.8%	1.187	0.058

Table 1g. Baseline Characteristics of Saxagliptin vs Second-Generation Sulfonylureas with Acute Myocardial Infarction in the Sentinel Distributed Database (SDD) between August 1, 2009 and July 31, 2014, (Replication) (Unmatched, Aggregated), Ratio: 1:1, Caliper:0.01

	Medical Product				Covariate Balance	
	Saxagliptin		Second-Generation Sulfonylureas			
Characteristic	Number	Percent	Number	Percent	Absolute Difference	Standardized Difference
Other thiazolidinediones (B)	1,466	3.3%	7,344	1.7%	1.616	0.104
Other anti-diabetics (B)	2,108	4.7%	14,094	3.2%	1.515	0.078
All anti-diabetics (B)	35,992	80.9%	324,368	74.2%	6.713	0.161
Angiotensin-converting enzyme inhibitors (B)	17,718	39.8%	190,793	43.6%	-3.812	-0.077
Alpha blockers (B)	640	1.4%	12,493	2.9%	-1.419	-0.098
Angiotensin receptor blockers (B)	11,531	25.9%	82,706	18.9%	7.003	0.169
Beta blockers (B)	10,736	24.1%	127,280	29.1%	-4.979	-0.113
Calcium channel blockers (B)	9,035	20.3%	93,785	21.5%	-1.142	-0.028
Direct vasodilators (B)	358	0.8%	6,370	1.5%	-0.652	-0.062
Loop diuretics (B)	3,706	8.3%	49,025	11.2%	-2.883	-0.097
Aldosterone receptor agonists (ARAs) (B)	972	2.2%	10,522	2.4%	-0.222	-0.015
Non-ARA potassium sparing diuretics (B)	1,293	2.9%	13,788	3.2%	-0.247	-0.014
Thiazide diuretics (B)	13,443	30.2%	128,335	29.4%	0.864	0.019
Renin inhibitors (B)	516	1.2%	2,134	0.5%	0.672	0.074
Central alpha-2 receptor agonists (B)	908	2.0%	10,997	2.5%	-0.474	-0.032
Reserpine and derivatives (B)	52	0.1%	401	0.1%	0.025	0.008
All anti-hypertensive agents (B)	32,178	72.3%	316,382	72.4%	-0.034	-0.001
Lipid lowering agents (B)	28,290	63.6%	262,196	60.0%	3.620	0.075
Alpha-glucosidase inhibitors (C)	62	0.1%	784	0.2%	-0.040	-0.010
Biguanides (C)	30,488	68.5%	256,932	58.8%	9.765	0.204
Other DPP-4 inhibitors (C)	100	0.2%	1,702	0.4%	-0.164	-0.030
Meglitinides (C)	588	1.3%	2,564	0.6%	0.735	0.076
Saxagliptin (C)	44,489	100.0%	-	0.0%	100.000	-
Sitagliptin (C)	2,472	5.6%	33,793	7.7%	-2.173	-0.087
Pioglitazone (C)	3,952	8.9%	29,153	6.7%	2.215	0.083
First-generation sulfonylureas (C)	9	0.0%	2,644	0.6%	-0.584	-0.105
Second-generation sulfonylureas (C)	-	0.0%	437,224	100.0%	-100.000	-
Long-acting insulins (C)	3,702	8.3%	30,659	7.0%	1.309	0.049
Short-acting insulins (C)	1,029	2.3%	8,750	2.0%	0.312	0.021
Other thiazolidinediones (C)	432	1.0%	3,201	0.7%	0.239	0.026
Other anti-diabetics (C)	781	1.8%	7,811	1.8%	-0.031	-0.002
All anti-diabetics (C)	44,489	100.0%	437,224	100.0%	0.000	-
Angiotensin-converting enzyme inhibitors (C)	13,608	30.6%	167,288	38.3%	-7.674	-0.162
Alpha blockers (C)	459	1.0%	9,557	2.2%	-1.154	-0.092
Angiotensin receptor blockers (C)	9,698	21.8%	68,458	15.7%	6.141	0.158
Beta blockers (C)	8,346	18.8%	109,045	24.9%	-6.181	-0.150
Calcium channel blockers (C)	7,321	16.5%	79,387	18.2%	-1.701	-0.045
Direct vasodilators (C)	238	0.5%	5,021	1.1%	-0.613	-0.067
Loop diuretics (C)	2,289	5.1%	35,305	8.1%	-2.930	-0.118
Aldosterone receptor agonists (ARAs) (C)	640	1.4%	7,739	1.8%	-0.331	-0.026

Table 1g. Baseline Characteristics of Saxagliptin vs Second-Generation Sulfonylureas with Acute Myocardial Infarction in the Sentinel Distributed Database (SDD) between August 1, 2009 and July 31, 2014, (Replication) (Unmatched, Aggregated), Ratio: 1:1, Caliper:0.01

	Medical Product				Covariate Balance	
	Saxagliptin		Second-Generation Sulfonylureas			
Characteristic	Number	Percent	Number	Percent	Absolute Difference	Standardized Difference
Non-ARA potassium sparing diuretics (C)	825	1.9%	9,507	2.2%	-0.320	-0.023
Thiazide diuretics (C)	10,253	23.0%	102,924	23.5%	-0.494	-0.012
Renin inhibitors (C)	322	0.7%	1,234	0.3%	0.442	0.062
Central alpha-2 receptor agonists (C)	552	1.2%	7,707	1.8%	-0.522	-0.043
Reserpine and derivatives (C)	20	0.0%	183	0.0%	0.003	0.001
All anti-hypertensive agents (C)	28,031	63.0%	298,768	68.3%	-5.326	-0.112
Lipid lowering agents (C)	23,368	52.5%	231,525	53.0%	-0.428	-0.009
Health Service Utilization Intensity:						
Non-acute institutional stay (IS visit) during prior year	992	2.2%	23,298	5.3%	-3.099	-0.163
Any inpatient hospital encounter (IP visit) within prior 30 day	753	1.7%	32,420	7.4%	-5.722	-0.277
Any inpatient hospital encounter (IP visit) 31-365 days prior to index date	3,858	8.7%	53,010	12.1%	-3.452	-0.113
Any emergency room encounter (ED visit) within prior 30 days	1,391	3.1%	33,355	7.6%	-4.502	-0.201
Any emergency room encounter (ED visit) 31-365 days prior to index date	7,702	17.3%	93,462	21.4%	-4.064	-0.103
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of ambulatory encounters (AV)	13.3	12.8	13.1	14.2	0.268	0.020
Mean number of emergency room encounters (ED)	0.3	1.1	0.5	1.3	-0.148	-0.124
Mean number of inpatient hospital encounters (IP)	0.1	0.5	0.3	0.7	-0.128	-0.206
Mean number of non-acute institutional encounters (IS)	0.0	0.4	0.1	0.9	-0.071	-0.103
Mean number of other ambulatory encounters (OA)	2.9	5.6	4.3	7.5	-1.391	-0.211
Mean number of unique drug classes	7.7	4.8	7.6	5.0	0.109	0.022
Mean number of generics	8.6	5.5	8.4	5.7	0.236	0.042
Mean number of filled prescriptions	33.6	27.4	30.2	26.9	3.361	0.124

Table 1h. Baseline Characteristics of Saxagliptin vs Second-Generation Sulfonylureas with Acute Myocardial Infarction in the Sentinel Distributed Database (SDD) between August 1, 2009 and July 31, 2014, (Replication) (Matched, Aggregated), Ratio: 1:1, Caliper:0.01

	Medical Product				Covariate Balance	
	Saxagliptin		Second-Generation Sulfonylureas			
Characteristic	Number	Percent	Number	Percent	Absolute Difference	Standardized Difference
Patients	43,596	98.3%	43,596	12.2%	-	-
Demographics	**Mean**	**Standard Deviation**	**Mean**	**Standard Deviation**		
Mean age (years)	56.4	10.9	56.4	11.4	0.001	0.000
Age (years)	**Number**	**Percent**	**Number**	**Percent**		
18-29	411	0.9%	517	1.2%	-0.243	-0.024
30-44	6,415	14.7%	6,793	15.6%	-0.867	-0.024
45-54	12,789	29.3%	12,636	29.0%	0.351	0.008
55-64	15,287	35.1%	14,175	32.5%	2.551	0.054
65-74	5,971	13.7%	6,530	15.0%	-1.282	-0.037
75-84	2,293	5.3%	2,440	5.6%	-0.337	-0.015
85+	430	1.0%	505	1.2%	-0.172	-0.017
Sex						
Female	19,449	44.6%	19,533	44.8%	-0.193	-0.004
Male	24,147	55.4%	24,063	55.2%	0.193	0.004
Year						
2009	727	1.7%	767	1.8%	-0.092	-0.007
2010	6,877	15.8%	6,920	15.9%	-0.099	-0.003
2011	12,533	28.7%	12,600	28.9%	-0.154	-0.003
2012	13,212	30.3%	13,217	30.3%	-0.011	0.000
2013	8,944	20.7%	8,780	20.4%	0.380	0.009
2014	1,303	4.7%	1,312	4.8%	-0.033	-0.002
Recorded history of:						
Prior combined comorbidity raw score	-	-	-	-	-	-
Acute myocardial infarction prior to 60 days before index date (broad)	319	0.7%	335	0.8%	-0.037	-0.004
Acute myocardial infarction prior to 60 days before index date (narrow)	137	0.3%	134	0.3%	0.007	0.001
Acute myocardial infarction (broad)	367	0.8%	381	0.9%	-0.032	-0.003
Hospitalized heart failure prior to 60 days before index date	116	0.3%	138	0.3%	-0.050	-0.009
Other ischemic heart disease	6,268	14.4%	6,382	14.6%	-0.261	-0.007
Congestive heart failure	1,826	4.2%	1,862	4.3%	-0.083	-0.004
Other heart disease	8,424	19.3%	8,455	19.4%	-0.071	-0.002
Stroke (broad)	2,080	4.8%	2,104	4.8%	-0.055	-0.003
Stroke (narrow)	159	0.4%	163	0.4%	-0.009	-0.002
Peripheral arterial disease	1,580	3.6%	1,567	3.6%	0.030	0.002
All coronary revascularization procedures	1,769	4.1%	1,833	4.2%	-0.147	-0.007
Coronary artery bypass graft	820	1.9%	839	1.9%	-0.044	-0.003
Percutaneous coronary intervention	1,239	2.8%	1,254	2.9%	-0.034	-0.002

Table 1h. Baseline Characteristics of Saxagliptin vs Second-Generation Sulfonylureas with Acute Myocardial Infarction in the Sentinel Distributed Database (SDD) between August 1, 2009 and July 31, 2014, (Replication) (Matched, Aggregated), Ratio: 1:1, Caliper:0.01

	Medical Product				Covariate Balance	
	Saxagliptin		Second-Generation Sulfonylureas			
Characteristic	Number	Percent	Number	Percent	Absolute Difference	Standardized Difference
All carotid revascularization procedures	46	0.1%	50	0.1%	-0.009	-0.003
Carotid endarterectomy, etc.	45	0.1%	49	0.1%	-0.009	-0.003
Carotid bypass	1	0.0%	1	0.0%	0.000	0.000
All lower extremity revascularization	144	0.3%	149	0.3%	-0.011	-0.002
Lower extremity endarterectomy, etc.	76	0.2%	90	0.2%	-0.032	-0.007
Lower extremity bypass	27	0.1%	34	0.1%	-0.016	-0.006
Lower extremity amputation	60	0.1%	54	0.1%	0.014	0.004
All Prior Cardiovascular Disease Covariates	12,458	28.6%	12,545	28.8%	-0.200	-0.004
Asthma	2,873	6.6%	2,878	6.6%	-0.011	0.000
Cancer (excluding non-melanoma skin cancer)	2,539	5.8%	2,537	5.8%	0.005	0.000
Chronic kidney disease (excluding end stage renal disease)	1,835	4.2%	1,843	4.2%	-0.018	-0.001
Chronic obstructive pulmonary disease	2,379	5.5%	2,381	5.5%	-0.005	0.000
Dementia	521	1.2%	504	1.2%	0.039	0.004
Depression	3,871	8.9%	3,922	9.0%	-0.117	-0.004
End stage renal disease (ESRD)	178	0.4%	175	0.4%	0.007	0.001
Fracture	1,096	2.5%	1,107	2.5%	-0.025	-0.002
Human immunodeficiency virus (HIV) / acquired immunodeficiency syndrome (AIDS)	73	0.2%	68	0.2%	0.011	0.003
Hyperlipidemia or lipid disorder	32,535	74.6%	32,793	75.2%	-0.592	-0.014
Hypertension	32,128	73.7%	32,192	73.8%	-0.147	-0.003
Hypoglycemia	1,298	3.0%	1,257	2.9%	0.094	0.006
Obesity (or weight gain)	7,840	18.0%	7,791	17.9%	0.112	0.003
Osteoporosis	1,754	4.0%	1,753	4.0%	0.002	0.000
Peripheral neuropathy	5,258	12.1%	5,390	12.4%	-0.303	-0.009
Tobacco use	2,767	6.3%	2,746	6.3%	0.048	0.002
All comorbidity covariates	40,274	92.4%	40,041	91.8%	0.534	0.020
History of use:						
Alpha-glucosidase inhibitors (B)	118	0.3%	116	0.3%	0.005	0.001
Biguanides (B)	29,794	68.3%	29,954	68.7%	-0.367	-0.008
Other dipeptidyl peptidase-4 (DPP-4) inhibitors (B)	332	0.8%	453	1.0%	-0.278	-0.029
Meglitinides (B)	906	2.1%	561	1.3%	0.791	0.062
Saxagliptin (B)	-	0.0%	-	0.0%	0.000	-
Sitagliptin (B)	7,333	16.8%	7,411	17.0%	-0.179	-0.005
Pioglitazone (B)	7,598	17.4%	7,616	17.5%	-0.041	-0.001
First-generation sulfonylureas (B)	13	0.0%	23	0.1%	-0.023	-0.011
Second-generation sulfonylureas (B)	-	0.0%	-	0.0%	0.000	-
Long-acting insulins (B)	5,333	12.2%	5,241	12.0%	0.211	0.006
Short-acting insulins (B)	2,127	4.9%	2,087	4.8%	0.092	0.004

Table 1h. Baseline Characteristics of Saxagliptin vs Second-Generation Sulfonylureas with Acute Myocardial Infarction in the Sentinel Distributed Database (SDD) between August 1, 2009 and July 31, 2014, (Replication) (Matched, Aggregated), Ratio: 1:1, Caliper:0.01

	Medical Product				Covariate Balance	
	Saxagliptin		Second-Generation Sulfonylureas			
Characteristic	Number	Percent	Number	Percent	Absolute Difference	Standardized Difference
Other thiazolidinediones (B)	1,422	3.3%	1,425	3.3%	-0.007	0.000
Other anti-diabetics (B)	2,064	4.7%	2,339	5.4%	-0.631	-0.029
All anti-diabetics (B)	35,109	80.5%	34,986	80.3%	0.282	0.007
Angiotensin-converting enzyme inhibitors (B)	17,402	39.9%	17,415	39.9%	-0.030	-0.001
Alpha blockers (B)	636	1.5%	767	1.8%	-0.300	-0.024
Angiotensin receptor blockers (B)	11,175	25.6%	11,289	25.9%	-0.261	-0.006
Beta blockers (B)	10,566	24.2%	10,655	24.4%	-0.204	-0.005
Calcium channel blockers (B)	8,873	20.4%	9,024	20.7%	-0.346	-0.009
Direct vasodilators (B)	353	0.8%	387	0.9%	-0.078	-0.009
Loop diuretics (B)	3,648	8.4%	3,695	8.5%	-0.108	-0.004
Aldosterone receptor agonists (ARAs) (B)	957	2.2%	891	2.0%	0.151	0.011
Non-ARA potassium sparing diuretics (B)	1,277	2.9%	1,262	2.9%	0.034	0.002
Thiazide diuretics (B)	13,146	30.2%	13,244	30.4%	-0.225	-0.005
Renin inhibitors (B)	510	1.2%	290	0.7%	0.505	0.053
Central alpha-2 receptor agonists (B)	896	2.1%	902	2.1%	-0.014	-0.001
Reserpine and derivatives (B)	51	0.1%	63	0.1%	-0.028	-0.008
All anti-hypertensive agents (B)	31,481	72.2%	31,483	72.2%	-0.005	0.000
Lipid lowering agents (B)	27,581	63.3%	27,663	63.5%	-0.188	-0.004
Alpha-glucosidase inhibitors (C)	59	0.1%	66	0.2%	-0.016	-0.004
Biguanides (C)	29,733	68.2%	29,602	67.9%	0.300	0.006
Other DPP-4 inhibitors (C)	98	0.2%	363	0.8%	-0.608	-0.084
Meglitinides (C)	582	1.3%	275	0.6%	0.704	0.071
Saxagliptin (C)	43,596	100.0%	-	0.0%	100.000	-
Sitagliptin (C)	2,461	5.6%	2,450	5.6%	0.025	0.001
Pioglitazone (C)	3,851	8.8%	3,863	8.9%	-0.028	-0.001
First-generation sulfonylureas (C)	9	0.0%	15	0.0%	-0.014	-0.008
Second-generation sulfonylureas (C)	-	0.0%	43,596	100.0%	-100.000	-
Long-acting insulins (C)	3,557	8.2%	3,472	8.0%	0.195	0.007
Short-acting insulins (C)	989	2.3%	980	2.2%	0.021	0.001
Other thiazolidinediones (C)	429	1.0%	422	1.0%	0.016	0.002
Other anti-diabetics (C)	761	1.7%	1,367	3.1%	-1.390	-0.090
All anti-diabetics (C)	43,596	100.0%	43,596	100.0%	0.000	-
Angiotensin-converting enzyme inhibitors (C)	13,429	30.8%	13,386	30.7%	0.099	0.002
Alpha blockers (C)	458	1.1%	568	1.3%	-0.252	-0.023
Angiotensin receptor blockers (C)	9,414	21.6%	9,459	21.7%	-0.103	-0.003
Beta blockers (C)	8,244	18.9%	8,333	19.1%	-0.204	-0.005
Calcium channel blockers (C)	7,196	16.5%	7,322	16.8%	-0.289	-0.008
Direct vasodilators (C)	236	0.5%	266	0.6%	-0.069	-0.009
Loop diuretics (C)	2,261	5.2%	2,384	5.5%	-0.282	-0.013
Aldosterone receptor agonists (ARAs) (C)	629	1.4%	611	1.4%	0.041	0.003

Table 1h. Baseline Characteristics of Saxagliptin vs Second-Generation Sulfonylureas with Acute Myocardial Infarction in the Sentinel Distributed Database (SDD) between August 1, 2009 and July 31, 2014, (Replication) (Matched, Aggregated), Ratio: 1:1, Caliper:0.01

	Medical Product				Covariate Balance	
	Saxagliptin		Second-Generation Sulfonylureas			
Characteristic	Number	Percent	Number	Percent	Absolute Difference	Standardized Difference
Non-ARA potassium sparing diuretics (C)	817	1.9%	808	1.9%	0.021	0.002
Thiazide diuretics (C)	10,059	23.1%	10,035	23.0%	0.055	0.001
Renin inhibitors (C)	321	0.7%	173	0.4%	0.339	0.045
Central alpha-2 receptor agonists (C)	548	1.3%	587	1.3%	-0.089	-0.008
Reserpine and derivatives (C)	20	0.0%	28	0.1%	-0.018	-0.008
All anti-hypertensive agents (C)	27,499	63.1%	27,947	64.1%	-1.028	-0.021
Lipid lowering agents (C)	22,862	52.4%	22,813	52.3%	0.112	0.002
Health Service Utilization Intensity:						
Non-acute institutional stay (IS visit) during prior year	991	2.3%	1,026	2.4%	-0.080	-0.005
Any inpatient hospital encounter (IP visit) within prior 30 day	749	1.7%	775	1.8%	-0.060	-0.005
Any inpatient hospital encounter (IP visit) 31-365 days prior to index date	3,809	8.7%	3,884	8.9%	-0.172	-0.006
Any emergency room encounter (ED visit) within prior 30 days	1,383	3.2%	1,416	3.2%	-0.076	-0.004
Any emergency room encounter (ED visit) 31-365 days prior to index date	7,566	17.4%	7,532	17.3%	0.078	0.002
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of ambulatory encounters (AV)	13.3	12.8	13.4	14.3	-0.059	-0.004
Mean number of emergency room encounters (ED)	0.3	1.1	0.3	0.9	-0.005	-0.005
Mean number of inpatient hospital encounters (IP)	0.1	0.5	0.1	0.5	-0.008	-0.016
Mean number of non-acute institutional encounters (IS)	0.0	0.4	0.0	0.5	-0.003	-0.006
Mean number of other ambulatory encounters (OA)	2.9	5.6	2.8	6.0	0.046	0.008
Mean number of unique drug classes	7.7	4.8	7.7	4.9	-0.014	-0.003
Mean number of generics	8.6	5.5	8.6	5.7	-0.055	-0.010
Mean number of filled prescriptions	33.4	27.3	32.6	27.6	0.756	0.028

Table 2. Effect Estimates for New Users of Saxagliptin vs New Users of Sitagliptin with Acute Myocardial Infarction in the Sentinel Distributed Database (SDD) between August 1, 2009 and July 31, 2014, (Replication) by Analysis Type

Medical Product	Number of New Users	Person Years at Risk	Average Person Days at Risk	Average Person Years at Risk	Number of Events	Incidence Rate per 1,000 Person Years	Risk per 1,000 New Users	Incidence Rate Difference per 1,000 Person Years	Difference in Risk per 1,000 New Users	Hazard Ratio (95% Confidence Interval)	Wald P-Value
Unmatched Analysis (Site-adjusted only)											
Saxagliptin	64,069	31,841.33	181.52	0.50	141	4.43	2.20	-0.52	-0.36	0.93 (0.78, 1.13)	0.473
Sitagliptin	215,762	111,642.15	188.99	0.52	552	4.94	2.56				
1:1 Matched Conditional Predefined Analysis; Caliper= 0.01											
Saxagliptin	63,821	13,899.40	79.55	0.22	58	4.17	0.91	-0.94	-0.20	0.82 (0.58, 1.16)	0.253
Sitagliptin	63,821	13,899.40	79.55	0.22	71	5.11	1.11				
1:1 Matched Unconditional Predefined Analysis; Caliper= 0.01											
Saxagliptin	63,821	31,714.97	181.51	0.50	140	4.41	2.19	-0.24	-0.11	0.96 (0.77, 1.22)	0.763
Sitagliptin	63,821	31,559.74	180.62	0.49	147	4.66	2.30				

Table 3. Effect Estimates for New Users of Saxagliptin vs New Users of Sitagliptin with Acute Myocardial Infarction in the Sentinel Distributed Database (SDD) between August 1, 2009 and July 31, 2014, (Replication) by Analysis Type and Prior Cardiovascular Disease Status

Medical Product	Number of New Users	Person Years at Risk	Average Person Days at Risk	Average Person Years at Risk	Number of Events	Incidence Rate per 1,000 Person Years	Risk per 1,000 New Users	Incidence Rate Difference per 1,000 Person Years	Difference in Risk per 1,000 New Users	Hazard Ratio (95% Confidence Interval)	Wald P-Value
No prior cardiovascular disease covariates											
Unmatched Analysis (Site-adjusted only)											
Saxagliptin	44,160	21,599.20	178.65	0.49	53	2.45	1.20	-0.42	-0.25	0.87 (0.64, 1.18)	0.365
Sitagliptin	139,796	70,731.11	184.80	0.51	203	2.87	1.45				
1:1 Matched Conditional Predefined Analysis; Caliper= 0.01											
Saxagliptin	43,979	9,407.20	78.13	0.21	21	2.23	0.48	-1.06	-0.23	0.68 (0.39, 1.18)	0.168
Sitagliptin	43,979	9,407.20	78.13	0.21	31	3.30	0.70				
1:1 Matched Unconditional Predefined Analysis; Caliper= 0.01											
Saxagliptin	43,979	21,502.31	178.58	0.49	53	2.46	1.21	-0.41	-0.18	0.87 (0.60, 1.25)	0.446
Sitagliptin	43,979	21,207.47	176.13	0.48	61	2.88	1.39				
Presence of prior cardiovascular disease covariates											
Unmatched Analysis (Site-adjusted only)											
Saxagliptin	19,909	10,242.12	187.90	0.51	88	8.59	4.42	0.06	-0.17	1.05 (0.83, 1.33)	0.694
Sitagliptin	75,966	40,911.04	196.70	0.54	349	8.53	4.59				
1:1 Matched Conditional Predefined Analysis; Caliper= 0.01											
Saxagliptin	19,831	4,583.19	84.41	0.23	42	9.16	2.12	-0.44	-0.10	0.95 (0.63, 1.46)	0.829
Sitagliptin	19,831	4,583.19	84.41	0.23	44	9.60	2.22				
1:1 Matched Unconditional Predefined Analysis; Caliper= 0.01											
Saxagliptin	19,831	10,208.54	188.02	0.51	86	8.42	4.34	1.05	0.45	1.15 (0.84, 1.56)	0.378
Sitagliptin	19,831	10,440.60	192.30	0.53	77	7.38	3.88				

Table 4. Effect Estimates for New Users of Saxagliptin vs New Users of Sitagliptin with Acute Myocardial Infarction in the Sentinel Distributed Database (SDD) between August 1, 2009 and July 31, 2014, (Replication) by Analysis Type and Sex

Medical Product	Sex	Number of New Users	Person Years at Risk	Average Person Days at Risk	Average Person Years at Risk	Number of Events	Incidence Rate per 1,000 Person Years	Risk per 1,000 New Users	Incidence Rate Difference per 1,000 Person Years	Difference in Risk per 1,000 New Users	Hazard Ratio (95% Confidence Interval)	Wald P-Value
Unmatched Analysis (Site-adjusted only)												
Saxagliptin	Male	35,981	18,585.96	188.67	0.52	103	5.54	2.86	-0.05	-0.14	1.05 (0.84, 1.31)	0.669
Sitagliptin	Male	118,638	63,698.26	196.11	0.54	356	5.59	3.00				
1:1 Matched Conditional Predefined Analysis; Caliper= 0.01												
Saxagliptin	Male	35,835	8,142.20	82.99	0.23	40	4.91	1.12	-1.60	-0.36	0.75 (0.50, 1.14)	0.179
Sitagliptin	Male	35,835	8,142.20	82.99	0.23	53	6.51	1.48				
1:1 Matched Unconditional Predefined Analysis; Caliper= 0.01												
Saxagliptin	Male	35,835	18,518.18	188.75	0.52	102	5.51	2.85	0.10	0.08	1.03 (0.78, 1.35)	0.854
Sitagliptin	Male	35,835	18,289.95	186.42	0.51	99	5.41	2.76				
Unmatched Analysis (Site-adjusted only)												
Saxagliptin	Female	28,088	13,255.36	172.37	0.47	38	2.87	1.35	-1.22	-0.67	0.72 (0.51, 1.02)	0.062
Sitagliptin	Female	97,124	47,943.88	180.30	0.49	196	4.09	2.02				
1:1 Matched Conditional Predefined Analysis; Caliper= 0.01												
Saxagliptin	Female	27,975	5,790.50	75.60	0.21	20	3.45	0.71	1.04	0.21	1.43 (0.72, 2.83)	0.306
Sitagliptin	Female	27,975	5,790.50	75.60	0.21	14	2.42	0.50				
1:1 Matched Unconditional Predefined Analysis; Caliper= 0.01												
Saxagliptin	Female	27,975	13,192.07	172.24	0.47	38	2.88	1.36	-0.41	-0.21	0.91 (0.59, 1.41)	0.68
Sitagliptin	Female	27,975	13,364.73	174.49	0.48	44	3.29	1.57				

Table 5. Effect Estimates for New Users of Saxagliptin vs New Users of Sitagliptin with Acute Myocardial Infarction in the Sentinel Distributed Database (SDD) between August 1, 2009 and July 31, 2014, (Replication) by Analysis Type and Age Group

Medical Product	Age Group (years)	Number of New Users	Person Years at Risk	Average Person Days at Risk	Average Person Years at Risk	Number of Events	Incidence Rate per 1,000 Person Years	Risk per 1,000 New Users	Incidence Rate Difference per 1,000 Person Years	Difference in Risk per 1,000 New Users	Hazard Ratio (95% Confidence Interval)	Wald P-Value
Unmatched Analysis (Site-adjusted only)												
Saxagliptin	18-64	48,062	22,845.62	173.62	0.48	65	2.85	1.35	-0.08	-0.07	0.97 (0.73, 1.29)	0.846
Sitagliptin	18-64	145,680	70,698.84	177.26	0.49	207	2.93	1.42				
1:1 Matched Conditional Predefined Analysis; Caliper= 0.01												
Saxagliptin	18-64	47,868	9,846.93	75.14	0.21	27	2.74	0.56	-0.81	-0.17	0.77 (0.47, 1.27)	0.311
Sitagliptin	18-64	47,868	9,846.93	75.14	0.21	35	3.55	0.73				
1:1 Matched Unconditional Predefined Analysis; Caliper= 0.01												
Saxagliptin	18-64	47,868	22,746.31	173.56	0.48	65	2.86	1.36	-0.39	-0.15	0.90 (0.64, 1.26)	0.531
Sitagliptin	18-64	47,868	22,163.64	169.12	0.46	72	3.25	1.50				
Unmatched Analysis (Site-adjusted only)												
Saxagliptin	65+	16,007	8,995.71	205.27	0.56	76	8.45	4.75	0.02	-0.17	1.02 (0.79, 1.30)	0.907
Sitagliptin	65+	70,082	40,943.30	213.39	0.58	345	8.43	4.92				
1:1 Matched Conditional Predefined Analysis; Caliper= 0.01												
Saxagliptin	65+	15,949	4,102.85	93.96	0.26	38	9.26	2.38	0.00	0.00	1.00 (0.64, 1.57)	1
Sitagliptin	65+	15,949	4,102.85	93.96	0.26	38	9.26	2.38				
1:1 Matched Unconditional Predefined Analysis; Caliper= 0.01												
Saxagliptin	65+	15,949	8,965.73	205.33	0.56	75	8.37	4.70	0.02	-0.13	1.00 (0.73, 1.38)	0.997
Sitagliptin	65+	15,949	9,224.34	211.25	0.58	77	8.35	4.83				

Table 6. Effect Estimates for New Users of Saxagliptin vs New Users of Pioglitazone with Acute Myocardial Infarction in the Sentinel Distributed Database (SDD) between August 1, 2009 and July 31, 2014, (Replication) by Analysis Type

Medical Product	Number of New Users	Person Years at Risk	Average Person Days at Risk	Average Person Years at Risk	Number of Events	Incidence Rate per 1,000 Person Years	Risk per 1,000 New Users	Incidence Rate Difference per 1,000 Person Years	Difference in Risk per 1,000 New Users	Hazard Ratio (95% Confidence Interval)	Wald P-Value
Unmatched Analysis (Site-adjusted only)											
Saxagliptin	60,020	27,856.53	169.52	0.46	115	4.13	1.92	-0.01	-0.28	1.11 (0.89, 1.39)	0.343
Pioglitazone	134,898	71,567.37	193.78	0.53	296	4.14	2.19				
1:1 Matched Conditional Predefined Analysis; Caliper= 0.01											
Saxagliptin	44,558	8,979.53	73.61	0.20	45	5.01	1.01	0.00	0.00	1.00 (0.66, 1.51)	1
Pioglitazone	44,558	8,979.53	73.61	0.20	45	5.01	1.01				
1:1 Matched Unconditional Predefined Analysis; Caliper= 0.01											
Saxagliptin	44,558	21,094.96	172.92	0.47	95	4.50	2.13	0.25	0.31	1.08 (0.81, 1.46)	0.593
Pioglitazone	44,558	19,063.61	156.27	0.43	81	4.25	1.82				

Table 7. Effect Estimates for New Users of Saxagliptin vs New Users of Pioglitazone with Acute Myocardial Infarction in the Sentinel Distributed Database (SDD) between August 1, 2009 and July 31, 2014, (Replication) by Analysis Type and Prior Cardiovascular Disease Status

Medical Product	Number of New Users	Person Years at Risk	Average Person Days at Risk	Average Person Years at Risk	Number of Events	Incidence Rate per 1,000 Person Years	Risk per 1,000 New Users	Incidence Rate Difference per 1,000 Person Years	Difference in Risk per 1,000 New Users	Hazard Ratio (95% Confidence Interval)	Wald P-Value
No prior cardiovascular disease covariates											
Unmatched Analysis (Site-adjusted only)											
Saxagliptin	43,831	20,021.14	166.84	0.46	59	2.95	1.35	-0.15	-0.30	1.06 (0.78, 1.45)	0.702
Pioglitazone	99,280	52,609.70	193.55	0.53	163	3.10	1.64				
1:1 Matched Conditional Predefined Analysis; Caliper= 0.01											
Saxagliptin	32,186	6,397.31	72.60	0.20	21	3.28	0.65	0.00	0.00	1.00 (0.55, 1.83)	1
Pioglitazone	32,186	6,397.31	72.60	0.20	21	3.28	0.65				
1:1 Matched Unconditional Predefined Analysis; Caliper= 0.01											
Saxagliptin	32,186	14,979.84	169.99	0.47	47	3.14	1.46	0.58	0.37	1.24 (0.80, 1.92)	0.341
Pioglitazone	32,186	13,661.67	155.03	0.42	35	2.56	1.09				
Presence of prior cardiovascular disease covariates											
Unmatched Analysis (Site-adjusted only)											
Saxagliptin	16,189	7,835.39	176.78	0.48	56	7.15	3.46	0.13	-0.27	1.15 (0.83, 1.58)	0.407
Pioglitazone	35,618	18,957.67	194.40	0.53	133	7.02	3.73				
1:1 Matched Conditional Predefined Analysis; Caliper= 0.01											
Saxagliptin	12,364	2,636.74	77.89	0.21	19	7.21	1.54	-1.14	-0.24	0.86 (0.47, 1.60)	0.64
Pioglitazone	12,364	2,636.74	77.89	0.21	22	8.34	1.78				
1:1 Matched Unconditional Predefined Analysis; Caliper= 0.01											
Saxagliptin	12,364	6,088.70	179.87	0.49	47	7.72	3.80	0.52	0.65	1.11 (0.73, 1.70)	0.623
Pioglitazone	12,364	5,420.61	160.13	0.44	39	7.19	3.15				

Table 8. Effect Estimates for New Users of Saxagliptin vs New Users of Pioglitazone with Acute Myocardial Infarction in the Sentinel Distributed Database (SDD) between August 1, 2009 and July 31, 2014, (Replication) by Analysis Type and Sex

Medical Product	Sex	Number of New Users	Person Years at Risk	Average Person Days at Risk	Average Person Years at Risk	Number of Events	Incidence Rate per 1,000 Person Years	Risk per 1,000 New Users	Incidence Rate Difference per 1,000 Person Years	Difference in Risk per 1,000 New Users	Hazard Ratio (95% Confidence Interval)	Wald P-Value
Unmatched Analysis (Site-adjusted only)												
Saxagliptin	Male	32,564	15,507.11	173.93	0.48	80	5.16	2.46	0.63	-0.10	1.23 (0.94, 1.61)	0.128
Pioglitazone	Male	78,471	44,423.63	206.77	0.57	201	4.52	2.56				
1:1 Matched Conditional Predefined Analysis; Caliper= 0.01												
Saxagliptin	Male	24,897	5,247.16	76.98	0.21	29	5.53	1.16	0.19	0.04	1.04 (0.62, 1.74)	0.895
Pioglitazone	Male	24,897	5,247.16	76.98	0.21	28	5.34	1.12				
1:1 Matched Unconditional Predefined Analysis; Caliper= 0.01												
Saxagliptin	Male	24,897	12,090.81	177.38	0.49	67	5.54	2.69	0.52	0.40	1.12 (0.79, 1.60)	0.528
Pioglitazone	Male	24,897	11,344.67	166.43	0.46	57	5.02	2.29				
Unmatched Analysis (Site-adjusted only)												
Saxagliptin	Female	27,456	12,349.43	164.29	0.45	35	2.83	1.27	-0.67	-0.41	0.99 (0.66, 1.48)	0.95
Pioglitazone	Female	56,427	27,143.73	175.70	0.48	95	3.50	1.68				
1:1 Matched Conditional Predefined Analysis; Caliper= 0.01												
Saxagliptin	Female	19,581	3,771.72	70.35	0.19	17	4.51	0.87	0.00	0.00	1.00 (0.51, 1.96)	1
Pioglitazone	Female	19,581	3,771.72	70.35	0.19	17	4.51	0.87				
1:1 Matched Unconditional Predefined Analysis; Caliper= 0.01												
Saxagliptin	Female	19,581	8,991.81	167.73	0.46	30	3.34	1.53	-0.21	0.15	0.98 (0.58, 1.64)	0.926
Pioglitazone	Female	19,581	7,605.24	141.86	0.39	27	3.55	1.38				

Table 9. Effect Estimates for New Users of Saxagliptin vs New Users of Pioglitazone with Acute Myocardial Infarction in the Sentinel Distributed Database (SDD) between August 1, 2009 and July 31, 2014, (Replication) by Analysis Type and Age Group

Medical Product	Age Group (years)	Number of New Users	Person Years at Risk	Average Person Days at Risk	Average Person Years at Risk	Number of Events	Incidence Rate per 1,000 Person Years	Risk per 1,000 New Users	Incidence Rate Difference per 1,000 Person Years	Difference in Risk per 1,000 New Users	Hazard Ratio (95% Confidence Interval)	Wald P-Value
Unmatched Analysis (Site-adjusted only)												
Saxagliptin	18-64	46,987	20,979.51	163.08	0.45	63	3.00	1.34	0.24	-0.05	1.15 (0.84, 1.57)	0.389
Pioglitazone	18-64	95,812	48,173.88	183.65	0.50	133	2.76	1.39				
1:1 Matched Conditional Predefined Analysis; Caliper= 0.01												
Saxagliptin	18-64	33,172	6,423.92	70.73	0.19	22	3.42	0.66	0.47	0.09	1.16 (0.63, 2.14)	0.64
Pioglitazone	18-64	33,172	6,423.92	70.73	0.19	19	2.96	0.57				
1:1 Matched Unconditional Predefined Analysis; Caliper= 0.01												
Saxagliptin	18-64	33,172	15,122.82	166.51	0.46	48	3.17	1.45	0.58	0.39	1.26 (0.81, 1.94)	0.306
Pioglitazone	18-64	33,172	13,484.45	148.47	0.41	35	2.60	1.06				
Unmatched Analysis (Site-adjusted only)												
Saxagliptin	65+	13,033	6,877.02	192.73	0.53	52	7.56	3.99	0.59	-0.18	1.14 (0.83, 1.57)	0.426
Pioglitazone	65+	39,086	23,393.49	218.61	0.60	163	6.97	4.17				
1:1 Matched Conditional Predefined Analysis; Caliper= 0.01												
Saxagliptin	65+	11,232	2,634.86	85.68	0.23	20	7.59	1.78	-0.76	-0.18	0.91 (0.50, 1.67)	0.758
Pioglitazone	65+	11,232	2,634.86	85.68	0.23	22	8.35	1.96				
1:1 Matched Unconditional Predefined Analysis; Caliper= 0.01												
Saxagliptin	65+	11,232	5,961.75	193.87	0.53	46	7.72	4.10	0.20	0.45	1.04 (0.68, 1.59)	0.858
Pioglitazone	65+	11,232	5,456.38	177.43	0.49	41	7.51	3.65				

Table 10. Effect Estimates for New Users of Saxagliptin vs New Users of Long-Acting Insulins with Acute Myocardial Infarction in the Sentinel Distributed Database (SDD) between August 1, 2009 and July 31, 2014, (Replication) by Analysis Type

Medical Product	Number of New Users	Person Years at Risk	Average Person Days at Risk	Average Person Years at Risk	Number of Events	Incidence Rate per 1,000 Person Years	Risk per 1,000 New Users	Incidence Rate Difference per 1,000 Person Years	Difference in Risk per 1,000 New Users	Hazard Ratio (95% Confidence Interval)	Wald P-Value
Unmatched Analysis (Site-adjusted only)											
Saxagliptin	70,517	34,060.74	176.42	0.48	126	3.70	1.79	-5.37	-0.90	0.48 (0.39, 0.58)	<0.001
Long-Acting Insulins	311,850	92,376.89	108.20	0.30	838	9.07	2.69				
1:1 Matched Conditional Predefined Analysis; Caliper= 0.01											
Saxagliptin	57,649	9,427.28	59.73	0.16	35	3.71	0.61	-3.50	-0.57	0.51 (0.34, 0.77)	0.001
Long-Acting Insulins	57,649	9,427.28	59.73	0.16	68	7.21	1.18				
1:1 Matched Unconditional Predefined Analysis; Caliper= 0.01											
Saxagliptin	57,649	27,228.60	172.51	0.47	104	3.82	1.80	-3.27	-0.29	0.56 (0.43, 0.73)	<0.001
Long-Acting Insulins	57,649	17,065.55	108.12	0.30	121	7.09	2.10				

Table 11. Effect Estimates for New Users of Saxagliptin vs New Users of Long-Acting Insulins with Acute Myocardial Infarction in the Sentinel Distributed Database (SDD) between August 1, 2009 and July 31, 2014, (Replication) by Analysis Type and Prior Cardiovascular Disease Status

Medical Product	Number of New Users	Person Years at Risk	Average Person Days at Risk	Average Person Years at Risk	Number of Events	Incidence Rate per 1,000 Person Years	Risk per 1,000 New Users	Incidence Rate Difference per 1,000 Person Years	Difference in Risk per 1,000 New Users	Hazard Ratio (95% Confidence Interval)	Wald P-Value
No prior cardiovascular disease covariates											
Unmatched Analysis (Site-adjusted only)											
Saxagliptin	49,773	23,750.43	174.29	0.48	50	2.11	1.00	-2.37	-0.32	0.49 (0.36, 0.68)	<0.001
Long-Acting Insulins	183,084	54,118.69	107.97	0.30	242	4.47	1.32				
1:1 Matched Conditional Predefined Analysis; Caliper= 0.01											
Saxagliptin	39,575	6,282.50	57.98	0.16	16	2.55	0.40	-2.39	-0.38	0.52 (0.28, 0.94)	0.032
Long-Acting Insulins	39,575	6,282.50	57.98	0.16	31	4.93	0.78				
1:1 Matched Unconditional Predefined Analysis; Caliper= 0.01											
Saxagliptin	39,575	18,444.22	170.23	0.47	39	2.11	0.99	-2.11	-0.23	0.51 (0.33, 0.78)	0.002
Long-Acting Insulins	39,575	11,353.72	104.79	0.29	48	4.23	1.21				
Presence of prior cardiovascular disease covariates											
Unmatched Analysis (Site-adjusted only)											
Saxagliptin	20,744	10,310.31	181.54	0.50	76	7.37	3.66	-8.21	-0.96	0.59 (0.46, 0.75)	<0.001
Long-Acting Insulins	128,766	38,258.20	108.52	0.30	596	15.58	4.63				
1:1 Matched Conditional Predefined Analysis; Caliper= 0.01											
Saxagliptin	17,980	3,110.07	63.18	0.17	21	6.75	1.17	-7.07	-1.22	0.49 (0.29, 0.82)	0.007
Long-Acting Insulins	17,980	3,110.07	63.18	0.17	43	13.83	2.39				
1:1 Matched Unconditional Predefined Analysis; Caliper= 0.01											
Saxagliptin	17,980	8,742.61	177.60	0.49	69	7.89	3.84	-5.80	-0.61	0.60 (0.43, 0.83)	0.002
Long-Acting Insulins	17,980	5,840.82	118.65	0.32	80	13.70	4.45				

Table 12. Effect Estimates for New Users of Saxagliptin vs New Users of Long-Acting Insulins with Acute Myocardial Infarction in the Sentinel Distributed Database (SDD) between August 1, 2009 and July 31, 2014, (Replication) by Analysis Type and Sex

Medical Product	Sex	Number of New Users	Person Years at Risk	Average Person Days at Risk	Average Person Years at Risk	Number of Events	Incidence Rate per 1,000 Person Years	Risk per 1,000 New Users	Incidence Rate Difference per 1,000 Person Years	Difference in Risk per 1,000 New Users	Hazard Ratio (95% Confidence Interval)	Wald P-Value
Unmatched Analysis (Site-adjusted only)												
Saxagliptin	Male	39,817	19,802.81	181.66	0.50	97	4.90	2.44	-5.42	-0.65	0.58 (0.46, 0.73)	<0.001
Long-Acting Insulins	Male	171,364	51,276.28	109.29	0.30	529	10.32	3.09				
1:1 Matched Conditional Predefined Analysis; Caliper= 0.01												
Saxagliptin	Male	32,001	5,322.93	60.75	0.17	21	3.95	0.66	-2.63	-0.44	0.60 (0.35, 1.03)	0.064
Long-Acting Insulins	Male	32,001	5,322.93	60.75	0.17	35	6.58	1.09				
1:1 Matched Unconditional Predefined Analysis; Caliper= 0.01												
Saxagliptin	Male	32,001	15,505.66	176.98	0.48	80	5.16	2.50	-1.90	0.37	0.73 (0.53, 1.02)	0.065
Long-Acting Insulins	Male	32,001	9,630.62	109.92	0.30	68	7.06	2.12				
Unmatched Analysis (Site-adjusted only)												
Saxagliptin	Female	30,700	14,257.93	169.63	0.46	29	2.03	0.94	-5.48	-1.25	0.30 (0.21, 0.45)	<0.001
Long-Acting Insulins	Female	140,486	41,100.60	106.86	0.29	309	7.52	2.20				
1:1 Matched Conditional Predefined Analysis; Caliper= 0.01												
Saxagliptin	Female	25,625	4,115.89	58.67	0.16	12	2.92	0.47	-2.43	-0.39	0.55 (0.27, 1.10)	0.091
Long-Acting Insulins	Female	25,625	4,115.89	58.67	0.16	22	5.35	0.86				
1:1 Matched Unconditional Predefined Analysis; Caliper= 0.01												
Saxagliptin	Female	25,625	11,595.17	165.27	0.45	26	2.24	1.01	-3.69	-0.70	0.41 (0.25, 0.68)	<0.001
Long-Acting Insulins	Female	25,625	7,422.64	105.80	0.29	44	5.93	1.72				

Table 13. Effect Estimates for New Users of Saxagliptin vs New Users of Long-Acting Insulins with Acute Myocardial Infarction in the Sentinel Distributed Database (SDD) between August 1, 2009 and July 31, 2014, (Replication) by Analysis Type and Age Group

Medical Product	Age Group (years)	Number of New Users	Person Years at Risk	Average Person Days at Risk	Average Person Years at Risk	Number of Events	Incidence Rate per 1,000 Person Years	Risk per 1,000 New Users	Incidence Rate Difference per 1,000 Person Years	Difference in Risk per 1,000 New Users	Hazard Ratio (95% Confidence Interval)	Wald P-Value
Unmatched Analysis (Site-adjusted only)												
Saxagliptin	18-64	53,486	24,781.46	169.23	0.46	63	2.54	1.18	-3.40	-0.46	0.50 (0.38, 0.67)	<0.001
Long-Acting Insulins	18-64	206,369	56,860.49	100.64	0.28	338	5.94	1.64				
1:1 Matched Conditional Predefined Analysis; Caliper= 0.01												
Saxagliptin	18-64	42,108	6,431.95	55.79	0.15	18	2.80	0.43	-1.24	-0.19	0.69 (0.38, 1.26)	0.23
Long-Acting Insulins	18-64	42,108	6,431.95	55.79	0.15	26	4.04	0.62				
1:1 Matched Unconditional Predefined Analysis; Caliper= 0.01												
Saxagliptin	18-64	42,108	18,928.97	164.19	0.45	49	2.59	1.16	-1.60	0.05	0.65 (0.43, 0.98)	0.038
Long-Acting Insulins	18-64	42,108	11,216.64	97.29	0.27	47	4.19	1.12				
Unmatched Analysis (Site-adjusted only)												
Saxagliptin	65+	17,031	9,279.28	199.01	0.54	63	6.79	3.70	-7.29	-1.04	0.51 (0.39, 0.67)	<0.001
Long-Acting Insulins	65+	105,481	35,516.40	122.98	0.34	500	14.08	4.74				
1:1 Matched Conditional Predefined Analysis; Caliper= 0.01												
Saxagliptin	65+	15,434	3,024.09	71.57	0.20	21	6.94	1.36	-4.63	-0.91	0.60 (0.35, 1.03)	0.064
Long-Acting Insulins	65+	15,434	3,024.09	71.57	0.20	35	11.57	2.27				
1:1 Matched Unconditional Predefined Analysis; Caliper= 0.01												
Saxagliptin	65+	15,434	8,256.32	195.39	0.53	57	6.90	3.69	-6.28	-1.23	0.52 (0.37, 0.74)	<0.001
Long-Acting Insulins	65+	15,434	5,765.33	136.44	0.37	76	13.18	4.92				

Table 14. Effect Estimates for New Users of Saxagliptin vs New Users of Second-Generation Sulfonylureas with Acute Myocardial Infarction in the Sentinel Distributed Database (SDD) between August 1, 2009 and July 31, 2014, (Replication) by Analysis Type

Medical Product	Number of New Users	Person Years at Risk	Average Person Days at Risk	Average Person Years at Risk	Number of Events	Incidence Rate per 1,000 Person Years	Risk per 1,000 New Users	Incidence Rate Difference per 1,000 Person Years	Difference in Risk per 1,000 New Users	Hazard Ratio (95% Confidence Interval)	Wald P-Value
Unmatched Analysis (Site-adjusted only)											
Saxagliptin	44,489	20,796.48	170.74	0.47	79	3.80	1.78	-2.64	-1.92	0.69 (0.55, 0.87)	0.001
Second-Generation Sulfonylureas	437,224	250,971.12	209.66	0.57	1,615	6.44	3.69				
1:1 Matched Conditional Predefined Analysis; Caliper= 0.01											
Saxagliptin	43,596	9,108.04	76.31	0.21	32	3.51	0.73	-1.65	-0.34	0.68 (0.43, 1.07)	0.093
Second-Generation Sulfonylureas	43,596	9,108.04	76.31	0.21	47	5.16	1.08				
1:1 Matched Unconditional Predefined Analysis; Caliper= 0.01											
Saxagliptin	43,596	20,395.27	170.87	0.47	78	3.82	1.79	-1.31	-0.69	0.76 (0.57, 1.02)	0.069
Second-Generation Sulfonylureas	43,596	21,033.83	176.22	0.48	108	5.13	2.48				

Table 15. Effect Estimates for New Users of Saxagliptin vs New Users of Second-Generation Sulfonylureas with Acute Myocardial Infarction in the Sentinel Distributed Database (SDD) between August 1, 2009 and July 31, 2014, (Replication) by Analysis Type and Prior Cardiovascular Disease Status

Medical Product	Number of New Users	Person Years at Risk	Average Person Days at Risk	Average Person Years at Risk	Number of Events	Incidence Rate per 1,000 Person Years	Risk per 1,000 New Users	Incidence Rate Difference per 1,000 Person Years	Difference in Risk per 1,000 New Users	Hazard Ratio (95% Confidence Interval)	Wald P-Value
No prior cardiovascular disease covariates											
Unmatched Analysis (Site-adjusted only)											
Saxagliptin	31,802	14,679.61	168.60	0.46	32	2.18	1.01	-1.66	-1.16	0.62 (0.43, 0.89)	0.009
Second-Generation Sulfonylureas	294,255	166,152.82	206.24	0.56	638	3.84	2.17				
1:1 Matched Conditional Predefined Analysis; Caliper= 0.01											
Saxagliptin	31,140	6,380.70	74.84	0.20	10	1.57	0.32	-1.41	-0.29	0.53 (0.24, 1.13)	0.1
Second-Generation Sulfonylureas	31,140	6,380.70	74.84	0.20	19	2.98	0.61				
1:1 Matched Unconditional Predefined Analysis; Caliper= 0.01											
Saxagliptin	31,140	14,386.43	168.74	0.46	32	2.22	1.03	-0.91	-0.42	0.73 (0.46, 1.14)	0.167
Second-Generation Sulfonylureas	31,140	14,365.36	168.50	0.46	45	3.13	1.45				
Presence of prior cardiovascular disease covariates											
Unmatched Analysis (Site-adjusted only)											
Saxagliptin	12,687	6,116.87	176.10	0.48	47	7.68	3.70	-3.84	-3.13	0.81 (0.60, 1.09)	0.171
Second-Generation Sulfonylureas	142,969	84,818.29	216.69	0.59	977	11.52	6.83				
1:1 Matched Conditional Predefined Analysis; Caliper= 0.01											
Saxagliptin	12,426	2,757.86	81.06	0.22	21	7.61	1.69	-3.99	-0.89	0.66 (0.38, 1.14)	0.134
Second-Generation Sulfonylureas	12,426	2,757.86	81.06	0.22	32	11.60	2.58				
1:1 Matched Unconditional Predefined Analysis; Caliper= 0.01											
Saxagliptin	12,426	6,001.95	176.42	0.48	46	7.66	3.70	-1.61	-1.21	0.82 (0.56, 1.21)	0.324
Second-Generation Sulfonylureas	12,426	6,580.48	193.43	0.53	61	9.27	4.91				

Table 16. Effect Estimates for New Users of Saxagliptin vs New Users of Second-Generation Sulfonylureas with Acute Myocardial Infarction in the Sentinel Distributed Database (SDD) between August 1, 2009 and July 31, 2014, (Replication) by Analysis Type and Sex

Medical Product	Sex	Number of New Users	Person Years at Risk	Average Person Days at Risk	Average Person Years at Risk	Number of Events	Incidence Rate per 1,000 Person Years	Risk per 1,000 New Users	Incidence Rate Difference per 1,000 Person Years	Difference in Risk per 1,000 New Users	Hazard Ratio (95% Confidence Interval)	Wald P-Value
Unmatched Analysis (Site-adjusted only)												
Saxagliptin	Male	24,632	11,917.52	176.72	0.48	65	5.45	2.64	-1.85	-1.64	0.89 (0.69, 1.15)	0.357
Second-Generation Sulfonylureas	Male	242,078	142,069.94	214.36	0.59	1,037	7.30	4.28				
1:1 Matched Conditional Predefined Analysis; Caliper= 0.01												
Saxagliptin	Male	24,076	5,279.68	80.10	0.22	27	5.11	1.12	-1.52	-0.33	0.77 (0.47, 1.27)	0.311
Second-Generation Sulfonylureas	Male	24,076	5,279.68	80.10	0.22	35	6.63	1.45				
1:1 Matched Unconditional Predefined Analysis; Caliper= 0.01												
Saxagliptin	Male	24,076	11,677.24	177.15	0.49	63	5.40	2.62	-0.62	-0.42	0.92 (0.66, 1.29)	0.644
Second-Generation Sulfonylureas	Male	24,076	12,131.69	184.05	0.50	73	6.02	3.03				
Unmatched Analysis (Site-adjusted only)												
Saxagliptin	Female	19,857	8,878.96	163.32	0.45	14	1.58	0.71	-3.73	-2.26	0.34 (0.20, 0.59)	<0.001
Second-Generation Sulfonylureas	Female	195,146	108,901.18	203.83	0.56	578	5.31	2.96				
1:1 Matched Conditional Predefined Analysis; Caliper= 0.01												
Saxagliptin	Female	19,487	3,913.31	73.35	0.20	7	1.79	0.36	-1.28	-0.26	0.58 (0.23, 1.48)	0.257
Second-Generation Sulfonylureas	Female	19,487	3,913.31	73.35	0.20	12	3.07	0.62				
1:1 Matched Unconditional Predefined Analysis; Caliper= 0.01												
Saxagliptin	Female	19,487	8,703.89	163.14	0.45	14	1.61	0.72	-2.44	-1.13	0.40 (0.22, 0.75)	0.004
Second-Generation Sulfonylureas	Female	19,487	8,889.42	166.62	0.46	36	4.05	1.85				

Table 17. Effect Estimates for New Users of Saxagliptin vs New Users of Second-Generation Sulfonylureas with Acute Myocardial Infarction in the Sentinel Distributed Database (SDD) between August 1, 2009 and July 31, 2014, (Replication) by Analysis Type and Age Group

Medical Product	Age Group (years)	Number of New Users	Person Years at Risk	Average Person Days at Risk	Average Person Years at Risk	Number of Events	Incidence Rate per 1,000 Person Years	Risk per 1,000 New Users	Incidence Rate Difference per 1,000 Person Years	Difference in Risk per 1,000 New Users	Hazard Ratio (95% Confidence Interval)	Wald P-Value
Unmatched Analysis (Site-adjusted only)												
Saxagliptin	18-64	35,711	16,036.22	164.02	0.45	42	2.62	1.18	-1.46	-0.89	0.67 (0.49, 0.93)	0.015
Second-Generation Sulfonylureas	18-64	292,378	148,413.23	185.40	0.51	605	4.08	2.07				
1:1 Matched Conditional Predefined Analysis; Caliper= 0.01												
Saxagliptin	18-64	34,889	6,856.79	71.78	0.20	16	2.33	0.46	-1.31	-0.26	0.64 (0.34, 1.20)	0.163
Second-Generation Sulfonylureas	18-64	34,889	6,856.79	71.78	0.20	25	3.65	0.72				
1:1 Matched Unconditional Predefined Analysis; Caliper= 0.01												
Saxagliptin	18-64	34,889	15,671.18	164.06	0.45	42	2.68	1.20	-0.60	-0.23	0.82 (0.54, 1.23)	0.34
Second-Generation Sulfonylureas	18-64	34,889	15,225.89	159.40	0.44	50	3.28	1.43				
Unmatched Analysis (Site-adjusted only)												
Saxagliptin	65+	8,778	4,760.26	198.07	0.54	37	7.77	4.22	-2.08	-2.76	0.84 (0.61, 1.18)	0.318
Second-Generation Sulfonylureas	65+	144,846	102,557.88	258.61	0.71	1,010	9.85	6.97				
1:1 Matched Conditional Predefined Analysis; Caliper= 0.01												
Saxagliptin	65+	8,683	2,266.93	95.36	0.26	16	7.06	1.84	0.00	0.00	1.00 (0.50, 2.00)	1
Second-Generation Sulfonylureas	65+	8,683	2,266.93	95.36	0.26	16	7.06	1.84				
1:1 Matched Unconditional Predefined Analysis; Caliper= 0.01												
Saxagliptin	65+	8,683	4,713.51	198.27	0.54	36	7.64	4.15	-0.13	-0.81	0.98 (0.63, 1.52)	0.912
Second-Generation Sulfonylureas	65+	8,683	5,533.88	232.78	0.64	43	7.77	4.95				

Figure 1a. Propensity Score Distributions for New Users of Saxagliptin and Sitagliptin with Acute Myocardial Infarction in the Sentinel Distributed Database (SDD) between August 1, 2009 and July 31, 2014, (Replication) Unmatched, Aggregated

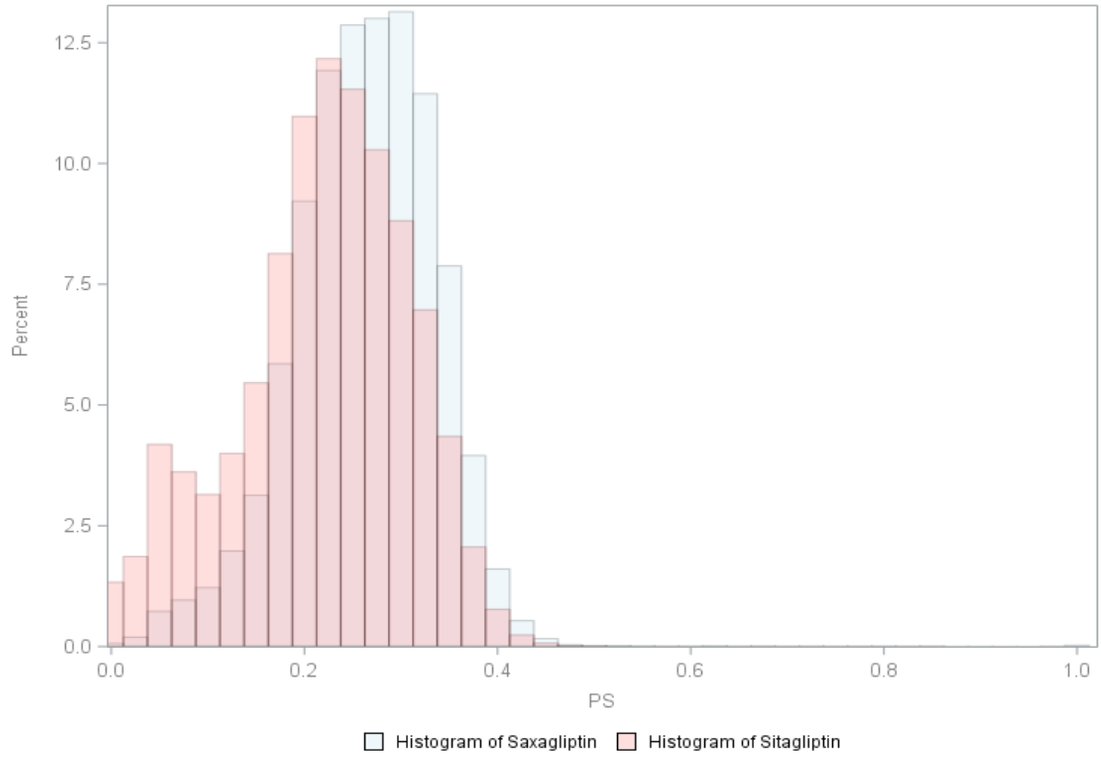


Figure 1b. Propensity Score Distributions for New Users of Saxagliptin and Sitagliptin with Acute Myocardial Infarction in the Sentinel Distributed Database (SDD) between August 1, 2009 and July 31, 2014, (Replication) Matched, Aggregated

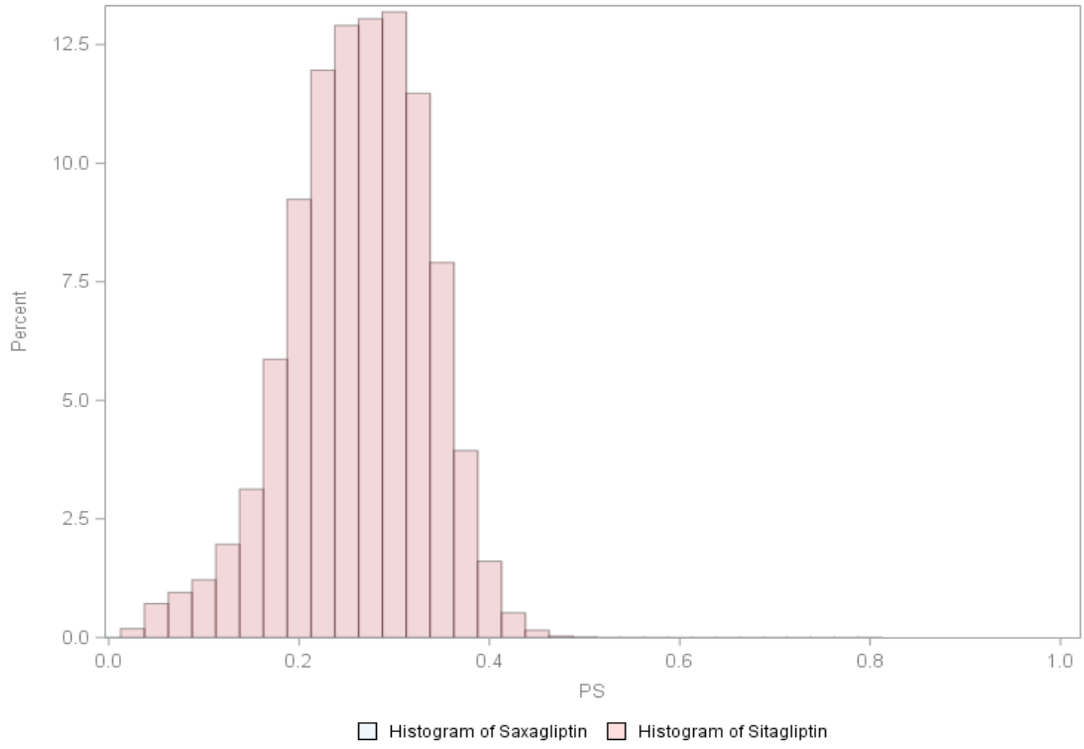


Figure 2a. Propensity Score Distributions for New Users of Saxagliptin and Pioglitazone with Acute Myocardial Infarction in the Sentinel Distributed Database (SDD) between August 1, 2009 and July 31, 2014, (Replication) Unmatched, Aggregated

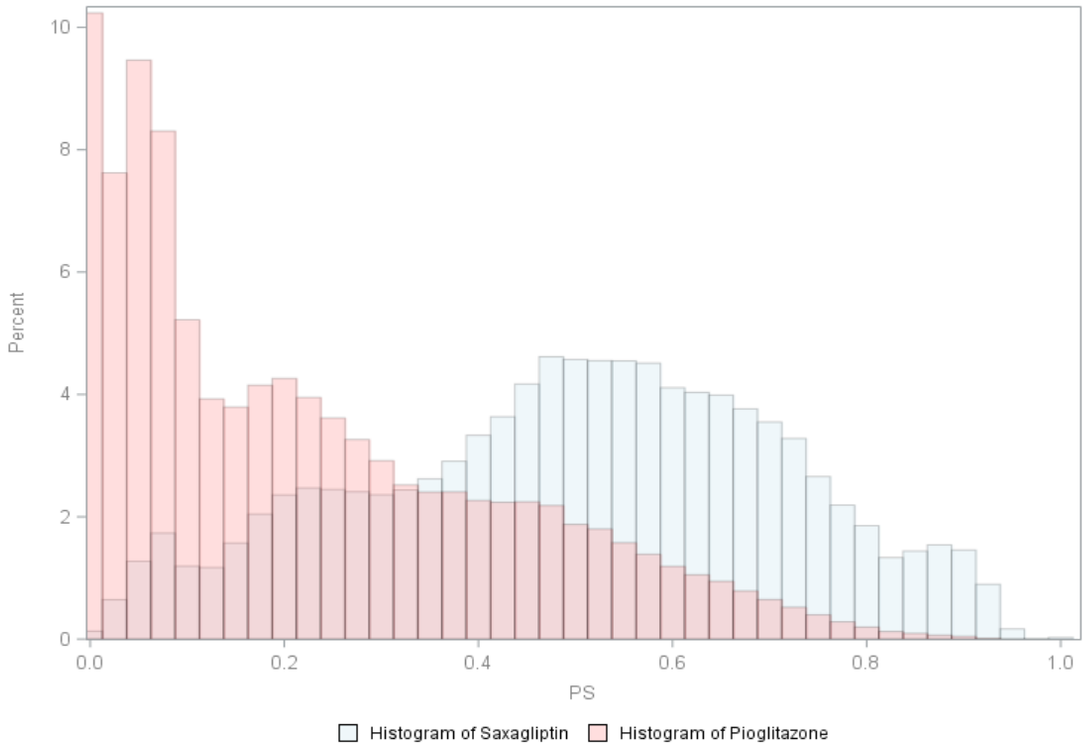


Figure 2b. Propensity Score Distributions for New Users of Saxagliptin and Pioglitazone with Acute Myocardial Infarction in the Sentinel Distributed Database (SDD) between August 1, 2009 and July 31, 2014, (Replication) Matched, Aggregated

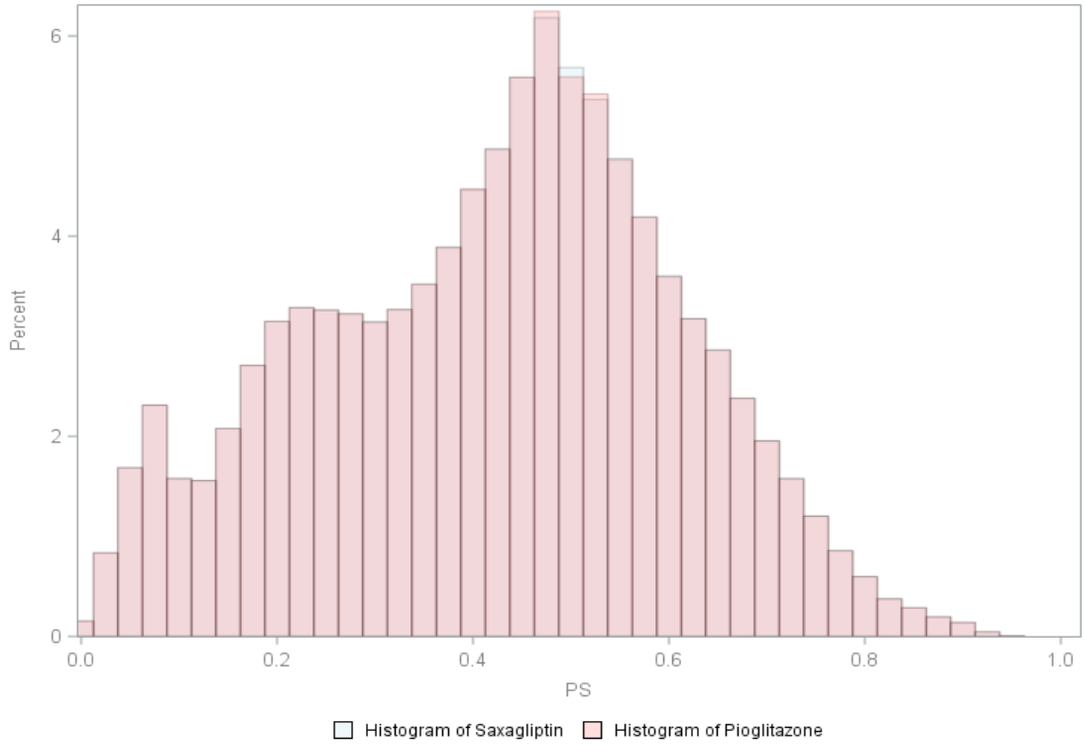


Figure 3a. Propensity Score Distributions for New Users of Saxagliptin and Long-Acting Insulins with Acute Myocardial Infarction in the Sentinel Distributed Database (SDD) between August 1, 2009 and July 31, 2014, (Replication) Unmatched, Aggregated

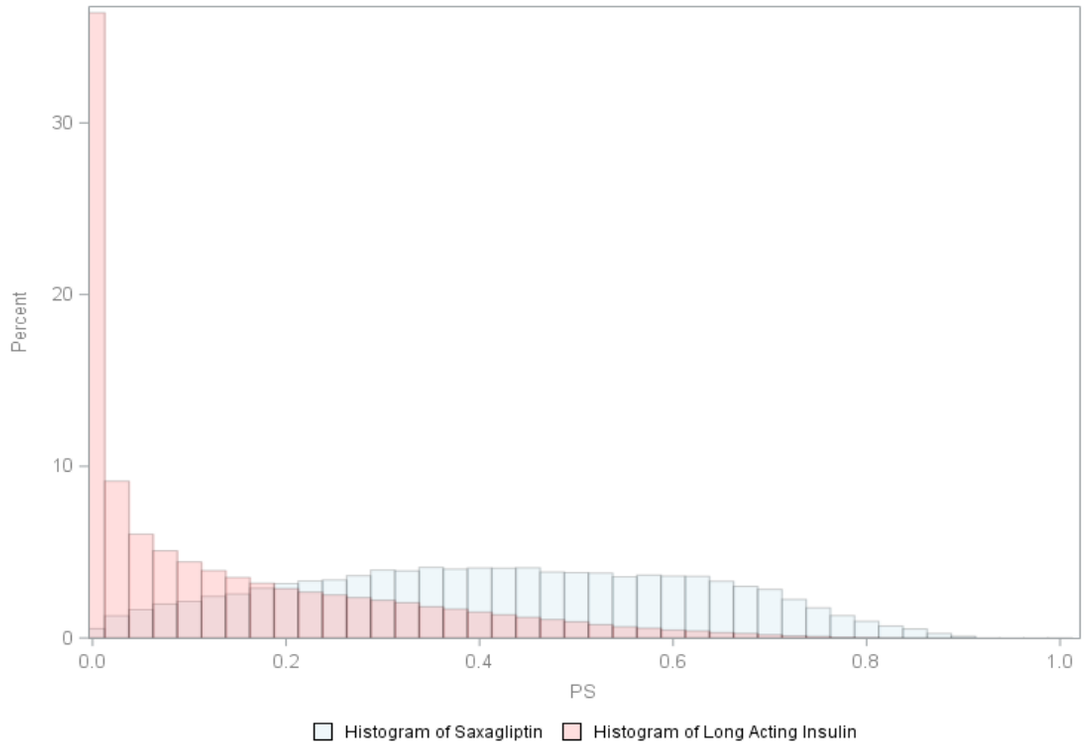


Figure 3b. Propensity Score Distributions for New Users of Saxagliptin and Long-Acting Insulins with Acute Myocardial Infarction in the Sentinel Distributed Database (SDD) between August 1, 2009 and July 31, 2014, (Replication) Matched, Aggregated

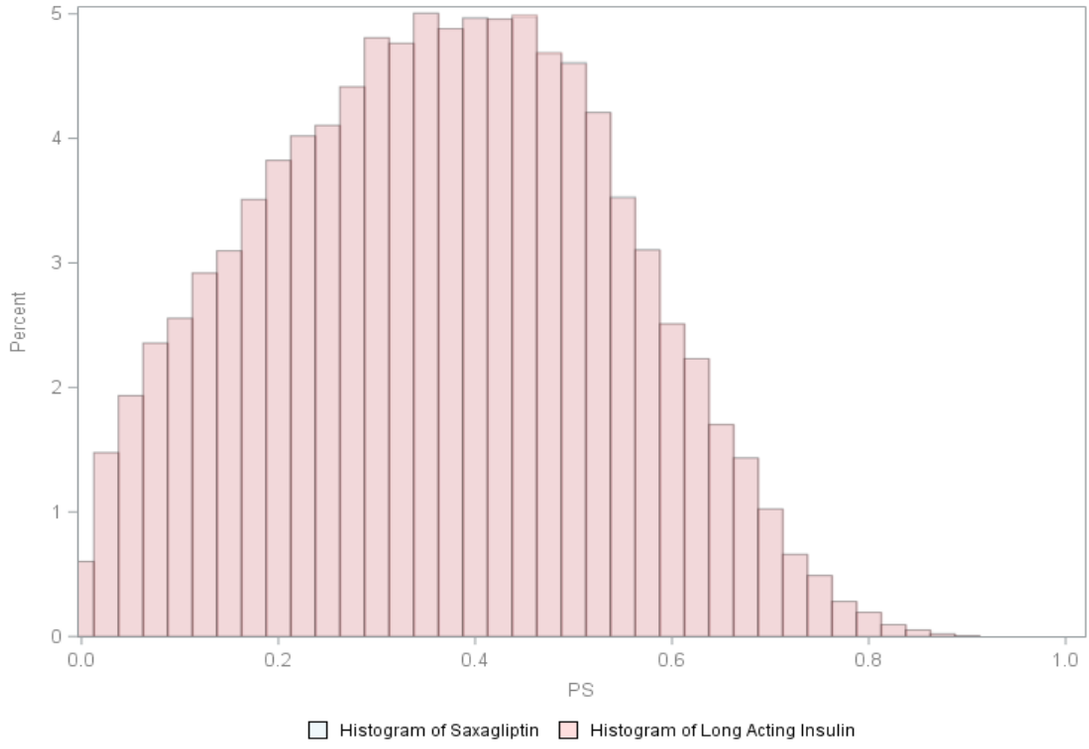


Figure 4a. Propensity Score Distributions for New Users of Saxagliptin and Second-Generation Sulfonylureas with Acute Myocardial Infarction in the Sentinel Distributed Database (SDD) between August 1, 2009 and July 31, 2014, (Replication) Unmatched, Aggregated

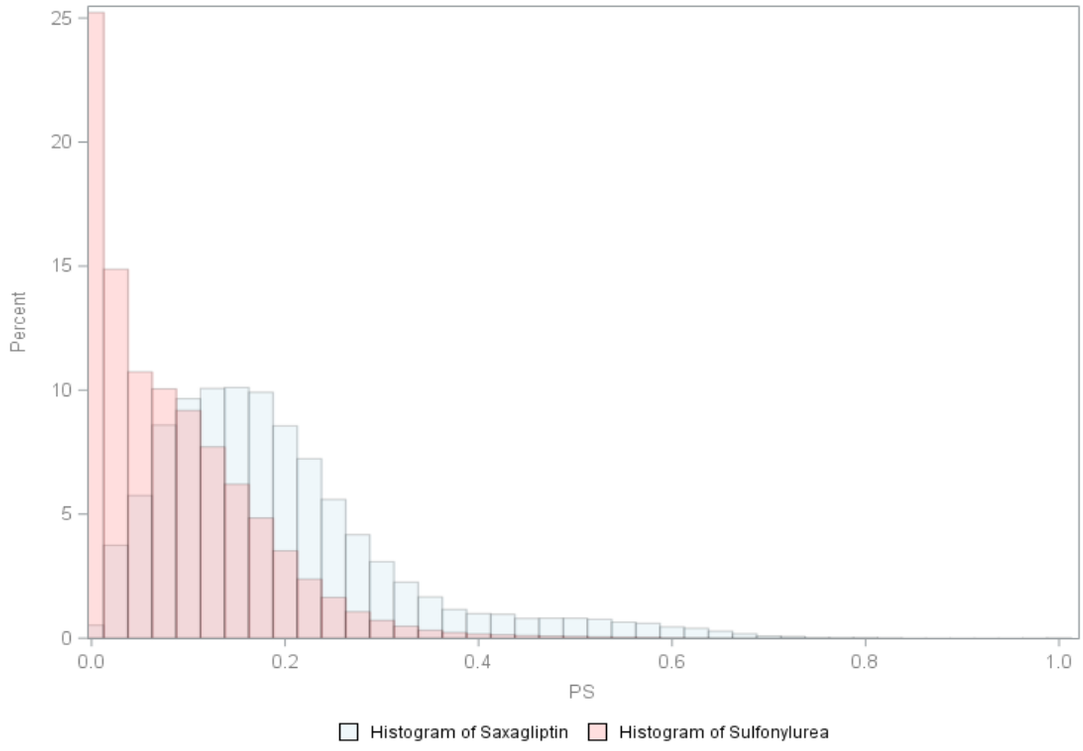


Figure 4b. Propensity Score Distributions for New Users of Saxagliptin and Second-Generation Sulfonylureas with Acute Myocardial Infarction in the Sentinel Distributed Database (SDD) between August 1, 2009 and July 31, 2014, (Replication) Matched, Aggregated

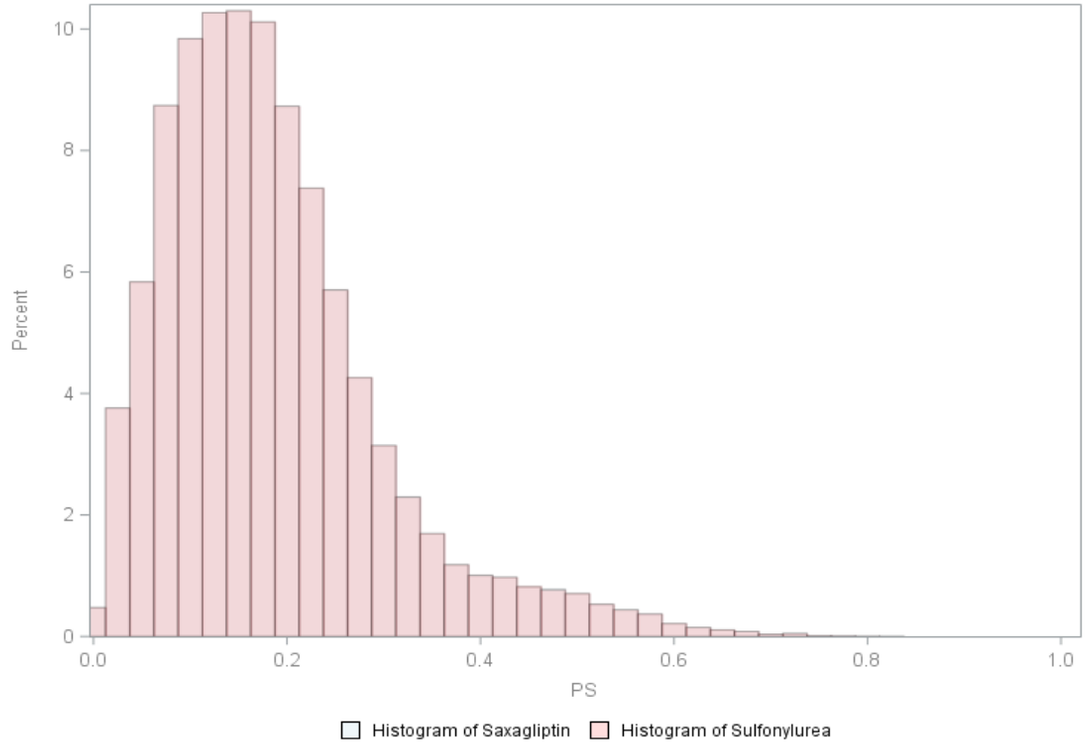


Figure 5. Kaplan Meier Survival Curves for Acute Myocardial Infarction Among New Users of Saxagliptin vs New Users of Sitagliptin in the Sentinel Distributed Database (SDD) between August 1, 2009 and July 31, 2014, (Replication) Unconditional Matched Cohort

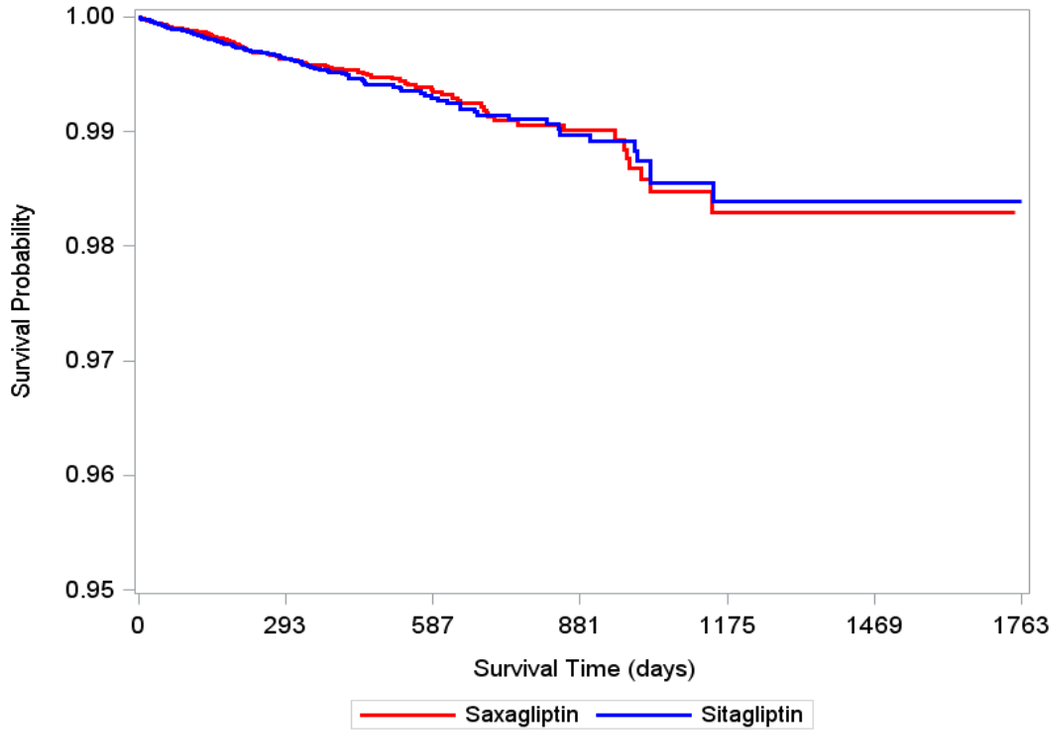


Figure 6. Kaplan Meier Survival Curves for Acute Myocardial Infarction Among New Users of Saxagliptin vs New Users of Pioglitazone in the Sentinel Distributed Database (SDD) between August 1, 2009 and July 31, 2014, (Replication) Unconditional Matched Cohort

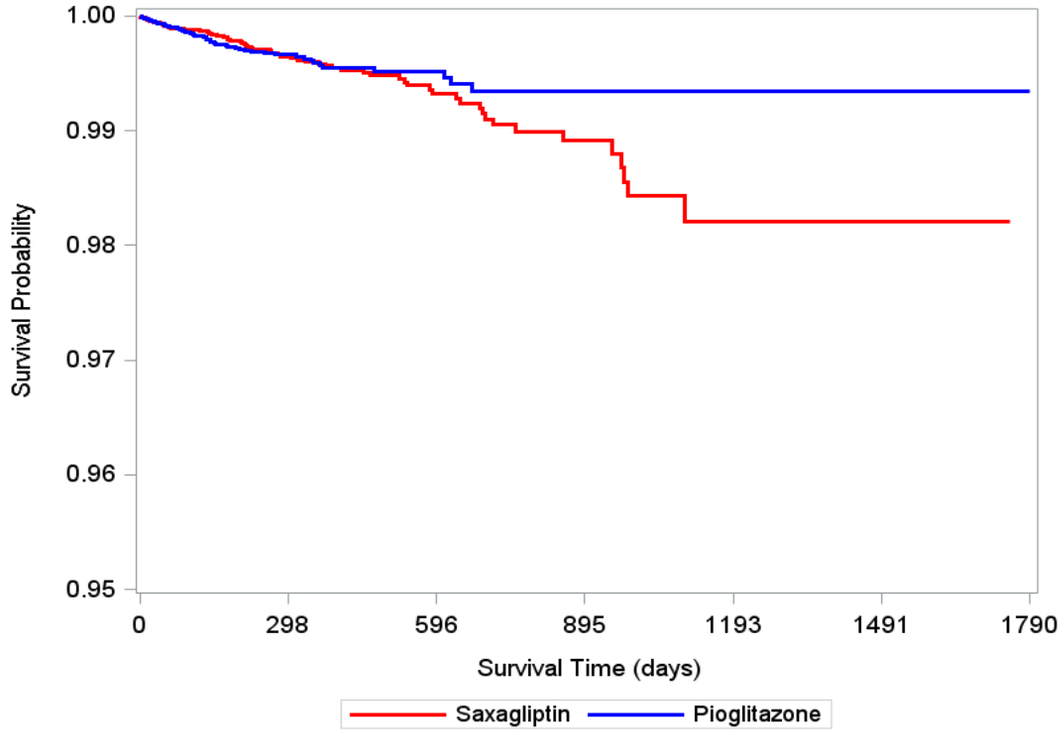


Figure 7. Kaplan Meier Survival Curves for Acute Myocardial Infarction Among New Users of Saxagliptin vs New Users of Long-Acting Insulins in the Sentinel Distributed Database (SDD) between August 1, 2009 and July 31, 2014, (Replication) Unconditional Matched Cohort

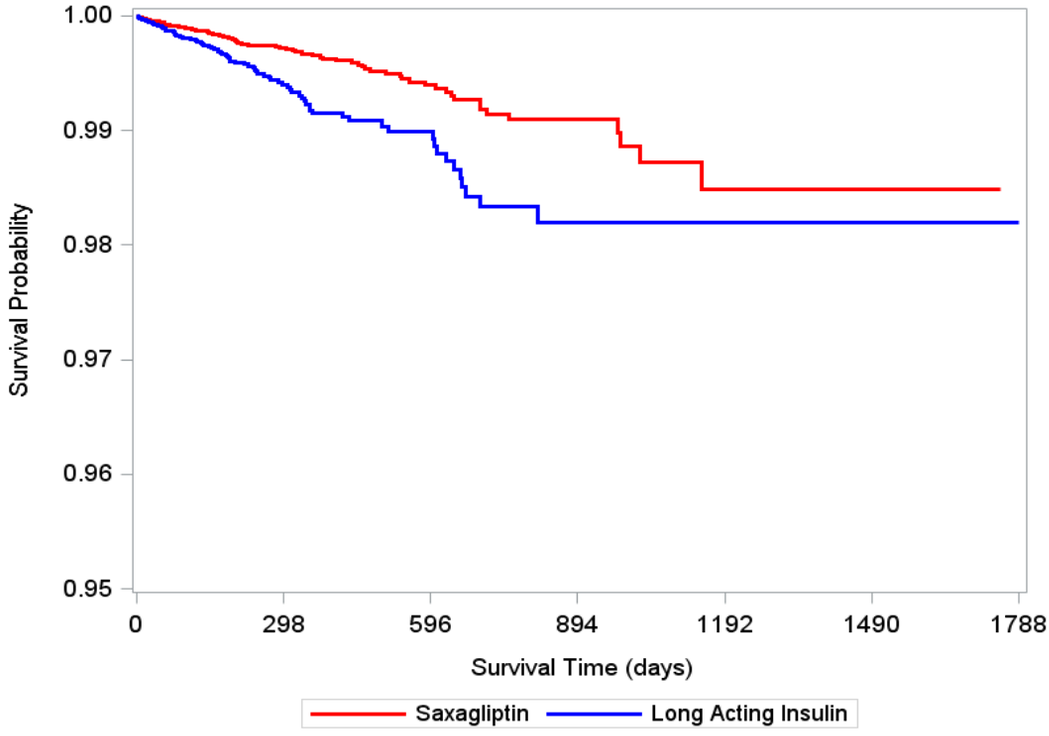
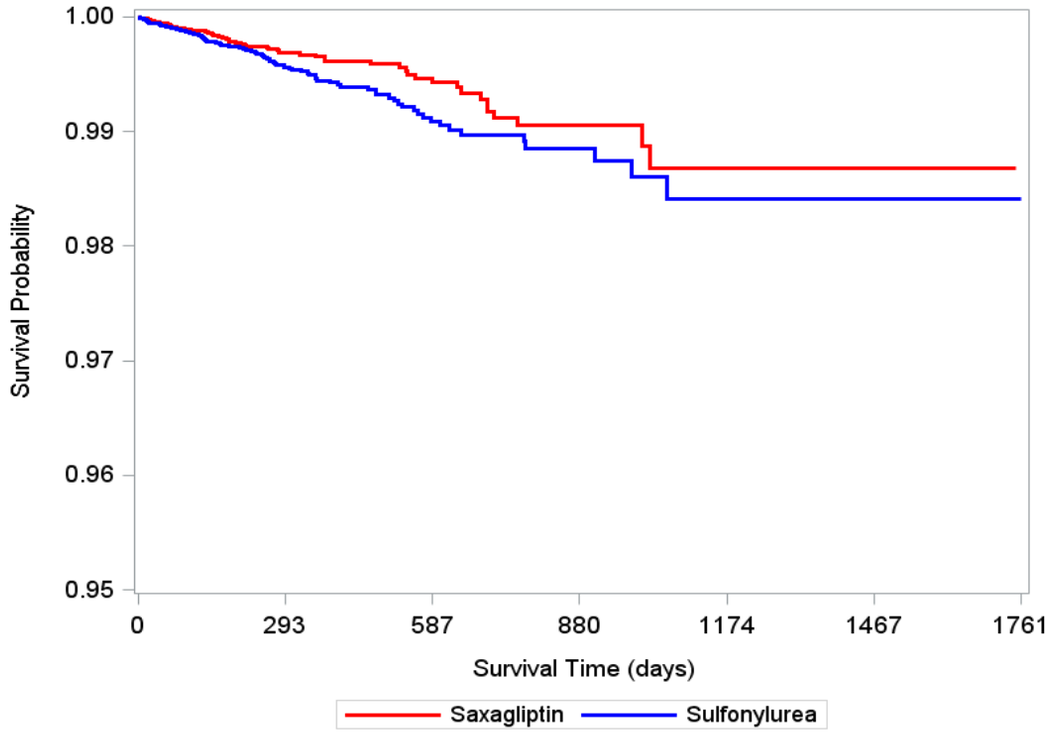


Figure 8. Kaplan Meier Survival Curves for Acute Myocardial Infarction Among New Users of Saxagliptin vs New Users of Second-Generation Sulfonylureas in the Sentinel Distributed Database (SDD) between August 1, 2009 and July 31, 2014, (Replication) Unconditional Matched Cohort



Appendix A. Dates of Available Data for Each Data Partner (DP) as of Request End Date (July 31, 2014)

DP ID[1]	DP Start Date[2]	DP End Date[2]
DP01	01/01/2000	03/31/2014
DP02	01/01/2004	05/31/2014
DP03	01/01/2000	12/31/2012
DP05	01/01/2006	04/30/2014
DP06	01/01/2000	06/30/2014
DP07	06/01/2007	01/31/2014
DP08	01/01/2000	12/31/2012
DP10	01/01/2000	07/31/2014
DP13	01/01/2008	06/30/2014
DP14	01/01/2000	07/31/2014
DP15	01/01/2008	12/31/2013
DP16	01/01/2000	06/30/2012
DP17	01/01/2000	06/30/2012

[1]The Data Partners listed contributed to the "replication" analysis; additional Data Partners contributed to the "updated" analysis. For more information on these analyses, please see the Overview.

[2]The start and end dates are based on the minimum and maximum dates within each DP. The month with the maximum date must have at least 80% of the number of records in the previous month.

Appendix B. List of Generic Names of Medical Products Used to Define Exposure and Incidence Criteria in this Report

Generic Name
Saxagliptin
saxagliptin HCl
saxagliptin HCl/metformin HCl
Sitagliptin
sitagliptin phos/metformin HCl
sitagliptin/simvastatin
sitagliptin phosphate
Long-Acting Insulin
hum insulin nph/reg insulin hm
insulin glargine,hum.rec.anlog
insulin nph human semi-syn
insulin nph s-s/reg insuln s-s
insuln asp prt/insulin aspart
nph, human insulin isophane
insulin detemir
insulin npl/insulin lispro
ins zn,bf (p)/ins zn,pk (p)
insul,pk pure/insul nph,pk-p
insulin isophane nph,bf-pk
insulin protamine zinc,beef
insulin protamine zn,beef (p)
insulin protamine zn,bf-pk
insulin protamine zn,pork (p)
insulin zinc beef
insulin zinc ext,beef (p)
insulin zinc extend human rec
insulin zinc extended,beef
insulin zinc extended,bf-pk
insulin zinc human rec
insulin zinc human semi-syn
insulin zinc prompt,beef
insulin zinc prompt,bf-pk
insulin zinc prompt,pork pure
insulin zinc,beef purified
insulin zinc,beef-pork
insulin zinc,pork purified
Pioglitazone
alogliptin benz/pioglitzone
pioglitazone HCl
pioglitazone HCl/metformin HCl
pioglitazone HCl/glimepiride
Second Generation Sulfonylurea
glipizide/metformin HCl
glyburide/metformin HCl
pioglitazone HCl/glimepiride
glimepiride
glipizide

Appendix B. List of Generic Names of Medical Products Used to Define Exposure and Incidence Criteria in this Report

Generic Name
glyburide
glyburide,micronized
rosiglitazone/glimepiride

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes Used to Define Inclusion and Exclusion Criteria in this Report

Code	Description	Code Type	Code Category
	Diabetes		
250	Diabetes mellitus	ICD-9-CM	Diagnosis
250.0	Diabetes mellitus without mention of complication	ICD-9-CM	Diagnosis
250.00	Diabetes mellitus without mention of complication, type II or unspecified type, not stated as uncontrolled	ICD-9-CM	Diagnosis
250.01	Diabetes mellitus without mention of complication, type I [juvenile type], not stated as uncontrolled	ICD-9-CM	Diagnosis
250.02	Diabetes mellitus without mention of complication, type II or unspecified type, uncontrolled	ICD-9-CM	Diagnosis
250.03	Diabetes mellitus without mention of complication, type I [juvenile type], uncontrolled	ICD-9-CM	Diagnosis
250.1	Diabetes with ketoacidosis	ICD-9-CM	Diagnosis
250.10	Diabetes with ketoacidosis, type II or unspecified type, not stated as uncontrolled	ICD-9-CM	Diagnosis
250.11	Diabetes with ketoacidosis, type I [juvenile type], not stated as uncontrolled	ICD-9-CM	Diagnosis
250.12	Diabetes with ketoacidosis, type II or unspecified type, uncontrolled	ICD-9-CM	Diagnosis
250.13	Diabetes with ketoacidosis, type I [juvenile type], uncontrolled	ICD-9-CM	Diagnosis
250.2	Diabetes with hyperosmolarity	ICD-9-CM	Diagnosis
250.20	Diabetes with hyperosmolarity, type II or unspecified type, not stated as uncontrolled	ICD-9-CM	Diagnosis
250.21	Diabetes with hyperosmolarity, type I [juvenile type], not stated as uncontrolled	ICD-9-CM	Diagnosis
250.22	Diabetes with hyperosmolarity, type II or unspecified type, uncontrolled	ICD-9-CM	Diagnosis
250.23	Diabetes with hyperosmolarity, type I [juvenile type], uncontrolled	ICD-9-CM	Diagnosis
250.3	Diabetes with other coma	ICD-9-CM	Diagnosis
250.30	Diabetes with other coma, type II or unspecified type, not stated as uncontrolled	ICD-9-CM	Diagnosis
250.31	Diabetes with other coma, type I [juvenile type], not stated as uncontrolled	ICD-9-CM	Diagnosis
250.32	Diabetes with other coma, type II or unspecified type, uncontrolled	ICD-9-CM	Diagnosis
250.33	Diabetes with other coma, type I [juvenile type], uncontrolled	ICD-9-CM	Diagnosis
250.4	Diabetes with renal manifestations	ICD-9-CM	Diagnosis
250.40	Diabetes with renal manifestations, type II or unspecified type, not stated as uncontrolled	ICD-9-CM	Diagnosis
250.41	Diabetes with renal manifestations, type I [juvenile type], not stated as uncontrolled	ICD-9-CM	Diagnosis
250.42	Diabetes with renal manifestations, type II or unspecified type, uncontrolled	ICD-9-CM	Diagnosis
250.43	Diabetes with renal manifestations, type I [juvenile type], uncontrolled	ICD-9-CM	Diagnosis
250.5	Diabetes with ophthalmic manifestations	ICD-9-CM	Diagnosis
250.50	Diabetes with ophthalmic manifestations, type II or unspecified type, not stated as uncontrolled	ICD-9-CM	Diagnosis
250.51	Diabetes with ophthalmic manifestations, type I [juvenile type], not stated as uncontrolled	ICD-9-CM	Diagnosis
250.52	Diabetes with ophthalmic manifestations, type II or unspecified type, uncontrolled	ICD-9-CM	Diagnosis
250.53	Diabetes with ophthalmic manifestations, type I [juvenile type], uncontrolled	ICD-9-CM	Diagnosis
250.6	Diabetes with neurological manifestations	ICD-9-CM	Diagnosis
250.60	Diabetes with neurological manifestations, type II or unspecified type, not stated as uncontrolled	ICD-9-CM	Diagnosis

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes Used to Define Inclusion and Exclusion Criteria in this Report

Code	Description	Code Type	Code Category
250.61	Diabetes with neurological manifestations, type I [juvenile type], not stated as uncontrolled	ICD-9-CM	Diagnosis
250.62	Diabetes with neurological manifestations, type II or unspecified type, uncontrolled	ICD-9-CM	Diagnosis
250.63	Diabetes with neurological manifestations, type I [juvenile type], uncontrolled	ICD-9-CM	Diagnosis
250.7	Diabetes with peripheral circulatory disorders	ICD-9-CM	Diagnosis
250.70	Diabetes with peripheral circulatory disorders, type II or unspecified type, not stated as uncontrolled	ICD-9-CM	Diagnosis
250.71	Diabetes with peripheral circulatory disorders, type I [juvenile type], not stated as uncontrolled	ICD-9-CM	Diagnosis
250.72	Diabetes with peripheral circulatory disorders, type II or unspecified type, uncontrolled	ICD-9-CM	Diagnosis
250.73	Diabetes with peripheral circulatory disorders, type I [juvenile type], uncontrolled	ICD-9-CM	Diagnosis
250.8	Diabetes with other specified manifestations	ICD-9-CM	Diagnosis
250.80	Diabetes with other specified manifestations, type II or unspecified type, not stated as uncontrolled	ICD-9-CM	Diagnosis
250.81	Diabetes with other specified manifestations, type I [juvenile type], not stated as uncontrolled	ICD-9-CM	Diagnosis
250.82	Diabetes with other specified manifestations, type II or unspecified type, uncontrolled	ICD-9-CM	Diagnosis
250.83	Diabetes with other specified manifestations, type I [juvenile type], uncontrolled	ICD-9-CM	Diagnosis
250.9	Diabetes with unspecified complication	ICD-9-CM	Diagnosis
250.90	Diabetes with unspecified complication, type II or unspecified type, not stated as uncontrolled	ICD-9-CM	Diagnosis
250.91	Diabetes with unspecified complication, type I [juvenile type], not stated as uncontrolled	ICD-9-CM	Diagnosis
250.92	Diabetes with unspecified complication, type II or unspecified type, uncontrolled	ICD-9-CM	Diagnosis
250.93	Diabetes with unspecified complication, type I [juvenile type], uncontrolled	ICD-9-CM	Diagnosis
	Congestive Heart Failure		
402.01	Malignant hypertensive heart disease with heart failure	ICD-9-CM	Diagnosis
402.11	Benign hypertensive heart disease with heart failure	ICD-9-CM	Diagnosis
402.91	Hypertensive heart disease, unspecified, with heart failure	ICD-9-CM	Diagnosis
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	Diagnosis
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	Diagnosis
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	Diagnosis
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	Diagnosis
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	Diagnosis
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	Diagnosis
428	Heart failure	ICD-9-CM	Diagnosis
428.0	Congestive heart failure, unspecified	ICD-9-CM	Diagnosis

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes Used to Define Inclusion and Exclusion Criteria in this Report

Code	Description	Code Type	Code Category
428.1	Left heart failure	ICD-9-CM	Diagnosis
428.2	Systolic heart failure	ICD-9-CM	Diagnosis
428.20	Unspecified systolic heart failure	ICD-9-CM	Diagnosis
428.21	Acute systolic heart failure	ICD-9-CM	Diagnosis
428.22	Chronic systolic heart failure	ICD-9-CM	Diagnosis
428.23	Acute on chronic systolic heart failure	ICD-9-CM	Diagnosis
428.3	Diastolic heart failure	ICD-9-CM	Diagnosis
428.30	Unspecified diastolic heart failure	ICD-9-CM	Diagnosis
428.31	Acute diastolic heart failure	ICD-9-CM	Diagnosis
428.32	Chronic diastolic heart failure	ICD-9-CM	Diagnosis
428.33	Acute on chronic diastolic heart failure	ICD-9-CM	Diagnosis
428.4	Combined systolic and diastolic heart failure	ICD-9-CM	Diagnosis
428.40	Unspecified combined systolic and diastolic heart failure	ICD-9-CM	Diagnosis
428.41	Acute combined systolic and diastolic heart failure	ICD-9-CM	Diagnosis
428.42	Chronic combined systolic and diastolic heart failure	ICD-9-CM	Diagnosis
428.43	Acute on chronic combined systolic and diastolic heart failure	ICD-9-CM	Diagnosis
428.9	Unspecified heart failure	ICD-9-CM	Diagnosis
	End of Pregnancy		
630	Hydatidiform mole	ICD-9-CM	Diagnosis
631	Other abnormal product of conception	ICD-9-CM	Diagnosis
631.0	Inappropriate change in quantitative human chorionic gonadotropin (hCG) in early pregnancy	ICD-9-CM	Diagnosis
631.8	Other abnormal products of conception	ICD-9-CM	Diagnosis
632	Missed abortion	ICD-9-CM	Diagnosis
633	Ectopic pregnancy	ICD-9-CM	Diagnosis
633.0	Abdominal pregnancy	ICD-9-CM	Diagnosis
633.00	Abdominal pregnancy without intrauterine pregnancy	ICD-9-CM	Diagnosis
633.01	Abdominal pregnancy with intrauterine pregnancy	ICD-9-CM	Diagnosis
633.1	Tubal pregnancy	ICD-9-CM	Diagnosis
633.10	Tubal pregnancy without intrauterine pregnancy	ICD-9-CM	Diagnosis
633.11	Tubal pregnancy with intrauterine pregnancy	ICD-9-CM	Diagnosis
633.2	Ovarian pregnancy	ICD-9-CM	Diagnosis
633.20	Ovarian pregnancy without intrauterine pregnancy	ICD-9-CM	Diagnosis
633.21	Ovarian pregnancy with intrauterine pregnancy	ICD-9-CM	Diagnosis
633.8	Other ectopic pregnancy	ICD-9-CM	Diagnosis
633.80	Other ectopic pregnancy without intrauterine pregnancy	ICD-9-CM	Diagnosis
633.81	Other ectopic pregnancy with intrauterine pregnancy	ICD-9-CM	Diagnosis
633.9	Unspecified ectopic pregnancy	ICD-9-CM	Diagnosis
633.90	Unspecified ectopic pregnancy without intrauterine pregnancy	ICD-9-CM	Diagnosis
633.91	Unspecified ectopic pregnancy with intrauterine pregnancy	ICD-9-CM	Diagnosis
634	Spontaneous abortion	ICD-9-CM	Diagnosis
634.0	Spontaneous abortion complicated by genital tract and pelvic infection	ICD-9-CM	Diagnosis
634.00	Unspecified spontaneous abortion complicated by genital tract and pelvic infection	ICD-9-CM	Diagnosis
634.01	Incomplete spontaneous abortion complicated by genital tract and pelvic infection	ICD-9-CM	Diagnosis

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes Used to Define Inclusion and Exclusion Criteria in this Report

Code	Description	Code Type	Code Category
634.02	Complete spontaneous abortion complicated by genital tract and pelvic infection	ICD-9-CM	Diagnosis
634.1	Spontaneous abortion complicated by delayed or excessive hemorrhage	ICD-9-CM	Diagnosis
634.10	Unspecified spontaneous abortion complicated by delayed or excessive hemorrhage	ICD-9-CM	Diagnosis
634.11	Incomplete spontaneous abortion complicated by delayed or excessive hemorrhage	ICD-9-CM	Diagnosis
634.12	Complete spontaneous abortion complicated by delayed or excessive hemorrhage	ICD-9-CM	Diagnosis
634.2	Spontaneous abortion complicated by damage to pelvic organs or tissues	ICD-9-CM	Diagnosis
634.20	Unspecified spontaneous abortion complicated by damage to pelvic organs or tissues	ICD-9-CM	Diagnosis
634.21	Incomplete spontaneous abortion complicated by damage to pelvic organs or tissues	ICD-9-CM	Diagnosis
634.22	Complete spontaneous abortion complicated by damage to pelvic organs or tissues	ICD-9-CM	Diagnosis
634.3	Spontaneous abortion complicated by renal failure	ICD-9-CM	Diagnosis
634.30	Unspecified spontaneous abortion complicated by renal failure	ICD-9-CM	Diagnosis
634.31	Incomplete spontaneous abortion complicated by renal failure	ICD-9-CM	Diagnosis
634.32	Complete spontaneous abortion complicated by renal failure	ICD-9-CM	Diagnosis
634.4	Spontaneous abortion complicated by metabolic disorder	ICD-9-CM	Diagnosis
634.40	Unspecified spontaneous abortion complicated by metabolic disorder	ICD-9-CM	Diagnosis
634.41	Incomplete spontaneous abortion complicated by metabolic disorder	ICD-9-CM	Diagnosis
634.42	Complete spontaneous abortion complicated by metabolic disorder	ICD-9-CM	Diagnosis
634.5	Spontaneous abortion complicated by shock	ICD-9-CM	Diagnosis
634.50	Unspecified spontaneous abortion complicated by shock	ICD-9-CM	Diagnosis
634.51	Incomplete spontaneous abortion complicated by shock	ICD-9-CM	Diagnosis
634.52	Complete spontaneous abortion complicated by shock	ICD-9-CM	Diagnosis
634.6	Spontaneous abortion complicated by embolism	ICD-9-CM	Diagnosis
634.60	Unspecified spontaneous abortion complicated by embolism	ICD-9-CM	Diagnosis
634.61	Incomplete spontaneous abortion complicated by embolism	ICD-9-CM	Diagnosis
634.62	Complete spontaneous abortion complicated by embolism	ICD-9-CM	Diagnosis
634.7	Spontaneous abortion with other specified complications	ICD-9-CM	Diagnosis
634.70	Unspecified spontaneous abortion with other specified complications	ICD-9-CM	Diagnosis
634.71	Incomplete spontaneous abortion with other specified complications	ICD-9-CM	Diagnosis
634.72	Complete spontaneous abortion with other specified complications	ICD-9-CM	Diagnosis
634.8	Spontaneous abortion with unspecified complication	ICD-9-CM	Diagnosis
634.80	Unspecified spontaneous abortion with unspecified complication	ICD-9-CM	Diagnosis
634.81	Incomplete spontaneous abortion with unspecified complication	ICD-9-CM	Diagnosis
634.82	Complete spontaneous abortion with unspecified complication	ICD-9-CM	Diagnosis
634.9	Spontaneous abortion without mention of complication	ICD-9-CM	Diagnosis
634.90	Unspecified spontaneous abortion without mention of complication	ICD-9-CM	Diagnosis
634.91	Incomplete spontaneous abortion without mention of complication	ICD-9-CM	Diagnosis
634.92	Complete spontaneous abortion without mention of complication	ICD-9-CM	Diagnosis
635	Legally induced abortion	ICD-9-CM	Diagnosis
635.0	Legally induced abortion complicated by genital tract and pelvic infection	ICD-9-CM	Diagnosis
635.00	Unspecified legally induced abortion complicated by genital tract and pelvic infection	ICD-9-CM	Diagnosis

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes Used to Define Inclusion and Exclusion Criteria in this Report

Code	Description	Code Type	Code Category
635.01	Incomplete legally induced abortion complicated by genital tract and pelvic infection	ICD-9-CM	Diagnosis
635.02	Complete legally induced abortion complicated by genital tract and pelvic infection	ICD-9-CM	Diagnosis
635.1	Legally induced abortion complicated by delayed or excessive hemorrhage	ICD-9-CM	Diagnosis
635.10	Unspecified legally induced abortion complicated by delayed or excessive hemorrhage	ICD-9-CM	Diagnosis
635.11	Incomplete legally induced abortion complicated by delayed or excessive hemorrhage	ICD-9-CM	Diagnosis
635.12	Complete legally induced abortion complicated by delayed or excessive hemorrhage	ICD-9-CM	Diagnosis
635.2	Legally induced abortion complicated by damage to pelvic organs or tissues	ICD-9-CM	Diagnosis
635.20	Unspecified legally induced abortion complicated by damage to pelvic organs or tissues	ICD-9-CM	Diagnosis
635.21	Legally induced abortion complicated by damage to pelvic organs or tissues, incomplete	ICD-9-CM	Diagnosis
635.22	Complete legally induced abortion complicated by damage to pelvic organs or tissues	ICD-9-CM	Diagnosis
635.3	Legally induced abortion complicated by renal failure	ICD-9-CM	Diagnosis
635.30	Unspecified legally induced abortion complicated by renal failure	ICD-9-CM	Diagnosis
635.31	Incomplete legally induced abortion complicated by renal failure	ICD-9-CM	Diagnosis
635.32	Complete legally induced abortion complicated by renal failure	ICD-9-CM	Diagnosis
635.4	Legally induced abortion complicated by metabolic disorder	ICD-9-CM	Diagnosis
635.40	Unspecified legally induced abortion complicated by metabolic disorder	ICD-9-CM	Diagnosis
635.41	Incomplete legally induced abortion complicated by metabolic disorder	ICD-9-CM	Diagnosis
635.42	Complete legally induced abortion complicated by metabolic disorder	ICD-9-CM	Diagnosis
635.5	Legally induced abortion complicated by shock	ICD-9-CM	Diagnosis
635.50	Unspecified legally induced abortion complicated by shock	ICD-9-CM	Diagnosis
635.51	Legally induced abortion, complicated by shock, incomplete	ICD-9-CM	Diagnosis
635.52	Complete legally induced abortion complicated by shock	ICD-9-CM	Diagnosis
635.6	Legally induced abortion complicated by embolism	ICD-9-CM	Diagnosis
635.60	Unspecified legally induced abortion complicated by embolism	ICD-9-CM	Diagnosis
635.61	Incomplete legally induced abortion complicated by embolism	ICD-9-CM	Diagnosis
635.62	Complete legally induced abortion complicated by embolism	ICD-9-CM	Diagnosis
635.7	Legally induced abortion with other specified complications	ICD-9-CM	Diagnosis
635.70	Unspecified legally induced abortion with other specified complications	ICD-9-CM	Diagnosis
635.71	Incomplete legally induced abortion with other specified complications	ICD-9-CM	Diagnosis
635.72	Complete legally induced abortion with other specified complications	ICD-9-CM	Diagnosis
635.8	Legally induced abortion with unspecified complication	ICD-9-CM	Diagnosis
635.80	Unspecified legally induced abortion with unspecified complication	ICD-9-CM	Diagnosis
635.81	Incomplete legally induced abortion with unspecified complication	ICD-9-CM	Diagnosis
635.82	Complete legally induced abortion with unspecified complication	ICD-9-CM	Diagnosis
635.9	Legally induced abortion without mention of complication	ICD-9-CM	Diagnosis
635.90	Unspecified legally induced abortion without mention of complication	ICD-9-CM	Diagnosis
635.91	Incomplete legally induced abortion without mention of complication	ICD-9-CM	Diagnosis
635.92	Complete legally induced abortion without mention of complication	ICD-9-CM	Diagnosis

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes Used to Define Inclusion and Exclusion Criteria in this Report

Code	Description	Code Type	Code Category
636	Illegally induced abortion	ICD-9-CM	Diagnosis
636.0	Illegally induced abortion complicated by genital tract and pelvic infection	ICD-9-CM	Diagnosis
636.00	Unspecified illegally induced abortion complicated by genital tract and pelvic infection	ICD-9-CM	Diagnosis
636.01	Incomplete illegally induced abortion complicated by genital tract and pelvic infection	ICD-9-CM	Diagnosis
636.02	Complete illegally induced abortion complicated by genital tract and pelvic infection	ICD-9-CM	Diagnosis
636.1	Illegally induced abortion complicated by delayed or excessive hemorrhage	ICD-9-CM	Diagnosis
636.10	Unspecified illegally induced abortion complicated by delayed or excessive hemorrhage	ICD-9-CM	Diagnosis
636.11	Incomplete illegally induced abortion complicated by delayed or excessive hemorrhage	ICD-9-CM	Diagnosis
636.12	Complete illegally induced abortion complicated by delayed or excessive hemorrhage	ICD-9-CM	Diagnosis
636.2	Illegally induced abortion complicated by damage to pelvic organs or tissue	ICD-9-CM	Diagnosis
636.20	Unspecified illegally induced abortion complicated by damage to pelvic organs or tissues	ICD-9-CM	Diagnosis
636.21	Incomplete illegally induced abortion complicated by damage to pelvic organs or tissues	ICD-9-CM	Diagnosis
636.22	Complete illegally induced abortion complicated by damage to pelvic organs or tissues	ICD-9-CM	Diagnosis
636.3	Illegally induced abortion complicated by renal failure	ICD-9-CM	Diagnosis
636.30	Unspecified illegally induced abortion complicated by renal failure	ICD-9-CM	Diagnosis
636.31	Incomplete illegally induced abortion complicated by renal failure	ICD-9-CM	Diagnosis
636.32	Complete illegally induced abortion complicated by renal failure	ICD-9-CM	Diagnosis
636.4	Illegally induced abortion complicated by metabolic disorder	ICD-9-CM	Diagnosis
636.40	Unspecified illegally induced abortion complicated by metabolic disorder	ICD-9-CM	Diagnosis
636.41	Incomplete illegally induced abortion complicated by metabolic disorder	ICD-9-CM	Diagnosis
636.42	Complete illegally induced abortion complicated by metabolic disorder	ICD-9-CM	Diagnosis
636.5	Illegally induced abortion complicated by shock	ICD-9-CM	Diagnosis
636.50	Unspecified illegally induced abortion complicated by shock	ICD-9-CM	Diagnosis
636.51	Incomplete illegally induced abortion complicated by shock	ICD-9-CM	Diagnosis
636.52	Complete illegally induced abortion complicated by shock	ICD-9-CM	Diagnosis
636.6	Illegally induced abortion complicated by embolism	ICD-9-CM	Diagnosis
636.60	Unspecified illegally induced abortion complicated by embolism	ICD-9-CM	Diagnosis
636.61	Incomplete illegally induced abortion complicated by embolism	ICD-9-CM	Diagnosis
636.62	Complete illegally induced abortion complicated by embolism	ICD-9-CM	Diagnosis
636.7	Illegally induced abortion with other specified complications	ICD-9-CM	Diagnosis
636.70	Unspecified illegally induced abortion with other specified complications	ICD-9-CM	Diagnosis
636.71	Incomplete illegally induced abortion with other specified complications	ICD-9-CM	Diagnosis
636.72	Complete illegally induced abortion with other specified complications	ICD-9-CM	Diagnosis
636.8	Illegally induced abortion with unspecified complication	ICD-9-CM	Diagnosis
636.80	Unspecified illegally induced abortion with unspecified complication	ICD-9-CM	Diagnosis
636.81	Incomplete illegally induced abortion with unspecified complication	ICD-9-CM	Diagnosis
636.82	Complete illegally induced abortion with unspecified complication	ICD-9-CM	Diagnosis

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes Used to Define Inclusion and Exclusion Criteria in this Report

Code	Description	Code Type	Code Category
636.9	Illegally induced abortion without mention of complication	ICD-9-CM	Diagnosis
636.90	Unspecified illegally induced abortion without mention of complication	ICD-9-CM	Diagnosis
636.91	Incomplete illegally induced abortion without mention of complication	ICD-9-CM	Diagnosis
636.92	Complete illegally induced abortion without mention of complication	ICD-9-CM	Diagnosis
637	Abortion, unspecified as to legality	ICD-9-CM	Diagnosis
637.0	Abortion, unspecified as to legality, complicated by genital tract and pelvic infection	ICD-9-CM	Diagnosis
637.00	Abortion, unspecified as to completion or legality, complicated by genital tract and pelvic infection	ICD-9-CM	Diagnosis
637.01	Abortion, unspecified as to legality, incomplete, complicated by genital tract and pelvic infection	ICD-9-CM	Diagnosis
637.02	Abortion, unspecified as to legality, complete, complicated by genital tract and pelvic infection	ICD-9-CM	Diagnosis
637.1	Abortion, unspecified as to legality, complicated by delayed or excessive hemorrhage	ICD-9-CM	Diagnosis
637.10	Abortion, unspecified as to completion or legality, complicated by delayed or excessive hemorrhage	ICD-9-CM	Diagnosis
637.11	Abortion, unspecified as to legality, incomplete, complicated by delayed or excessive hemorrhage	ICD-9-CM	Diagnosis
637.12	Abortion, unspecified as to legality, complete, complicated by delayed or excessive hemorrhage	ICD-9-CM	Diagnosis
637.2	Abortion, unspecified as to legality, complicated by damage to pelvic organs or tissues	ICD-9-CM	Diagnosis
637.20	Abortion, unspecified as to completion or legality, complicated by damage to pelvic organs or tissues	ICD-9-CM	Diagnosis
637.21	Abortion, unspecified as to legality, incomplete, complicated by damage to pelvic organs or tissues	ICD-9-CM	Diagnosis
637.22	Abortion, unspecified as to legality, complete, complicated by damage to pelvic organs or tissues	ICD-9-CM	Diagnosis
637.3	Abortion, unspecified as to legality, complicated by renal failure	ICD-9-CM	Diagnosis
637.30	Abortion, unspecified as to completion or legality, complicated by renal failure	ICD-9-CM	Diagnosis
637.31	Abortion, unspecified as to legality, incomplete, complicated by renal failure	ICD-9-CM	Diagnosis
637.32	Abortion, unspecified as to legality, complete, complicated by renal failure	ICD-9-CM	Diagnosis
637.4	Abortion, unspecified as to legality, complicated by metabolic disorder	ICD-9-CM	Diagnosis
637.40	Abortion, unspecified as to completion or legality, complicated by metabolic disorder	ICD-9-CM	Diagnosis
637.41	Abortion, unspecified as to legality, incomplete, complicated by metabolic disorder	ICD-9-CM	Diagnosis
637.42	Abortion, unspecified as to legality, complete, complicated by metabolic disorder	ICD-9-CM	Diagnosis
637.5	Abortion, unspecified as to legality, complicated by shock	ICD-9-CM	Diagnosis
637.50	Abortion, unspecified as to completion or legality, complicated by shock	ICD-9-CM	Diagnosis
637.51	Abortion, unspecified as to legality, incomplete, complicated by shock	ICD-9-CM	Diagnosis
637.52	Abortion, unspecified as to legality, complete, complicated by shock	ICD-9-CM	Diagnosis
637.6	Abortion, unspecified as to legality, complicated by embolism	ICD-9-CM	Diagnosis
637.60	Abortion, unspecified as to completion or legality, complicated by embolism	ICD-9-CM	Diagnosis
637.61	Abortion, unspecified as to legality, incomplete, complicated by embolism	ICD-9-CM	Diagnosis

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes Used to Define Inclusion and Exclusion Criteria in this Report

Code	Description	Code Type	Code Category
637.62	Abortion, unspecified as to legality, complete, complicated by embolism	ICD-9-CM	Diagnosis
637.7	Abortion, unspecified as to legality, with other specified complications	ICD-9-CM	Diagnosis
637.70	Abortion, unspecified as to completion or legality, with other specified complications	ICD-9-CM	Diagnosis
637.71	Abortion, unspecified as to legality, incomplete, with other specified complications	ICD-9-CM	Diagnosis
637.72	Abortion, unspecified as to legality, complete, with other specified complications	ICD-9-CM	Diagnosis
637.8	Abortion, unspecified as to legality, with unspecified complication	ICD-9-CM	Diagnosis
637.80	Abortion, unspecified as to completion or legality, with unspecified complication	ICD-9-CM	Diagnosis
637.81	Abortion, unspecified as to legality, incomplete, with unspecified complication	ICD-9-CM	Diagnosis
637.82	Abortion, unspecified as to legality, complete, with unspecified complication	ICD-9-CM	Diagnosis
637.9	Abortion, unspecified as to legality, without mention of complication	ICD-9-CM	Diagnosis
637.90	Unspecified type of abortion, unspecified as to completion or legality, without mention of complication	ICD-9-CM	Diagnosis
637.91	Abortion, unspecified as to legality, incomplete, without mention of complication	ICD-9-CM	Diagnosis
637.92	Abortion, unspecified as to legality, complete, without mention of complication	ICD-9-CM	Diagnosis
638	Failed attempted abortion	ICD-9-CM	Diagnosis
638.0	Failed attempted abortion complicated by genital tract and pelvic infection	ICD-9-CM	Diagnosis
638.1	Failed attempted abortion complicated by delayed or excessive hemorrhage	ICD-9-CM	Diagnosis
638.2	Failed attempted abortion complicated by damage to pelvic organs or tissues	ICD-9-CM	Diagnosis
638.3	Failed attempted abortion complicated by renal failure	ICD-9-CM	Diagnosis
638.4	Failed attempted abortion complicated by metabolic disorder	ICD-9-CM	Diagnosis
638.5	Failed attempted abortion complicated by shock	ICD-9-CM	Diagnosis
638.6	Failed attempted abortion complicated by embolism	ICD-9-CM	Diagnosis
638.7	Failed attempted abortion with other specified complication	ICD-9-CM	Diagnosis
638.8	Failed attempted abortion with unspecified complication	ICD-9-CM	Diagnosis
638.9	Failed attempted abortion without mention of complication	ICD-9-CM	Diagnosis
639	Complications following abortion or ectopic and molar pregnancies	ICD-9-CM	Diagnosis
639.0	Genital tract and pelvic infection following abortion or ectopic and molar pregnancies	ICD-9-CM	Diagnosis
639.1	Delayed or excessive hemorrhage following abortion or ectopic and molar pregnancies	ICD-9-CM	Diagnosis
639.2	Damage to pelvic organs and tissues following abortion or ectopic and molar pregnancies	ICD-9-CM	Diagnosis
639.3	Complications following abortion and ectopic and molar pregnancies, kidney failure	ICD-9-CM	Diagnosis
639.4	Metabolic disorders following abortion or ectopic and molar pregnancies	ICD-9-CM	Diagnosis
639.5	Shock following abortion or ectopic and molar pregnancies	ICD-9-CM	Diagnosis
639.6	Embolism following abortion or ectopic and molar pregnancies	ICD-9-CM	Diagnosis
639.8	Other specified complication following abortion or ectopic and molar pregnancies	ICD-9-CM	Diagnosis
639.9	Unspecified complication following abortion or ectopic and molar pregnancies	ICD-9-CM	Diagnosis
640	Hemorrhage in early pregnancy	ICD-9-CM	Diagnosis
640.0	Threatened abortion	ICD-9-CM	Diagnosis
640.00	Threatened abortion, unspecified as to episode of care	ICD-9-CM	Diagnosis
640.01	Threatened abortion, delivered	ICD-9-CM	Diagnosis
640.03	Threatened abortion, antepartum	ICD-9-CM	Diagnosis

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes Used to Define Inclusion and Exclusion Criteria in this Report

Code	Description	Code Type	Code Category
640.8	Other specified hemorrhage in early pregnancy	ICD-9-CM	Diagnosis
640.80	Other specified hemorrhage in early pregnancy, unspecified as to episode of care	ICD-9-CM	Diagnosis
640.81	Other specified hemorrhage in early pregnancy, delivered	ICD-9-CM	Diagnosis
640.83	Other specified hemorrhage in early pregnancy, antepartum	ICD-9-CM	Diagnosis
640.9	Unspecified hemorrhage in early pregnancy	ICD-9-CM	Diagnosis
640.90	Unspecified hemorrhage in early pregnancy, unspecified as to episode of care	ICD-9-CM	Diagnosis
640.91	Unspecified hemorrhage in early pregnancy, delivered	ICD-9-CM	Diagnosis
640.93	Unspecified hemorrhage in early pregnancy, antepartum	ICD-9-CM	Diagnosis
641	Antepartum hemorrhage, abruptio placentae, and placenta previa	ICD-9-CM	Diagnosis
641.0	Placenta previa without hemorrhage	ICD-9-CM	Diagnosis
641.00	Placenta previa without hemorrhage, unspecified as to episode of care	ICD-9-CM	Diagnosis
641.01	Placenta previa without hemorrhage, with delivery	ICD-9-CM	Diagnosis
641.03	Placenta previa without hemorrhage, antepartum	ICD-9-CM	Diagnosis
641.1	Hemorrhage from placenta previa	ICD-9-CM	Diagnosis
641.10	Hemorrhage from placenta previa, unspecified as to episode of care	ICD-9-CM	Diagnosis
641.11	Hemorrhage from placenta previa, with delivery	ICD-9-CM	Diagnosis
641.13	Hemorrhage from placenta previa, antepartum	ICD-9-CM	Diagnosis
641.2	Premature separation of placenta	ICD-9-CM	Diagnosis
641.20	Premature separation of placenta, unspecified as to episode of care	ICD-9-CM	Diagnosis
641.21	Premature separation of placenta, with delivery	ICD-9-CM	Diagnosis
641.23	Premature separation of placenta, antepartum	ICD-9-CM	Diagnosis
641.3	Antepartum hemorrhage associated with coagulation defects	ICD-9-CM	Diagnosis
641.30	Antepartum hemorrhage associated with coagulation defects, unspecified as to episode of care	ICD-9-CM	Diagnosis
641.31	Antepartum hemorrhage associated with coagulation defects, with delivery	ICD-9-CM	Diagnosis
641.33	Antepartum hemorrhage associated with coagulation defect, antepartum	ICD-9-CM	Diagnosis
641.8	Other antepartum hemorrhage	ICD-9-CM	Diagnosis
641.80	Other antepartum hemorrhage, unspecified as to episode of care	ICD-9-CM	Diagnosis
641.81	Other antepartum hemorrhage, with delivery	ICD-9-CM	Diagnosis
641.83	Other antepartum hemorrhage, antepartum	ICD-9-CM	Diagnosis
641.9	Unspecified antepartum hemorrhage	ICD-9-CM	Diagnosis
641.90	Unspecified antepartum hemorrhage, unspecified as to episode of care	ICD-9-CM	Diagnosis
641.91	Unspecified antepartum hemorrhage, with delivery	ICD-9-CM	Diagnosis
641.93	Unspecified antepartum hemorrhage, antepartum	ICD-9-CM	Diagnosis
642	Hypertension complicating pregnancy, childbirth, and the puerperium	ICD-9-CM	Diagnosis
642.0	Benign essential hypertension complicating pregnancy, childbirth, and the puerperium	ICD-9-CM	Diagnosis
642.00	Benign essential hypertension complicating pregnancy, childbirth, and the puerperium, unspecified as to episode of care	ICD-9-CM	Diagnosis
642.01	Benign essential hypertension with delivery	ICD-9-CM	Diagnosis
642.02	Benign essential hypertension, with delivery, with current postpartum complication	ICD-9-CM	Diagnosis
642.03	Benign essential hypertension antepartum	ICD-9-CM	Diagnosis
642.04	Benign essential hypertension, complicating pregnancy, childbirth, and the puerperium, postpartum condition or complication	ICD-9-CM	Diagnosis

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes Used to Define Inclusion and Exclusion Criteria in this Report

Code	Description	Code Type	Code Category
642.1	Hypertension secondary to renal disease, complicating pregnancy, childbirth, and the puerperium	ICD-9-CM	Diagnosis
642.10	Hypertension secondary to renal disease, complicating pregnancy, childbirth, and the puerperium, unspecified as to episode of care	ICD-9-CM	Diagnosis
642.11	Hypertension secondary to renal disease, with delivery	ICD-9-CM	Diagnosis
642.12	Hypertension secondary to renal disease, with delivery, with current postpartum complication	ICD-9-CM	Diagnosis
642.13	Hypertension secondary to renal disease, antepartum	ICD-9-CM	Diagnosis
642.14	Hypertension secondary to renal disease, complicating pregnancy, childbirth, and the puerperium, postpartum condition or complication	ICD-9-CM	Diagnosis
642.2	Other pre-existing hypertension complicating pregnancy, childbirth, and the puerperium	ICD-9-CM	Diagnosis
642.20	Other pre-existing hypertension complicating pregnancy, childbirth, and the puerperium, unspecified as to episode of care	ICD-9-CM	Diagnosis
642.21	Other pre-existing hypertension, with delivery	ICD-9-CM	Diagnosis
642.22	Other pre-existing hypertension, with delivery, with current postpartum complication	ICD-9-CM	Diagnosis
642.23	Other pre-existing hypertension, antepartum	ICD-9-CM	Diagnosis
642.24	Other pre-existing hypertension complicating pregnancy, childbirth, and the puerperium, postpartum condition or complication	ICD-9-CM	Diagnosis
642.3	Transient hypertension of pregnancy	ICD-9-CM	Diagnosis
642.30	Transient hypertension of pregnancy, unspecified as to episode of care	ICD-9-CM	Diagnosis
642.31	Transient hypertension of pregnancy, with delivery	ICD-9-CM	Diagnosis
642.32	Transient hypertension of pregnancy, with delivery, with current postpartum complication	ICD-9-CM	Diagnosis
642.33	Transient hypertension of pregnancy, antepartum	ICD-9-CM	Diagnosis
642.34	Transient hypertension of pregnancy, postpartum condition or complication	ICD-9-CM	Diagnosis
642.4	Mild or unspecified pre-eclampsia	ICD-9-CM	Diagnosis
642.40	Mild or unspecified pre-eclampsia, unspecified as to episode of care	ICD-9-CM	Diagnosis
642.41	Mild or unspecified pre-eclampsia, with delivery	ICD-9-CM	Diagnosis
642.42	Mild or unspecified pre-eclampsia, with delivery, with current postpartum complication	ICD-9-CM	Diagnosis
642.43	Mild or unspecified pre-eclampsia, antepartum	ICD-9-CM	Diagnosis
642.44	Mild or unspecified pre-eclampsia, postpartum condition or complication	ICD-9-CM	Diagnosis
642.5	Severe pre-eclampsia	ICD-9-CM	Diagnosis
642.50	Severe pre-eclampsia, unspecified as to episode of care	ICD-9-CM	Diagnosis
642.51	Severe pre-eclampsia, with delivery	ICD-9-CM	Diagnosis
642.52	Severe pre-eclampsia, with delivery, with current postpartum complication	ICD-9-CM	Diagnosis
642.53	Severe pre-eclampsia, antepartum	ICD-9-CM	Diagnosis
642.54	Severe pre-eclampsia, postpartum condition or complication	ICD-9-CM	Diagnosis
642.6	Eclampsia complicating pregnancy, childbirth or the puerperium	ICD-9-CM	Diagnosis
642.60	Eclampsia complicating pregnancy, childbirth or the puerperium, unspecified as to episode of care	ICD-9-CM	Diagnosis
642.61	Eclampsia, with delivery	ICD-9-CM	Diagnosis
642.62	Eclampsia, with delivery, with current postpartum complication	ICD-9-CM	Diagnosis
642.63	Eclampsia, antepartum	ICD-9-CM	Diagnosis

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes Used to Define Inclusion and Exclusion Criteria in this Report

Code	Description	Code Type	Code Category
642.64	Eclampsia, postpartum condition or complication	ICD-9-CM	Diagnosis
642.7	Pre-eclampsia or eclampsia superimposed on pre-existing hypertension	ICD-9-CM	Diagnosis
642.70	Pre-eclampsia or eclampsia superimposed on pre-existing hypertension, complicating pregnancy, childbirth, or the puerperium, unspecified as to episode of care	ICD-9-CM	Diagnosis
642.71	Pre-eclampsia or eclampsia superimposed on pre-existing hypertension, with delivery	ICD-9-CM	Diagnosis
642.72	Pre-eclampsia or eclampsia superimposed on pre-existing hypertension, with delivery, with current postpartum complication	ICD-9-CM	Diagnosis
642.73	Pre-eclampsia or eclampsia superimposed on pre-existing hypertension, antepartum	ICD-9-CM	Diagnosis
642.74	Pre-eclampsia or eclampsia superimposed on pre-existing hypertension, postpartum condition or complication	ICD-9-CM	Diagnosis
642.9	Unspecified hypertension complicating pregnancy, childbirth, or the puerperium	ICD-9-CM	Diagnosis
642.90	Unspecified hypertension complicating pregnancy, childbirth, or the puerperium, unspecified as to episode of care	ICD-9-CM	Diagnosis
642.91	Unspecified hypertension, with delivery	ICD-9-CM	Diagnosis
642.92	Unspecified hypertension, with delivery, with current postpartum complication	ICD-9-CM	Diagnosis
642.93	Unspecified hypertension antepartum	ICD-9-CM	Diagnosis
642.94	Unspecified hypertension complicating pregnancy, childbirth, or the puerperium, postpartum condition or complication	ICD-9-CM	Diagnosis
643	Excessive vomiting in pregnancy	ICD-9-CM	Diagnosis
643.0	Mild hyperemesis gravidarum	ICD-9-CM	Diagnosis
643.00	Mild hyperemesis gravidarum, unspecified as to episode of care	ICD-9-CM	Diagnosis
643.01	Mild hyperemesis gravidarum, delivered	ICD-9-CM	Diagnosis
643.03	Mild hyperemesis gravidarum, antepartum	ICD-9-CM	Diagnosis
643.1	Hyperemesis gravidarum with metabolic disturbance	ICD-9-CM	Diagnosis
643.10	Hyperemesis gravidarum with metabolic disturbance, unspecified as to episode of care	ICD-9-CM	Diagnosis
643.11	Hyperemesis gravidarum with metabolic disturbance, delivered	ICD-9-CM	Diagnosis
643.13	Hyperemesis gravidarum with metabolic disturbance, antepartum	ICD-9-CM	Diagnosis
643.2	Late vomiting of pregnancy	ICD-9-CM	Diagnosis
643.20	Late vomiting of pregnancy, unspecified as to episode of care	ICD-9-CM	Diagnosis
643.21	Late vomiting of pregnancy, delivered	ICD-9-CM	Diagnosis
643.23	Late vomiting of pregnancy, antepartum	ICD-9-CM	Diagnosis
643.8	Other vomiting complicating pregnancy	ICD-9-CM	Diagnosis
643.80	Other vomiting complicating pregnancy, unspecified as to episode of care	ICD-9-CM	Diagnosis
643.81	Other vomiting complicating pregnancy, delivered	ICD-9-CM	Diagnosis
643.83	Other vomiting complicating pregnancy, antepartum	ICD-9-CM	Diagnosis
643.9	Unspecified vomiting of pregnancy	ICD-9-CM	Diagnosis
643.90	Unspecified vomiting of pregnancy, unspecified as to episode of care	ICD-9-CM	Diagnosis
643.91	Unspecified vomiting of pregnancy, delivered	ICD-9-CM	Diagnosis
643.93	Unspecified vomiting of pregnancy, antepartum	ICD-9-CM	Diagnosis
644	Early or threatened labor	ICD-9-CM	Diagnosis
644.0	Threatened premature labor	ICD-9-CM	Diagnosis
644.00	Threatened premature labor, unspecified as to episode of care	ICD-9-CM	Diagnosis

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes Used to Define Inclusion and Exclusion Criteria in this Report

Code	Description	Code Type	Code Category
644.03	Threatened premature labor, antepartum	ICD-9-CM	Diagnosis
644.1	Other threatened labor	ICD-9-CM	Diagnosis
644.10	Other threatened labor, unspecified as to episode of care	ICD-9-CM	Diagnosis
644.13	Other threatened labor, antepartum	ICD-9-CM	Diagnosis
644.2	Early onset of delivery	ICD-9-CM	Diagnosis
644.20	Early onset of delivery, unspecified as to episode of care	ICD-9-CM	Diagnosis
644.21	Early onset of delivery, delivered, with or without mention of antepartum condition	ICD-9-CM	Diagnosis
645	Late pregnancy	ICD-9-CM	Diagnosis
645.0	Prolonged pregnancy	ICD-9-CM	Diagnosis
645.00	Prolonged pregnancy, unspecified as to episode of care	ICD-9-CM	Diagnosis
645.01	Prolonged pregnancy, with delivery	ICD-9-CM	Diagnosis
645.03	Prolonged pregnancy, antepartum	ICD-9-CM	Diagnosis
645.1	Post term pregnancy	ICD-9-CM	Diagnosis
645.10	Post term pregnancy, unspecified as to episode of care or not applicable	ICD-9-CM	Diagnosis
645.11	Post term pregnancy, delivered, with or without mention of antepartum condition	ICD-9-CM	Diagnosis
645.13	Post term pregnancy, antepartum condition or complication	ICD-9-CM	Diagnosis
645.2	Prolonged pregnancy	ICD-9-CM	Diagnosis
645.20	Prolonged pregnancy, unspecified as to episode of care or not applicable	ICD-9-CM	Diagnosis
645.21	Prolonged pregnancy, delivered, with or without mention of antepartum condition	ICD-9-CM	Diagnosis
645.23	Prolonged pregnancy, antepartum condition or complication	ICD-9-CM	Diagnosis
646	Other complications of pregnancy, not elsewhere classified	ICD-9-CM	Diagnosis
646.0	Papyraceous fetus	ICD-9-CM	Diagnosis
646.00	Papyraceous fetus, unspecified as to episode of care	ICD-9-CM	Diagnosis
646.01	Papyraceous fetus, delivered, with or without mention of antepartum condition	ICD-9-CM	Diagnosis
646.03	Papyraceous fetus, antepartum	ICD-9-CM	Diagnosis
646.1	Edema or excessive weight gain in pregnancy, without mention of hypertension	ICD-9-CM	Diagnosis
646.10	Edema or excessive weight gain in pregnancy, unspecified as to episode of care	ICD-9-CM	Diagnosis
646.11	Edema or excessive weight gain in pregnancy, with delivery, with or without mention of antepartum complication	ICD-9-CM	Diagnosis
646.12	Edema or excessive weight gain in pregnancy, with delivery, with current postpartum complication	ICD-9-CM	Diagnosis
646.13	Edema or excessive weight gain, antepartum	ICD-9-CM	Diagnosis
646.14	Edema or excessive weight gain in pregnancy, without mention of hypertension, postpartum condition or complication	ICD-9-CM	Diagnosis
646.2	Unspecified renal disease in pregnancy, without mention of hypertension	ICD-9-CM	Diagnosis
646.20	Unspecified renal disease in pregnancy, unspecified as to episode of care	ICD-9-CM	Diagnosis
646.21	Unspecified renal disease in pregnancy, with delivery	ICD-9-CM	Diagnosis
646.22	Unspecified renal disease in pregnancy, with delivery, with current postpartum complication	ICD-9-CM	Diagnosis
646.23	Unspecified antepartum renal disease	ICD-9-CM	Diagnosis
646.24	Unspecified renal disease in pregnancy, without mention of hypertension, postpartum condition or complication	ICD-9-CM	Diagnosis
646.3	Pregnancy complication, recurrent pregnancy loss	ICD-9-CM	Diagnosis

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes Used to Define Inclusion and Exclusion Criteria in this Report

Code	Description	Code Type	Code Category
646.30	Pregnancy complication, recurrent pregnancy loss, unspecified as to episode of care	ICD-9-CM	Diagnosis
646.31	Pregnancy complication, recurrent pregnancy loss, with or without mention of antepartum condition	ICD-9-CM	Diagnosis
646.33	Pregnancy complication, recurrent pregnancy loss, antepartum condition or complication	ICD-9-CM	Diagnosis
646.4	Peripheral neuritis in pregnancy	ICD-9-CM	Diagnosis
646.40	Peripheral neuritis in pregnancy, unspecified as to episode of care	ICD-9-CM	Diagnosis
646.41	Peripheral neuritis in pregnancy, with delivery	ICD-9-CM	Diagnosis
646.42	Peripheral neuritis in pregnancy, with delivery, with current postpartum complication	ICD-9-CM	Diagnosis
646.43	Peripheral neuritis antepartum	ICD-9-CM	Diagnosis
646.44	Peripheral neuritis in pregnancy, postpartum condition or complication	ICD-9-CM	Diagnosis
646.5	Asymptomatic bacteriuria in pregnancy	ICD-9-CM	Diagnosis
646.50	Asymptomatic bacteriuria in pregnancy, unspecified as to episode of care	ICD-9-CM	Diagnosis
646.51	Asymptomatic bacteriuria in pregnancy, with delivery	ICD-9-CM	Diagnosis
646.52	Asymptomatic bacteriuria in pregnancy, with delivery, with current postpartum complication	ICD-9-CM	Diagnosis
646.53	Asymptomatic bacteriuria antepartum	ICD-9-CM	Diagnosis
646.54	Asymptomatic bacteriuria in pregnancy, postpartum condition or complication	ICD-9-CM	Diagnosis
646.6	Infections of genitourinary tract in pregnancy	ICD-9-CM	Diagnosis
646.60	Infections of genitourinary tract in pregnancy, unspecified as to episode of care	ICD-9-CM	Diagnosis
646.61	Infections of genitourinary tract in pregnancy, with delivery	ICD-9-CM	Diagnosis
646.62	Infections of genitourinary tract in pregnancy, with delivery, with current postpartum complication	ICD-9-CM	Diagnosis
646.63	Infections of genitourinary tract antepartum	ICD-9-CM	Diagnosis
646.64	Infections of genitourinary tract in pregnancy, postpartum condition or complication	ICD-9-CM	Diagnosis
646.7	Liver and biliary tract disorders in pregnancy	ICD-9-CM	Diagnosis
646.70	Liver and biliary tract disorders in pregnancy, unspecified as to episode of care or not applicable	ICD-9-CM	Diagnosis
646.71	Liver and biliary tract disorders in pregnancy, delivered, with or without mention of antepartum condition	ICD-9-CM	Diagnosis
646.73	Liver and biliary tract disorders in pregnancy, antepartum condition or complication	ICD-9-CM	Diagnosis
646.8	Other specified complications of pregnancy	ICD-9-CM	Diagnosis
646.80	Other specified complication of pregnancy, unspecified as to episode of care	ICD-9-CM	Diagnosis
646.81	Other specified complication of pregnancy, with delivery	ICD-9-CM	Diagnosis
646.82	Other specified complications of pregnancy, with delivery, with current postpartum complication	ICD-9-CM	Diagnosis
646.83	Other specified complication, antepartum	ICD-9-CM	Diagnosis
646.84	Other specified complications of pregnancy, postpartum condition or complication	ICD-9-CM	Diagnosis
646.9	Unspecified complication of pregnancy	ICD-9-CM	Diagnosis
646.90	Unspecified complication of pregnancy, unspecified as to episode of care	ICD-9-CM	Diagnosis
646.91	Unspecified complication of pregnancy, with delivery	ICD-9-CM	Diagnosis

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes Used to Define Inclusion and Exclusion Criteria in this Report

Code	Description	Code Type	Code Category
646.93	Unspecified complication of pregnancy, antepartum	ICD-9-CM	Diagnosis
647	Infectious and parasitic conditions in the mother classifiable elsewhere, but complicating pregnancy, childbirth, or the puerperium	ICD-9-CM	Diagnosis
647.0	Maternal syphilis complicating pregnancy, childbirth, or the puerperium	ICD-9-CM	Diagnosis
647.00	Maternal syphilis, complicating pregnancy, childbirth, or the puerperium, unspecified as to episode of care	ICD-9-CM	Diagnosis
647.01	Maternal syphilis, complicating pregnancy, with delivery	ICD-9-CM	Diagnosis
647.02	Maternal syphilis, complicating pregnancy, with delivery, with current postpartum complication	ICD-9-CM	Diagnosis
647.03	Maternal syphilis, antepartum	ICD-9-CM	Diagnosis
647.04	Maternal syphilis complicating pregnancy, childbrith, or the puerperium, postpartum condition or complication	ICD-9-CM	Diagnosis
647.1	Maternal gonorrhea complicating pregnancy, childbirth, or the puerperium	ICD-9-CM	Diagnosis
647.10	Maternal gonorrhea complicating pregnancy, childbirth, or the puerperium, unspecified as to episode of care	ICD-9-CM	Diagnosis
647.11	Maternal gonorrhea with delivery	ICD-9-CM	Diagnosis
647.12	Maternal gonorrhea, with delivery, with current postpartum complication	ICD-9-CM	Diagnosis
647.13	Maternal gonorrhea, antepartum	ICD-9-CM	Diagnosis
647.14	Maternal gonorrhea complicating pregnancy, childbrith, or the puerperium, postpartum condition or complication	ICD-9-CM	Diagnosis
647.2	Other maternal venereal diseases complicating pregnancy, childbirth, or the puerperium	ICD-9-CM	Diagnosis
647.20	Other maternal venereal diseases, complicating pregnancy, childbirth, or the puerperium, unspecified as to episode of care	ICD-9-CM	Diagnosis
647.21	Other maternal venereal diseases with delivery	ICD-9-CM	Diagnosis
647.22	Other maternal venereal diseases with delivery, with current postpartum complication	ICD-9-CM	Diagnosis
647.23	Other maternal venereal diseases, antepartum condition or complication	ICD-9-CM	Diagnosis
647.24	Other venereal diseases complicating pregnancy, childbirth, or the puerperium, postpartum condition or complication	ICD-9-CM	Diagnosis
647.3	Maternal tuberculosis complicating pregnancy, childbirth, or the puerperium	ICD-9-CM	Diagnosis
647.30	Maternal tuberculosis complicating pregnancy, childbirth, or the puerperium, unspecified as to episode of care	ICD-9-CM	Diagnosis
647.31	Maternal tuberculosis with delivery	ICD-9-CM	Diagnosis
647.32	Maternal tuberculosis with delivery, with current postpartum complication	ICD-9-CM	Diagnosis
647.33	Maternal tuberculosis, antepartum	ICD-9-CM	Diagnosis
647.34	Maternal tuberculosis complicating pregnancy, childbirth, or the puerperium, postpartum condition or complication	ICD-9-CM	Diagnosis
647.4	Maternal malaria complicating pregnancy, childbirth, or the puerperium	ICD-9-CM	Diagnosis
647.40	Maternal malaria complicating pregnancy, childbirth or the puerperium, unspecified as to episode of care	ICD-9-CM	Diagnosis
647.41	Maternal malaria with delivery	ICD-9-CM	Diagnosis
647.42	Maternal malaria with delivery, with current postpartum complication	ICD-9-CM	Diagnosis
647.43	Maternal malaria, antepartum	ICD-9-CM	Diagnosis
647.44	Maternal malaria, complicating pregnancy, childbirth, or the puerperium, postpartum condition or complication	ICD-9-CM	Diagnosis

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes Used to Define Inclusion and Exclusion Criteria in this Report

Code	Description	Code Type	Code Category
647.5	Maternal rubella complicating pregnancy, childbirth, or the puerperium	ICD-9-CM	Diagnosis
647.50	Maternal rubella complicating pregnancy, childbirth, or the puerperium, unspecified as to episode of care	ICD-9-CM	Diagnosis
647.51	Maternal rubella with delivery	ICD-9-CM	Diagnosis
647.52	Maternal rubella with delivery, with current postpartum complication	ICD-9-CM	Diagnosis
647.53	Maternal rubella, antepartum	ICD-9-CM	Diagnosis
647.54	Maternal rubella complicating pregnancy, childbirth, or the puerperium, postpartum condition or complication	ICD-9-CM	Diagnosis
647.6	Other maternal viral disease complicating pregnancy, childbirth, or the puerperium	ICD-9-CM	Diagnosis
647.60	Other maternal viral disease complicating pregnancy, childbirth, or the puerperium, unspecified as to episode of care	ICD-9-CM	Diagnosis
647.61	Other maternal viral disease with delivery	ICD-9-CM	Diagnosis
647.62	Other maternal viral disease with delivery, with current postpartum complication	ICD-9-CM	Diagnosis
647.63	Other maternal viral disease, antepartum	ICD-9-CM	Diagnosis
647.64	Other maternal viral diseases complicating pregnancy, childbirth, or the puerperium, postpartum condition or complication	ICD-9-CM	Diagnosis
647.8	Other specified maternal infectious and parasitic disease complicating pregnancy, childbirth, or the puerperium	ICD-9-CM	Diagnosis
647.80	Other specified maternal infectious and parasitic disease complicating pregnancy, childbirth, or the puerperium, unspecified as to episode of care	ICD-9-CM	Diagnosis
647.81	Other specified maternal infectious and parasitic disease with delivery	ICD-9-CM	Diagnosis
647.82	Other specified maternal infectious and parasitic disease with delivery, with current postpartum complication	ICD-9-CM	Diagnosis
647.83	Other specified maternal infectious and parasitic disease, antepartum	ICD-9-CM	Diagnosis
647.84	Other specified maternal infectious and parasitic diseases complicating pregnancy, childbirth, or the puerperium, postpartum condition or complication	ICD-9-CM	Diagnosis
647.9	Unspecified maternal infection or infestation complicating pregnancy, childbirth, or the puerperium	ICD-9-CM	Diagnosis
647.90	Unspecified maternal infection or infestation complicating pregnancy, childbirth, or the puerperium, unspecified as to episode of care	ICD-9-CM	Diagnosis
647.91	Unspecified maternal infection or infestation with delivery	ICD-9-CM	Diagnosis
647.92	Unspecified maternal infection or infestation with delivery, with current postpartum complication	ICD-9-CM	Diagnosis
647.93	Unspecified maternal infection or infestation, antepartum	ICD-9-CM	Diagnosis
647.94	Unspecified maternal infection or infestation complicating pregnancy, childbirth, or the puerperium, postpartum condition or complication	ICD-9-CM	Diagnosis
648	Other current conditions in the mother classifiable elsewhere, but complicating pregnancy, childbirth, or the puerperium	ICD-9-CM	Diagnosis
648.0	Maternal diabetes mellitus complicating pregnancy, childbirth, or the puerperium	ICD-9-CM	Diagnosis
648.00	Maternal diabetes mellitus, complicating pregnancy, childbirth, or the puerperium, unspecified as to episode of care	ICD-9-CM	Diagnosis
648.01	Maternal diabetes mellitus with delivery	ICD-9-CM	Diagnosis
648.02	Maternal diabetes mellitus with delivery, with current postpartum complication	ICD-9-CM	Diagnosis
648.03	Maternal diabetes mellitus, antepartum	ICD-9-CM	Diagnosis

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Code	Description	Code Type	Code Category
648.04	Maternal diabetes mellitus, complicating pregnancy, childbirth, or the puerperium, postpartum condition or complication	ICD-9-CM	Diagnosis
648.1	Thyroid dysfunction complicating pregnancy, childbirth, or the puerperium	ICD-9-CM	Diagnosis
648.10	Maternal thyroid dysfunction complicating pregnancy, childbirth, or the puerperium, unspecified as to episode of care or not applicable	ICD-9-CM	Diagnosis
648.11	Maternal thyroid dysfunction with delivery, with or without mention of antepartum condition	ICD-9-CM	Diagnosis
648.12	Maternal thyroid dysfunction with delivery, with current postpartum complication	ICD-9-CM	Diagnosis
648.13	Maternal thyroid dysfunction, antepartum condition or complication	ICD-9-CM	Diagnosis
648.14	Maternal thyroid dysfunction complicating pregnancy, childbirth, or the puerperium, postpartum condition or complication	ICD-9-CM	Diagnosis
648.2	Maternal anemia complicating pregnancy, childbirth, or the puerperium	ICD-9-CM	Diagnosis
648.20	Maternal anemia of mother, complicating pregnancy, childbirth, or the puerperium, unspecified as to episode of care	ICD-9-CM	Diagnosis
648.21	Maternal anemia, with delivery	ICD-9-CM	Diagnosis
648.22	Maternal anemia with delivery, with current postpartum complication	ICD-9-CM	Diagnosis
648.23	Maternal anemia, antepartum	ICD-9-CM	Diagnosis
648.24	Maternal anemia complicating pregnancy, childbirth, or the puerperium, postpartum condition or complication	ICD-9-CM	Diagnosis
648.3	Maternal drug dependence complicating pregnancy, childbirth, or the puerperium	ICD-9-CM	Diagnosis
648.30	Maternal drug dependence complicating pregnancy, childbirth, or the puerperium, unspecified as to episode of care	ICD-9-CM	Diagnosis
648.31	Maternal drug dependence, with delivery	ICD-9-CM	Diagnosis
648.32	Maternal drug dependence, with delivery, with current postpartum complication	ICD-9-CM	Diagnosis
648.33	Maternal drug dependence, antepartum	ICD-9-CM	Diagnosis
648.34	Maternal drug dependence complicating pregnancy, childbirth, or the puerperium, postpartum condition or complication	ICD-9-CM	Diagnosis
648.4	Maternal mental disorders complicating pregnancy, childbirth, or the puerperium	ICD-9-CM	Diagnosis
648.40	Maternal mental disorders, complicating pregnancy, childbirth, or the puerperium, unspecified as to episode of care	ICD-9-CM	Diagnosis
648.41	Maternal mental disorders, with delivery	ICD-9-CM	Diagnosis
648.42	Maternal mental disorders, with delivery, with current postpartum complication	ICD-9-CM	Diagnosis
648.43	Maternal mental disorders, antepartum	ICD-9-CM	Diagnosis
648.44	Maternal mental disorders complicating pregnancy, childbirth, or the puerperium, postpartum condition or complication	ICD-9-CM	Diagnosis
648.5	Maternal congenital cardiovascular disorders complicating pregnancy, childbirth, or the puerperium	ICD-9-CM	Diagnosis
648.50	Maternal congenital cardiovascular disorders, complicating pregnancy, childbirth, or the puerperium, unspecified as to episode of care	ICD-9-CM	Diagnosis
648.51	Maternal congenital cardiovascular disorders, with delivery	ICD-9-CM	Diagnosis
648.52	Maternal congenital cardiovascular disorders, with delivery, with current postpartum complication	ICD-9-CM	Diagnosis
648.53	Maternal congenital cardiovascular disorders, antepartum	ICD-9-CM	Diagnosis
648.54	Maternal congenital cardiovascular disorders complicating pregnancy, childbirth, or the puerperium, postpartum condition or complication	ICD-9-CM	Diagnosis

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes Used to Define Inclusion and Exclusion Criteria in this Report

Code	Description	Code Type	Code Category
648.6	Other maternal cardiovascular diseases complicating pregnancy, childbirth, or the puerperium	ICD-9-CM	Diagnosis
648.60	Other maternal cardiovascular diseases complicating pregnancy, childbirth, or the puerperium, unspecified as to episode of care	ICD-9-CM	Diagnosis
648.61	Other maternal cardiovascular diseases, with delivery	ICD-9-CM	Diagnosis
648.62	Other maternal cardiovascular diseases, with delivery, with current postpartum complication	ICD-9-CM	Diagnosis
648.63	Other maternal cardiovascular diseases, antepartum	ICD-9-CM	Diagnosis
648.64	Other maternal cardiovascular diseases complicating pregnancy, childbirth, or the puerperium, postpartum condition or complication	ICD-9-CM	Diagnosis
648.7	Bone and joint disorders of maternal back, pelvis, and lower limbs, complicating pregnancy, childbirth, or the puerperium	ICD-9-CM	Diagnosis
648.70	Bone and joint disorders of maternal back, pelvis, and lower limbs, complicating pregnancy, childbirth, or the puerperium, unspecified as to episode of care	ICD-9-CM	Diagnosis
648.71	Bone and joint disorders of maternal back, pelvis, and lower limbs, with delivery	ICD-9-CM	Diagnosis
648.72	Bone and joint disorders of maternal back, pelvis, and lower limbs, with delivery, with current postpartum complication	ICD-9-CM	Diagnosis
648.73	Bone and joint disorders of maternal back, pelvis, and lower limbs, antepartum	ICD-9-CM	Diagnosis
648.74	Bone and joint disorders of maternal back, pelvis, and lower limbs complicating pregnancy, childbirth, or the puerperium, postpartum condition or complication	ICD-9-CM	Diagnosis
648.8	Abnormal maternal glucose tolerance, complicating pregnancy, childbirth, or the puerperium	ICD-9-CM	Diagnosis
648.80	Abnormal maternal glucose tolerance, complicating pregnancy, childbirth, or the puerperium, unspecified as to episode of care	ICD-9-CM	Diagnosis
648.81	Abnormal maternal glucose tolerance, with delivery	ICD-9-CM	Diagnosis
648.82	Abnormal maternal glucose tolerance, with delivery, with current postpartum complication	ICD-9-CM	Diagnosis
648.83	Abnormal maternal glucose tolerance, antepartum	ICD-9-CM	Diagnosis
648.84	Abnormal maternal glucose tolerance complicating pregnancy, childbirth, or the puerperium, postpartum condition or complication	ICD-9-CM	Diagnosis
648.9	Other current maternal conditions complicating pregnancy, childbirth, or the puerperium	ICD-9-CM	Diagnosis
648.90	Other current maternal conditions classifiable elsewhere, complicating pregnancy, childbirth, or the puerperium, unspecified as to episode of care	ICD-9-CM	Diagnosis
648.91	Other current maternal conditions classifiable elsewhere, with delivery	ICD-9-CM	Diagnosis
648.92	Other current maternal conditions classifiable elsewhere, with delivery, with current postpartum complication	ICD-9-CM	Diagnosis
648.93	Other current maternal conditions classifiable elsewhere, antepartum	ICD-9-CM	Diagnosis
648.94	Other current maternal conditions classifiable elsewhere complicating pregnancy, childbirth, or the puerperium, postpartum condition or complication	ICD-9-CM	Diagnosis
649	Other conditions or status of the mother complicating pregnancy, childbirth, or puerperium	ICD-9-CM	Diagnosis
649.0	Tobacco use disorder complicating pregnancy, childbirth, or the puerperium	ICD-9-CM	Diagnosis
649.00	Tobacco use disorder complicating pregnancy, childbirth, or the puerperium, unspecified as to episode of care or not applicable	ICD-9-CM	Diagnosis

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes Used to Define Inclusion and Exclusion Criteria in this Report

Code	Description	Code Type	Code Category
649.01	Tobacco use disorder complicating pregnancy, childbirth, or the puerperium, delivered, with or without mention of antepartum condition	ICD-9-CM	Diagnosis
649.02	Tobacco use disorder complicating pregnancy, childbirth, or the puerperium, delivered, with mention of postpartum complication	ICD-9-CM	Diagnosis
649.03	Tobacco use disorder complicating pregnancy, childbirth, or the puerperium, antepartum condition or complication	ICD-9-CM	Diagnosis
649.04	Tobacco use disorder complicating pregnancy, childbirth, or the puerperium, postpartum condition or complication	ICD-9-CM	Diagnosis
649.1	Obesity complicating pregnancy, childbirth, or the puerperium	ICD-9-CM	Diagnosis
649.10	Obesity complicating pregnancy, childbirth, or the puerperium, unspecified as to episode of care or not applicable	ICD-9-CM	Diagnosis
649.11	Obesity complicating pregnancy, childbirth, or the puerperium, delivered, with or without mention of antepartum condition	ICD-9-CM	Diagnosis
649.12	Obesity complicating pregnancy, childbirth, or the puerperium, delivered, with mention of postpartum complication	ICD-9-CM	Diagnosis
649.13	Obesity complicating pregnancy, childbirth, or the puerperium, antepartum condition or complication	ICD-9-CM	Diagnosis
649.14	Obesity complicating pregnancy, childbirth, or the puerperium, postpartum condition or complication	ICD-9-CM	Diagnosis
649.2	Bariatric surgery status complicating pregnancy, childbirth, or the puerperium	ICD-9-CM	Diagnosis
649.20	Bariatric surgery status complicating pregnancy, childbirth, or the puerperium, unspecified as to episode of care or not applicable	ICD-9-CM	Diagnosis
649.21	Bariatric surgery status complicating pregnancy, childbirth, or the puerperium, delivered, with or without mention of antepartum condition	ICD-9-CM	Diagnosis
649.22	Bariatric surgery status complicating pregnancy, childbirth, or the puerperium, delivered, with mention of postpartum complication	ICD-9-CM	Diagnosis
649.23	Bariatric surgery status complicating pregnancy, childbirth, or the puerperium, antepartum condition or complication	ICD-9-CM	Diagnosis
649.24	Bariatric surgery status complicating pregnancy, childbirth, or the puerperium, postpartum condition or complication	ICD-9-CM	Diagnosis
649.3	Coagulation defects complicating pregnancy, childbirth, or the puerperium	ICD-9-CM	Diagnosis
649.30	Coagulation defects complicating pregnancy, childbirth, or the puerperium, unspecified as to episode of care or not applicable	ICD-9-CM	Diagnosis
649.31	Coagulation defects complicating pregnancy, childbirth, or the puerperium, delivered, with or without mention of antepartum condition	ICD-9-CM	Diagnosis
649.32	Coagulation defects complicating pregnancy, childbirth, or the puerperium, delivered, with mention of postpartum complication	ICD-9-CM	Diagnosis
649.33	Coagulation defects complicating pregnancy, childbirth, or the puerperium, antepartum condition or complication	ICD-9-CM	Diagnosis
649.34	Coagulation defects complicating pregnancy, childbirth, or the puerperium, postpartum condition or complication	ICD-9-CM	Diagnosis
649.4	Epilepsy complicating pregnancy, childbirth, or the puerperium	ICD-9-CM	Diagnosis
649.40	Epilepsy complicating pregnancy, childbirth, or the puerperium, unspecified as to episode of care or not applicable	ICD-9-CM	Diagnosis
649.41	Epilepsy complicating pregnancy, childbirth, or the puerperium, delivered, with or without mention of antepartum condition	ICD-9-CM	Diagnosis

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes Used to Define Inclusion and Exclusion Criteria in this Report

Code	Description	Code Type	Code Category
649.42	Epilepsy complicating pregnancy, childbirth, or the puerperium, delivered, with mention of postpartum complication	ICD-9-CM	Diagnosis
649.43	Epilepsy complicating pregnancy, childbirth, or the puerperium, antepartum condition or complication	ICD-9-CM	Diagnosis
649.44	Epilepsy complicating pregnancy, childbirth, or the puerperium, postpartum condition or complication	ICD-9-CM	Diagnosis
649.5	Spotting complicating pregnancy	ICD-9-CM	Diagnosis
649.50	Spotting complicating pregnancy, unspecified as to episode of care or not applicable	ICD-9-CM	Diagnosis
649.51	Spotting complicating pregnancy, delivered, with or without mention of antepartum condition	ICD-9-CM	Diagnosis
649.53	Spotting complicating pregnancy, antepartum condition or complication	ICD-9-CM	Diagnosis
649.6	Uterine size date discrepancy	ICD-9-CM	Diagnosis
649.60	Uterine size date discrepancy, unspecified as to episode of care or not applicable	ICD-9-CM	Diagnosis
649.61	Uterine size date discrepancy, delivered, with or without mention of antepartum condition	ICD-9-CM	Diagnosis
649.62	Uterine size date discrepancy, delivered, with mention of postpartum complication	ICD-9-CM	Diagnosis
649.63	Uterine size date discrepancy, antepartum condition or complication	ICD-9-CM	Diagnosis
649.64	Uterine size date discrepancy, postpartum condition or complication	ICD-9-CM	Diagnosis
649.7	Cervical shortening	ICD-9-CM	Diagnosis
649.70	Cervical shortening, unspecified as to episode of care or not applicable	ICD-9-CM	Diagnosis
649.71	Cervical shortening, delivered, with or without mention of antepartum condition	ICD-9-CM	Diagnosis
649.73	Cervical shortening, antepartum condition or complication	ICD-9-CM	Diagnosis
649.8	Onset (spontaneous) of labor after 37 completed weeks of gestation but before 39 completed weeks gestation, with delivery by (planned) cesarean section	ICD-9-CM	Diagnosis
649.81	Onset (spontaneous) of labor after 37 completed weeks of gestation but before 39 completed weeks gestation, with delivery by (planned) cesarean section, delivered, with or without mention of antepartum condition	ICD-9-CM	Diagnosis
649.82	Onset (spontaneous) of labor after 37 completed weeks of gestation but before 39 completed weeks gestation, with delivery by (planned) cesarean section, delivered, with mention of postpartum complication	ICD-9-CM	Diagnosis
650	Normal delivery	ICD-9-CM	Diagnosis
651	Multiple gestation	ICD-9-CM	Diagnosis
651.0	Twin pregnancy	ICD-9-CM	Diagnosis
651.00	Twin pregnancy, unspecified as to episode of care	ICD-9-CM	Diagnosis
651.01	Twin pregnancy, delivered	ICD-9-CM	Diagnosis
651.03	Twin pregnancy, antepartum	ICD-9-CM	Diagnosis
651.1	Triplet pregnancy	ICD-9-CM	Diagnosis
651.10	Triplet pregnancy, unspecified as to episode of care	ICD-9-CM	Diagnosis
651.11	Triplet pregnancy, delivered	ICD-9-CM	Diagnosis
651.13	Triplet pregnancy, antepartum	ICD-9-CM	Diagnosis
651.2	Quadruplet pregnancy	ICD-9-CM	Diagnosis
651.20	Quadruplet pregnancy, unspecified as to episode of care	ICD-9-CM	Diagnosis
651.21	Quadruplet pregnancy, delivered	ICD-9-CM	Diagnosis
651.23	Quadruplet pregnancy, antepartum	ICD-9-CM	Diagnosis

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes Used to Define Inclusion and Exclusion Criteria in this Report

Code	Description	Code Type	Code Category
651.3	Twin pregnancy with fetal loss and retention of one fetus	ICD-9-CM	Diagnosis
651.30	Twin pregnancy with fetal loss and retention of one fetus, unspecified as to episode of care or not applicable	ICD-9-CM	Diagnosis
651.31	Twin pregnancy with fetal loss and retention of one fetus, delivered	ICD-9-CM	Diagnosis
651.33	Twin pregnancy with fetal loss and retention of one fetus, antepartum	ICD-9-CM	Diagnosis
651.4	Triplet pregnancy with fetal loss and retention of one or more	ICD-9-CM	Diagnosis
651.40	Triplet pregnancy with fetal loss and retention of one or more, unspecified as to episode of care or not applicable	ICD-9-CM	Diagnosis
651.41	Triplet pregnancy with fetal loss and retention of one or more, delivered	ICD-9-CM	Diagnosis
651.43	Triplet pregnancy with fetal loss and retention of one or more, antepartum	ICD-9-CM	Diagnosis
651.5	Quadruplet pregnancy with fetal loss and retention of one or more	ICD-9-CM	Diagnosis
651.50	Quadruplet pregnancy with fetal loss and retention of one or more, unspecified as to episode of care or not applicable	ICD-9-CM	Diagnosis
651.51	Quadruplet pregnancy with fetal loss and retention of one or more, delivered	ICD-9-CM	Diagnosis
651.53	Quadruplet pregnancy with fetal loss and retention of one or more, antepartum	ICD-9-CM	Diagnosis
651.6	Other multiple pregnancy with fetal loss and retention of one or more fetus(es)	ICD-9-CM	Diagnosis
651.60	Other multiple pregnancy with fetal loss and retention of one or more fetus(es), unspecified as to episode of care or not applicable	ICD-9-CM	Diagnosis
651.61	Other multiple pregnancy with fetal loss and retention of one or more fetus(es), delivered	ICD-9-CM	Diagnosis
651.63	Other multiple pregnancy with fetal loss and retention of one or more fetus(es), antepartum	ICD-9-CM	Diagnosis
651.7	Multiple gestation following (elective) fetal reduction	ICD-9-CM	Diagnosis
651.70	Multiple gestation following (elective) fetal reduction, unspecified as to episode of care or not applicable	ICD-9-CM	Diagnosis
651.71	Multiple gestation following (elective) fetal reduction, delivered, with or without mention of antepartum condition	ICD-9-CM	Diagnosis
651.73	Multiple gestation following (elective) fetal reduction, antepartum condition or complication	ICD-9-CM	Diagnosis
651.8	Other specified multiple gestation	ICD-9-CM	Diagnosis
651.80	Other specified multiple gestation, unspecified as to episode of care	ICD-9-CM	Diagnosis
651.81	Other specified multiple gestation, delivered	ICD-9-CM	Diagnosis
651.83	Other specified multiple gestation, antepartum	ICD-9-CM	Diagnosis
651.9	Unspecified multiple gestation	ICD-9-CM	Diagnosis
651.90	Unspecified multiple gestation, unspecified as to episode of care	ICD-9-CM	Diagnosis
651.91	Unspecified multiple gestation, delivered	ICD-9-CM	Diagnosis
651.93	Unspecified multiple gestation, antepartum	ICD-9-CM	Diagnosis
652	Malposition and malpresentation of fetus	ICD-9-CM	Diagnosis
652.0	Unstable lie of fetus	ICD-9-CM	Diagnosis
652.00	Unstable lie of fetus, unspecified as to episode of care	ICD-9-CM	Diagnosis
652.01	Unstable lie of fetus, delivered	ICD-9-CM	Diagnosis
652.03	Unstable lie of fetus, antepartum	ICD-9-CM	Diagnosis
652.1	Breech or other malpresentation successfully converted to cephalic presentation	ICD-9-CM	Diagnosis
652.10	Breech or other malpresentation successfully converted to cephalic presentation, unspecified as to episode of care	ICD-9-CM	Diagnosis

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes Used to Define Inclusion and Exclusion Criteria in this Report

Code	Description	Code Type	Code Category
652.11	Breech or other malpresentation successfully converted to cephalic presentation, delivered	ICD-9-CM	Diagnosis
652.13	Breech or other malpresentation successfully converted to cephalic presentation, antepartum	ICD-9-CM	Diagnosis
652.2	Breech presentation without mention of version	ICD-9-CM	Diagnosis
652.20	Breech presentation without mention of version, unspecified as to episode of care	ICD-9-CM	Diagnosis
652.21	Breech presentation without mention of version, delivered	ICD-9-CM	Diagnosis
652.23	Breech presentation without mention of version, antepartum	ICD-9-CM	Diagnosis
652.3	Transverse or oblique presentation of fetus	ICD-9-CM	Diagnosis
652.30	Transverse or oblique fetal presentation, unspecified as to episode of care	ICD-9-CM	Diagnosis
652.31	Transverse or oblique fetal presentation, delivered	ICD-9-CM	Diagnosis
652.33	Transverse or oblique fetal presentation, antepartum	ICD-9-CM	Diagnosis
652.4	Fetal face or brow presentation of fetus	ICD-9-CM	Diagnosis
652.40	Fetal face or brow presentation, unspecified as to episode of care	ICD-9-CM	Diagnosis
652.41	Fetal face or brow presentation, delivered	ICD-9-CM	Diagnosis
652.43	Fetal face or brow presentation, antepartum	ICD-9-CM	Diagnosis
652.5	High fetal head at term	ICD-9-CM	Diagnosis
652.50	High fetal head at term, unspecified as to episode of care	ICD-9-CM	Diagnosis
652.51	High fetal head at term, delivered	ICD-9-CM	Diagnosis
652.53	High fetal head at term, antepartum	ICD-9-CM	Diagnosis
652.6	Multiple gestation with malpresentation of one fetus or more	ICD-9-CM	Diagnosis
652.60	Multiple gestation with malpresentation of one fetus or more, unspecified as to episode of care	ICD-9-CM	Diagnosis
652.61	Multiple gestation with malpresentation of one fetus or more, delivered	ICD-9-CM	Diagnosis
652.63	Multiple gestation with malpresentation of one fetus or more, antepartum	ICD-9-CM	Diagnosis
652.7	Prolapsed arm of fetus	ICD-9-CM	Diagnosis
652.70	Prolapsed arm of fetus, unspecified as to episode of care	ICD-9-CM	Diagnosis
652.71	Prolapsed arm of fetus, delivered	ICD-9-CM	Diagnosis
652.73	Prolapsed arm of fetus, antepartum condition or complication	ICD-9-CM	Diagnosis
652.8	Other specified malposition or malpresentation of fetus	ICD-9-CM	Diagnosis
652.80	Other specified malposition or malpresentation of fetus, unspecified as to episode of care	ICD-9-CM	Diagnosis
652.81	Other specified malposition or malpresentation of fetus, delivered	ICD-9-CM	Diagnosis
652.83	Other specified malposition or malpresentation of fetus, antepartum	ICD-9-CM	Diagnosis
652.9	Unspecified malposition or malpresentation of fetus	ICD-9-CM	Diagnosis
652.90	Unspecified malposition or malpresentation of fetus, unspecified as to episode of care	ICD-9-CM	Diagnosis
652.91	Unspecified malposition or malpresentation of fetus, delivered	ICD-9-CM	Diagnosis
652.93	Unspecified malposition or malpresentation of fetus, antepartum	ICD-9-CM	Diagnosis
653	Disproportion in pregnancy, labor, and delivery	ICD-9-CM	Diagnosis
653.0	Major abnormality of bony pelvis, not further specified, in pregnancy	ICD-9-CM	Diagnosis
653.00	Major abnormality of bony pelvis, not further specified in pregnancy, unspecified as to episode of care	ICD-9-CM	Diagnosis
653.01	Major abnormality of bony pelvis, not further specified, delivered	ICD-9-CM	Diagnosis
653.03	Major abnormality of bony pelvis, not further specified, antepartum	ICD-9-CM	Diagnosis
653.1	Generally contracted pelvis in pregnancy	ICD-9-CM	Diagnosis

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes Used to Define Inclusion and Exclusion Criteria in this Report

Code	Description	Code Type	Code Category
653.10	Generally contracted pelvis in pregnancy, unspecified as to episode of care in pregnancy	ICD-9-CM	Diagnosis
653.11	Generally contracted pelvis in pregnancy, delivered	ICD-9-CM	Diagnosis
653.13	Generally contracted pelvis in pregnancy, antepartum	ICD-9-CM	Diagnosis
653.2	Inlet contraction of pelvis in pregnancy	ICD-9-CM	Diagnosis
653.20	Inlet contraction of pelvis in pregnancy, unspecified as to episode of care in pregnancy	ICD-9-CM	Diagnosis
653.21	Inlet contraction of pelvis in pregnancy, delivered	ICD-9-CM	Diagnosis
653.23	Inlet contraction of pelvis in pregnancy, antepartum	ICD-9-CM	Diagnosis
653.3	Outlet contraction of pelvis in pregnancy	ICD-9-CM	Diagnosis
653.30	Outlet contraction of pelvis in pregnancy, unspecified as to episode of care in pregnancy	ICD-9-CM	Diagnosis
653.31	Outlet contraction of pelvis in pregnancy, delivered	ICD-9-CM	Diagnosis
653.33	Outlet contraction of pelvis in pregnancy, antepartum	ICD-9-CM	Diagnosis
653.4	Fetopelvic disproportion	ICD-9-CM	Diagnosis
653.40	Fetopelvic disproportion, unspecified as to episode of care	ICD-9-CM	Diagnosis
653.41	Fetopelvic disproportion, delivered	ICD-9-CM	Diagnosis
653.43	Fetopelvic disproportion, antepartum	ICD-9-CM	Diagnosis
653.5	Unusually large fetus causing disproportion	ICD-9-CM	Diagnosis
653.50	Unusually large fetus causing disproportion, unspecified as to episode of care	ICD-9-CM	Diagnosis
653.51	Unusually large fetus causing disproportion, delivered	ICD-9-CM	Diagnosis
653.53	Unusually large fetus causing disproportion, antepartum	ICD-9-CM	Diagnosis
653.6	Hydrocephalic fetus causing disproportion	ICD-9-CM	Diagnosis
653.60	Hydrocephalic fetus causing disproportion, unspecified as to episode of care	ICD-9-CM	Diagnosis
653.61	Hydrocephalic fetus causing disproportion, delivered	ICD-9-CM	Diagnosis
653.63	Hydrocephalic fetus causing disproportion, antepartum	ICD-9-CM	Diagnosis
653.7	Other fetal abnormality causing disproportion	ICD-9-CM	Diagnosis
653.70	Other fetal abnormality causing disproportion, unspecified as to episode of care	ICD-9-CM	Diagnosis
653.71	Other fetal abnormality causing disproportion, delivered	ICD-9-CM	Diagnosis
653.73	Other fetal abnormality causing disproportion, antepartum	ICD-9-CM	Diagnosis
653.8	Fetal disproportion of other origin	ICD-9-CM	Diagnosis
653.80	Fetal disproportion of other origin, unspecified as to episode of care	ICD-9-CM	Diagnosis
653.81	Fetal disproportion of other origin, delivered	ICD-9-CM	Diagnosis
653.83	Fetal disproportion of other origin, antepartum	ICD-9-CM	Diagnosis
653.9	Unspecified fetal disproportion	ICD-9-CM	Diagnosis
653.90	Unspecified fetal disproportion, unspecified as to episode of care	ICD-9-CM	Diagnosis
653.91	Unspecified fetal disproportion, delivered	ICD-9-CM	Diagnosis
653.93	Unspecified fetal disproportion, antepartum	ICD-9-CM	Diagnosis
654	Abnormality of organs and soft tissues of pelvis complicating pregnancy, childbirth, or the puerperium	ICD-9-CM	Diagnosis
654.0	Congenital abnormalities of pregnant uterus complicating pregnancy, childbirth, or the puerperium	ICD-9-CM	Diagnosis
654.00	Congenital abnormalities of pregnant uterus, unspecified as to episode of care	ICD-9-CM	Diagnosis
654.01	Congenital abnormalities of pregnant uterus, delivered	ICD-9-CM	Diagnosis
654.02	Congenital abnormalities of pregnant uterus, delivered, with mention of postpartum complication	ICD-9-CM	Diagnosis

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Code	Description	Code Type	Code Category
654.03	Congenital abnormalities of pregnant uterus, antepartum	ICD-9-CM	Diagnosis
654.04	Congenital abnormalities of uterus, postpartum condition or complication	ICD-9-CM	Diagnosis
654.1	Tumors of body of pregnant uterus	ICD-9-CM	Diagnosis
654.10	Tumors of body of pregnant uterus, unspecified as to episode of care in pregnancy	ICD-9-CM	Diagnosis
654.11	Tumors of body of uterus, delivered	ICD-9-CM	Diagnosis
654.12	Tumors of body of uterus, delivered, with mention of postpartum complication	ICD-9-CM	Diagnosis
654.13	Tumors of body of uterus, antepartum condition or complication	ICD-9-CM	Diagnosis
654.14	Tumors of body of uterus, postpartum condition or complication	ICD-9-CM	Diagnosis
654.2	Previous cesarean section complicating pregnancy, childbirth, or the puerperium	ICD-9-CM	Diagnosis
654.20	Previous cesarean delivery, unspecified as to episode of care or not applicable	ICD-9-CM	Diagnosis
654.21	Previous cesarean delivery, delivered, with or without mention of antepartum condition	ICD-9-CM	Diagnosis
654.23	Previous cesarean delivery, antepartum condition or complication	ICD-9-CM	Diagnosis
654.3	Retroverted and incarcerated gravid uterus	ICD-9-CM	Diagnosis
654.30	Retroverted and incarcerated gravid uterus, unspecified as to episode of care	ICD-9-CM	Diagnosis
654.31	Retroverted and incarcerated gravid uterus, delivered	ICD-9-CM	Diagnosis
654.32	Retroverted and incarcerated gravid uterus, delivered, with mention of postpartum complication	ICD-9-CM	Diagnosis
654.33	Retroverted and incarcerated gravid uterus, antepartum	ICD-9-CM	Diagnosis
654.34	Retroverted and incarcerated gravid uterus, postpartum condition or complication	ICD-9-CM	Diagnosis
654.4	Other abnormalities in shape or position of gravid uterus and of neighboring structures	ICD-9-CM	Diagnosis
654.40	Other abnormalities in shape or position of gravid uterus and of neighboring structures, unspecified as to episode of care	ICD-9-CM	Diagnosis
654.41	Other abnormalities in shape or position of gravid uterus and of neighboring structures, delivered	ICD-9-CM	Diagnosis
654.42	Other abnormalities in shape or position of gravid uterus and of neighboring structures, delivered, with mention of postpartum complication	ICD-9-CM	Diagnosis
654.43	Other abnormalities in shape or position of gravid uterus and of neighboring structures, antepartum	ICD-9-CM	Diagnosis
654.44	Other abnormalities in shape or position of gravid uterus and of neighboring structures, postpartum condition or complication	ICD-9-CM	Diagnosis
654.5	Cervical incompetence complicating pregnancy, childbirth, or the puerperium	ICD-9-CM	Diagnosis
654.50	Cervical incompetence, unspecified as to episode of care in pregnancy	ICD-9-CM	Diagnosis
654.51	Cervical incompetence, delivered	ICD-9-CM	Diagnosis
654.52	Cervical incompetence, delivered, with mention of postpartum complication	ICD-9-CM	Diagnosis
654.53	Cervical incompetence, antepartum condition or complication	ICD-9-CM	Diagnosis
654.54	Cervical incompetence, postpartum condition or complication	ICD-9-CM	Diagnosis
654.6	Other congenital or acquired abnormality of cervix complicating pregnancy, childbirth, or the puerperium	ICD-9-CM	Diagnosis
654.60	Other congenital or acquired abnormality of cervix, unspecified as to episode of care in pregnancy	ICD-9-CM	Diagnosis
654.61	Other congenital or acquired abnormality of cervix, with delivery	ICD-9-CM	Diagnosis

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Code	Description	Code Type	Code Category
654.62	Other congenital or acquired abnormality of cervix, delivered, with mention of postpartum complication	ICD-9-CM	Diagnosis
654.63	Other congenital or acquired abnormality of cervix, antepartum condition or complication	ICD-9-CM	Diagnosis
654.64	Other congenital or acquired abnormality of cervix, postpartum condition or complication	ICD-9-CM	Diagnosis
654.7	Congenital or acquired abnormality of vagina complicating pregnancy, childbirth, or the puerperium	ICD-9-CM	Diagnosis
654.70	Congenital or acquired abnormality of vagina, unspecified as to episode of care in pregnancy	ICD-9-CM	Diagnosis
654.71	Congenital or acquired abnormality of vagina, with delivery	ICD-9-CM	Diagnosis
654.72	Congenital or acquired abnormality of vagina, delivered, with mention of postpartum complication	ICD-9-CM	Diagnosis
654.73	Congenital or acquired abnormality of vagina, antepartum condition or complication	ICD-9-CM	Diagnosis
654.74	Congenital or acquired abnormality of vagina, postpartum condition or complication	ICD-9-CM	Diagnosis
654.8	Congenital or acquired abnormality of vulva complicating pregnancy, childbirth, or the puerperium	ICD-9-CM	Diagnosis
654.80	Congenital or acquired abnormality of vulva, unspecified as to episode of care in pregnancy	ICD-9-CM	Diagnosis
654.81	Congenital or acquired abnormality of vulva, with delivery	ICD-9-CM	Diagnosis
654.82	Congenital or acquired abnormality of vulva, delivered, with mention of postpartum complication	ICD-9-CM	Diagnosis
654.83	Congenital or acquired abnormality of vulva, antepartum condition or complication	ICD-9-CM	Diagnosis
654.84	Congenital or acquired abnormality of vulva, postpartum condition or complication	ICD-9-CM	Diagnosis
654.9	Other and unspecified abnormality of organs and soft tissues of pelvis complicating pregnancy, childbirth, and the puerperium	ICD-9-CM	Diagnosis
654.90	Other and unspecified abnormality of organs and soft tissues of pelvis, unspecified as to episode of care in pregnancy	ICD-9-CM	Diagnosis
654.91	Other and unspecified abnormality of organs and soft tissues of pelvis, with delivery	ICD-9-CM	Diagnosis
654.92	Other and unspecified abnormality of organs and soft tissues of pelvis, delivered, with mention of postpartum complication	ICD-9-CM	Diagnosis
654.93	Other and unspecified abnormality of organs and soft tissues of pelvis, antepartum condition or complication	ICD-9-CM	Diagnosis
654.94	Other and unspecified abnormality of organs and soft tissues of pelvis, postpartum condition or complication	ICD-9-CM	Diagnosis
655	Known or suspected fetal abnormality affecting management of mother	ICD-9-CM	Diagnosis
655.0	Central nervous system malformation in fetus affecting management of mother	ICD-9-CM	Diagnosis
655.00	Central nervous system malformation in fetus, unspecified as to episode of care in pregnancy	ICD-9-CM	Diagnosis
655.01	Central nervous system malformation in fetus, with delivery	ICD-9-CM	Diagnosis
655.03	Central nervous system malformation in fetus, antepartum	ICD-9-CM	Diagnosis

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes Used to Define Inclusion and Exclusion Criteria in this Report

Code	Description	Code Type	Code Category
655.1	Chromosomal abnormality in fetus affecting management of mother	ICD-9-CM	Diagnosis
655.10	Chromosomal abnormality in fetus, affecting management of mother, unspecified as to episode of care in pregnancy	ICD-9-CM	Diagnosis
655.11	Chromosomal abnormality in fetus, affecting management of mother, with delivery	ICD-9-CM	Diagnosis
655.13	Chromosomal abnormality in fetus, affecting management of mother, antepartum	ICD-9-CM	Diagnosis
655.2	Hereditary disease in family possibly affecting fetus, affecting management of mother	ICD-9-CM	Diagnosis
655.20	Hereditary disease in family possibly affecting fetus, affecting management of mother, unspecified as to episode of care in pregnancy	ICD-9-CM	Diagnosis
655.21	Hereditary disease in family possibly affecting fetus, affecting management of mother, with delivery	ICD-9-CM	Diagnosis
655.23	Hereditary disease in family possibly affecting fetus, affecting management of mother, antepartum condition or complication	ICD-9-CM	Diagnosis
655.3	Suspected damage to fetus from viral disease in mother, affecting management of mother	ICD-9-CM	Diagnosis
655.30	Suspected damage to fetus from viral disease in mother, affecting management of mother, unspecified as to episode of care in pregnancy	ICD-9-CM	Diagnosis
655.31	Suspected damage to fetus from viral disease in mother, affecting management of mother, with delivery	ICD-9-CM	Diagnosis
655.33	Suspected damage to fetus from viral disease in mother, affecting management of mother, antepartum condition or complication	ICD-9-CM	Diagnosis
655.4	Suspected damage to fetus from other disease in mother, affecting management of mother	ICD-9-CM	Diagnosis
655.40	Suspected damage to fetus from other disease in mother, affecting management of mother, unspecified as to episode of care in pregnancy	ICD-9-CM	Diagnosis
655.41	Suspected damage to fetus from other disease in mother, affecting management of mother, with delivery	ICD-9-CM	Diagnosis
655.43	Suspected damage to fetus from other disease in mother, affecting management of mother, antepartum condition or complication	ICD-9-CM	Diagnosis
655.5	Suspected damage to fetus from drugs, affecting management of mother	ICD-9-CM	Diagnosis
655.50	Suspected damage to fetus from drugs, affecting management of mother, unspecified as to episode of care	ICD-9-CM	Diagnosis
655.51	Suspected damage to fetus from drugs, affecting management of mother, delivered	ICD-9-CM	Diagnosis
655.53	Suspected damage to fetus from drugs, affecting management of mother, antepartum	ICD-9-CM	Diagnosis
655.6	Suspected damage to fetus from radiation, affecting management of mother	ICD-9-CM	Diagnosis
655.60	Suspected damage to fetus from radiation, affecting management of mother, unspecified as to episode of care	ICD-9-CM	Diagnosis
655.61	Suspected damage to fetus from radiation, affecting management of mother, delivered	ICD-9-CM	Diagnosis
655.63	Suspected damage to fetus from radiation, affecting management of mother, antepartum condition or complication	ICD-9-CM	Diagnosis
655.7	Decreased fetal movements	ICD-9-CM	Diagnosis

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes Used to Define Inclusion and Exclusion Criteria in this Report

Code	Description	Code Type	Code Category
655.70	Decreased fetal movements, unspecified as to episode of care	ICD-9-CM	Diagnosis
655.71	Decreased fetal movements, affecting management of mother, delivered	ICD-9-CM	Diagnosis
655.73	Decreased fetal movements, affecting management of mother, antepartum condition or complication	ICD-9-CM	Diagnosis
655.8	Other known or suspected fetal abnormality, not elsewhere classified, affecting management of mother	ICD-9-CM	Diagnosis
655.80	Other known or suspected fetal abnormality, not elsewhere classified, affecting management of mother, unspecified as to episode of care	ICD-9-CM	Diagnosis
655.81	Other known or suspected fetal abnormality, not elsewhere classified, affecting management of mother, delivery	ICD-9-CM	Diagnosis
655.83	Other known or suspected fetal abnormality, not elsewhere classified, affecting management of mother, antepartum condition or complication	ICD-9-CM	Diagnosis
655.9	Unspecified fetal abnormality affecting management of mother	ICD-9-CM	Diagnosis
655.90	Unspecified fetal abnormality affecting management of mother, unspecified as to episode of care	ICD-9-CM	Diagnosis
655.91	Unspecified fetal abnormality affecting management of mother, delivery	ICD-9-CM	Diagnosis
655.93	Unspecified fetal abnormality affecting management of mother, antepartum condition or complication	ICD-9-CM	Diagnosis
656	Other known or suspected fetal and placental problems affecting management of mother	ICD-9-CM	Diagnosis
656.0	Fetal-maternal hemorrhage affecting management of mother	ICD-9-CM	Diagnosis
656.00	Fetal-maternal hemorrhage, unspecified as to episode of care in pregnancy	ICD-9-CM	Diagnosis
656.01	Fetal-maternal hemorrhage, with delivery	ICD-9-CM	Diagnosis
656.03	Fetal-maternal hemorrhage, antepartum condition or complication	ICD-9-CM	Diagnosis
656.1	Rhesus isoimmunization affecting management of mother	ICD-9-CM	Diagnosis
656.10	Rhesus isoimmunization unspecified as to episode of care in pregnancy	ICD-9-CM	Diagnosis
656.11	Rhesus isoimmunization affecting management of mother, delivered	ICD-9-CM	Diagnosis
656.13	Rhesus isoimmunization affecting management of mother, antepartum condition	ICD-9-CM	Diagnosis
656.2	Isoimmunization from other and unspecified blood-group incompatibility affecting management of mother	ICD-9-CM	Diagnosis
656.20	Isoimmunization from other and unspecified blood-group incompatibility, unspecified as to episode of care in pregnancy	ICD-9-CM	Diagnosis
656.21	Isoimmunization from other and unspecified blood-group incompatibility, affecting management of mother, delivered	ICD-9-CM	Diagnosis
656.23	Isoimmunization from other and unspecified blood-group incompatibility, affecting management of mother, antepartum	ICD-9-CM	Diagnosis
656.3	Fetal distress affecting management of mother	ICD-9-CM	Diagnosis
656.30	Fetal distress affecting management of mother, unspecified as to episode of care	ICD-9-CM	Diagnosis
656.31	Fetal distress affecting management of mother, delivered	ICD-9-CM	Diagnosis
656.33	Fetal distress affecting management of mother, antepartum	ICD-9-CM	Diagnosis
656.4	Intrauterine death affecting management of mother	ICD-9-CM	Diagnosis
656.40	Intrauterine death affecting management of mother, unspecified as to episode of care	ICD-9-CM	Diagnosis
656.41	Intrauterine death affecting management of mother, delivered	ICD-9-CM	Diagnosis
656.43	Intrauterine death affecting management of mother, antepartum	ICD-9-CM	Diagnosis
656.5	Poor fetal growth affecting management of mother	ICD-9-CM	Diagnosis

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes Used to Define Inclusion and Exclusion Criteria in this Report

Code	Description	Code Type	Code Category
656.50	Poor fetal growth, affecting management of mother, unspecified as to episode of care	ICD-9-CM	Diagnosis
656.51	Poor fetal growth, affecting management of mother, delivered	ICD-9-CM	Diagnosis
656.53	Poor fetal growth, affecting management of mother, antepartum condition or complication	ICD-9-CM	Diagnosis
656.6	Excessive fetal growth affecting management of mother	ICD-9-CM	Diagnosis
656.60	Excessive fetal growth affecting management of mother, unspecified as to episode of care	ICD-9-CM	Diagnosis
656.61	Excessive fetal growth affecting management of mother, delivered	ICD-9-CM	Diagnosis
656.63	Excessive fetal growth affecting management of mother, antepartum	ICD-9-CM	Diagnosis
656.7	Other placental conditions affecting management of mother	ICD-9-CM	Diagnosis
656.70	Other placental conditions affecting management of mother, unspecified as to episode of care	ICD-9-CM	Diagnosis
656.71	Other placental conditions affecting management of mother, delivered	ICD-9-CM	Diagnosis
656.73	Other placental conditions affecting management of mother, antepartum	ICD-9-CM	Diagnosis
656.8	Other specified fetal and placental problems affecting management of mother	ICD-9-CM	Diagnosis
656.80	Other specified fetal and placental problems affecting management of mother, unspecified as to episode of care	ICD-9-CM	Diagnosis
656.81	Other specified fetal and placental problems affecting management of mother, delivered	ICD-9-CM	Diagnosis
656.83	Other specified fetal and placental problems affecting management of mother, antepartum	ICD-9-CM	Diagnosis
656.9	Unspecified fetal and placental problem affecting management of mother	ICD-9-CM	Diagnosis
656.90	Unspecified fetal and placental problem affecting management of mother, unspecified as to episode of care	ICD-9-CM	Diagnosis
656.91	Unspecified fetal and placental problem affecting management of mother, delivered	ICD-9-CM	Diagnosis
656.93	Unspecified fetal and placental problem affecting management of mother, antepartum	ICD-9-CM	Diagnosis
657	Polyhydramnios	ICD-9-CM	Diagnosis
657.0	Polyhydramnios	ICD-9-CM	Diagnosis
657.00	Polyhydramnios, unspecified as to episode of care	ICD-9-CM	Diagnosis
657.01	Polyhydramnios, with delivery	ICD-9-CM	Diagnosis
657.03	Polyhydramnios, antepartum complication	ICD-9-CM	Diagnosis
658	Other problems associated with amniotic cavity and membranes	ICD-9-CM	Diagnosis
658.0	Oligohydramnios	ICD-9-CM	Diagnosis
658.00	Oligohydramnios, unspecified as to episode of care	ICD-9-CM	Diagnosis
658.01	Oligohydramnios, delivered	ICD-9-CM	Diagnosis
658.03	Oligohydramnios, antepartum	ICD-9-CM	Diagnosis
658.1	Premature rupture of membranes in pregnancy	ICD-9-CM	Diagnosis
658.10	Premature rupture of membranes in pregnancy, unspecified as to episode of care	ICD-9-CM	Diagnosis
658.11	Premature rupture of membranes in pregnancy, delivered	ICD-9-CM	Diagnosis
658.13	Premature rupture of membranes in pregnancy, antepartum	ICD-9-CM	Diagnosis
658.2	Delayed delivery after spontaneous or unspecified rupture of membranes	ICD-9-CM	Diagnosis
658.20	Delayed delivery after spontaneous or unspecified rupture of membranes, unspecified as to episode of care	ICD-9-CM	Diagnosis

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes Used to Define Inclusion and Exclusion Criteria in this Report

Code	Description	Code Type	Code Category
658.21	Delayed delivery after spontaneous or unspecified rupture of membranes, delivered	ICD-9-CM	Diagnosis
658.23	Delayed delivery after spontaneous or unspecified rupture of membranes, antepartum	ICD-9-CM	Diagnosis
658.3	Delayed delivery after artificial rupture of membranes	ICD-9-CM	Diagnosis
658.30	Delayed delivery after artificial rupture of membranes, unspecified as to episode of care	ICD-9-CM	Diagnosis
658.31	Delayed delivery after artificial rupture of membranes, delivered	ICD-9-CM	Diagnosis
658.33	Delayed delivery after artificial rupture of membranes, antepartum	ICD-9-CM	Diagnosis
658.4	Infection of amniotic cavity	ICD-9-CM	Diagnosis
658.40	Infection of amniotic cavity, unspecified as to episode of care	ICD-9-CM	Diagnosis
658.41	Infection of amniotic cavity, delivered	ICD-9-CM	Diagnosis
658.43	Infection of amniotic cavity, antepartum	ICD-9-CM	Diagnosis
658.8	Other problems associated with amniotic cavity and membranes	ICD-9-CM	Diagnosis
658.80	Other problem associated with amniotic cavity and membranes, unspecified as to episode of care	ICD-9-CM	Diagnosis
658.81	Other problem associated with amniotic cavity and membranes, delivered	ICD-9-CM	Diagnosis
658.83	Other problem associated with amniotic cavity and membranes, antepartum	ICD-9-CM	Diagnosis
658.9	Unspecified problem associated with amniotic cavity and membranes	ICD-9-CM	Diagnosis
658.90	Unspecified problem associated with amniotic cavity and membranes, unspecified as to episode of care	ICD-9-CM	Diagnosis
658.91	Unspecified problem associated with amniotic cavity and membranes, delivered	ICD-9-CM	Diagnosis
658.93	Unspecified problem associated with amniotic cavity and membranes, antepartum	ICD-9-CM	Diagnosis
659	Other indications for care or intervention related to labor and delivery, not elsewhere classified	ICD-9-CM	Diagnosis
659.0	Failed mechanical induction of labor	ICD-9-CM	Diagnosis
659.00	Failed mechanical induction of labor, unspecified as to episode of care	ICD-9-CM	Diagnosis
659.01	Failed mechanical induction of labor, delivered	ICD-9-CM	Diagnosis
659.03	Failed mechanical induction of labor, antepartum	ICD-9-CM	Diagnosis
659.1	Failed medical or unspecified induction of labor	ICD-9-CM	Diagnosis
659.10	Failed medical or unspecified induction of labor, unspecified as to episode of care	ICD-9-CM	Diagnosis
659.11	Failed medical or unspecified induction of labor, delivered	ICD-9-CM	Diagnosis
659.13	Failed medical or unspecified induction of labor, antepartum	ICD-9-CM	Diagnosis
659.2	Maternal pyrexia during labor, unspecified	ICD-9-CM	Diagnosis
659.20	Unspecified maternal pyrexia during labor, unspecified as to episode of care	ICD-9-CM	Diagnosis
659.21	Unspecified maternal pyrexia during labor, delivered	ICD-9-CM	Diagnosis
659.23	Unspecified maternal pyrexia, antepartum	ICD-9-CM	Diagnosis
659.3	Generalized infection during labor	ICD-9-CM	Diagnosis
659.30	Generalized infection during labor, unspecified as to episode of care	ICD-9-CM	Diagnosis
659.31	Generalized infection during labor, delivered	ICD-9-CM	Diagnosis
659.33	Generalized infection during labor, antepartum	ICD-9-CM	Diagnosis
659.4	Grand multiparity, with current pregnancy	ICD-9-CM	Diagnosis
659.40	Grand multiparity with current pregnancy, unspecified as to episode of care	ICD-9-CM	Diagnosis
659.41	Grand multiparity, delivered, with or without mention of antepartum condition	ICD-9-CM	Diagnosis
659.43	Grand multiparity with current pregnancy, antepartum	ICD-9-CM	Diagnosis

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes Used to Define Inclusion and Exclusion Criteria in this Report

Code	Description	Code Type	Code Category
659.5	Elderly primigravida	ICD-9-CM	Diagnosis
659.50	Elderly primigravida, unspecified as to episode of care	ICD-9-CM	Diagnosis
659.51	Elderly primigravida, delivered	ICD-9-CM	Diagnosis
659.53	Elderly primigravida, antepartum	ICD-9-CM	Diagnosis
659.6	Elderly multigravida	ICD-9-CM	Diagnosis
659.60	Elderly multigravida, unspecified as to episode of care or not applicable	ICD-9-CM	Diagnosis
659.61	Elderly multigravida, delivered, with mention of antepartum condition	ICD-9-CM	Diagnosis
659.63	Elderly multigravida, with antepartum condition or complication	ICD-9-CM	Diagnosis
659.7	Abnormality in fetal heart rate or rhythm	ICD-9-CM	Diagnosis
659.70	Abnormality in fetal heart rate or rhythm, unspecified as to episode of care or not applicable	ICD-9-CM	Diagnosis
659.71	Abnormality in fetal heart rate or rhythm, delivered, with or without mention of antepartum condition	ICD-9-CM	Diagnosis
659.73	Abnormality in fetal heart rate or rhythm, antepartum condition or complication	ICD-9-CM	Diagnosis
659.8	Other specified indications for care or intervention related to labor and delivery	ICD-9-CM	Diagnosis
659.80	Other specified indication for care or intervention related to labor and delivery, unspecified as to episode of care	ICD-9-CM	Diagnosis
659.81	Other specified indication for care or intervention related to labor and delivery, delivered	ICD-9-CM	Diagnosis
659.83	Other specified indication for care or intervention related to labor and delivery, antepartum	ICD-9-CM	Diagnosis
659.9	Unspecified indication for care or intervention related to labor and delivery	ICD-9-CM	Diagnosis
659.90	Unspecified indication for care or intervention related to labor and delivery, unspecified as to episode of care	ICD-9-CM	Diagnosis
659.91	Unspecified indication for care or intervention related to labor and delivery, delivered	ICD-9-CM	Diagnosis
659.93	Unspecified indication for care or intervention related to labor and delivery, antepartum	ICD-9-CM	Diagnosis
660	Obstructed labor	ICD-9-CM	Diagnosis
660.0	Obstruction caused by malposition of fetus at onset of labor	ICD-9-CM	Diagnosis
660.00	Obstruction caused by malposition of fetus at onset of labor, unspecified as to episode of care	ICD-9-CM	Diagnosis
660.01	Obstruction caused by malposition of fetus at onset of labor, delivered	ICD-9-CM	Diagnosis
660.03	Obstruction caused by malposition of fetus at onset of labor, antepartum	ICD-9-CM	Diagnosis
660.1	Obstruction by bony pelvis during labor and delivery	ICD-9-CM	Diagnosis
660.10	Obstruction by bony pelvis during labor and delivery, unspecified as to episode of care	ICD-9-CM	Diagnosis
660.11	Obstruction by bony pelvis during labor and delivery, delivered	ICD-9-CM	Diagnosis
660.13	Obstruction by bony pelvis during labor and delivery, antepartum	ICD-9-CM	Diagnosis
660.2	Obstruction by abnormal pelvic soft tissues during labor and delivery	ICD-9-CM	Diagnosis
660.20	Obstruction by abnormal pelvic soft tissues during labor and delivery, unspecified as to episode of care	ICD-9-CM	Diagnosis
660.21	Obstruction by abnormal pelvic soft tissues during labor and delivery, delivered	ICD-9-CM	Diagnosis
660.23	Obstruction by abnormal pelvic soft tissues during labor and delivery, antepartum	ICD-9-CM	Diagnosis

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes Used to Define Inclusion and Exclusion Criteria in this Report

Code	Description	Code Type	Code Category
660.3	Deep transverse arrest and persistent occipitoposterior position during labor and delivery	ICD-9-CM	Diagnosis
660.30	Deep transverse arrest and persistent occipitoposterior position during labor and delivery, unspecified as to episode of care	ICD-9-CM	Diagnosis
660.31	Deep transverse arrest and persistent occipitoposterior position during labor and deliver, delivered	ICD-9-CM	Diagnosis
660.33	Deep transverse arrest and persistent occipitoposterior position during labor and delivery, antepartum	ICD-9-CM	Diagnosis
660.4	Shoulder (girdle) dystocia during labor and delivery	ICD-9-CM	Diagnosis
660.40	Shoulder (girdle) dystocia during labor and delivery, unspecified as to episode of care	ICD-9-CM	Diagnosis
660.41	Shoulder (girdle) dystocia during labor and deliver, delivered	ICD-9-CM	Diagnosis
660.43	Shoulder (girdle) dystocia during labor and delivery, antepartum	ICD-9-CM	Diagnosis
660.5	Locked twins	ICD-9-CM	Diagnosis
660.50	Locked twins during labor and delivery, unspecified as to episode of care in pregnancy	ICD-9-CM	Diagnosis
660.51	Locked twins, delivered	ICD-9-CM	Diagnosis
660.53	Locked twins, antepartum	ICD-9-CM	Diagnosis
660.6	Unspecified failed trial of labor	ICD-9-CM	Diagnosis
660.60	Unspecified failed trial of labor, unspecified as to episode	ICD-9-CM	Diagnosis
660.61	Unspecified failed trial of labor, delivered	ICD-9-CM	Diagnosis
660.63	Unspecified failed trial of labor, antepartum	ICD-9-CM	Diagnosis
660.7	Unspecified failed forceps or vacuum extractor	ICD-9-CM	Diagnosis
660.70	Unspecified failed forceps or vacuum extractor, unspecified as to episode of care	ICD-9-CM	Diagnosis
660.71	Unspecified failed forceps or vacuum extractor, delivered	ICD-9-CM	Diagnosis
660.73	Failed forceps or vacuum extractor, unspecified, antepartum	ICD-9-CM	Diagnosis
660.8	Other causes of obstructed labor	ICD-9-CM	Diagnosis
660.80	Other causes of obstructed labor, unspecified as to episode of care	ICD-9-CM	Diagnosis
660.81	Other causes of obstructed labor, delivered	ICD-9-CM	Diagnosis
660.83	Other causes of obstructed labor, antepartum	ICD-9-CM	Diagnosis
660.9	Unspecified obstructed labor	ICD-9-CM	Diagnosis
660.90	Unspecified obstructed labor, unspecified as to episode of care	ICD-9-CM	Diagnosis
660.91	Unspecified obstructed labor, with delivery	ICD-9-CM	Diagnosis
660.93	Unspecified obstructed labor, antepartum	ICD-9-CM	Diagnosis
661	Abnormality of forces of labor	ICD-9-CM	Diagnosis
661.0	Primary uterine inertia	ICD-9-CM	Diagnosis
661.00	Primary uterine inertia, unspecified as to episode of care	ICD-9-CM	Diagnosis
661.01	Primary uterine inertia, with delivery	ICD-9-CM	Diagnosis
661.03	Primary uterine inertia, antepartum	ICD-9-CM	Diagnosis
661.1	Secondary uterine inertia	ICD-9-CM	Diagnosis
661.10	Secondary uterine inertia, unspecified as to episode of care	ICD-9-CM	Diagnosis
661.11	Secondary uterine inertia, with delivery	ICD-9-CM	Diagnosis
661.13	Secondary uterine inertia, antepartum	ICD-9-CM	Diagnosis
661.2	Other and unspecified uterine inertia	ICD-9-CM	Diagnosis
661.20	Other and unspecified uterine inertia, unspecified as to episode of care	ICD-9-CM	Diagnosis
661.21	Other and unspecified uterine inertia, with delivery	ICD-9-CM	Diagnosis

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes Used to Define Inclusion and Exclusion Criteria in this Report

Code	Description	Code Type	Code Category
661.23	Other and unspecified uterine inertia, antepartum	ICD-9-CM	Diagnosis
661.3	Precipitate labor	ICD-9-CM	Diagnosis
661.30	Precipitate labor, unspecified as to episode of care	ICD-9-CM	Diagnosis
661.31	Precipitate labor, with delivery	ICD-9-CM	Diagnosis
661.33	Precipitate labor, antepartum	ICD-9-CM	Diagnosis
661.4	Hypertonic, incoordinate, or prolonged uterine contractions	ICD-9-CM	Diagnosis
661.40	Hypertonic, incoordinate, or prolonged uterine contractions, unspecified as to episode of care	ICD-9-CM	Diagnosis
661.41	Hypertonic, incoordinate, or prolonged uterine contractions, with delivery	ICD-9-CM	Diagnosis
661.43	Hypertonic, incoordinate, or prolonged uterine contractions, antepartum	ICD-9-CM	Diagnosis
661.9	Unspecified abnormality of labor	ICD-9-CM	Diagnosis
661.90	Unspecified abnormality of labor, unspecified as to episode of care	ICD-9-CM	Diagnosis
661.91	Unspecified abnormality of labor, with delivery	ICD-9-CM	Diagnosis
661.93	Unspecified abnormality of labor, antepartum	ICD-9-CM	Diagnosis
662	Long labor	ICD-9-CM	Diagnosis
662.0	Prolonged first stage of labor	ICD-9-CM	Diagnosis
662.00	Prolonged first stage of labor, unspecified as to episode of care	ICD-9-CM	Diagnosis
662.01	Prolonged first stage of labor, delivered	ICD-9-CM	Diagnosis
662.03	Prolonged first stage of labor, antepartum	ICD-9-CM	Diagnosis
662.1	Unspecified prolonged labor	ICD-9-CM	Diagnosis
662.10	Unspecified prolonged labor, unspecified as to episode of care	ICD-9-CM	Diagnosis
662.11	Unspecified prolonged labor, delivered	ICD-9-CM	Diagnosis
662.13	Unspecified prolonged labor, antepartum	ICD-9-CM	Diagnosis
662.2	Prolonged second stage of labor	ICD-9-CM	Diagnosis
662.20	Prolonged second stage of labor, unspecified as to episode of care	ICD-9-CM	Diagnosis
662.21	Prolonged second stage of labor, delivered	ICD-9-CM	Diagnosis
662.23	Prolonged second stage of labor, antepartum	ICD-9-CM	Diagnosis
662.3	Delayed delivery of second twin, triplet, etc.	ICD-9-CM	Diagnosis
662.30	Delayed delivery of second twin, triplet, etc., unspecified as to episode of care	ICD-9-CM	Diagnosis
662.31	Delayed delivery of second twin, triplet, etc., delivered	ICD-9-CM	Diagnosis
662.33	Delayed delivery of second twin, triplet, etc., antepartum	ICD-9-CM	Diagnosis
663	Umbilical cord complications during labor and delivery	ICD-9-CM	Diagnosis
663.0	Prolapse of cord, complicating labor and delivery	ICD-9-CM	Diagnosis
663.00	Prolapse of cord, complicating labor and delivery, unspecified as to episode of care	ICD-9-CM	Diagnosis
663.01	Prolapse of cord, complicating labor and delivery, delivered	ICD-9-CM	Diagnosis
663.03	Prolapse of cord, complicating labor and delivery, antepartum	ICD-9-CM	Diagnosis
663.1	Cord around neck, with compression, complicating labor and delivery	ICD-9-CM	Diagnosis
663.10	Cord around neck, with compression, complicating labor and delivery, unspecified as to episode of care	ICD-9-CM	Diagnosis
663.11	Cord around neck, with compression, complicating labor and delivery, delivered	ICD-9-CM	Diagnosis
663.13	Cord around neck, with compression, complicating labor and delivery, antepartum	ICD-9-CM	Diagnosis
663.2	Other and unspecified cord entanglement, with compression, complicating labor and delivery	ICD-9-CM	Diagnosis

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Code	Description	Code Type	Code Category
663.20	Other and unspecified cord entanglement, with compression, complicating labor and delivery, unspecified as to episode of care	ICD-9-CM	Diagnosis
663.21	Other and unspecified cord entanglement, with compression, complicating labor and delivery, delivered	ICD-9-CM	Diagnosis
663.23	Other and unspecified cord entanglement, with compression, complicating labor and delivery, antepartum	ICD-9-CM	Diagnosis
663.3	Other and unspecified cord entanglement, without mention of compression, complicating labor and delivery	ICD-9-CM	Diagnosis
663.30	Other and unspecified cord entanglement, without mention of compression, complicating labor and delivery, unspecified as to episode of care	ICD-9-CM	Diagnosis
663.31	Other and unspecified cord entanglement, without mention of compression, complicating labor and delivery, delivered	ICD-9-CM	Diagnosis
663.33	Other and unspecified cord entanglement, without mention of compression, complicating labor and delivery, antepartum	ICD-9-CM	Diagnosis
663.4	Short cord complicating labor and delivery	ICD-9-CM	Diagnosis
663.40	Short cord complicating labor and delivery, unspecified as to episode of care	ICD-9-CM	Diagnosis
663.41	Short cord complicating labor and delivery, delivered	ICD-9-CM	Diagnosis
663.43	Short cord complicating labor and delivery, antepartum	ICD-9-CM	Diagnosis
663.5	Vasa previa complicating labor and delivery	ICD-9-CM	Diagnosis
663.50	Vasa previa complicating labor and delivery, unspecified as to episode of care	ICD-9-CM	Diagnosis
663.51	Vasa previa complicating labor and delivery, delivered	ICD-9-CM	Diagnosis
663.53	Vasa previa complicating labor and delivery, antepartum	ICD-9-CM	Diagnosis
663.6	Vascular lesions of cord complicating labor and delivery	ICD-9-CM	Diagnosis
663.60	Vascular lesions of cord complicating labor and delivery, unspecified as to episode of care	ICD-9-CM	Diagnosis
663.61	Vascular lesions of cord complicating labor and delivery, delivered	ICD-9-CM	Diagnosis
663.63	Vascular lesions of cord complicating labor and delivery, antepartum	ICD-9-CM	Diagnosis
663.8	Other umbilical cord complications during labor and delivery	ICD-9-CM	Diagnosis
663.80	Other umbilical cord complications during labor and delivery, unspecified as to episode of care	ICD-9-CM	Diagnosis
663.81	Other umbilical cord complications during labor and delivery, delivered	ICD-9-CM	Diagnosis
663.83	Other umbilical cord complications during labor and delivery, antepartum	ICD-9-CM	Diagnosis
663.9	Unspecified umbilical cord complication during labor and delivery	ICD-9-CM	Diagnosis
663.90	Unspecified umbilical cord complication during labor and delivery, unspecified as to episode of care	ICD-9-CM	Diagnosis
663.91	Unspecified umbilical cord complication during labor and delivery, delivered	ICD-9-CM	Diagnosis
663.93	Unspecified umbilical cord complication during labor and delivery, antepartum	ICD-9-CM	Diagnosis
664	Trauma to perineum and vulva during delivery	ICD-9-CM	Diagnosis
664.0	First-degree perineal laceration during delivery	ICD-9-CM	Diagnosis
664.00	First-degree perineal laceration, unspecified as to episode of care in pregnancy	ICD-9-CM	Diagnosis
664.01	First-degree perineal laceration, with delivery	ICD-9-CM	Diagnosis
664.04	First-degree perineal laceration, postpartum condition or complication	ICD-9-CM	Diagnosis
664.1	Second-degree perineal laceration during delivery	ICD-9-CM	Diagnosis
664.10	Second-degree perineal laceration, unspecified as to episode of care in pregnancy	ICD-9-CM	Diagnosis
664.11	Second-degree perineal laceration, with delivery	ICD-9-CM	Diagnosis
664.14	Second-degree perineal laceration, postpartum condition or complication	ICD-9-CM	Diagnosis

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes Used to Define Inclusion and Exclusion Criteria in this Report

Code	Description	Code Type	Code Category
664.2	Third-degree perineal laceration during delivery	ICD-9-CM	Diagnosis
664.20	Third-degree perineal laceration, unspecified as to episode of care in pregnancy	ICD-9-CM	Diagnosis
664.21	Third-degree perineal laceration, with delivery	ICD-9-CM	Diagnosis
664.24	Third-degree perineal laceration, postpartum condition or complication	ICD-9-CM	Diagnosis
664.3	Fourth-degree perineal laceration during delivery	ICD-9-CM	Diagnosis
664.30	Fourth-degree perineal laceration, unspecified as to episode of care in pregnancy	ICD-9-CM	Diagnosis
664.31	Fourth-degree perineal laceration, with delivery	ICD-9-CM	Diagnosis
664.34	Fourth-degree perineal laceration, postpartum condition or complication	ICD-9-CM	Diagnosis
664.4	Unspecified perineal laceration during delivery	ICD-9-CM	Diagnosis
664.40	Unspecified perineal laceration, unspecified as to episode of care in pregnancy	ICD-9-CM	Diagnosis
664.41	Unspecified perineal laceration, with delivery	ICD-9-CM	Diagnosis
664.44	Unspecified perineal laceration, postpartum condition or complication	ICD-9-CM	Diagnosis
664.5	Vulvar and perineal hematoma during delivery	ICD-9-CM	Diagnosis
664.50	Vulvar and perineal hematoma, unspecified as to episode of care in pregnancy	ICD-9-CM	Diagnosis
664.51	Vulvar and perineal hematoma, with delivery	ICD-9-CM	Diagnosis
664.54	Vulvar and perineal hematoma, postpartum condition or complication	ICD-9-CM	Diagnosis
664.6	Anal sphincter tear complicating delivery, not associated with third-degree perineal laceration	ICD-9-CM	Diagnosis
664.60	Anal sphincter tear complicating delivery, not associated with third-degree perineal laceration, unspecified as to episode of care or not applicable	ICD-9-CM	Diagnosis
664.61	Anal sphincter tear complicating delivery, not associated with third-degree perineal laceration, delivered, with or without mention of antepartum condition	ICD-9-CM	Diagnosis
664.64	Anal sphincter tear complicating delivery, not associated with third-degree perineal laceration, postpartum condition or complication	ICD-9-CM	Diagnosis
664.8	Other specified trauma to perineum and vulva during delivery	ICD-9-CM	Diagnosis
664.80	Other specified trauma to perineum and vulva, unspecified as to episode of care in pregnancy	ICD-9-CM	Diagnosis
664.81	Other specified trauma to perineum and vulva, with delivery	ICD-9-CM	Diagnosis
664.84	Other specified trauma to perineum and vulva, postpartum condition or complication	ICD-9-CM	Diagnosis
664.9	Unspecified trauma to perineum and vulva during delivery	ICD-9-CM	Diagnosis
664.90	Unspecified trauma to perineum and vulva, unspecified as to episode of care in pregnancy	ICD-9-CM	Diagnosis
664.91	Unspecified trauma to perineum and vulva, with delivery	ICD-9-CM	Diagnosis
664.94	Unspecified trauma to perineum and vulva, postpartum condition or complication	ICD-9-CM	Diagnosis
665	Other obstetrical trauma	ICD-9-CM	Diagnosis
665.0	Rupture of uterus before onset of labor	ICD-9-CM	Diagnosis
665.00	Rupture of uterus before onset of labor, unspecified as to episode of care	ICD-9-CM	Diagnosis
665.01	Rupture of uterus before onset of labor, with delivery	ICD-9-CM	Diagnosis
665.03	Rupture of uterus before onset of labor, antepartum	ICD-9-CM	Diagnosis
665.1	Rupture of uterus during and after labor	ICD-9-CM	Diagnosis
665.10	Rupture of uterus during labor, unspecified as to episode	ICD-9-CM	Diagnosis
665.11	Rupture of uterus during labor, with delivery	ICD-9-CM	Diagnosis
665.2	Obstetrical inversion of uterus	ICD-9-CM	Diagnosis
665.20	Inversion of uterus, unspecified as to episode of care in pregnancy	ICD-9-CM	Diagnosis

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes Used to Define Inclusion and Exclusion Criteria in this Report

Code	Description	Code Type	Code Category
665.22	Inversion of uterus, delivered with postpartum complication	ICD-9-CM	Diagnosis
665.24	Inversion of uterus, postpartum condition or complication	ICD-9-CM	Diagnosis
665.3	Obstetrical laceration of cervix	ICD-9-CM	Diagnosis
665.30	Laceration of cervix, unspecified as to episode of care in pregnancy	ICD-9-CM	Diagnosis
665.31	Laceration of cervix, with delivery	ICD-9-CM	Diagnosis
665.34	Laceration of cervix, postpartum condition or complication	ICD-9-CM	Diagnosis
665.4	High vaginal laceration during and after labor	ICD-9-CM	Diagnosis
665.40	High vaginal laceration, unspecified as to episode of care in pregnancy	ICD-9-CM	Diagnosis
665.41	High vaginal laceration, with delivery	ICD-9-CM	Diagnosis
665.44	High vaginal laceration, postpartum condition or complication	ICD-9-CM	Diagnosis
665.5	Other obstetrical injury to pelvic organs	ICD-9-CM	Diagnosis
665.50	Other injury to pelvic organs, unspecified as to episode of care in pregnancy	ICD-9-CM	Diagnosis
665.51	Other injury to pelvic organs, with delivery	ICD-9-CM	Diagnosis
665.54	Other injury to pelvic organs, postpartum condition or complication	ICD-9-CM	Diagnosis
665.6	Obstetrical damage to pelvic joints and ligaments	ICD-9-CM	Diagnosis
665.60	Damage to pelvic joints and ligaments, unspecified as to episode of care in pregnancy	ICD-9-CM	Diagnosis
665.61	Damage to pelvic joints and ligaments, with delivery	ICD-9-CM	Diagnosis
665.64	Damage to pelvic joints and ligaments, postpartum condition or complication	ICD-9-CM	Diagnosis
665.7	Obstetrical pelvic hematoma	ICD-9-CM	Diagnosis
665.70	Pelvic hematoma, unspecified as to episode of care	ICD-9-CM	Diagnosis
665.71	Pelvic hematoma, with delivery	ICD-9-CM	Diagnosis
665.72	Pelvic hematoma, delivered with postpartum complication	ICD-9-CM	Diagnosis
665.74	Pelvic hematoma, postpartum condition or complication	ICD-9-CM	Diagnosis
665.8	Other specified obstetrical trauma	ICD-9-CM	Diagnosis
665.80	Other specified obstetrical trauma, unspecified as to episode of care	ICD-9-CM	Diagnosis
665.81	Other specified obstetrical trauma, with delivery	ICD-9-CM	Diagnosis
665.82	Other specified obstetrical trauma, delivered, with postpartum	ICD-9-CM	Diagnosis
665.83	Other specified obstetrical trauma, antepartum	ICD-9-CM	Diagnosis
665.84	Other specified obstetrical trauma, postpartum condition or complication	ICD-9-CM	Diagnosis
665.9	Unspecified obstetrical trauma	ICD-9-CM	Diagnosis
665.90	Unspecified obstetrical trauma, unspecified as to episode of care	ICD-9-CM	Diagnosis
665.91	Unspecified obstetrical trauma, with delivery	ICD-9-CM	Diagnosis
665.92	Unspecified obstetrical trauma, delivered, with postpartum complication	ICD-9-CM	Diagnosis
665.93	Unspecified obstetrical trauma, antepartum	ICD-9-CM	Diagnosis
665.94	Unspecified obstetrical trauma, postpartum condition or complication	ICD-9-CM	Diagnosis
666	Postpartum hemorrhage	ICD-9-CM	Diagnosis
666.0	Third-stage postpartum hemorrhage	ICD-9-CM	Diagnosis
666.00	Third-stage postpartum hemorrhage, unspecified as to episode of care	ICD-9-CM	Diagnosis
666.02	Third-stage postpartum hemorrhage, with delivery	ICD-9-CM	Diagnosis
666.04	Third-stage postpartum hemorrhage, postpartum condition or complication	ICD-9-CM	Diagnosis
666.1	Other immediate postpartum hemorrhage	ICD-9-CM	Diagnosis
666.10	Other immediate postpartum hemorrhage, unspecified as to episode of care	ICD-9-CM	Diagnosis
666.12	Other immediate postpartum hemorrhage, with delivery	ICD-9-CM	Diagnosis
666.14	Other immediate postpartum hemorrhage, postpartum condition or complication	ICD-9-CM	Diagnosis
666.2	Delayed and secondary postpartum hemorrhage	ICD-9-CM	Diagnosis

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes Used to Define Inclusion and Exclusion Criteria in this Report

Code	Description	Code Type	Code Category
666.20	Delayed and secondary postpartum hemorrhage, unspecified as to episode of care	ICD-9-CM	Diagnosis
666.22	Delayed and secondary postpartum hemorrhage, with delivery	ICD-9-CM	Diagnosis
666.24	Delayed and secondary postpartum hemorrhage, postpartum condition or complication	ICD-9-CM	Diagnosis
666.3	Postpartum coagulation defects	ICD-9-CM	Diagnosis
666.30	Postpartum coagulation defects, unspecified as to episode of care	ICD-9-CM	Diagnosis
666.32	Postpartum coagulation defects, with delivery	ICD-9-CM	Diagnosis
666.34	Postpartum coagulation defects, postpartum condition or complication	ICD-9-CM	Diagnosis
667	Retained placenta or membranes, without hemorrhage	ICD-9-CM	Diagnosis
667.0	Retained placenta without hemorrhage	ICD-9-CM	Diagnosis
667.00	Retained placenta without hemorrhage, unspecified as to episode of care	ICD-9-CM	Diagnosis
667.02	Retained placenta without hemorrhage, with delivery, with mention of postpartum complication	ICD-9-CM	Diagnosis
667.04	Retained placenta without hemorrhage, postpartum condition or complication	ICD-9-CM	Diagnosis
667.1	Retained portions of placenta or membranes, without hemorrhage	ICD-9-CM	Diagnosis
667.10	Retained portions of placenta or membranes, without hemorrhage, unspecified as to episode of care	ICD-9-CM	Diagnosis
667.12	Retained portions of placenta or membranes, without hemorrhage, delivered, with mention of postpartum complication	ICD-9-CM	Diagnosis
667.14	Retained portions of placenta or membranes, without hemorrhage, postpartum condition or complication	ICD-9-CM	Diagnosis
668	Complications of the administration of anesthetic or other sedation in labor and delivery	ICD-9-CM	Diagnosis
668.0	Pulmonary complications of the administration of anesthesia or other sedation in labor and delivery	ICD-9-CM	Diagnosis
668.00	Pulmonary complications of the administration of anesthesia or other sedation in labor and delivery, unspecified as to episode of care	ICD-9-CM	Diagnosis
668.01	Pulmonary complications of the administration of anesthesia or other sedation in labor and delivery, delivered	ICD-9-CM	Diagnosis
668.02	Pulmonary complications of the administration of anesthesia or other sedation in labor and delivery, delivered, with mention of postpartum complication	ICD-9-CM	Diagnosis
668.03	Pulmonary complications of the administration of anesthesia or other sedation in labor and delivery, antepartum	ICD-9-CM	Diagnosis
668.04	Pulmonary complications of the administration of anesthesia or other sedation in labor and delivery, postpartum condition or complication	ICD-9-CM	Diagnosis
668.1	Cardiac complications of the administration of anesthesia or other sedation in labor and delivery	ICD-9-CM	Diagnosis
668.10	Cardiac complications of the administration of anesthesia or other sedation in labor and delivery, unspecified as to episode of care	ICD-9-CM	Diagnosis
668.11	Cardiac complications of the administration of anesthesia or other sedation in labor and delivery, delivered	ICD-9-CM	Diagnosis
668.12	Cardiac complications of the administration of anesthesia or other sedation in labor and delivery, delivered, with mention of postpartum complication	ICD-9-CM	Diagnosis
668.13	Cardiac complications of the administration of anesthesia or other sedation in labor and delivery, antepartum	ICD-9-CM	Diagnosis

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes Used to Define Inclusion and Exclusion Criteria in this Report

Code	Description	Code Type	Code Category
668.14	Cardiac complications of the administration of anesthesia or other sedation in labor and delivery, postpartum condition or complication	ICD-9-CM	Diagnosis
668.2	Central nervous system complications of the administration of anesthesia or other sedation in labor and delivery	ICD-9-CM	Diagnosis
668.20	Central nervous system complications of the administration of anesthesia or other sedation in labor and delivery, unspecified as to episode of care	ICD-9-CM	Diagnosis
668.21	Central nervous system complications of the administration of anesthesia or other sedation in labor and delivery, delivered	ICD-9-CM	Diagnosis
668.22	Central nervous system complications of the administration of anesthesia or other sedation in labor and delivery, delivered, with mention of postpartum complication	ICD-9-CM	Diagnosis
668.23	Central nervous system complications of the administration of anesthesia or other sedation in labor and delivery, antepartum	ICD-9-CM	Diagnosis
668.24	Central nervous system complications of the administration of anesthesia or other sedation in labor and delivery, postpartum condition or complication	ICD-9-CM	Diagnosis
668.8	Other complications of the administration of anesthesia or other sedation in labor and delivery	ICD-9-CM	Diagnosis
668.80	Other complications of the administration of anesthesia or other sedation in labor and delivery, unspecified as to episode of care	ICD-9-CM	Diagnosis
668.81	Other complications of the administration of anesthesia or other sedation in labor and delivery, delivered	ICD-9-CM	Diagnosis
668.82	Other complications of the administration of anesthesia or other sedation in labor and delivery, delivered, with mention of postpartum complication	ICD-9-CM	Diagnosis
668.83	Other complications of the administration of anesthesia or other sedation in labor and delivery, antepartum	ICD-9-CM	Diagnosis
668.84	Other complications of the administration of anesthesia or other sedation in labor and delivery, postpartum condition or complication	ICD-9-CM	Diagnosis
668.9	Unspecified complication of the administration of anesthesia or other sedation in labor and delivery	ICD-9-CM	Diagnosis
668.90	Unspecified complication of the administration of anesthesia or other sedation in labor and delivery, unspecified as to episode of care	ICD-9-CM	Diagnosis
668.91	Unspecified complication of the administration of anesthesia or other sedation in labor and delivery, delivered	ICD-9-CM	Diagnosis
668.92	Unspecified complication of the administration of anesthesia or other sedation in labor and delivery, delivered, with mention of postpartum complication	ICD-9-CM	Diagnosis
668.93	Unspecified complication of the administration of anesthesia or other sedation in labor and delivery, antepartum	ICD-9-CM	Diagnosis
668.94	Unspecified complication of the administration of anesthesia or other sedation in labor and delivery, postpartum condition or complication	ICD-9-CM	Diagnosis
669	Other complications of labor and delivery, not elsewhere classified	ICD-9-CM	Diagnosis
669.0	Maternal distress	ICD-9-CM	Diagnosis
669.00	Maternal distress complicating labor and delivery, unspecified as to episode of care	ICD-9-CM	Diagnosis
669.01	Maternal distress, with delivery, with or without mention of antepartum condition	ICD-9-CM	Diagnosis
669.02	Maternal distress, with delivery, with mention of postpartum complication	ICD-9-CM	Diagnosis

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes Used to Define Inclusion and Exclusion Criteria in this Report

Code	Description	Code Type	Code Category
669.03	Maternal distress complicating labor and delivery, antepartum condition or complication	ICD-9-CM	Diagnosis
669.04	Maternal distress complicating labor and delivery, postpartum condition or complication	ICD-9-CM	Diagnosis
669.1	Shock during or following labor and delivery	ICD-9-CM	Diagnosis
669.10	Shock during or following labor and delivery, unspecified as to episode of care	ICD-9-CM	Diagnosis
669.11	Shock during or following labor and delivery, with delivery, with or without mention of antepartum condition	ICD-9-CM	Diagnosis
669.12	Shock during or following labor and delivery, with delivery, with mention of postpartum complication	ICD-9-CM	Diagnosis
669.13	Shock during or following labor and delivery, antepartum shock	ICD-9-CM	Diagnosis
669.14	Shock during or following labor and delivery, postpartum condition or complication	ICD-9-CM	Diagnosis
669.2	Maternal hypotension syndrome	ICD-9-CM	Diagnosis
669.20	Maternal hypotension syndrome complicating labor and delivery, unspecified as to episode of care	ICD-9-CM	Diagnosis
669.21	Maternal hypotension syndrome, with delivery, with or without mention of antepartum condition	ICD-9-CM	Diagnosis
669.22	Maternal hypotension syndrome, with delivery, with mention of postpartum complication	ICD-9-CM	Diagnosis
669.23	Maternal hypotension syndrome, antepartum	ICD-9-CM	Diagnosis
669.24	Maternal hypotension syndrome, postpartum condition or complication	ICD-9-CM	Diagnosis
669.3	Acute kidney failure following labor and delivery	ICD-9-CM	Diagnosis
669.30	Acute kidney failure following labor and delivery, unspecified as to episode of care or not applicable	ICD-9-CM	Diagnosis
669.32	Acute kidney failure following labor and delivery, delivered, with mention of postpartum complication	ICD-9-CM	Diagnosis
669.34	Acute kidney failure following labor and delivery, postpartum condition or complication	ICD-9-CM	Diagnosis
669.4	Other complications of obstetrical surgery and procedures	ICD-9-CM	Diagnosis
669.40	Other complications of obstetrical surgery and procedures, unspecified as to episode of care	ICD-9-CM	Diagnosis
669.41	Other complications of obstetrical surgery and procedures, with delivery, with or without mention of antepartum condition	ICD-9-CM	Diagnosis
669.42	Other complications of obstetrical surgery and procedures, with delivery, with mention of postpartum complication	ICD-9-CM	Diagnosis
669.43	Other complications of obstetrical surgery and procedures, antepartum condition or complication	ICD-9-CM	Diagnosis
669.44	Other complications of obstetrical surgery and procedures, postpartum condition or complication	ICD-9-CM	Diagnosis
669.5	Forceps or vacuum extractor delivery without mention of indication	ICD-9-CM	Diagnosis
669.50	Forceps or vacuum extractor delivery without mention of indication, unspecified as to episode of care	ICD-9-CM	Diagnosis
669.51	Forceps or vacuum extractor delivery without mention of indication, delivered, with or without mention of antepartum condition	ICD-9-CM	Diagnosis
669.6	Breech extraction, without mention of indication	ICD-9-CM	Diagnosis

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes Used to Define Inclusion and Exclusion Criteria in this Report

Code	Description	Code Type	Code Category
669.60	Breech extraction, without mention of indication, unspecified as to episode of care	ICD-9-CM	Diagnosis
669.61	Breech extraction, without mention of indication, delivered, with or without mention of antepartum condition	ICD-9-CM	Diagnosis
669.7	Cesarean delivery, without mention of indication	ICD-9-CM	Diagnosis
669.70	Cesarean delivery, without mention of indication, unspecified as to episode of care	ICD-9-CM	Diagnosis
669.71	Cesarean delivery, without mention of indication, delivered, with or without mention of antepartum condition	ICD-9-CM	Diagnosis
669.8	Other complications of labor and delivery	ICD-9-CM	Diagnosis
669.80	Other complication of labor and delivery, unspecified as to episode of care	ICD-9-CM	Diagnosis
669.81	Other complication of labor and delivery, delivered, with or without mention of antepartum condition	ICD-9-CM	Diagnosis
669.82	Other complication of labor and delivery, delivered, with mention of postpartum complication	ICD-9-CM	Diagnosis
669.83	Other complication of labor and delivery, antepartum condition or complication	ICD-9-CM	Diagnosis
669.84	Other complication of labor and delivery, postpartum condition or complication	ICD-9-CM	Diagnosis
669.9	Unspecified complication of labor and delivery	ICD-9-CM	Diagnosis
669.90	Unspecified complication of labor and delivery, unspecified as to episode of care	ICD-9-CM	Diagnosis
669.91	Unspecified complication of labor and delivery, with delivery, with or without mention of antepartum condition	ICD-9-CM	Diagnosis
669.92	Unspecified complication of labor and delivery, with delivery, with mention of postpartum complication	ICD-9-CM	Diagnosis
669.93	Unspecified complication of labor and delivery, antepartum condition or complication	ICD-9-CM	Diagnosis
669.94	Unspecified complication of labor and delivery, postpartum condition or complication	ICD-9-CM	Diagnosis
670	Major puerperal infection	ICD-9-CM	Diagnosis
670.0	Major puerperal infection, unspecified	ICD-9-CM	Diagnosis
670.00	Major puerperal infection, unspecified, unspecified as to episode of care or not applicable	ICD-9-CM	Diagnosis
670.02	Major puerperal infection, unspecified, delivered, with mention of postpartum complication	ICD-9-CM	Diagnosis
670.04	Major puerperal infection, unspecified, postpartum condition or complication	ICD-9-CM	Diagnosis
670.1	Puerperal endometritis	ICD-9-CM	Diagnosis
670.10	Puerperal endometritis, unspecified as to episode of care or not applicable	ICD-9-CM	Diagnosis
670.12	Puerperal endometritis, delivered, with mention of postpartum complication	ICD-9-CM	Diagnosis
670.14	Puerperal endometritis, postpartum condition or complication	ICD-9-CM	Diagnosis
670.2	Puerperal sepsis	ICD-9-CM	Diagnosis
670.20	Puerperal sepsis, unspecified as to episode of care or not applicable	ICD-9-CM	Diagnosis
670.22	Puerperal sepsis, delivered, with mention of postpartum complication	ICD-9-CM	Diagnosis
670.24	Puerperal sepsis, postpartum condition or complication	ICD-9-CM	Diagnosis
670.3	Puerperal septic thrombophlebitis	ICD-9-CM	Diagnosis
670.30	Puerperal septic thrombophlebitis, unspecified as to episode of care or not applicable	ICD-9-CM	Diagnosis

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Code	Description	Code Type	Code Category
670.32	Puerperal septic thrombophlebitis, delivered, with mention of postpartum complication	ICD-9-CM	Diagnosis
670.34	Puerperal septic thrombophlebitis, postpartum condition or complication	ICD-9-CM	Diagnosis
670.8	Other major puerperal infection	ICD-9-CM	Diagnosis
670.80	Other major puerperal infection, unspecified as to episode of care or not applicable	ICD-9-CM	Diagnosis
670.82	Other major puerperal infection, delivered, with mention of postpartum complication	ICD-9-CM	Diagnosis
670.84	Other major puerperal infection, postpartum condition or complication	ICD-9-CM	Diagnosis
671	Venous complications in pregnancy and the puerperium	ICD-9-CM	Diagnosis
671.0	Varicose veins of legs in pregnancy and the puerperium	ICD-9-CM	Diagnosis
671.00	Varicose veins of legs complicating pregnancy and the puerperium, unspecified as to episode of care	ICD-9-CM	Diagnosis
671.01	Varicose veins of legs, with delivery, with or without mention of antepartum condition	ICD-9-CM	Diagnosis
671.02	Varicose veins of legs, with delivery, with mention of postpartum complication	ICD-9-CM	Diagnosis
671.03	Varicose veins of legs, antepartum	ICD-9-CM	Diagnosis
671.04	Varicose veins of legs, postpartum condition or complication	ICD-9-CM	Diagnosis
671.1	Varicose veins of vulva and perineum in pregnancy and the puerperium	ICD-9-CM	Diagnosis
671.10	Varicose veins of vulva and perineum complicating pregnancy and the puerperium, unspecified as to episode of care	ICD-9-CM	Diagnosis
671.11	Varicose veins of vulva and perineum, with delivery, with or without mention of antepartum condition	ICD-9-CM	Diagnosis
671.12	Varicose veins of vulva and perineum, with delivery, with mention of postpartum complication	ICD-9-CM	Diagnosis
671.13	Varicose veins of vulva and perineum, antepartum	ICD-9-CM	Diagnosis
671.14	Varicose veins of vulva and perineum, postpartum condition or complication	ICD-9-CM	Diagnosis
671.2	Superficial thrombophlebitis in pregnancy and the puerperium	ICD-9-CM	Diagnosis
671.20	Superficial thrombophlebitis complicating pregnancy and the puerperium, unspecified as to episode of care	ICD-9-CM	Diagnosis
671.21	Superficial thrombophlebitis with delivery, with or without mention of antepartum condition	ICD-9-CM	Diagnosis
671.22	Superficial thrombophlebitis with delivery, with mention of postpartum complication	ICD-9-CM	Diagnosis
671.23	Superficial thrombophlebitis, antepartum	ICD-9-CM	Diagnosis
671.24	Superficial thrombophlebitis, postpartum condition or complication	ICD-9-CM	Diagnosis
671.3	Deep phlebothrombosis, antepartum	ICD-9-CM	Diagnosis
671.30	Deep phlebothrombosis, antepartum, unspecified as to episode of care	ICD-9-CM	Diagnosis
671.31	Deep phlebothrombosis, antepartum, with delivery	ICD-9-CM	Diagnosis
671.33	Deep phlebothrombosis, antepartum	ICD-9-CM	Diagnosis
671.4	Deep phlebothrombosis, postpartum	ICD-9-CM	Diagnosis
671.40	Deep phlebothrombosis, postpartum, unspecified as to episode of care	ICD-9-CM	Diagnosis
671.42	Deep phlebothrombosis, postpartum, with delivery	ICD-9-CM	Diagnosis
671.44	Deep phlebothrombosis, postpartum condition or complication	ICD-9-CM	Diagnosis
671.5	Other phlebitis and thrombosis in pregnancy and the puerperium	ICD-9-CM	Diagnosis

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Code	Description	Code Type	Code Category
671.50	Other phlebitis and thrombosis complicating pregnancy and the puerperium, unspecified as to episode of care	ICD-9-CM	Diagnosis
671.51	Other phlebitis and thrombosis with delivery, with or without mention of antepartum condition	ICD-9-CM	Diagnosis
671.52	Other phlebitis and thrombosis with delivery, with mention of postpartum complication	ICD-9-CM	Diagnosis
671.53	Other antepartum phlebitis and thrombosis	ICD-9-CM	Diagnosis
671.54	Other phlebitis and thrombosis, postpartum condition or complication	ICD-9-CM	Diagnosis
671.8	Other venous complications in pregnancy and the puerperium	ICD-9-CM	Diagnosis
671.80	Other venous complication of pregnancy and the puerperium, unspecified as to episode of care	ICD-9-CM	Diagnosis
671.81	Other venous complication, with delivery, with or without mention of antepartum condition	ICD-9-CM	Diagnosis
671.82	Other venous complication, with delivery, with mention of postpartum complication	ICD-9-CM	Diagnosis
671.83	Other venous complication, antepartum	ICD-9-CM	Diagnosis
671.84	Other venous complications, postpartum condition or complication	ICD-9-CM	Diagnosis
671.9	Unspecified venous complication in pregnancy and the puerperium	ICD-9-CM	Diagnosis
671.90	Unspecified venous complication of pregnancy and the puerperium, unspecified as to episode of care	ICD-9-CM	Diagnosis
671.91	Unspecified venous complication, with delivery, with or without mention of antepartum condition	ICD-9-CM	Diagnosis
671.92	Unspecified venous complication, with delivery, with mention of postpartum complication	ICD-9-CM	Diagnosis
671.93	Unspecified venous complication, antepartum	ICD-9-CM	Diagnosis
671.94	Unspecified venous complication, postpartum condition or complication	ICD-9-CM	Diagnosis
672	Pyrexia of unknown origin during the puerperium	ICD-9-CM	Diagnosis
672.0	Pyrexia of unknown origin during the puerperium	ICD-9-CM	Diagnosis
672.00	Puerperal pyrexia of unknown origin, unspecified as to episode of care	ICD-9-CM	Diagnosis
672.02	Puerperal pyrexia of unknown origin, delivered, with mention of postpartum complication	ICD-9-CM	Diagnosis
672.04	Puerperal pyrexia of unknown origin, postpartum condition or complication	ICD-9-CM	Diagnosis
673	Obstetrical pulmonary embolism	ICD-9-CM	Diagnosis
673.0	Obstetrical air embolism	ICD-9-CM	Diagnosis
673.00	Obstetrical air embolism, unspecified as to episode of care	ICD-9-CM	Diagnosis
673.01	Obstetrical air embolism, with delivery, with or without mention of antepartum condition	ICD-9-CM	Diagnosis
673.02	Obstetrical air embolism, with delivery, with mention of postpartum complication	ICD-9-CM	Diagnosis
673.03	Obstetrical air embolism, antepartum condition or complication	ICD-9-CM	Diagnosis
673.04	Obstetrical air embolism, postpartum condition or complication	ICD-9-CM	Diagnosis
673.1	Amniotic fluid embolism	ICD-9-CM	Diagnosis
673.10	Amniotic fluid embolism, unspecified as to episode of care	ICD-9-CM	Diagnosis
673.11	Amniotic fluid embolism, with delivery, with or without mention of antepartum condition	ICD-9-CM	Diagnosis

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Code	Description	Code Type	Code Category
673.12	Amniotic fluid embolism, with delivery, with mention of postpartum complication	ICD-9-CM	Diagnosis
673.13	Amniotic fluid embolism, antepartum condition or complication	ICD-9-CM	Diagnosis
673.14	Amniotic fluid embolism, postpartum condition or complication	ICD-9-CM	Diagnosis
673.2	Obstetrical blood-clot embolism	ICD-9-CM	Diagnosis
673.20	Obstetrical blood-clot embolism, unspecified as to episode of care	ICD-9-CM	Diagnosis
673.21	Obstetrical blood-clot embolism, with delivery, with or without mention of antepartum condition	ICD-9-CM	Diagnosis
673.22	Obstetrical blood-clot embolism, with mention of postpartum complication	ICD-9-CM	Diagnosis
673.23	Obstetrical blood-clot embolism, antepartum	ICD-9-CM	Diagnosis
673.24	Obstetrical blood-clot embolism, postpartum condition or complication	ICD-9-CM	Diagnosis
673.3	Obstetrical pyemic and septic embolism	ICD-9-CM	Diagnosis
673.30	Obstetrical pyemic and septic embolism, unspecified as to episode of care	ICD-9-CM	Diagnosis
673.31	Obstetrical pyemic and septic embolism, with delivery, with or without mention of antepartum condition	ICD-9-CM	Diagnosis
673.32	Obstetrical pyemic and septic embolism, with delivery, with mention of postpartum complication	ICD-9-CM	Diagnosis
673.33	Obstetrical pyemic and septic embolism, antepartum	ICD-9-CM	Diagnosis
673.34	Obstetrical pyemic and septic embolism, postpartum condition or complication	ICD-9-CM	Diagnosis
673.8	Other obstetrical pulmonary embolism	ICD-9-CM	Diagnosis
673.80	Other obstetrical pulmonary embolism, unspecified as to episode of care	ICD-9-CM	Diagnosis
673.81	Other obstetrical pulmonary embolism, with delivery, with or without mention of antepartum condition	ICD-9-CM	Diagnosis
673.82	Other obstetrical pulmonary embolism, with delivery, with mention of postpartum complication	ICD-9-CM	Diagnosis
673.83	Other obstetrical pulmonary embolism, antepartum	ICD-9-CM	Diagnosis
673.84	Other obstetrical pulmonary embolism, postpartum condition or complication	ICD-9-CM	Diagnosis
674	Other and unspecified complications of the puerperium, not elsewhere classified	ICD-9-CM	Diagnosis
674.0	Cerebrovascular disorders in the puerperium	ICD-9-CM	Diagnosis
674.00	Cerebrovascular disorder occurring in pregnancy, childbirth, or the puerperium, unspecified as to episode of care	ICD-9-CM	Diagnosis
674.01	Cerebrovascular disorder, with delivery, with or without mention of antepartum condition	ICD-9-CM	Diagnosis
674.02	Cerebrovascular disorder, with delivery, with mention of postpartum complication	ICD-9-CM	Diagnosis
674.03	Cerebrovascular disorder, antepartum	ICD-9-CM	Diagnosis
674.04	Cerebrovascular disorders in the puerperium, postpartum condition or complication	ICD-9-CM	Diagnosis
674.1	Disruption of cesarean wound	ICD-9-CM	Diagnosis
674.10	Disruption of cesarean wound, unspecified as to episode of care	ICD-9-CM	Diagnosis
674.12	Disruption of cesarean wound, with delivery, with mention of postpartum complication	ICD-9-CM	Diagnosis
674.14	Disruption of cesarean wound, postpartum condition or complication	ICD-9-CM	Diagnosis
674.2	Disruption of obstetrical perineal wound	ICD-9-CM	Diagnosis
674.20	Disruption of perineal wound, unspecified as to episode of care in pregnancy	ICD-9-CM	Diagnosis

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes Used to Define Inclusion and Exclusion Criteria in this Report

Code	Description	Code Type	Code Category
674.22	Disruption of perineal wound, with delivery, with mention of postpartum complication	ICD-9-CM	Diagnosis
674.24	Disruption of perineal wound, postpartum condition or complication	ICD-9-CM	Diagnosis
674.3	Other complications of obstetrical surgical wounds	ICD-9-CM	Diagnosis
674.30	Other complication of obstetrical surgical wounds, unspecified as to episode of care	ICD-9-CM	Diagnosis
674.32	Other complication of obstetrical surgical wounds, with delivery, with mention of postpartum complication	ICD-9-CM	Diagnosis
674.34	Other complications of obstetrical surgical wounds, postpartum condition or complication	ICD-9-CM	Diagnosis
674.4	Placental polyp	ICD-9-CM	Diagnosis
674.40	Placental polyp, unspecified as to episode of care	ICD-9-CM	Diagnosis
674.42	Placental polyp, with delivery, with mention of postpartum complication	ICD-9-CM	Diagnosis
674.44	Placental polyp, postpartum condition or complication	ICD-9-CM	Diagnosis
674.5	Peripartum cardiomyopathy	ICD-9-CM	Diagnosis
674.50	Peripartum cardiomyopathy, unspecified as to episode of care or not applicable	ICD-9-CM	Diagnosis
674.51	Peripartum cardiomyopathy, delivered, with or without mention of antepartum condition	ICD-9-CM	Diagnosis
674.52	Peripartum cardiomyopathy, delivered, with mention of postpartum condition	ICD-9-CM	Diagnosis
674.53	Peripartum cardiomyopathy, antepartum condition or complication	ICD-9-CM	Diagnosis
674.54	Peripartum cardiomyopathy, postpartum condition or complication	ICD-9-CM	Diagnosis
674.8	Other complications of the puerperium	ICD-9-CM	Diagnosis
674.80	Other complication of puerperium, unspecified as to episode of care	ICD-9-CM	Diagnosis
674.82	Other complication of puerperium, with delivery, with mention of postpartum complication	ICD-9-CM	Diagnosis
674.84	Other complications of puerperium, postpartum condition or complication	ICD-9-CM	Diagnosis
674.9	Unspecified complications of the puerperium	ICD-9-CM	Diagnosis
674.90	Unspecified complications of puerperium, unspecified as to episode of care	ICD-9-CM	Diagnosis
674.92	Unspecified complications of puerperium, with delivery, with mention of postpartum complication	ICD-9-CM	Diagnosis
674.94	Unspecified complications of puerperium, postpartum condition or complication	ICD-9-CM	Diagnosis
675	Infection of the breast and nipple associated with childbirth	ICD-9-CM	Diagnosis
675.0	Infection of nipple associated with childbirth	ICD-9-CM	Diagnosis
675.00	Infection of nipple associated with childbirth, unspecified as to episode of care	ICD-9-CM	Diagnosis
675.01	Infection of nipple associated with childbirth, delivered, with or without mention of antepartum condition	ICD-9-CM	Diagnosis
675.02	Infection of nipple associated with childbirth, delivered with mention of postpartum complication	ICD-9-CM	Diagnosis
675.03	Infection of nipple, antepartum	ICD-9-CM	Diagnosis
675.04	Infection of nipple, postpartum condition or complication	ICD-9-CM	Diagnosis
675.1	Abscess of breast associated with childbirth	ICD-9-CM	Diagnosis
675.10	Abscess of breast associated with childbirth, unspecified as to episode of care	ICD-9-CM	Diagnosis
675.11	Abscess of breast associated with childbirth, delivered, with or without mention of antepartum condition	ICD-9-CM	Diagnosis
675.12	Abscess of breast associated with childbirth, delivered, with mention of postpartum complication	ICD-9-CM	Diagnosis

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes Used to Define Inclusion and Exclusion Criteria in this Report

Code	Description	Code Type	Code Category
675.13	Abscess of breast, antepartum	ICD-9-CM	Diagnosis
675.14	Abscess of breast, postpartum condition or complication	ICD-9-CM	Diagnosis
675.2	Nonpurulent mastitis associated with childbirth	ICD-9-CM	Diagnosis
675.20	Nonpurulent mastitis, unspecified as to episode of prenatal or postnatal care	ICD-9-CM	Diagnosis
675.21	Nonpurulent mastitis, delivered, with or without mention of antepartum condition	ICD-9-CM	Diagnosis
675.22	Nonpurulent mastitis, delivered, with mention of postpartum complication	ICD-9-CM	Diagnosis
675.23	Nonpurulent mastitis, antepartum	ICD-9-CM	Diagnosis
675.24	Nonpurulent mastitis, postpartum condition or complication	ICD-9-CM	Diagnosis
675.8	Other specified infection of the breast and nipple associated with childbirth	ICD-9-CM	Diagnosis
675.80	Other specified infection of the breast and nipple associated with childbirth, unspecified as to episode of care	ICD-9-CM	Diagnosis
675.81	Other specified infection of the breast and nipple associated with childbirth, delivered, with or without mention of antepartum condition	ICD-9-CM	Diagnosis
675.82	Other specified infection of the breast and nipple associated with childbirth, delivered, with mention of postpartum complication	ICD-9-CM	Diagnosis
675.83	Other specified infection of the breast and nipple, antepartum	ICD-9-CM	Diagnosis
675.84	Other specified infections of the breast and nipple, postpartum condition or complication	ICD-9-CM	Diagnosis
675.9	Unspecified infection of the breast and nipple associated with childbirth	ICD-9-CM	Diagnosis
675.90	Unspecified infection of the breast and nipple, unspecified as to prenatal or postnatal episode of care	ICD-9-CM	Diagnosis
675.91	Unspecified infection of the breast and nipple, delivered, with or without mention of antepartum condition	ICD-9-CM	Diagnosis
675.92	Unspecified infection of the breast and nipple, delivered, with mention of postpartum complication	ICD-9-CM	Diagnosis
675.93	Unspecified infection of the breast and nipple, antepartum	ICD-9-CM	Diagnosis
675.94	Unspecified infection of the breast and nipple, postpartum condition or complication	ICD-9-CM	Diagnosis
676	Other disorders of the breast associated with childbirth and disorders of lactation	ICD-9-CM	Diagnosis
676.0	Retracted nipple associated with childbirth	ICD-9-CM	Diagnosis
676.00	Retracted nipple, unspecified as to prenatal or postnatal episode of care	ICD-9-CM	Diagnosis
676.01	Retracted nipple, delivered, with or without mention of antepartum condition	ICD-9-CM	Diagnosis
676.02	Retracted nipple, delivered, with mention of postpartum complication	ICD-9-CM	Diagnosis
676.03	Retracted nipple, antepartum condition or complication	ICD-9-CM	Diagnosis
676.04	Retracted nipple, postpartum condition or complication	ICD-9-CM	Diagnosis
676.1	Cracked nipple associated with childbirth	ICD-9-CM	Diagnosis
676.10	Cracked nipple, unspecified as to prenatal or postnatal episode of care	ICD-9-CM	Diagnosis
676.11	Cracked nipple, delivered, with or without mention of antepartum condition	ICD-9-CM	Diagnosis
676.12	Cracked nipple, delivered, with mention of postpartum complication	ICD-9-CM	Diagnosis
676.13	Cracked nipple, antepartum condition or complication	ICD-9-CM	Diagnosis
676.14	Cracked nipple, postpartum condition or complication	ICD-9-CM	Diagnosis
676.2	Engorgement of breasts associated with childbirth	ICD-9-CM	Diagnosis
676.20	Engorgement of breasts, unspecified as to prenatal or postnatal episode of care	ICD-9-CM	Diagnosis
676.21	Engorgement of breasts, delivered, with or without mention of antepartum condition	ICD-9-CM	Diagnosis

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes Used to Define Inclusion and Exclusion Criteria in this Report

Code	Description	Code Type	Code Category
676.22	Engorgement of breasts, delivered, with mention of postpartum complication	ICD-9-CM	Diagnosis
676.23	Engorgement of breast, antepartum	ICD-9-CM	Diagnosis
676.24	Engorgement of breasts, postpartum condition or complication	ICD-9-CM	Diagnosis
676.3	Other and unspecified disorder of breast associated with childbirth	ICD-9-CM	Diagnosis
676.30	Other and unspecified disorder of breast associated with childbirth, unspecified as to episode of care	ICD-9-CM	Diagnosis
676.31	Other and unspecified disorder of breast associated with childbirth, delivered, with or without mention of antepartum condition	ICD-9-CM	Diagnosis
676.32	Other and unspecified disorder of breast associated with childbirth, delivered, with mention of postpartum complication	ICD-9-CM	Diagnosis
676.33	Other and unspecified disorder of breast associated with childbirth, antepartum condition or complication	ICD-9-CM	Diagnosis
676.34	Other and unspecified disorder of breast associated with childbirth, postpartum condition or complication	ICD-9-CM	Diagnosis
676.4	Failure of lactation	ICD-9-CM	Diagnosis
676.40	Failure of lactation, unspecified as to episode of care	ICD-9-CM	Diagnosis
676.41	Failure of lactation, with delivery, with or without mention of antepartum condition	ICD-9-CM	Diagnosis
676.42	Failure of lactation, with delivery, with mention of postpartum complication	ICD-9-CM	Diagnosis
676.43	Failure of lactation, antepartum condition or complication	ICD-9-CM	Diagnosis
676.44	Failure of lactation, postpartum condition or complication	ICD-9-CM	Diagnosis
676.5	Suppressed lactation	ICD-9-CM	Diagnosis
676.50	Suppressed lactation, unspecified as to episode of care	ICD-9-CM	Diagnosis
676.51	Suppressed lactation, with delivery, with or without mention of antepartum condition	ICD-9-CM	Diagnosis
676.52	Suppressed lactation, with delivery, with mention of postpartum complication	ICD-9-CM	Diagnosis
676.53	Suppressed lactation, antepartum condition or complication	ICD-9-CM	Diagnosis
676.54	Suppressed lactation, postpartum condition or complication	ICD-9-CM	Diagnosis
676.6	Galactorrhea	ICD-9-CM	Diagnosis
676.60	Galactorrhea associated with childbirth, unspecified as to episode of care	ICD-9-CM	Diagnosis
676.61	Galactorrhea, with delivery, with or without mention of antepartum condition	ICD-9-CM	Diagnosis
676.62	Galactorrhea, with delivery, with mention of postpartum complication	ICD-9-CM	Diagnosis
676.63	Galactorrhea, antepartum condition or complication	ICD-9-CM	Diagnosis
676.64	Galactorrhea, postpartum condition or complication	ICD-9-CM	Diagnosis
676.8	Other disorders of lactation	ICD-9-CM	Diagnosis
676.80	Other disorder of lactation, unspecified as to episode of care	ICD-9-CM	Diagnosis
676.81	Other disorder of lactation, with delivery, with or without mention of antepartum condition	ICD-9-CM	Diagnosis
676.82	Other disorder of lactation, with delivery, with mention of postpartum complication	ICD-9-CM	Diagnosis
676.83	Other disorder of lactation, antepartum condition or complication	ICD-9-CM	Diagnosis
676.84	Other disorders of lactation, postpartum condition or complication	ICD-9-CM	Diagnosis
676.9	Unspecified disorder of lactation	ICD-9-CM	Diagnosis
676.90	Unspecified disorder of lactation, unspecified as to episode of care	ICD-9-CM	Diagnosis
676.91	Unspecified disorder of lactation, with delivery, with or without mention of antepartum condition	ICD-9-CM	Diagnosis

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes Used to Define Inclusion and Exclusion Criteria in this Report

Code	Description	Code Type	Code Category
676.92	Unspecified disorder of lactation, with delivery, with mention of postpartum complication	ICD-9-CM	Diagnosis
676.93	Unspecified disorder of lactation, antepartum condition or complication	ICD-9-CM	Diagnosis
676.94	Unspecified disorder of lactation, postpartum condition or complication	ICD-9-CM	Diagnosis
677	Late effect of complication of pregnancy, childbirth, and the puerperium	ICD-9-CM	Diagnosis
678	Other fetal conditions	ICD-9-CM	Diagnosis
678.0	Fetal hematologic conditions	ICD-9-CM	Diagnosis
678.00	Fetal hematologic conditions, unspecified as to episode of care or not applicable	ICD-9-CM	Diagnosis
678.01	Fetal hematologic conditions, delivered, with or without mention of antepartum condition	ICD-9-CM	Diagnosis
678.03	Fetal hematologic conditions, antepartum condition or complication	ICD-9-CM	Diagnosis
678.1	Fetal conjoined twins	ICD-9-CM	Diagnosis
678.10	Fetal conjoined twins, unspecified as to episode of care or not applicable	ICD-9-CM	Diagnosis
678.11	Fetal conjoined twins, delivered, with or without mention of antepartum condition	ICD-9-CM	Diagnosis
678.13	Fetal conjoined twins, antepartum condition or complication	ICD-9-CM	Diagnosis
679	Complications of in utero procedures	ICD-9-CM	Diagnosis
679.0	Maternal complications from in utero procedure	ICD-9-CM	Diagnosis
679.00	Maternal complications from in utero procedure, unspecified as to episode of care or not applicable	ICD-9-CM	Diagnosis
679.01	Maternal complications from in utero procedure, delivered, with or without mention of antepartum condition	ICD-9-CM	Diagnosis
679.02	Maternal complications from in utero procedure, delivered, with mention of postpartum complication	ICD-9-CM	Diagnosis
679.03	Maternal complications from in utero procedure, antepartum condition or complication	ICD-9-CM	Diagnosis
679.04	Maternal complications from in utero procedure, postpartum condition or complication	ICD-9-CM	Diagnosis
679.1	Fetal complications from in utero procedure	ICD-9-CM	Diagnosis
679.10	Fetal complications from in utero procedure, unspecified as to episode of care or not applicable	ICD-9-CM	Diagnosis
679.11	Fetal complications from in utero procedure, delivered, with or without mention of antepartum condition	ICD-9-CM	Diagnosis
679.12	Fetal complications from in utero procedure, delivered, with mention of postpartum complication	ICD-9-CM	Diagnosis
679.13	Fetal complications from in utero procedure, antepartum condition or complication	ICD-9-CM	Diagnosis
679.14	Fetal complications from in utero procedure, postpartum condition or complication	ICD-9-CM	Diagnosis
V22	Normal pregnancy	ICD-9-CM	Diagnosis
V22.0	Supervision of normal first pregnancy	ICD-9-CM	Diagnosis
V22.1	Supervision of other normal pregnancy	ICD-9-CM	Diagnosis
V22.2	Pregnant state, incidental	ICD-9-CM	Diagnosis
V23	Supervision of high-risk pregnancy	ICD-9-CM	Diagnosis
V23.0	Pregnancy with history of infertility	ICD-9-CM	Diagnosis
V23.1	Pregnancy with history of trophoblastic disease	ICD-9-CM	Diagnosis

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes Used to Define Inclusion and Exclusion Criteria in this Report

Code	Description	Code Type	Code Category
V23.2	Pregnancy with history of abortion	ICD-9-CM	Diagnosis
V23.3	Pregnancy with grand multiparity	ICD-9-CM	Diagnosis
V23.4	Pregnancy with other poor obstetric history	ICD-9-CM	Diagnosis
V23.41	Supervision of pregnancy with history of pre-term labor	ICD-9-CM	Diagnosis
V23.42	Pregnancy with history of ectopic pregnancy	ICD-9-CM	Diagnosis
V23.49	Supervision of pregnancy with other poor obstetric history	ICD-9-CM	Diagnosis
V23.5	Pregnancy with other poor reproductive history	ICD-9-CM	Diagnosis
V23.7	Insufficient prenatal care	ICD-9-CM	Diagnosis
V23.8	Supervision of other high-risk pregnancy	ICD-9-CM	Diagnosis
V23.81	Supervision of high-risk pregnancy of elderly primigravida	ICD-9-CM	Diagnosis
V23.82	Supervision of high-risk pregnancy of elderly multigravida	ICD-9-CM	Diagnosis
V23.83	Supervision of high-risk pregnancy of young primigravida	ICD-9-CM	Diagnosis
V23.84	Supervision of high-risk pregnancy of young multigravida	ICD-9-CM	Diagnosis
V23.85	Supervision of high risk pregnancy, pregnancy resulting from assisted reproductive technology	ICD-9-CM	Diagnosis
V23.86	Supervision of high risk pregnancy, pregnancy with history of in utero procedure during previous pregnancy	ICD-9-CM	Diagnosis
V23.87	Pregnancy with inconclusive fetal viability	ICD-9-CM	Diagnosis
V23.89	Supervision of other high-risk pregnancy	ICD-9-CM	Diagnosis
V23.9	Unspecified high-risk pregnancy	ICD-9-CM	Diagnosis
V28	Encounter for antenatal screening of mother	ICD-9-CM	Diagnosis
V28.0	Screening for chromosomal anomalies by amniocentesis	ICD-9-CM	Diagnosis
V28.1	Screening for raised alpha-fetoprotein levels in amniotic fluid	ICD-9-CM	Diagnosis
V28.2	Other antenatal screening based on amniocentesis	ICD-9-CM	Diagnosis
V28.3	Encounter for routine screening for malformation using ultrasonics	ICD-9-CM	Diagnosis
V28.4	Antenatal screening for fetal growth retardation using ultrasonics	ICD-9-CM	Diagnosis
V28.5	Antenatal screening for isoimmunization	ICD-9-CM	Diagnosis
V28.6	Screening of Streptococcus B	ICD-9-CM	Diagnosis
V28.8	Encounter for other specified antenatal screening	ICD-9-CM	Diagnosis
V28.81	Encounter for fetal anatomic survey	ICD-9-CM	Diagnosis
V28.82	Encounter for screening for risk of pre-term labor	ICD-9-CM	Diagnosis
V28.89	Other specified antenatal screening	ICD-9-CM	Diagnosis
V28.9	Unspecified antenatal screening	ICD-9-CM	Diagnosis

Appendix D. List of Generic Names of Medical Products Used to Define Inclusion and Exclusion Criteria in this Report

Generic Name
Short-Acting Insulin
insulin regular,human&rel.unt
reg insulin hm/rlse/chbr/ihlr
insulin reg human semi-syn
insulin regular, human
insulin reg, hum s-s buff
insulin regular,beef-pork
insulin regular,human buffered
insulin,beef
insulin,pork
insulin,pork purified
insulin,pork reg. concentrate
insulin aspart
insulin glulisine
insulin lispro
insulin isophane,beef
insulin isophane,beef pure
insulin isophane,pork pure
Anti-Diabetes Medication (Except Short-Acting Insulins)
Saxagliptin
saxagliptin hcl/metformin hcl
saxagliptin hcl
Sitagliptin
sitagliptin phos/metformin hcl
sitagliptin/simvastatin
sitagliptin phosphate
Long-Acting Insulin
hum insulin nph/reg insulin hm
insulin glargine,hum.rec.anlog
insulin nph human semi-syn
insulin nph s-s/reg insuln s-s
insuln asp prt/insulin aspart
nph, human insulin isophane
insulin detemir
insulin npl/insulin lispro
ins zn,bf (p)/ins zn,pk (p)
insul,pk pure/insul nph,pk-p
insulin isophane nph,bf-pk
insulin protamine zinc,beef
insulin protamine zn,beef (p)
insulin protamine zn,bf-pk
insulin protamine zn,pork (p)
insulin zinc beef
insulin zinc ext,beef (p)
insulin zinc extend human rec
insulin zinc extended,beef
insulin zinc extended,bf-pk

Appendix D. List of Generic Names of Medical Products Used to Define Inclusion and Exclusion Criteria in this Report

Generic Name
insulin zinc human rec
insulin zinc human semi-syn
insulin zinc prompt,beef
insulin zinc prompt,bf-pk
insulin zinc prompt,pork pure
insulin zinc,beef purified
insulin zinc,beef-pork
insulin zinc,pork purified
Pioglitazone
alogliptin benz/pioglitzone
pioglitazone hcl
pioglitazone hcl/metformin hcl
pioglitazone hcl/glimepiride
Second Generation Sulfonylurea
glipizide/metformin hcl
glyburide/metformin hcl
pioglitazone hcl/glimepiride
glimepiride
glipizide
glyburide
glyburide,micronized
rosiglitazone/glimepiride
Alpha-Glucosidase Inhibitor
acarbose
miglitol
Biguanide
metformin/aa comb.#7/hc#125/ch
metformin/caff/aa7/hrb125/chol
metformin hcl
saxagliptin hcl/metformin hcl
sitagliptin phos/metformin hcl
glipizide/metformin hcl
glyburide/metformin hcl
alogliptin benz/metformin hcl
linagliptin/metformin hcl
repaglinide/metformin hcl
pioglitazone hcl/metformin hcl
rosiglitazone/metformin hcl
Other Dipeptidyl Peptidase-4 (DPP-4) Inhibitor
alogliptin benzoate
linagliptin
alogliptin benz/metformin hcl
linagliptin/metformin hcl
alogliptin benz/pioglitzone

Appendix D. List of Generic Names of Medical Products Used to Define Inclusion and Exclusion Criteria in this Report

Generic Name
Meglitinide
nateglinide
repaglinide
repaglinide/metformin hcl
First Generation Sulfonylurea
acetohexamide
chlorpropamide
tolazamide
tolbutamide
Other Thiazolidinedione
rosiglitazone maleate
troglitazone
rosiglitazone/metformin hcl
rosiglitazone/glimepiride
Other Anti-Diabetes Medication (GLP-1 Analogues, Amylin Analog-Types, Canagliflozin)
canagliflozin
exenatide
liraglutide
pramlintide acetate
exenatide microspheres

Appendix E. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes Used to Define Outcome and Outcome Incidence Criteria in this Report

Code	Description	Code Type	Code Category
	Acute Myocardial Infarction		
410.00	Acute myocardial infarction of anterolateral wall, episode of care unspecified	ICD-9-CM	Diagnosis
410.01	Acute myocardial infarction of anterolateral wall, initial episode of care	ICD-9-CM	Diagnosis
410.10	Acute myocardial infarction of other anterior wall, episode of care unspecified	ICD-9-CM	Diagnosis
410.11	Acute myocardial infarction of other anterior wall, initial episode of care	ICD-9-CM	Diagnosis
410.20	Acute myocardial infarction of inferolateral wall, episode of care unspecified	ICD-9-CM	Diagnosis
410.21	Acute myocardial infarction of inferolateral wall, initial episode of care	ICD-9-CM	Diagnosis
410.30	Acute myocardial infarction of inferoposterior wall, episode of care unspecified	ICD-9-CM	Diagnosis
410.31	Acute myocardial infarction of inferoposterior wall, initial episode of care	ICD-9-CM	Diagnosis
410.40	Acute myocardial infarction of other inferior wall, episode of care unspecified	ICD-9-CM	Diagnosis
410.41	Acute myocardial infarction of other inferior wall, initial episode of care	ICD-9-CM	Diagnosis
410.50	Acute myocardial infarction of other lateral wall, episode of care unspecified	ICD-9-CM	Diagnosis
410.51	Acute myocardial infarction of other lateral wall, initial episode of care	ICD-9-CM	Diagnosis
410.60	Acute myocardial infarction, true posterior wall infarction, episode of care unspecified	ICD-9-CM	Diagnosis
410.61	Acute myocardial infarction, true posterior wall infarction, initial episode of care	ICD-9-CM	Diagnosis
410.70	Acute myocardial infarction, subendocardial infarction, episode of care unspecified	ICD-9-CM	Diagnosis
410.71	Acute myocardial infarction, subendocardial infarction, initial episode of care	ICD-9-CM	Diagnosis
410.80	Acute myocardial infarction of other specified sites, episode of care unspecified	ICD-9-CM	Diagnosis
410.81	Acute myocardial infarction of other specified sites, initial episode of care	ICD-9-CM	Diagnosis
410.90	Acute myocardial infarction, unspecified site, episode of care unspecified	ICD-9-CM	Diagnosis
410.91	Acute myocardial infarction, unspecified site, initial episode of care	ICD-9-CM	Diagnosis

Appendix F. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), Current Procedural Terminology, Fourth Edition (CPT-4, Category I-III), and Healthcare Common Procedure Coding System (HCPCS) Diagnosis and Procedure Codes Used to Define Covariates and Subgroup Criteria in this Report

Code	Description	Code Type	Code Category
	Cardiovascular Disease		
	Prior Acute Myocardial Infarction (AMI)		
410	Acute myocardial infarction	ICD-9-CM	Diagnosis
410.0	Acute myocardial infarction of anterolateral wall	ICD-9-CM	Diagnosis
410.00	Acute myocardial infarction of anterolateral wall, episode of care unspecified	ICD-9-CM	Diagnosis
410.01	Acute myocardial infarction of anterolateral wall, initial episode of care	ICD-9-CM	Diagnosis
410.02	Acute myocardial infarction of anterolateral wall, subsequent episode of care	ICD-9-CM	Diagnosis
410.1	Acute myocardial infarction of other anterior wall	ICD-9-CM	Diagnosis
410.10	Acute myocardial infarction of other anterior wall, episode of care unspecified	ICD-9-CM	Diagnosis
410.11	Acute myocardial infarction of other anterior wall, initial episode of care	ICD-9-CM	Diagnosis
410.12	Acute myocardial infarction of other anterior wall, subsequent episode of care	ICD-9-CM	Diagnosis
410.2	Acute myocardial infarction of inferolateral wall	ICD-9-CM	Diagnosis
410.20	Acute myocardial infarction of inferolateral wall, episode of care unspecified	ICD-9-CM	Diagnosis
410.21	Acute myocardial infarction of inferolateral wall, initial episode of care	ICD-9-CM	Diagnosis
410.22	Acute myocardial infarction of inferolateral wall, subsequent episode of care	ICD-9-CM	Diagnosis
410.3	Acute myocardial infarction of inferoposterior wall	ICD-9-CM	Diagnosis
410.30	Acute myocardial infarction of inferoposterior wall, episode of care unspecified	ICD-9-CM	Diagnosis
410.31	Acute myocardial infarction of inferoposterior wall, initial episode of care	ICD-9-CM	Diagnosis
410.32	Acute myocardial infarction of inferoposterior wall, subsequent episode of care	ICD-9-CM	Diagnosis
410.4	Acute myocardial infarction of other inferior wall	ICD-9-CM	Diagnosis
410.40	Acute myocardial infarction of other inferior wall, episode of care unspecified	ICD-9-CM	Diagnosis
410.41	Acute myocardial infarction of other inferior wall, initial episode of care	ICD-9-CM	Diagnosis
410.42	Acute myocardial infarction of other inferior wall, subsequent episode of care	ICD-9-CM	Diagnosis
410.5	Acute myocardial infarction of other lateral wall	ICD-9-CM	Diagnosis
410.50	Acute myocardial infarction of other lateral wall, episode of care unspecified	ICD-9-CM	Diagnosis
410.51	Acute myocardial infarction of other lateral wall, initial episode of care	ICD-9-CM	Diagnosis
410.52	Acute myocardial infarction of other lateral wall, subsequent episode of care	ICD-9-CM	Diagnosis
410.6	Acute myocardial infarction, true posterior wall infarction	ICD-9-CM	Diagnosis
410.60	Acute myocardial infarction, true posterior wall infarction, episode of care unspecified	ICD-9-CM	Diagnosis
410.61	Acute myocardial infarction, true posterior wall infarction, initial episode of care	ICD-9-CM	Diagnosis

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Code	Description	Code Type	Code Category
410.62	Acute myocardial infarction, true posterior wall infarction, subsequent episode of care	ICD-9-CM	Diagnosis
410.7	Acute myocardial infarction, subendocardial infarction	ICD-9-CM	Diagnosis
410.70	Acute myocardial infarction, subendocardial infarction, episode of care unspecified	ICD-9-CM	Diagnosis
410.71	Acute myocardial infarction, subendocardial infarction, initial episode of care	ICD-9-CM	Diagnosis
410.72	Acute myocardial infarction, subendocardial infarction, subsequent episode of care	ICD-9-CM	Diagnosis
410.8	Acute myocardial infarction of other specified sites	ICD-9-CM	Diagnosis
410.80	Acute myocardial infarction of other specified sites, episode of care unspecified	ICD-9-CM	Diagnosis
410.81	Acute myocardial infarction of other specified sites, initial episode of care	ICD-9-CM	Diagnosis
410.82	Acute myocardial infarction of other specified sites, subsequent episode of care	ICD-9-CM	Diagnosis
410.9	Acute myocardial infarction, unspecified site	ICD-9-CM	Diagnosis
410.90	Acute myocardial infarction, unspecified site, episode of care unspecified	ICD-9-CM	Diagnosis
410.91	Acute myocardial infarction, unspecified site, initial episode of care	ICD-9-CM	Diagnosis
410.92	Acute myocardial infarction, unspecified site, subsequent episode of care	ICD-9-CM	Diagnosis
	Other Ischemic Heart Disease		
411	Other acute and subacute forms of ischemic heart disease	ICD-9-CM	Diagnosis
411.0	Postmyocardial infarction syndrome	ICD-9-CM	Diagnosis
411.1	Intermediate coronary syndrome	ICD-9-CM	Diagnosis
411.8	Other acute and subacute forms of ischemic heart disease	ICD-9-CM	Diagnosis
411.81	Acute coronary occlusion without myocardial infarction	ICD-9-CM	Diagnosis
411.89	Other acute and subacute form of ischemic heart disease	ICD-9-CM	Diagnosis
412	Old myocardial infarction	ICD-9-CM	Diagnosis
413	Angina pectoris	ICD-9-CM	Diagnosis
413.0	Angina decubitus	ICD-9-CM	Diagnosis
413.1	Prinzmetal angina	ICD-9-CM	Diagnosis
413.9	Other and unspecified angina pectoris	ICD-9-CM	Diagnosis
414	Other forms of chronic ischemic heart disease	ICD-9-CM	Diagnosis
414.0	Coronary atherosclerosis	ICD-9-CM	Diagnosis
414.00	Coronary atherosclerosis of unspecified type of vessel, native or graft	ICD-9-CM	Diagnosis
414.01	Coronary atherosclerosis of native coronary artery	ICD-9-CM	Diagnosis
414.02	Coronary atherosclerosis of autologous vein bypass graft	ICD-9-CM	Diagnosis
414.03	Coronary atherosclerosis of nonautologous biological bypass graft	ICD-9-CM	Diagnosis
414.04	Coronary atherosclerosis of artery bypass graft	ICD-9-CM	Diagnosis
414.05	Coronary atherosclerosis of unspecified type of bypass graft	ICD-9-CM	Diagnosis
414.06	Coronary atherosclerosis, of native coronary artery of transplanted heart	ICD-9-CM	Diagnosis
414.07	Coronary atherosclerosis, of bypass graft (artery) (vein) of transplanted heart	ICD-9-CM	Diagnosis
414.1	Aneurysm and dissection of heart	ICD-9-CM	Diagnosis
414.10	Aneurysm of heart	ICD-9-CM	Diagnosis
414.11	Aneurysm of coronary vessels	ICD-9-CM	Diagnosis

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Code	Description	Code Type	Code Category
414.12	Dissection of coronary artery	ICD-9-CM	Diagnosis
414.19	Other aneurysm of heart	ICD-9-CM	Diagnosis
414.2	Chronic total occlusion of coronary artery	ICD-9-CM	Diagnosis
414.3	Coronary atherosclerosis due to lipid rich plaque	ICD-9-CM	Diagnosis
414.4	Coronary atherosclerosis due to calcified coronary lesion	ICD-9-CM	Diagnosis
414.8	Other specified forms of chronic ischemic heart disease	ICD-9-CM	Diagnosis
414.9	Unspecified chronic ischemic heart disease	ICD-9-CM	Diagnosis
	Congestive Heart Failure		
402.01	Malignant hypertensive heart disease with heart failure	ICD-9-CM	Diagnosis
402.11	Benign hypertensive heart disease with heart failure	ICD-9-CM	Diagnosis
402.91	Hypertensive heart disease, unspecified, with heart failure	ICD-9-CM	Diagnosis
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	Diagnosis
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	Diagnosis
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	Diagnosis
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	Diagnosis
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	Diagnosis
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	Diagnosis
428	Heart failure	ICD-9-CM	Diagnosis
428.0	Congestive heart failure, unspecified	ICD-9-CM	Diagnosis
428.1	Left heart failure	ICD-9-CM	Diagnosis
428.2	Systolic heart failure	ICD-9-CM	Diagnosis
428.20	Unspecified systolic heart failure	ICD-9-CM	Diagnosis
428.21	Acute systolic heart failure	ICD-9-CM	Diagnosis
428.22	Chronic systolic heart failure	ICD-9-CM	Diagnosis
428.23	Acute on chronic systolic heart failure	ICD-9-CM	Diagnosis
428.3	Diastolic heart failure	ICD-9-CM	Diagnosis
428.30	Unspecified diastolic heart failure	ICD-9-CM	Diagnosis
428.31	Acute diastolic heart failure	ICD-9-CM	Diagnosis
428.32	Chronic diastolic heart failure	ICD-9-CM	Diagnosis
428.33	Acute on chronic diastolic heart failure	ICD-9-CM	Diagnosis
428.4	Combined systolic and diastolic heart failure	ICD-9-CM	Diagnosis
428.40	Unspecified combined systolic and diastolic heart failure	ICD-9-CM	Diagnosis
428.41	Acute combined systolic and diastolic heart failure	ICD-9-CM	Diagnosis
428.42	Chronic combined systolic and diastolic heart failure	ICD-9-CM	Diagnosis
428.43	Acute on chronic combined systolic and diastolic heart failure	ICD-9-CM	Diagnosis
428.9	Unspecified heart failure	ICD-9-CM	Diagnosis
	Other Heart Disease		

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Code	Description	Code Type	Code Category
402.00	Malignant hypertensive heart disease without heart failure	ICD-9-CM	Diagnosis
402.10	Benign hypertensive heart disease without heart failure	ICD-9-CM	Diagnosis
402.90	Unspecified hypertensive heart disease without heart failure	ICD-9-CM	Diagnosis
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	Diagnosis
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	Diagnosis
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	Diagnosis
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	Diagnosis
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	Diagnosis
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	Diagnosis
420	Acute pericarditis	ICD-9-CM	Diagnosis
420.0	Acute pericarditis in diseases classified elsewhere	ICD-9-CM	Diagnosis
420.9	Other and unspecified acute pericarditis	ICD-9-CM	Diagnosis
420.90	Unspecified acute pericarditis	ICD-9-CM	Diagnosis
420.91	Acute idiopathic pericarditis	ICD-9-CM	Diagnosis
420.99	Other acute pericarditis	ICD-9-CM	Diagnosis
421	Acute and subacute endocarditis	ICD-9-CM	Diagnosis
421.0	Acute and subacute bacterial endocarditis	ICD-9-CM	Diagnosis
421.1	Acute and subacute infective endocarditis in diseases classified elsewhere	ICD-9-CM	Diagnosis
421.9	Unspecified acute endocarditis	ICD-9-CM	Diagnosis
422	Acute myocarditis	ICD-9-CM	Diagnosis
422.0	Acute myocarditis in diseases classified elsewhere	ICD-9-CM	Diagnosis
422.9	Other and unspecified acute myocarditis	ICD-9-CM	Diagnosis
422.90	Unspecified acute myocarditis	ICD-9-CM	Diagnosis
422.91	Idiopathic myocarditis	ICD-9-CM	Diagnosis
422.92	Septic myocarditis	ICD-9-CM	Diagnosis
422.93	Toxic myocarditis	ICD-9-CM	Diagnosis
422.99	Other acute myocarditis	ICD-9-CM	Diagnosis
423	Other diseases of pericardium	ICD-9-CM	Diagnosis
423.0	Hemopericardium	ICD-9-CM	Diagnosis
423.1	Adhesive pericarditis	ICD-9-CM	Diagnosis
423.2	Constrictive pericarditis	ICD-9-CM	Diagnosis
423.3	Cardiac tamponade	ICD-9-CM	Diagnosis
423.8	Other specified diseases of pericardium	ICD-9-CM	Diagnosis
423.9	Unspecified disease of pericardium	ICD-9-CM	Diagnosis
424	Other diseases of endocardium	ICD-9-CM	Diagnosis

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Code	Description	Code Type	Code Category
424.0	Mitral valve disorders	ICD-9-CM	Diagnosis
424.1	Aortic valve disorders	ICD-9-CM	Diagnosis
424.2	Tricuspid valve disorders, specified as nonrheumatic	ICD-9-CM	Diagnosis
424.3	Pulmonary valve disorders	ICD-9-CM	Diagnosis
424.9	Endocarditis, valve unspecified	ICD-9-CM	Diagnosis
424.90	Endocarditis, valve unspecified, unspecified cause	ICD-9-CM	Diagnosis
424.91	Endocarditis in diseases classified elsewhere	ICD-9-CM	Diagnosis
424.99	Other endocarditis, valve unspecified	ICD-9-CM	Diagnosis
425	Cardiomyopathy	ICD-9-CM	Diagnosis
425.0	Endomyocardial fibrosis	ICD-9-CM	Diagnosis
425.1	Hypertrophic cardiomyopathy	ICD-9-CM	Diagnosis
425.11	Hypertrophic obstructive cardiomyopathy	ICD-9-CM	Diagnosis
425.18	Other hypertrophic cardiomyopathy	ICD-9-CM	Diagnosis
425.2	Obscure cardiomyopathy of Africa	ICD-9-CM	Diagnosis
425.3	Endocardial fibroelastosis	ICD-9-CM	Diagnosis
425.4	Other primary cardiomyopathies	ICD-9-CM	Diagnosis
425.5	Alcoholic cardiomyopathy	ICD-9-CM	Diagnosis
425.7	Nutritional and metabolic cardiomyopathy	ICD-9-CM	Diagnosis
425.8	Cardiomyopathy in other diseases classified elsewhere	ICD-9-CM	Diagnosis
425.9	Unspecified secondary cardiomyopathy	ICD-9-CM	Diagnosis
426	Conduction disorders	ICD-9-CM	Diagnosis
426.0	Atrioventricular block, complete	ICD-9-CM	Diagnosis
426.1	Atrioventricular block, other and unspecified	ICD-9-CM	Diagnosis
426.10	Unspecified atrioventricular block	ICD-9-CM	Diagnosis
426.11	First degree atrioventricular block	ICD-9-CM	Diagnosis
426.12	Mobitz (type) II atrioventricular block	ICD-9-CM	Diagnosis
426.13	Other second degree atrioventricular block	ICD-9-CM	Diagnosis
426.2	Left bundle branch hemiblock	ICD-9-CM	Diagnosis
426.3	Other left bundle branch block	ICD-9-CM	Diagnosis
426.4	Right bundle branch block	ICD-9-CM	Diagnosis
426.5	Bundle branch block, other and unspecified	ICD-9-CM	Diagnosis
426.50	Unspecified bundle branch block	ICD-9-CM	Diagnosis
426.51	Right bundle branch block and left posterior fascicular block	ICD-9-CM	Diagnosis
426.52	Right bundle branch block and left anterior fascicular block	ICD-9-CM	Diagnosis
426.53	Other bilateral bundle branch block	ICD-9-CM	Diagnosis
426.54	Trifascicular block	ICD-9-CM	Diagnosis
426.6	Other heart block	ICD-9-CM	Diagnosis
426.7	Anomalous atrioventricular excitation	ICD-9-CM	Diagnosis
426.8	Other specified conduction disorders	ICD-9-CM	Diagnosis
426.81	Lown-Ganong-Levine syndrome	ICD-9-CM	Diagnosis
426.82	Long QT syndrome	ICD-9-CM	Diagnosis
426.89	Other specified conduction disorder	ICD-9-CM	Diagnosis
426.9	Unspecified conduction disorder	ICD-9-CM	Diagnosis
427	Cardiac dysrhythmias	ICD-9-CM	Diagnosis
427.0	Paroxysmal supraventricular tachycardia	ICD-9-CM	Diagnosis

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Code	Description	Code Type	Code Category
427.1	Paroxysmal ventricular tachycardia	ICD-9-CM	Diagnosis
427.2	Unspecified paroxysmal tachycardia	ICD-9-CM	Diagnosis
427.3	Atrial fibrillation and flutter	ICD-9-CM	Diagnosis
427.31	Atrial fibrillation	ICD-9-CM	Diagnosis
427.32	Atrial flutter	ICD-9-CM	Diagnosis
427.4	Ventricular fibrillation and flutter	ICD-9-CM	Diagnosis
427.41	Ventricular fibrillation	ICD-9-CM	Diagnosis
427.42	Ventricular flutter	ICD-9-CM	Diagnosis
427.5	Cardiac arrest	ICD-9-CM	Diagnosis
427.6	Premature beats	ICD-9-CM	Diagnosis
427.60	Unspecified premature beats	ICD-9-CM	Diagnosis
427.61	Supraventricular premature beats	ICD-9-CM	Diagnosis
427.69	Other premature beats	ICD-9-CM	Diagnosis
427.8	Other specified cardiac dysrhythmias	ICD-9-CM	Diagnosis
427.81	Sinoatrial node dysfunction	ICD-9-CM	Diagnosis
427.89	Other specified cardiac dysrhythmias	ICD-9-CM	Diagnosis
427.9	Unspecified cardiac dysrhythmia	ICD-9-CM	Diagnosis
429	Ill-defined descriptions and complications of heart disease	ICD-9-CM	Diagnosis
429.0	Unspecified myocarditis	ICD-9-CM	Diagnosis
429.1	Myocardial degeneration	ICD-9-CM	Diagnosis
429.2	Unspecified cardiovascular disease	ICD-9-CM	Diagnosis
429.3	Cardiomegaly	ICD-9-CM	Diagnosis
429.4	Functional disturbances following cardiac surgery	ICD-9-CM	Diagnosis
429.5	Rupture of chordae tendineae	ICD-9-CM	Diagnosis
429.6	Rupture of papillary muscle	ICD-9-CM	Diagnosis
429.7	Certain sequelae of myocardial infarction, not elsewhere classified	ICD-9-CM	Diagnosis
429.71	Acquired cardiac septal defect	ICD-9-CM	Diagnosis
429.79	Other certain sequelae of myocardial infarction, not elsewhere classified	ICD-9-CM	Diagnosis
429.8	Other ill-defined heart diseases	ICD-9-CM	Diagnosis
429.81	Other disorders of papillary muscle	ICD-9-CM	Diagnosis
429.82	Hyperkinetic heart disease	ICD-9-CM	Diagnosis
429.83	Takotsubo syndrome	ICD-9-CM	Diagnosis
429.89	Other ill-defined heart disease	ICD-9-CM	Diagnosis
429.9	Unspecified heart disease	ICD-9-CM	Diagnosis
440	Atherosclerosis	ICD-9-CM	Diagnosis
440.0	Atherosclerosis of aorta	ICD-9-CM	Diagnosis
440.1	Atherosclerosis of renal artery	ICD-9-CM	Diagnosis
440.2	Atherosclerosis of native arteries of the extremities	ICD-9-CM	Diagnosis
440.20	Atherosclerosis of native arteries of the extremities, unspecified	ICD-9-CM	Diagnosis
440.21	Atherosclerosis of native arteries of the extremities with intermittent claudication	ICD-9-CM	Diagnosis
440.22	Atherosclerosis of native arteries of the extremities with rest pain	ICD-9-CM	Diagnosis
440.23	Atherosclerosis of native arteries of the extremities with ulceration	ICD-9-CM	Diagnosis
440.24	Atherosclerosis of native arteries of the extremities with gangrene	ICD-9-CM	Diagnosis
440.29	Other atherosclerosis of native arteries of the extremities	ICD-9-CM	Diagnosis

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Code	Description	Code Type	Code Category
440.3	Atherosclerosis of bypass graft of extremities	ICD-9-CM	Diagnosis
440.30	Atherosclerosis of unspecified bypass graft of extremities	ICD-9-CM	Diagnosis
440.31	Atherosclerosis of autologous vein bypass graft of extremities	ICD-9-CM	Diagnosis
440.32	Atherosclerosis of nonautologous biological bypass graft of extremities	ICD-9-CM	Diagnosis
440.4	Chronic total occlusion of artery of the extremities	ICD-9-CM	Diagnosis
440.8	Atherosclerosis of other specified arteries	ICD-9-CM	Diagnosis
440.9	Generalized and unspecified atherosclerosis	ICD-9-CM	Diagnosis
	Stroke (Broad Definition)		
430	Subarachnoid hemorrhage	ICD-9-CM	Diagnosis
431	Intracerebral hemorrhage	ICD-9-CM	Diagnosis
432	Other and unspecified intracranial hemorrhage	ICD-9-CM	Diagnosis
432.0	Nontraumatic extradural hemorrhage	ICD-9-CM	Diagnosis
432.1	Subdural hemorrhage	ICD-9-CM	Diagnosis
432.9	Unspecified intracranial hemorrhage	ICD-9-CM	Diagnosis
433	Occlusion and stenosis of precerebral arteries	ICD-9-CM	Diagnosis
433.0	Occlusion and stenosis of basilar artery	ICD-9-CM	Diagnosis
433.00	Occlusion and stenosis of basilar artery without mention of cerebral infarction	ICD-9-CM	Diagnosis
433.01	Occlusion and stenosis of basilar artery with cerebral infarction	ICD-9-CM	Diagnosis
433.1	Occlusion and stenosis of carotid artery	ICD-9-CM	Diagnosis
433.10	Occlusion and stenosis of carotid artery without mention of cerebral infarction	ICD-9-CM	Diagnosis
433.11	Occlusion and stenosis of carotid artery with cerebral infarction	ICD-9-CM	Diagnosis
433.2	Occlusion and stenosis of vertebral artery	ICD-9-CM	Diagnosis
433.20	Occlusion and stenosis of vertebral artery without mention of cerebral infarction	ICD-9-CM	Diagnosis
433.21	Occlusion and stenosis of vertebral artery with cerebral infarction	ICD-9-CM	Diagnosis
433.3	Occlusion and stenosis of multiple and bilateral precerebral arteries	ICD-9-CM	Diagnosis
433.30	Occlusion and stenosis of multiple and bilateral precerebral arteries without mention of cerebral infarction	ICD-9-CM	Diagnosis
433.31	Occlusion and stenosis of multiple and bilateral precerebral arteries with cerebral infarction	ICD-9-CM	Diagnosis
433.8	Occlusion and stenosis of other specified precerebral artery	ICD-9-CM	Diagnosis
433.80	Occlusion and stenosis of other specified precerebral artery without mention of cerebral infarction	ICD-9-CM	Diagnosis
433.81	Occlusion and stenosis of other specified precerebral artery with cerebral infarction	ICD-9-CM	Diagnosis
433.9	Occlusion and stenosis of unspecified precerebral artery	ICD-9-CM	Diagnosis
433.90	Occlusion and stenosis of unspecified precerebral artery without mention of cerebral infarction	ICD-9-CM	Diagnosis
433.91	Occlusion and stenosis of unspecified precerebral artery with cerebral infarction	ICD-9-CM	Diagnosis
434	Occlusion of cerebral arteries	ICD-9-CM	Diagnosis
434.0	Cerebral thrombosis	ICD-9-CM	Diagnosis
434.00	Cerebral thrombosis without mention of cerebral infarction	ICD-9-CM	Diagnosis

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Code	Description	Code Type	Code Category
434.01	Cerebral thrombosis with cerebral infarction	ICD-9-CM	Diagnosis
434.1	Cerebral embolism	ICD-9-CM	Diagnosis
434.10	Cerebral embolism without mention of cerebral infarction	ICD-9-CM	Diagnosis
434.11	Cerebral embolism with cerebral infarction	ICD-9-CM	Diagnosis
434.9	Unspecified cerebral artery occlusion	ICD-9-CM	Diagnosis
434.90	Unspecified cerebral artery occlusion without mention of cerebral infarction	ICD-9-CM	Diagnosis
434.91	Unspecified cerebral artery occlusion with cerebral infarction	ICD-9-CM	Diagnosis
436	Acute, but ill-defined, cerebrovascular disease	ICD-9-CM	Diagnosis
	Stroke (Narrow Definition)		
430	Subarachnoid hemorrhage	ICD-9-CM	Diagnosis
431	Intracerebral hemorrhage	ICD-9-CM	Diagnosis
433.01	Occlusion and stenosis of basilar artery with cerebral infarction	ICD-9-CM	Diagnosis
433.11	Occlusion and stenosis of carotid artery with cerebral infarction	ICD-9-CM	Diagnosis
433.21	Occlusion and stenosis of vertebral artery with cerebral infarction	ICD-9-CM	Diagnosis
433.31	Occlusion and stenosis of multiple and bilateral precerebral arteries with cerebral infarction	ICD-9-CM	Diagnosis
433.81	Occlusion and stenosis of other specified precerebral artery with cerebral infarction	ICD-9-CM	Diagnosis
433.91	Occlusion and stenosis of unspecified precerebral artery with cerebral infarction	ICD-9-CM	Diagnosis
434.01	Cerebral thrombosis with cerebral infarction	ICD-9-CM	Diagnosis
434.11	Cerebral embolism with cerebral infarction	ICD-9-CM	Diagnosis
434.91	Unspecified cerebral artery occlusion with cerebral infarction	ICD-9-CM	Diagnosis
436	Acute, but ill-defined, cerebrovascular disease	ICD-9-CM	Diagnosis
	Peripheral Arterial Disease		
443.9	Unspecified peripheral vascular disease	ICD-9-CM	Diagnosis
	Coronary Revascularization Procedure		
	Coronary Artery Bypass Graft		
33510	Coronary artery bypass, vein only; single coronary venous graft	CPT-4	Procedure
33511	Coronary artery bypass, vein only; 2 coronary venous grafts	CPT-4	Procedure
33512	Coronary artery bypass, vein only; 3 coronary venous grafts	CPT-4	Procedure
33513	Coronary artery bypass, vein only; 4 coronary venous grafts	CPT-4	Procedure
33514	Coronary artery bypass, vein only; 5 coronary venous grafts	CPT-4	Procedure
33516	Coronary artery bypass, vein only; 6 or more coronary venous grafts	CPT-4	Procedure
33517	Coronary artery bypass, using venous graft(s) and arterial graft(s); single vein graft (List separately in addition to code for primary procedure)	CPT-4	Procedure
33518	Coronary artery bypass, using venous graft(s) and arterial graft(s); 2 venous grafts (List separately in addition to code for primary procedure)	CPT-4	Procedure
33519	Coronary artery bypass, using venous graft(s) and arterial graft(s); 3 venous grafts (List separately in addition to code for primary procedure)	CPT-4	Procedure
3351F	Negative screen for depressive symptoms as categorized by using a standardized depression screening/assessment tool (MDD)	CPT-2	Procedure
33520	Coronary Artery Bypass, Nonautogenous Graft (eg, Synthetic Or Cadaver); Single Graft	CPT-4	Procedure

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Code	Description	Code Type	Code Category
33521	Coronary artery bypass, using venous graft(s) and arterial graft(s); 4 venous grafts (List separately in addition to code for primary procedure)	CPT-4	Procedure
33522	Coronary artery bypass, using venous graft(s) and arterial graft(s); 5 venous grafts (List separately in addition to code for primary procedure)	CPT-4	Procedure
33523	Coronary artery bypass, using venous graft(s) and arterial graft(s); 6 or more venous grafts (List separately in addition to code for primary procedure)	CPT-4	Procedure
33525	Coronary Artery Bypass, Nonautogenous Graft (eg, Synthetic Or Cadaver); Two Coronary Grafts	CPT-4	Procedure
33528	Coronary Artery Bypass, Nonautogenous Graft (eg, Synthetic Or Cadaver); Three Or More Coronary Grafts	CPT-4	Procedure
33530	Reoperation, coronary artery bypass procedure or valve procedure, more than 1 month after original operation (List separately in addition to code for primary procedure)	CPT-4	Procedure
33533	Coronary artery bypass, using arterial graft(s); single arterial graft	CPT-4	Procedure
33534	Coronary artery bypass, using arterial graft(s); 2 coronary arterial grafts	CPT-4	Procedure
33535	Coronary artery bypass, using arterial graft(s); 3 coronary arterial grafts	CPT-4	Procedure
33536	Coronary artery bypass, using arterial graft(s); 4 or more coronary arterial grafts	CPT-4	Procedure
33560	Myocardial Operation Combined With Coronary Bypass Procedure	CPT-4	Procedure
33570	CORONARY ANGIOPLASTY W/BYPASS	CPT-4	Procedure
33572	Coronary endarterectomy, open, any method, of left anterior descending, circumflex, or right coronary artery performed in conjunction with coronary artery bypass graft procedure, each vessel (List separately in addition to primary procedure)	CPT-4	Procedure
33575	CORON ANGIOPLSTY W/BYPASS; COMBO W/VASCULARIZAT	CPT-4	Procedure
35600	Harvest of upper extremity artery, 1 segment, for coronary artery bypass procedure (List separately in addition to code for primary procedure)	CPT-4	Procedure
36.10	Aortocoronary bypass for heart revascularization, not otherwise specified	ICD-9-CM	Procedure
36.11	(Aorto)coronary bypass of one coronary artery	ICD-9-CM	Procedure
36.12	(Aorto)coronary bypass of two coronary arteries	ICD-9-CM	Procedure
36.13	(Aorto)coronary bypass of three coronary arteries	ICD-9-CM	Procedure
36.14	(Aorto)coronary bypass of four or more coronary arteries	ICD-9-CM	Procedure
36.15	Single internal mammary-coronary artery bypass	ICD-9-CM	Procedure
36.16	Double internal mammary-coronary artery bypass	ICD-9-CM	Procedure
36.17	Abdominal-coronary artery bypass	ICD-9-CM	Procedure
36.19	Other bypass anastomosis for heart revascularization	ICD-9-CM	Procedure
36.2	Heart revascularization by arterial implant	ICD-9-CM	Procedure
996.03	Mechanical complication due to coronary bypass graft	ICD-9-CM	Diagnosis
S2205	Minimally invasive direct coronary artery bypass surgery involving mini-thoracotomy or mini-sternotomy surgery, performed under direct vision; using arterial graft(s), single coronary arterial graft	HCPCS	Procedure

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Code	Description	Code Type	Code Category
S2206	Minimally invasive direct coronary artery bypass surgery involving mini-thoracotomy or mini-sternotomy surgery, performed under direct vision; using arterial graft(s), 2 coronary arterial grafts	HCPCS	Procedure
S2207	Minimally invasive direct coronary artery bypass surgery involving mini-thoracotomy or mini-sternotomy surgery, performed under direct vision; using venous graft only, single coronary venous graft	HCPCS	Procedure
S2208	Minimally invasive direct coronary artery bypass surgery involving mini-thoracotomy or mini-sternotomy surgery, performed under direct vision; using single arterial and venous graft(s), single venous graft	HCPCS	Procedure
S2209	Minimally invasive direct coronary artery bypass surgery involving mini-thoracotomy or mini-sternotomy surgery, performed under direct vision; using 2 arterial grafts and single venous graft	HCPCS	Procedure
V45.81	Postprocedural aortocoronary bypass status	ICD-9-CM	Diagnosis
	Percutaneous Coronary Intervention		
00.66	Percutaneous transluminal coronary angioplasty [PTCA]	ICD-9-CM	Procedure
17.55	Transluminal coronary atherectomy	ICD-9-CM	Procedure
36.01	Single vessel percutaneous transluminal coronary angioplasty [PTCA] or coronary atherectomy without mention of thrombolytic agent	ICD-9-CM	Procedure
36.02	Single vessel percutaneous transluminal coronary angioplasty [PTCA] or coronary atherectomy with thrombolytic agent	ICD-9-CM	Procedure
36.03	Open chest coronary artery angioplasty	ICD-9-CM	Procedure
36.04	Intracoronary artery thrombolytic infusion	ICD-9-CM	Procedure
36.05	Multiple vessel (percutaneous) transluminal coronary angioplasty [PTCA] or coronary atherectomy performed during the same operation, with or without mention of thrombolytic agent	ICD-9-CM	Procedure
36.06	Insertion of non-drug-eluting coronary artery stent(s)	ICD-9-CM	Procedure
36.07	Insertion of drug-eluting coronary artery stent(s)	ICD-9-CM	Procedure
36.09	Other removal of coronary artery obstruction	ICD-9-CM	Procedure
37.22	Left heart cardiac catheterization	ICD-9-CM	Procedure
37.23	Combined right and left heart cardiac catheterization	ICD-9-CM	Procedure
88.50	Angiocardiography, not otherwise specified	ICD-9-CM	Procedure
88.51	Angiocardiography of venae cavae	ICD-9-CM	Procedure
88.52	Angiocardiography of right heart structures	ICD-9-CM	Procedure
88.53	Angiocardiography of left heart structures	ICD-9-CM	Procedure
88.54	Combined right and left heart angiocardiography	ICD-9-CM	Procedure
88.55	Coronary arteriography using single catheter	ICD-9-CM	Procedure
88.56	Coronary arteriography using two catheters	ICD-9-CM	Procedure
88.57	Other and unspecified coronary arteriography	ICD-9-CM	Procedure
88.58	Negative-contrast cardiac roentgenography	ICD-9-CM	Procedure
88.59	Intra-operative coronary fluorescence vascular angiography	ICD-9-CM	Procedure
92973	Percutaneous transluminal coronary thrombectomy mechanical (List separately in addition to code for primary procedure)	CPT-4	Procedure
92974	Transcatheter placement of radiation delivery device for subsequent coronary intravascular brachytherapy (List separately in addition to code for primary procedure)	CPT-4	Procedure

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Code	Description	Code Type	Code Category
92977	Thrombolysis, coronary; by intravenous infusion	CPT-4	Procedure
92980	Transcatheter placement of an intracoronary stent(s), percutaneous, with or without other therapeutic intervention, any method; single vessel	CPT-4	Procedure
92981	Transcatheter placement of an intracoronary stent(s), percutaneous, with or without other therapeutic intervention, any method; each additional vessel (List separately in addition to code for primary procedure)	CPT-4	Procedure
92982	Percutaneous transluminal coronary balloon angioplasty; single vessel	CPT-4	Procedure
92984	Percutaneous transluminal coronary balloon angioplasty; each additional vessel (List separately in addition to code for primary procedure)	CPT-4	Procedure
92987	Percutaneous balloon valvuloplasty; mitral valve	CPT-4	Procedure
92995	Percutaneous transluminal coronary atherectomy, by mechanical or other method, with or without balloon angioplasty; single vessel	CPT-4	Procedure
92996	Percutaneous transluminal coronary atherectomy, by mechanical or other method, with or without balloon angioplasty; each additional vessel (List separately in addition to code for primary procedure)	CPT-4	Procedure
G0290	Transcatheter placement of a drug eluting intracoronary stent(s), percutaneous, with or without other therapeutic intervention, any method; single vessel	HCPCS	Procedure
G0291	Transcatheter placement of a drug eluting intracoronary stent(s), percutaneous, with or without other therapeutic intervention, any method; each additional vessel	HCPCS	Procedure
V45.82	Postprocedural percutaneous transluminal coronary angioplasty status	ICD-9-CM	Diagnosis
	Carotid Revascularization Procedure		
	Carotid Endarterectomy, Stenting, Angioplasty or Atherectomy		
00.61	Percutaneous angioplasty of extracranial vessel(s)	ICD-9-CM	Procedure
00.63	Percutaneous insertion of carotid artery stent(s)	ICD-9-CM	Procedure
0075T	Transcatheter placement of extracranial vertebral artery stent(s), including radiologic supervision and interpretation, open or percutaneous; initial vessel	CPT Category III	Procedure
0076T	Transcatheter placement of extracranial vertebral artery stent(s), including radiologic supervision and interpretation, open or percutaneous; each additional vessel (List separately in addition to code for primary procedure)	CPT Category III	Procedure
35301	Thromboendarterectomy, including patch graft, if performed; carotid, vertebral, subclavian, by neck incision	CPT-4	Procedure
35390	Reoperation, carotid, thromboendarterectomy, more than 1 month after original operation (List separately in addition to code for primary procedure)	CPT-4	Procedure
35501	Bypass graft, with vein; common carotid-ipsilateral internal carotid	CPT-4	Procedure
35601	Bypass graft, with other than vein; common carotid-ipsilateral internal carotid	CPT-4	Procedure
35901	Excision of infected graft; neck	CPT-4	Procedure

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Code	Description	Code Type	Code Category
37215	Transcatheter placement of intravascular stent(s), cervical carotid artery, open or percutaneous, including angioplasty, when performed, and radiological supervision and interpretation; with distal embolic protection	CPT-4	Procedure
37216	Transcatheter placement of intravascular stent(s), cervical carotid artery, open or percutaneous, including angioplasty, when performed, and radiological supervision and interpretation; without distal embolic protection	CPT-4	Procedure
38.11	Endarterectomy of intracranial vessels	ICD-9-CM	Procedure
38.12	Endarterectomy of other vessels of head and neck	ICD-9-CM	Procedure
S2211	Transcatheter placement of intravascular stent(s), carotid artery, percutaneous, unilateral (if performed bilaterally, use-50 modifier)	HCPCS	Procedure
	Carotid Bypass		
39.28	Extracranial-intracranial (EC-IC) vascular bypass	ICD-9-CM	Procedure
	Lower Extremity Revascularization Procedure		
	Lower Extremity Endarterectomy, Stenting, Angioplasty or Artherectomy		
35454	Transluminal balloon angioplasty, open; iliac	CPT-4	Procedure
35456	Transluminal balloon angioplasty, open; femoral-popliteal	CPT-4	Procedure
35459	Transluminal balloon angioplasty, open; tibioperoneal trunk and branches	CPT-4	Procedure
35470	Transluminal balloon angioplasty, percutaneous; tibioperoneal trunk or branches, each vessel	CPT-4	Procedure
35473	Transluminal balloon angioplasty, percutaneous; iliac	CPT-4	Procedure
35474	Transluminal balloon angioplasty, percutaneous; femoral-popliteal	CPT-4	Procedure
35482	Transluminal peripheral atherectomy, open; iliac	CPT-4	Procedure
35483	Transluminal peripheral atherectomy, open; femoral-popliteal	CPT-4	Procedure
35492	Transluminal peripheral atherectomy, percutaneous; iliac	CPT-4	Procedure
35493	Transluminal peripheral atherectomy, percutaneous; femoral-popliteal	CPT-4	Procedure
35495	Transluminal peripheral atherectomy, percutaneous; tibioperoneal trunk and branches	CPT-4	Procedure
37207	Transcatheter placement of an intravascular stent(s) (except coronary, carotid, vertebral, iliac and lower extremity arteries), open; initial vessel	CPT-4	Procedure
37208	Transcatheter placement of an intravascular stent(s) (except coronary, carotid, vertebral, iliac and lower extremity arteries), open; each additional vessel (List separately in addition to code for primary procedure)	CPT-4	Procedure
37220	Revascularization, endovascular, open or percutaneous, iliac artery, unilateral, initial vessel; with transluminal angioplasty	CPT-4	Procedure
37221	Revascularization, endovascular, open or percutaneous, iliac artery, unilateral, initial vessel; with transluminal stent placement(s), includes angioplasty within the same vessel, when performed	CPT-4	Procedure
37222	Revascularization, endovascular, open or percutaneous, iliac artery, each additional ipsilateral iliac vessel; with transluminal angioplasty (List separately in addition to code for primary procedure)	CPT-4	Procedure

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Code	Description	Code Type	Code Category
37223	Revascularization, endovascular, open or percutaneous, iliac artery, each additional ipsilateral iliac vessel; with transluminal stent placement(s), includes angioplasty within the same vessel, when performed (List separately in addition to code for primary procedure)	CPT-4	Procedure
37224	Revascularization, endovascular, open or percutaneous, femoral, popliteal artery(s), unilateral; with transluminal angioplasty	CPT-4	Procedure
37225	Revascularization, endovascular, open or percutaneous, femoral, popliteal artery(s), unilateral; with atherectomy, includes angioplasty within the same vessel, when performed	CPT-4	Procedure
37226	Revascularization, endovascular, open or percutaneous, femoral, popliteal artery(s), unilateral; with transluminal stent placement(s), includes angioplasty within the same vessel, when performed	CPT-4	Procedure
37227	Revascularization, endovascular, open or percutaneous, femoral, popliteal artery(s), unilateral; with transluminal stent placement(s) and atherectomy, includes angioplasty within the same vessel, when performed	CPT-4	Procedure
37228	Revascularization, endovascular, open or percutaneous, tibial, peroneal artery, unilateral, initial vessel; with transluminal angioplasty	CPT-4	Procedure
37229	Revascularization, endovascular, open or percutaneous, tibial, peroneal artery, unilateral, initial vessel; with atherectomy, includes angioplasty within the same vessel, when performed	CPT-4	Procedure
37230	Revascularization, endovascular, open or percutaneous, tibial, peroneal artery, unilateral, initial vessel; with transluminal stent placement(s), includes angioplasty within the same vessel, when performed	CPT-4	Procedure
37231	Revascularization, endovascular, open or percutaneous, tibial, peroneal artery, unilateral, initial vessel; with transluminal stent placement(s) and atherectomy, includes angioplasty within the same vessel, when performed	CPT-4	Procedure
37232	Revascularization, endovascular, open or percutaneous, tibial/peroneal artery, unilateral, each additional vessel; with transluminal angioplasty (List separately in addition to code for primary procedure)	CPT-4	Procedure
37233	Revascularization, endovascular, open or percutaneous, tibial/peroneal artery, unilateral, each additional vessel; with atherectomy, includes angioplasty within the same vessel, when performed (List separately in addition to code for primary procedure)	CPT-4	Procedure
37234	Revascularization, endovascular, open or percutaneous, tibial/peroneal artery, unilateral, each additional vessel; with transluminal stent placement(s), includes angioplasty within the same vessel, when performed (List separately in addition to code for primary procedure)	CPT-4	Procedure
37235	Revascularization, endovascular, open or percutaneous, tibial/peroneal artery, unilateral, each additional vessel; with transluminal stent placement(s) and atherectomy, includes angioplasty within the same vessel, when performed (List separately in addition to code for primary procedure)	CPT-4	Procedure
38.10	Endarterectomy, unspecified site	ICD-9-CM	Procedure

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Code	Description	Code Type	Code Category
38.18	Endarterectomy of lower limb arteries	ICD-9-CM	Procedure
	Lower Extremity Bypass		
35666	Bypass graft, with other than vein; femoral-anterior tibial, posterior tibial, or peroneal artery	CPT-4	Procedure
35351	Thromboendarterectomy, including patch graft, if performed; iliac	CPT-4	Procedure
35355	Thromboendarterectomy, including patch graft, if performed; iliofemoral	CPT-4	Procedure
35361	Thromboendarterectomy, including patch graft, if performed; combined aortoiliac	CPT-4	Procedure
35363	Thromboendarterectomy, including patch graft, if performed; combined aortoiliofemoral	CPT-4	Procedure
35371	Thromboendarterectomy, including patch graft, if performed; common femoral	CPT-4	Procedure
35372	Thromboendarterectomy, including patch graft, if performed; deep (profunda) femoral	CPT-4	Procedure
35521	Bypass graft, with vein; axillary-femoral	CPT-4	Procedure
35533	Bypass graft, with vein; axillary-femoral-femoral	CPT-4	Procedure
35541	Bypass graft, with vein; aortoiliac or bi-iliac	CPT-4	Procedure
35546	Bypass graft, with vein; aortofemoral or bifemoral	CPT-4	Procedure
35548	Bypass graft, with vein; aortoiliofemoral, unilateral	CPT-4	Procedure
35549	Bypass graft, with vein; aortoiliofemoral, bilateral	CPT-4	Procedure
35551	Bypass graft, with vein; aortofemoral-popliteal	CPT-4	Procedure
35556	Bypass graft, with vein; femoral-popliteal	CPT-4	Procedure
35558	Bypass graft, with vein; femoral-femoral	CPT-4	Procedure
35563	Bypass graft, with vein; ilioiliac	CPT-4	Procedure
35565	Bypass graft, with vein; iliofemoral	CPT-4	Procedure
35566	Bypass graft, with vein; femoral-anterior tibial, posterior tibial, peroneal artery or other distal vessels	CPT-4	Procedure
35570	Bypass graft, with vein; tibial-tibial, peroneal-tibial, or tibial/peroneal trunk-tibial	CPT-4	Procedure
35571	Bypass graft, with vein; popliteal-tibial, -peroneal artery or other distal vessels	CPT-4	Procedure
35582	In-situ vein bypass; aortofemoral-popliteal (only femoral-popliteal portion in-situ)	CPT-4	Procedure
35583	In-situ vein bypass; femoral-popliteal	CPT-4	Procedure
35585	In-situ vein bypass; femoral-anterior tibial, posterior tibial, or peroneal artery	CPT-4	Procedure
35587	In-situ vein bypass; popliteal-tibial, peroneal	CPT-4	Procedure
35621	Bypass graft, with other than vein; axillary-femoral	CPT-4	Procedure
35623	Bypass graft, with other than vein; axillary-popliteal or -tibial	CPT-4	Procedure
35637	Bypass graft, with other than vein; aortoiliac	CPT-4	Procedure
35638	Bypass graft, with other than vein; aortobi-iliac	CPT-4	Procedure
35641	Bypass graft, with other than vein; aortoiliac or bi-iliac	CPT-4	Procedure
35646	Bypass graft, with other than vein; aortobifemoral	CPT-4	Procedure
35647	Bypass graft, with other than vein; aortofemoral	CPT-4	Procedure
35651	Bypass graft, with other than vein; aortofemoral-popliteal	CPT-4	Procedure

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Code	Description	Code Type	Code Category
35654	Bypass graft, with other than vein; axillary-femoral-femoral	CPT-4	Procedure
35656	Bypass graft, with other than vein; femoral-popliteal	CPT-4	Procedure
35661	Bypass graft, with other than vein; femoral-femoral	CPT-4	Procedure
35663	Bypass graft, with other than vein; ilioiliac	CPT-4	Procedure
35665	Bypass graft, with other than vein; iliofemoral	CPT-4	Procedure
35671	Bypass graft, with other than vein; popliteal-tibial or -peroneal artery	CPT-4	Procedure
35681	Bypass graft; composite, prosthetic and vein (List separately in addition to code for primary procedure)	CPT-4	Procedure
35682	Bypass graft; autogenous composite, 2 segments of veins from 2 locations (List separately in addition to code for primary procedure)	CPT-4	Procedure
35683	Bypass graft; autogenous composite, 3 or more segments of vein from 2 or more locations (List separately in addition to code for primary procedure)	CPT-4	Procedure
35879	Revision, lower extremity arterial bypass, without thrombectomy, open; with vein patch angioplasty	CPT-4	Procedure
39.25	Aorta-iliac-femoral bypass	ICD-9-CM	Procedure
39.29	Other (peripheral) vascular shunt or bypass	ICD-9-CM	Procedure
	Lower Extremity Amputation		
27295	Disarticulation of hip	CPT-4	Procedure
27590	Amputation, thigh, through femur, any level;	CPT-4	Procedure
27591	Amputation, thigh, through femur, any level; immediate fitting technique including first cast	CPT-4	Procedure
27592	Amputation, thigh, through femur, any level; open, circular (guillotine)	CPT-4	Procedure
27598	Disarticulation at knee	CPT-4	Procedure
27880	Amputation, leg, through tibia and fibula;	CPT-4	Procedure
27881	Amputation, leg, through tibia and fibula; with immediate fitting technique including application of first cast	CPT-4	Procedure
27882	Amputation, leg, through tibia and fibula; open, circular (guillotine)	CPT-4	Procedure
27888	Amputation, ankle, through malleoli of tibia and fibula (eg, Syme, Pirogoff type procedures), with plastic closure and resection of nerves	CPT-4	Procedure
27889	Ankle disarticulation	CPT-4	Procedure
28800	Amputation, foot; midtarsal (eg, Chopart type procedure)	CPT-4	Procedure
28805	Amputation, foot; transmetatarsal	CPT-4	Procedure
28810	Amputation, metatarsal, with toe, single	CPT-4	Procedure
28820	Amputation, toe; metatarsophalangeal joint	CPT-4	Procedure
28825	Amputation, toe; interphalangeal joint	CPT-4	Procedure
84.10	Lower limb amputation, not otherwise specified	ICD-9-CM	Procedure
84.11	Amputation of toe	ICD-9-CM	Procedure
84.12	Amputation through foot	ICD-9-CM	Procedure
84.13	Disarticulation of ankle	ICD-9-CM	Procedure
84.14	Amputation of ankle through malleoli of tibia and fibula	ICD-9-CM	Procedure
84.15	Other amputation below knee	ICD-9-CM	Procedure
84.16	Disarticulation of knee	ICD-9-CM	Procedure
84.17	Amputation above knee	ICD-9-CM	Procedure
	Comorbidity		

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Code	Description	Code Type	Code Category
	Asthma		
493	Asthma	ICD-9-CM	Diagnosis
493.0	Extrinsic asthma	ICD-9-CM	Diagnosis
493.00	Extrinsic asthma, unspecified	ICD-9-CM	Diagnosis
493.01	Extrinsic asthma with status asthmaticus	ICD-9-CM	Diagnosis
493.02	Extrinsic asthma, with (acute) exacerbation	ICD-9-CM	Diagnosis
493.1	Intrinsic asthma	ICD-9-CM	Diagnosis
493.10	Intrinsic asthma, unspecified	ICD-9-CM	Diagnosis
493.11	Intrinsic asthma with status asthmaticus	ICD-9-CM	Diagnosis
493.12	Intrinsic asthma, with (acute) exacerbation	ICD-9-CM	Diagnosis
493.2	Chronic obstructive asthma	ICD-9-CM	Diagnosis
493.20	Chronic obstructive asthma, unspecified	ICD-9-CM	Diagnosis
493.21	Chronic obstructive asthma with status asthmaticus	ICD-9-CM	Diagnosis
493.22	Chronic obstructive asthma, with (acute) exacerbation	ICD-9-CM	Diagnosis
493.8	Other forms of asthma	ICD-9-CM	Diagnosis
493.81	Exercise induced bronchospasm	ICD-9-CM	Diagnosis
493.82	Cough variant asthma	ICD-9-CM	Diagnosis
493.9	Unspecified asthma	ICD-9-CM	Diagnosis
493.90	Asthma, unspecified, unspecified status	ICD-9-CM	Diagnosis
493.91	Asthma, unspecified with status asthmaticus	ICD-9-CM	Diagnosis
493.92	Asthma, unspecified, with (acute) exacerbation	ICD-9-CM	Diagnosis
	Cancer (Excluding Non-Melanoma Skin Cancer)		
140	Malignant neoplasm of lip	ICD-9-CM	Diagnosis
140.0	Malignant neoplasm of upper lip, vermilion border	ICD-9-CM	Diagnosis
140.1	Malignant neoplasm of lower lip, vermilion border	ICD-9-CM	Diagnosis
140.3	Malignant neoplasm of upper lip, inner aspect	ICD-9-CM	Diagnosis
140.4	Malignant neoplasm of lower lip, inner aspect	ICD-9-CM	Diagnosis
140.5	Malignant neoplasm of lip, inner aspect, unspecified as to upper or lower	ICD-9-CM	Diagnosis
140.6	Malignant neoplasm of commissure of lip	ICD-9-CM	Diagnosis
140.8	Malignant neoplasm of other sites of lip	ICD-9-CM	Diagnosis
140.9	Malignant neoplasm of lip, vermilion border, unspecified as to upper or lower	ICD-9-CM	Diagnosis
141	Malignant neoplasm of tongue	ICD-9-CM	Diagnosis
141.0	Malignant neoplasm of base of tongue	ICD-9-CM	Diagnosis
141.1	Malignant neoplasm of dorsal surface of tongue	ICD-9-CM	Diagnosis
141.2	Malignant neoplasm of tip and lateral border of tongue	ICD-9-CM	Diagnosis
141.3	Malignant neoplasm of ventral surface of tongue	ICD-9-CM	Diagnosis
141.4	Malignant neoplasm of anterior two-thirds of tongue, part unspecified	ICD-9-CM	Diagnosis
141.5	Malignant neoplasm of junctional zone of tongue	ICD-9-CM	Diagnosis
141.6	Malignant neoplasm of lingual tonsil	ICD-9-CM	Diagnosis
141.8	Malignant neoplasm of other sites of tongue	ICD-9-CM	Diagnosis
141.9	Malignant neoplasm of tongue, unspecified site	ICD-9-CM	Diagnosis
142	Malignant neoplasm of major salivary glands	ICD-9-CM	Diagnosis
142.0	Malignant neoplasm of parotid gland	ICD-9-CM	Diagnosis
142.1	Malignant neoplasm of submandibular gland	ICD-9-CM	Diagnosis

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Code	Description	Code Type	Code Category
142.2	Malignant neoplasm of sublingual gland	ICD-9-CM	Diagnosis
142.8	Malignant neoplasm of other major salivary glands	ICD-9-CM	Diagnosis
142.9	Malignant neoplasm of salivary gland, unspecified	ICD-9-CM	Diagnosis
143	Malignant neoplasm of gum	ICD-9-CM	Diagnosis
143.0	Malignant neoplasm of upper gum	ICD-9-CM	Diagnosis
143.1	Malignant neoplasm of lower gum	ICD-9-CM	Diagnosis
143.8	Malignant neoplasm of other sites of gum	ICD-9-CM	Diagnosis
143.9	Malignant neoplasm of gum, unspecified site	ICD-9-CM	Diagnosis
144	Malignant neoplasm of floor of mouth	ICD-9-CM	Diagnosis
144.0	Malignant neoplasm of anterior portion of floor of mouth	ICD-9-CM	Diagnosis
144.1	Malignant neoplasm of lateral portion of floor of mouth	ICD-9-CM	Diagnosis
144.8	Malignant neoplasm of other sites of floor of mouth	ICD-9-CM	Diagnosis
144.9	Malignant neoplasm of floor of mouth, part unspecified	ICD-9-CM	Diagnosis
145	Malignant neoplasm of other and unspecified parts of mouth	ICD-9-CM	Diagnosis
145.0	Malignant neoplasm of cheek mucosa	ICD-9-CM	Diagnosis
145.1	Malignant neoplasm of vestibule of mouth	ICD-9-CM	Diagnosis
145.2	Malignant neoplasm of hard palate	ICD-9-CM	Diagnosis
145.3	Malignant neoplasm of soft palate	ICD-9-CM	Diagnosis
145.4	Malignant neoplasm of uvula	ICD-9-CM	Diagnosis
145.5	Malignant neoplasm of palate, unspecified	ICD-9-CM	Diagnosis
145.6	Malignant neoplasm of retromolar area	ICD-9-CM	Diagnosis
145.8	Malignant neoplasm of other specified parts of mouth	ICD-9-CM	Diagnosis
145.9	Malignant neoplasm of mouth, unspecified site	ICD-9-CM	Diagnosis
146	Malignant neoplasm of oropharynx	ICD-9-CM	Diagnosis
146.0	Malignant neoplasm of tonsil	ICD-9-CM	Diagnosis
146.1	Malignant neoplasm of tonsillar fossa	ICD-9-CM	Diagnosis
146.2	Malignant neoplasm of tonsillar pillars (anterior) (posterior)	ICD-9-CM	Diagnosis
146.3	Malignant neoplasm of vallecula	ICD-9-CM	Diagnosis
146.4	Malignant neoplasm of anterior aspect of epiglottis	ICD-9-CM	Diagnosis
146.5	Malignant neoplasm of junctional region of oropharynx	ICD-9-CM	Diagnosis
146.6	Malignant neoplasm of lateral wall of oropharynx	ICD-9-CM	Diagnosis
146.7	Malignant neoplasm of posterior wall of oropharynx	ICD-9-CM	Diagnosis
146.8	Malignant neoplasm of other specified sites of oropharynx	ICD-9-CM	Diagnosis
146.9	Malignant neoplasm of oropharynx, unspecified site	ICD-9-CM	Diagnosis
147	Malignant neoplasm of nasopharynx	ICD-9-CM	Diagnosis
147.0	Malignant neoplasm of superior wall of nasopharynx	ICD-9-CM	Diagnosis
147.1	Malignant neoplasm of posterior wall of nasopharynx	ICD-9-CM	Diagnosis
147.2	Malignant neoplasm of lateral wall of nasopharynx	ICD-9-CM	Diagnosis
147.3	Malignant neoplasm of anterior wall of nasopharynx	ICD-9-CM	Diagnosis
147.8	Malignant neoplasm of other specified sites of nasopharynx	ICD-9-CM	Diagnosis
147.9	Malignant neoplasm of nasopharynx, unspecified site	ICD-9-CM	Diagnosis
148	Malignant neoplasm of hypopharynx	ICD-9-CM	Diagnosis
148.0	Malignant neoplasm of postcricoid region of hypopharynx	ICD-9-CM	Diagnosis
148.1	Malignant neoplasm of pyriform sinus	ICD-9-CM	Diagnosis
148.2	Malignant neoplasm of aryepiglottic fold, hypopharyngeal aspect	ICD-9-CM	Diagnosis

Appendix F. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), Current Procedural Terminology, Fourth Edition (CPT-4, Category I-III), and Healthcare Common Procedure Coding System (HCPCS) Diagnosis and Procedure Codes Used to Define Covariates and Subgroup Criteria in this Report

Code	Description	Code Type	Code Category
148.3	Malignant neoplasm of posterior hypopharyngeal wall	ICD-9-CM	Diagnosis
148.8	Malignant neoplasm of other specified sites of hypopharynx	ICD-9-CM	Diagnosis
148.9	Malignant neoplasm of hypopharynx, unspecified site	ICD-9-CM	Diagnosis
149	Malignant neoplasm of other and ill-defined sites within the lip, oral cavity, and pharynx	ICD-9-CM	Diagnosis
149.0	Malignant neoplasm of pharynx, unspecified	ICD-9-CM	Diagnosis
149.1	Malignant neoplasm of Waldeyer's ring	ICD-9-CM	Diagnosis
149.8	Malignant neoplasm of other sites within the lip and oral cavity	ICD-9-CM	Diagnosis
149.9	Malignant neoplasm of ill-defined sites of lip and oral cavity	ICD-9-CM	Diagnosis
150	Malignant neoplasm of esophagus	ICD-9-CM	Diagnosis
150.0	Malignant neoplasm of cervical esophagus	ICD-9-CM	Diagnosis
150.1	Malignant neoplasm of thoracic esophagus	ICD-9-CM	Diagnosis
150.2	Malignant neoplasm of abdominal esophagus	ICD-9-CM	Diagnosis
150.3	Malignant neoplasm of upper third of esophagus	ICD-9-CM	Diagnosis
150.4	Malignant neoplasm of middle third of esophagus	ICD-9-CM	Diagnosis
150.5	Malignant neoplasm of lower third of esophagus	ICD-9-CM	Diagnosis
150.8	Malignant neoplasm of other specified part of esophagus	ICD-9-CM	Diagnosis
150.9	Malignant neoplasm of esophagus, unspecified site	ICD-9-CM	Diagnosis
151	Malignant neoplasm of stomach	ICD-9-CM	Diagnosis
151.0	Malignant neoplasm of cardia	ICD-9-CM	Diagnosis
151.1	Malignant neoplasm of pylorus	ICD-9-CM	Diagnosis
151.2	Malignant neoplasm of pyloric antrum	ICD-9-CM	Diagnosis
151.3	Malignant neoplasm of fundus of stomach	ICD-9-CM	Diagnosis
151.4	Malignant neoplasm of body of stomach	ICD-9-CM	Diagnosis
151.5	Malignant neoplasm of lesser curvature of stomach, unspecified	ICD-9-CM	Diagnosis
151.6	Malignant neoplasm of greater curvature of stomach, unspecified	ICD-9-CM	Diagnosis
151.8	Malignant neoplasm of other specified sites of stomach	ICD-9-CM	Diagnosis
151.9	Malignant neoplasm of stomach, unspecified site	ICD-9-CM	Diagnosis
152	Malignant neoplasm of small intestine, including duodenum	ICD-9-CM	Diagnosis
152.0	Malignant neoplasm of duodenum	ICD-9-CM	Diagnosis
152.1	Malignant neoplasm of jejunum	ICD-9-CM	Diagnosis
152.2	Malignant neoplasm of ileum	ICD-9-CM	Diagnosis
152.3	Malignant neoplasm of Meckel's diverticulum	ICD-9-CM	Diagnosis
152.8	Malignant neoplasm of other specified sites of small intestine	ICD-9-CM	Diagnosis
152.9	Malignant neoplasm of small intestine, unspecified site	ICD-9-CM	Diagnosis
153	Malignant neoplasm of colon	ICD-9-CM	Diagnosis
153.0	Malignant neoplasm of hepatic flexure	ICD-9-CM	Diagnosis
153.1	Malignant neoplasm of transverse colon	ICD-9-CM	Diagnosis
153.2	Malignant neoplasm of descending colon	ICD-9-CM	Diagnosis
153.3	Malignant neoplasm of sigmoid colon	ICD-9-CM	Diagnosis
153.4	Malignant neoplasm of cecum	ICD-9-CM	Diagnosis
153.5	Malignant neoplasm of appendix	ICD-9-CM	Diagnosis
153.6	Malignant neoplasm of ascending colon	ICD-9-CM	Diagnosis
153.7	Malignant neoplasm of splenic flexure	ICD-9-CM	Diagnosis
153.8	Malignant neoplasm of other specified sites of large intestine	ICD-9-CM	Diagnosis

Appendix F. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), Current Procedural Terminology, Fourth Edition (CPT-4, Category I-III), and Healthcare Common Procedure Coding System (HCPCS) Diagnosis and Procedure Codes Used to Define Covariates and Subgroup Criteria in this Report

Code	Description	Code Type	Code Category
153.9	Malignant neoplasm of colon, unspecified site	ICD-9-CM	Diagnosis
154	Malignant neoplasm of rectum, rectosigmoid junction, and anus	ICD-9-CM	Diagnosis
154.0	Malignant neoplasm of rectosigmoid junction	ICD-9-CM	Diagnosis
154.1	Malignant neoplasm of rectum	ICD-9-CM	Diagnosis
154.2	Malignant neoplasm of anal canal	ICD-9-CM	Diagnosis
154.3	Malignant neoplasm of anus, unspecified site	ICD-9-CM	Diagnosis
154.8	Malignant neoplasm of other sites of rectum, rectosigmoid junction, and anus	ICD-9-CM	Diagnosis
155	Malignant neoplasm of liver and intrahepatic bile ducts	ICD-9-CM	Diagnosis
155.0	Malignant neoplasm of liver, primary	ICD-9-CM	Diagnosis
155.1	Malignant neoplasm of intrahepatic bile ducts	ICD-9-CM	Diagnosis
155.2	Malignant neoplasm of liver, not specified as primary or secondary	ICD-9-CM	Diagnosis
156	Malignant neoplasm of gallbladder and extrahepatic bile ducts	ICD-9-CM	Diagnosis
156.0	Malignant neoplasm of gallbladder	ICD-9-CM	Diagnosis
156.1	Malignant neoplasm of extrahepatic bile ducts	ICD-9-CM	Diagnosis
156.2	Malignant neoplasm of ampulla of Vater	ICD-9-CM	Diagnosis
156.8	Malignant neoplasm of other specified sites of gallbladder and extrahepatic bile ducts	ICD-9-CM	Diagnosis
156.9	Malignant neoplasm of biliary tract, part unspecified site	ICD-9-CM	Diagnosis
157	Malignant neoplasm of pancreas	ICD-9-CM	Diagnosis
157.0	Malignant neoplasm of head of pancreas	ICD-9-CM	Diagnosis
157.1	Malignant neoplasm of body of pancreas	ICD-9-CM	Diagnosis
157.2	Malignant neoplasm of tail of pancreas	ICD-9-CM	Diagnosis
157.3	Malignant neoplasm of pancreatic duct	ICD-9-CM	Diagnosis
157.4	Malignant neoplasm of islets of Langerhans	ICD-9-CM	Diagnosis
157.8	Malignant neoplasm of other specified sites of pancreas	ICD-9-CM	Diagnosis
157.9	Malignant neoplasm of pancreas, part unspecified	ICD-9-CM	Diagnosis
158	Malignant neoplasm of retroperitoneum and peritoneum	ICD-9-CM	Diagnosis
158.0	Malignant neoplasm of retroperitoneum	ICD-9-CM	Diagnosis
158.8	Malignant neoplasm of specified parts of peritoneum	ICD-9-CM	Diagnosis
158.9	Malignant neoplasm of peritoneum, unspecified	ICD-9-CM	Diagnosis
159	Malignant neoplasm of other and ill-defined sites within the digestive organs and peritoneum	ICD-9-CM	Diagnosis
159.0	Malignant neoplasm of intestinal tract, part unspecified	ICD-9-CM	Diagnosis
159.1	Malignant neoplasm of spleen, not elsewhere classified	ICD-9-CM	Diagnosis
159.8	Malignant neoplasm of other sites of digestive system and intra-abdominal organs	ICD-9-CM	Diagnosis
159.9	Malignant neoplasm of ill-defined sites of digestive organs and peritoneum	ICD-9-CM	Diagnosis
160	Malignant neoplasm of nasal cavities, middle ear, and accessory sinuses	ICD-9-CM	Diagnosis
160.0	Malignant neoplasm of nasal cavities	ICD-9-CM	Diagnosis
160.1	Malignant neoplasm of auditory tube, middle ear, and mastoid air cells	ICD-9-CM	Diagnosis
160.2	Malignant neoplasm of maxillary sinus	ICD-9-CM	Diagnosis
160.3	Malignant neoplasm of ethmoidal sinus	ICD-9-CM	Diagnosis
160.4	Malignant neoplasm of frontal sinus	ICD-9-CM	Diagnosis

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Code	Description	Code Type	Code Category
160.5	Malignant neoplasm of sphenoidal sinus	ICD-9-CM	Diagnosis
160.8	Malignant neoplasm of other sites of nasal cavities, middle ear, and accessory sinuses	ICD-9-CM	Diagnosis
160.9	Malignant neoplasm of site of nasal cavities, middle ear, and accessory sinus, unspecified site	ICD-9-CM	Diagnosis
161	Malignant neoplasm of larynx	ICD-9-CM	Diagnosis
161.0	Malignant neoplasm of glottis	ICD-9-CM	Diagnosis
161.1	Malignant neoplasm of supraglottis	ICD-9-CM	Diagnosis
161.2	Malignant neoplasm of subglottis	ICD-9-CM	Diagnosis
161.3	Malignant neoplasm of laryngeal cartilages	ICD-9-CM	Diagnosis
161.8	Malignant neoplasm of other specified sites of larynx	ICD-9-CM	Diagnosis
161.9	Malignant neoplasm of larynx, unspecified site	ICD-9-CM	Diagnosis
162	Malignant neoplasm of trachea, bronchus, and lung	ICD-9-CM	Diagnosis
162.0	Malignant neoplasm of trachea	ICD-9-CM	Diagnosis
162.2	Malignant neoplasm of main bronchus	ICD-9-CM	Diagnosis
162.3	Malignant neoplasm of upper lobe, bronchus, or lung	ICD-9-CM	Diagnosis
162.4	Malignant neoplasm of middle lobe, bronchus, or lung	ICD-9-CM	Diagnosis
162.5	Malignant neoplasm of lower lobe, bronchus, or lung	ICD-9-CM	Diagnosis
162.8	Malignant neoplasm of other parts of bronchus or lung	ICD-9-CM	Diagnosis
162.9	Malignant neoplasm of bronchus and lung, unspecified site	ICD-9-CM	Diagnosis
163	Malignant neoplasm of pleura	ICD-9-CM	Diagnosis
163.0	Malignant neoplasm of parietal pleura	ICD-9-CM	Diagnosis
163.1	Malignant neoplasm of visceral pleura	ICD-9-CM	Diagnosis
163.8	Malignant neoplasm of other specified sites of pleura	ICD-9-CM	Diagnosis
163.9	Malignant neoplasm of pleura, unspecified site	ICD-9-CM	Diagnosis
164	Malignant neoplasm of thymus, heart, and mediastinum	ICD-9-CM	Diagnosis
164.0	Malignant neoplasm of thymus	ICD-9-CM	Diagnosis
164.1	Malignant neoplasm of heart	ICD-9-CM	Diagnosis
164.2	Malignant neoplasm of anterior mediastinum	ICD-9-CM	Diagnosis
164.3	Malignant neoplasm of posterior mediastinum	ICD-9-CM	Diagnosis
164.8	Malignant neoplasm of other parts of mediastinum	ICD-9-CM	Diagnosis
164.9	Malignant neoplasm of mediastinum, part unspecified	ICD-9-CM	Diagnosis
165	Malignant neoplasm of other and ill-defined sites within the respiratory system and intrathoracic organs	ICD-9-CM	Diagnosis
165.0	Malignant neoplasm of upper respiratory tract, part unspecified	ICD-9-CM	Diagnosis
165.8	Malignant neoplasm of other sites within the respiratory system and intrathoracic organs	ICD-9-CM	Diagnosis
165.9	Malignant neoplasm of ill-defined sites within the respiratory system	ICD-9-CM	Diagnosis
170	Malignant neoplasm of bone and articular cartilage	ICD-9-CM	Diagnosis
170.0	Malignant neoplasm of bones of skull and face, except mandible	ICD-9-CM	Diagnosis
170.1	Malignant neoplasm of mandible	ICD-9-CM	Diagnosis
170.2	Malignant neoplasm of vertebral column, excluding sacrum and coccyx	ICD-9-CM	Diagnosis
170.3	Malignant neoplasm of ribs, sternum, and clavicle	ICD-9-CM	Diagnosis
170.4	Malignant neoplasm of scapula and long bones of upper limb	ICD-9-CM	Diagnosis
170.5	Malignant neoplasm of short bones of upper limb	ICD-9-CM	Diagnosis

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Code	Description	Code Type	Code Category
170.6	Malignant neoplasm of pelvic bones, sacrum, and coccyx	ICD-9-CM	Diagnosis
170.7	Malignant neoplasm of long bones of lower limb	ICD-9-CM	Diagnosis
170.8	Malignant neoplasm of short bones of lower limb	ICD-9-CM	Diagnosis
170.9	Malignant neoplasm of bone and articular cartilage, site unspecified	ICD-9-CM	Diagnosis
171	Malignant neoplasm of connective and other soft tissue	ICD-9-CM	Diagnosis
171.0	Malignant neoplasm of connective and other soft tissue of head, face, and neck	ICD-9-CM	Diagnosis
171.2	Malignant neoplasm of connective and other soft tissue of upper limb, including shoulder	ICD-9-CM	Diagnosis
171.3	Malignant neoplasm of connective and other soft tissue of lower limb, including hip	ICD-9-CM	Diagnosis
171.4	Malignant neoplasm of connective and other soft tissue of thorax	ICD-9-CM	Diagnosis
171.5	Malignant neoplasm of connective and other soft tissue of abdomen	ICD-9-CM	Diagnosis
171.6	Malignant neoplasm of connective and other soft tissue of pelvis	ICD-9-CM	Diagnosis
171.7	Malignant neoplasm of connective and other soft tissue of trunk, unspecified site	ICD-9-CM	Diagnosis
171.8	Malignant neoplasm of other specified sites of connective and other soft tissue	ICD-9-CM	Diagnosis
171.9	Malignant neoplasm of connective and other soft tissue, site unspecified	ICD-9-CM	Diagnosis
172	Malignant melanoma of skin	ICD-9-CM	Diagnosis
172.0	Malignant melanoma of skin of lip	ICD-9-CM	Diagnosis
172.1	Malignant melanoma of skin of eyelid, including canthus	ICD-9-CM	Diagnosis
172.2	Malignant melanoma of skin of ear and external auditory canal	ICD-9-CM	Diagnosis
172.3	Malignant melanoma of skin of other and unspecified parts of face	ICD-9-CM	Diagnosis
172.4	Malignant melanoma of skin of scalp and neck	ICD-9-CM	Diagnosis
172.5	Malignant melanoma of skin of trunk, except scrotum	ICD-9-CM	Diagnosis
172.6	Malignant melanoma of skin of upper limb, including shoulder	ICD-9-CM	Diagnosis
172.7	Malignant melanoma of skin of lower limb, including hip	ICD-9-CM	Diagnosis
172.8	Malignant melanoma of other specified sites of skin	ICD-9-CM	Diagnosis
172.9	Melanoma of skin, site unspecified	ICD-9-CM	Diagnosis
174	Malignant neoplasm of female breast	ICD-9-CM	Diagnosis
174.0	Malignant neoplasm of nipple and areola of female breast	ICD-9-CM	Diagnosis
174.1	Malignant neoplasm of central portion of female breast	ICD-9-CM	Diagnosis
174.2	Malignant neoplasm of upper-inner quadrant of female breast	ICD-9-CM	Diagnosis
174.3	Malignant neoplasm of lower-inner quadrant of female breast	ICD-9-CM	Diagnosis
174.4	Malignant neoplasm of upper-outer quadrant of female breast	ICD-9-CM	Diagnosis
174.5	Malignant neoplasm of lower-outer quadrant of female breast	ICD-9-CM	Diagnosis
174.6	Malignant neoplasm of axillary tail of female breast	ICD-9-CM	Diagnosis
174.8	Malignant neoplasm of other specified sites of female breast	ICD-9-CM	Diagnosis
174.9	Malignant neoplasm of breast (female), unspecified site	ICD-9-CM	Diagnosis
175	Malignant neoplasm of male breast	ICD-9-CM	Diagnosis
175.0	Malignant neoplasm of nipple and areola of male breast	ICD-9-CM	Diagnosis
175.9	Malignant neoplasm of other and unspecified sites of male breast	ICD-9-CM	Diagnosis
176	Kaposi's sarcoma	ICD-9-CM	Diagnosis
176.0	Kaposi's sarcoma of skin	ICD-9-CM	Diagnosis

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Code	Description	Code Type	Code Category
176.1	Kaposi's sarcoma of soft tissue	ICD-9-CM	Diagnosis
176.2	Kaposi's sarcoma of palate	ICD-9-CM	Diagnosis
176.3	Kaposi's sarcoma of gastrointestinal sites	ICD-9-CM	Diagnosis
176.4	Kaposi's sarcoma of lung	ICD-9-CM	Diagnosis
176.5	Kaposi's sarcoma of lymph nodes	ICD-9-CM	Diagnosis
176.8	Kaposi's sarcoma of other specified sites	ICD-9-CM	Diagnosis
176.9	Kaposi's sarcoma of unspecified site	ICD-9-CM	Diagnosis
179	Malignant neoplasm of uterus, part unspecified	ICD-9-CM	Diagnosis
180	Malignant neoplasm of cervix uteri	ICD-9-CM	Diagnosis
180.0	Malignant neoplasm of endocervix	ICD-9-CM	Diagnosis
180.1	Malignant neoplasm of exocervix	ICD-9-CM	Diagnosis
180.8	Malignant neoplasm of other specified sites of cervix	ICD-9-CM	Diagnosis
180.9	Malignant neoplasm of cervix uteri, unspecified site	ICD-9-CM	Diagnosis
181	Malignant neoplasm of placenta	ICD-9-CM	Diagnosis
182	Malignant neoplasm of body of uterus	ICD-9-CM	Diagnosis
182.0	Malignant neoplasm of corpus uteri, except isthmus	ICD-9-CM	Diagnosis
182.1	Malignant neoplasm of isthmus	ICD-9-CM	Diagnosis
182.8	Malignant neoplasm of other specified sites of body of uterus	ICD-9-CM	Diagnosis
183	Malignant neoplasm of ovary and other uterine adnexa	ICD-9-CM	Diagnosis
183.0	Malignant neoplasm of ovary	ICD-9-CM	Diagnosis
183.2	Malignant neoplasm of fallopian tube	ICD-9-CM	Diagnosis
183.3	Malignant neoplasm of broad ligament of uterus	ICD-9-CM	Diagnosis
183.4	Malignant neoplasm of parametrium of uterus	ICD-9-CM	Diagnosis
183.5	Malignant neoplasm of round ligament of uterus	ICD-9-CM	Diagnosis
183.8	Malignant neoplasm of other specified sites of uterine adnexa	ICD-9-CM	Diagnosis
183.9	Malignant neoplasm of uterine adnexa, unspecified site	ICD-9-CM	Diagnosis
184	Malignant neoplasm of other and unspecified female genital organs	ICD-9-CM	Diagnosis
184.0	Malignant neoplasm of vagina	ICD-9-CM	Diagnosis
184.1	Malignant neoplasm of labia majora	ICD-9-CM	Diagnosis
184.2	Malignant neoplasm of labia minora	ICD-9-CM	Diagnosis
184.3	Malignant neoplasm of clitoris	ICD-9-CM	Diagnosis
184.4	Malignant neoplasm of vulva, unspecified site	ICD-9-CM	Diagnosis
184.8	Malignant neoplasm of other specified sites of female genital organs	ICD-9-CM	Diagnosis
184.9	Malignant neoplasm of female genital organ, site unspecified	ICD-9-CM	Diagnosis
185	Malignant neoplasm of prostate	ICD-9-CM	Diagnosis
186	Malignant neoplasm of testis	ICD-9-CM	Diagnosis
186.0	Malignant neoplasm of undescended testis	ICD-9-CM	Diagnosis
186.9	Malignant neoplasm of other and unspecified testis	ICD-9-CM	Diagnosis
187	Malignant neoplasm of penis and other male genital organs	ICD-9-CM	Diagnosis
187.1	Malignant neoplasm of prepuce	ICD-9-CM	Diagnosis
187.2	Malignant neoplasm of glans penis	ICD-9-CM	Diagnosis
187.3	Malignant neoplasm of body of penis	ICD-9-CM	Diagnosis
187.4	Malignant neoplasm of penis, part unspecified	ICD-9-CM	Diagnosis
187.5	Malignant neoplasm of epididymis	ICD-9-CM	Diagnosis
187.6	Malignant neoplasm of spermatic cord	ICD-9-CM	Diagnosis

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Code	Description	Code Type	Code Category
187.7	Malignant neoplasm of scrotum	ICD-9-CM	Diagnosis
187.8	Malignant neoplasm of other specified sites of male genital organs	ICD-9-CM	Diagnosis
187.9	Malignant neoplasm of male genital organ, site unspecified	ICD-9-CM	Diagnosis
188	Malignant neoplasm of bladder	ICD-9-CM	Diagnosis
188.0	Malignant neoplasm of trigone of urinary bladder	ICD-9-CM	Diagnosis
188.1	Malignant neoplasm of dome of urinary bladder	ICD-9-CM	Diagnosis
188.2	Malignant neoplasm of lateral wall of urinary bladder	ICD-9-CM	Diagnosis
188.3	Malignant neoplasm of anterior wall of urinary bladder	ICD-9-CM	Diagnosis
188.4	Malignant neoplasm of posterior wall of urinary bladder	ICD-9-CM	Diagnosis
188.5	Malignant neoplasm of bladder neck	ICD-9-CM	Diagnosis
188.6	Malignant neoplasm of ureteric orifice	ICD-9-CM	Diagnosis
188.7	Malignant neoplasm of urachus	ICD-9-CM	Diagnosis
188.8	Malignant neoplasm of other specified sites of bladder	ICD-9-CM	Diagnosis
188.9	Malignant neoplasm of bladder, part unspecified	ICD-9-CM	Diagnosis
189	Malignant neoplasm of kidney and other and unspecified urinary organs	ICD-9-CM	Diagnosis
189.0	Malignant neoplasm of kidney, except pelvis	ICD-9-CM	Diagnosis
189.1	Malignant neoplasm of renal pelvis	ICD-9-CM	Diagnosis
189.2	Malignant neoplasm of ureter	ICD-9-CM	Diagnosis
189.3	Malignant neoplasm of urethra	ICD-9-CM	Diagnosis
189.4	Malignant neoplasm of paraurethral glands	ICD-9-CM	Diagnosis
189.8	Malignant neoplasm of other specified sites of urinary organs	ICD-9-CM	Diagnosis
189.9	Malignant neoplasm of urinary organ, site unspecified	ICD-9-CM	Diagnosis
190	Malignant neoplasm of eye	ICD-9-CM	Diagnosis
190.0	Malignant neoplasm of eyeball, except conjunctiva, cornea, retina, and choroid	ICD-9-CM	Diagnosis
190.1	Malignant neoplasm of orbit	ICD-9-CM	Diagnosis
190.2	Malignant neoplasm of lacrimal gland	ICD-9-CM	Diagnosis
190.3	Malignant neoplasm of conjunctiva	ICD-9-CM	Diagnosis
190.4	Malignant neoplasm of cornea	ICD-9-CM	Diagnosis
190.5	Malignant neoplasm of retina	ICD-9-CM	Diagnosis
190.6	Malignant neoplasm of choroid	ICD-9-CM	Diagnosis
190.7	Malignant neoplasm of lacrimal duct	ICD-9-CM	Diagnosis
190.8	Malignant neoplasm of other specified sites of eye	ICD-9-CM	Diagnosis
190.9	Malignant neoplasm of eye, part unspecified	ICD-9-CM	Diagnosis
191	Malignant neoplasm of brain	ICD-9-CM	Diagnosis
191.0	Malignant neoplasm of cerebrum, except lobes and ventricles	ICD-9-CM	Diagnosis
191.1	Malignant neoplasm of frontal lobe of brain	ICD-9-CM	Diagnosis
191.2	Malignant neoplasm of temporal lobe of brain	ICD-9-CM	Diagnosis
191.3	Malignant neoplasm of parietal lobe of brain	ICD-9-CM	Diagnosis
191.4	Malignant neoplasm of occipital lobe of brain	ICD-9-CM	Diagnosis
191.5	Malignant neoplasm of ventricles of brain	ICD-9-CM	Diagnosis
191.6	Malignant neoplasm of cerebellum NOS	ICD-9-CM	Diagnosis
191.7	Malignant neoplasm of brain stem	ICD-9-CM	Diagnosis
191.8	Malignant neoplasm of other parts of brain	ICD-9-CM	Diagnosis
191.9	Malignant neoplasm of brain, unspecified site	ICD-9-CM	Diagnosis

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Code	Description	Code Type	Code Category
192	Malignant neoplasm of other and unspecified parts of nervous system	ICD-9-CM	Diagnosis
192.0	Malignant neoplasm of cranial nerves	ICD-9-CM	Diagnosis
192.1	Malignant neoplasm of cerebral meninges	ICD-9-CM	Diagnosis
192.2	Malignant neoplasm of spinal cord	ICD-9-CM	Diagnosis
192.3	Malignant neoplasm of spinal meninges	ICD-9-CM	Diagnosis
192.8	Malignant neoplasm of other specified sites of nervous system	ICD-9-CM	Diagnosis
192.9	Malignant neoplasm of nervous system, part unspecified	ICD-9-CM	Diagnosis
193	Malignant neoplasm of thyroid gland	ICD-9-CM	Diagnosis
194	Malignant neoplasm of other endocrine glands and related structures	ICD-9-CM	Diagnosis
194.0	Malignant neoplasm of adrenal gland	ICD-9-CM	Diagnosis
194.1	Malignant neoplasm of parathyroid gland	ICD-9-CM	Diagnosis
194.3	Malignant neoplasm of pituitary gland and craniopharyngeal duct	ICD-9-CM	Diagnosis
194.4	Malignant neoplasm of pineal gland	ICD-9-CM	Diagnosis
194.5	Malignant neoplasm of carotid body	ICD-9-CM	Diagnosis
194.6	Malignant neoplasm of aortic body and other paraganglia	ICD-9-CM	Diagnosis
194.8	Malignant neoplasm of other endocrine glands and related structures	ICD-9-CM	Diagnosis
194.9	Malignant neoplasm of endocrine gland, site unspecified	ICD-9-CM	Diagnosis
195	Malignant neoplasm of other and ill-defined sites	ICD-9-CM	Diagnosis
195.0	Malignant neoplasm of head, face, and neck	ICD-9-CM	Diagnosis
195.1	Malignant neoplasm of thorax	ICD-9-CM	Diagnosis
195.2	Malignant neoplasm of abdomen	ICD-9-CM	Diagnosis
195.3	Malignant neoplasm of pelvis	ICD-9-CM	Diagnosis
195.4	Malignant neoplasm of upper limb	ICD-9-CM	Diagnosis
195.5	Malignant neoplasm of lower limb	ICD-9-CM	Diagnosis
195.8	Malignant neoplasm of other specified sites	ICD-9-CM	Diagnosis
196	Secondary and unspecified malignant neoplasm of lymph nodes	ICD-9-CM	Diagnosis
196.0	Secondary and unspecified malignant neoplasm of lymph nodes of head, face, and neck	ICD-9-CM	Diagnosis
196.1	Secondary and unspecified malignant neoplasm of intrathoracic lymph nodes	ICD-9-CM	Diagnosis
196.2	Secondary and unspecified malignant neoplasm of intra-abdominal lymph nodes	ICD-9-CM	Diagnosis
196.3	Secondary and unspecified malignant neoplasm of lymph nodes of axilla and upper limb	ICD-9-CM	Diagnosis
196.5	Secondary and unspecified malignant neoplasm of lymph nodes of inguinal region and lower limb	ICD-9-CM	Diagnosis
196.6	Secondary and unspecified malignant neoplasm of intrapelvic lymph nodes	ICD-9-CM	Diagnosis
196.8	Secondary and unspecified malignant neoplasm of lymph nodes of multiple sites	ICD-9-CM	Diagnosis
196.9	Secondary and unspecified malignant neoplasm of lymph nodes, site unspecified	ICD-9-CM	Diagnosis
197	Secondary malignant neoplasm of respiratory and digestive systems	ICD-9-CM	Diagnosis
197.0	Secondary malignant neoplasm of lung	ICD-9-CM	Diagnosis
197.1	Secondary malignant neoplasm of mediastinum	ICD-9-CM	Diagnosis

Appendix F. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), Current Procedural Terminology, Fourth Edition (CPT-4, Category I-III), and Healthcare Common Procedure Coding System (HCPCS) Diagnosis and Procedure Codes Used to Define Covariates and Subgroup Criteria in this Report

Code	Description	Code Type	Code Category
197.2	Secondary malignant neoplasm of pleura	ICD-9-CM	Diagnosis
197.3	Secondary malignant neoplasm of other respiratory organs	ICD-9-CM	Diagnosis
197.4	Secondary malignant neoplasm of small intestine including duodenum	ICD-9-CM	Diagnosis
197.5	Secondary malignant neoplasm of large intestine and rectum	ICD-9-CM	Diagnosis
197.6	Secondary malignant neoplasm of retroperitoneum and peritoneum	ICD-9-CM	Diagnosis
197.7	Secondary malignant neoplasm of liver	ICD-9-CM	Diagnosis
197.8	Secondary malignant neoplasm of other digestive organs and spleen	ICD-9-CM	Diagnosis
198	Secondary malignant neoplasm of other specified sites	ICD-9-CM	Diagnosis
198.0	Secondary malignant neoplasm of kidney	ICD-9-CM	Diagnosis
198.1	Secondary malignant neoplasm of other urinary organs	ICD-9-CM	Diagnosis
198.2	Secondary malignant neoplasm of skin	ICD-9-CM	Diagnosis
198.3	Secondary malignant neoplasm of brain and spinal cord	ICD-9-CM	Diagnosis
198.4	Secondary malignant neoplasm of other parts of nervous system	ICD-9-CM	Diagnosis
198.5	Secondary malignant neoplasm of bone and bone marrow	ICD-9-CM	Diagnosis
198.6	Secondary malignant neoplasm of ovary	ICD-9-CM	Diagnosis
198.7	Secondary malignant neoplasm of adrenal gland	ICD-9-CM	Diagnosis
198.8	Secondary malignant neoplasm of other specified sites	ICD-9-CM	Diagnosis
198.81	Secondary malignant neoplasm of breast	ICD-9-CM	Diagnosis
198.82	Secondary malignant neoplasm of genital organs	ICD-9-CM	Diagnosis
198.89	Secondary malignant neoplasm of other specified sites	ICD-9-CM	Diagnosis
199	Malignant neoplasm without specification of site	ICD-9-CM	Diagnosis
199.0	Disseminated malignant neoplasm	ICD-9-CM	Diagnosis
199.1	Other malignant neoplasm of unspecified site	ICD-9-CM	Diagnosis
199.2	Malignant neoplasm associated with transplanted organ	ICD-9-CM	Diagnosis
200	Lymphosarcoma and reticulosarcoma and other specified malignant tumors of lymphatic tissue	ICD-9-CM	Diagnosis
200.0	Reticulosarcoma	ICD-9-CM	Diagnosis
200.00	Reticulosarcoma, unspecified site, extranodal and solid organ sites	ICD-9-CM	Diagnosis
200.01	Reticulosarcoma of lymph nodes of head, face, and neck	ICD-9-CM	Diagnosis
200.02	Reticulosarcoma of intrathoracic lymph nodes	ICD-9-CM	Diagnosis
200.03	Reticulosarcoma of intra-abdominal lymph nodes	ICD-9-CM	Diagnosis
200.04	Reticulosarcoma of lymph nodes of axilla and upper limb	ICD-9-CM	Diagnosis
200.05	Reticulosarcoma of lymph nodes of inguinal region and lower limb	ICD-9-CM	Diagnosis
200.06	Reticulosarcoma of intrapelvic lymph nodes	ICD-9-CM	Diagnosis
200.07	Reticulosarcoma of spleen	ICD-9-CM	Diagnosis
200.08	Reticulosarcoma of lymph nodes of multiple sites	ICD-9-CM	Diagnosis
200.1	Lymphosarcoma	ICD-9-CM	Diagnosis
200.10	Lymphosarcoma, unspecified site, extranodal and solid organ sites	ICD-9-CM	Diagnosis
200.11	Lymphosarcoma of lymph nodes of head, face, and neck	ICD-9-CM	Diagnosis
200.12	Lymphosarcoma of intrathoracic lymph nodes	ICD-9-CM	Diagnosis
200.13	Lymphosarcoma of intra-abdominal lymph nodes	ICD-9-CM	Diagnosis
200.14	Lymphosarcoma of lymph nodes of axilla and upper limb	ICD-9-CM	Diagnosis
200.15	Lymphosarcoma of lymph nodes of inguinal region and lower limb	ICD-9-CM	Diagnosis
200.16	Lymphosarcoma of intrapelvic lymph nodes	ICD-9-CM	Diagnosis
200.17	Lymphosarcoma of spleen	ICD-9-CM	Diagnosis

Appendix F. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), Current Procedural Terminology, Fourth Edition (CPT-4, Category I-III), and Healthcare Common Procedure Coding System (HCPCS) Diagnosis and Procedure Codes Used to Define Covariates and Subgroup Criteria in this Report

Code	Description	Code Type	Code Category
200.18	Lymphosarcoma of lymph nodes of multiple sites	ICD-9-CM	Diagnosis
200.2	Burkitt's tumor or lymphoma	ICD-9-CM	Diagnosis
200.20	Burkitt's tumor or lymphoma, unspecified site, extranodal and solid organ sites	ICD-9-CM	Diagnosis
200.21	Burkitt's tumor or lymphoma of lymph nodes of head, face, and neck	ICD-9-CM	Diagnosis
200.22	Burkitt's tumor or lymphoma of intrathoracic lymph nodes	ICD-9-CM	Diagnosis
200.23	Burkitt's tumor or lymphoma of intra-abdominal lymph nodes	ICD-9-CM	Diagnosis
200.24	Burkitt's tumor or lymphoma of lymph nodes of axilla and upper limb	ICD-9-CM	Diagnosis
200.25	Burkitt's tumor or lymphoma of lymph nodes of inguinal region and lower limb	ICD-9-CM	Diagnosis
200.26	Burkitt's tumor or lymphoma of intrapelvic lymph nodes	ICD-9-CM	Diagnosis
200.27	Burkitt's tumor or lymphoma of spleen	ICD-9-CM	Diagnosis
200.28	Burkitt's tumor or lymphoma of lymph nodes of multiple sites	ICD-9-CM	Diagnosis
200.3	Marginal zone lymphoma	ICD-9-CM	Diagnosis
200.30	Marginal zone lymphoma, unspecified site, extranodal and solid organ sites	ICD-9-CM	Diagnosis
200.31	Marginal zone lymphoma, lymph nodes of head, face, and neck	ICD-9-CM	Diagnosis
200.32	Marginal zone lymphoma, intrathoracic lymph nodes	ICD-9-CM	Diagnosis
200.33	Marginal zone lymphoma, intra-abdominal lymph nodes	ICD-9-CM	Diagnosis
200.34	Marginal zone lymphoma, lymph nodes of axilla and upper limb	ICD-9-CM	Diagnosis
200.35	Marginal zone lymphoma, lymph nodes of inguinal region and lower limb	ICD-9-CM	Diagnosis
200.36	Marginal zone lymphoma, intrapelvic lymph nodes	ICD-9-CM	Diagnosis
200.37	Marginal zone lymphoma, spleen	ICD-9-CM	Diagnosis
200.38	Marginal zone lymphoma, lymph nodes of multiple sites	ICD-9-CM	Diagnosis
200.4	Mantle cell lymphoma	ICD-9-CM	Diagnosis
200.40	Mantle cell lymphoma, unspecified site, extranodal and solid organ sites	ICD-9-CM	Diagnosis
200.41	Mantle cell lymphoma, lymph nodes of head, face, and neck	ICD-9-CM	Diagnosis
200.42	Mantle cell lymphoma, intrathoracic lymph nodes	ICD-9-CM	Diagnosis
200.43	Mantle cell lymphoma, intra-abdominal lymph nodes	ICD-9-CM	Diagnosis
200.44	Mantle cell lymphoma, lymph nodes of axilla and upper limb	ICD-9-CM	Diagnosis
200.45	Mantle cell lymphoma, lymph nodes of inguinal region and lower limb	ICD-9-CM	Diagnosis
200.46	Mantle cell lymphoma, intrapelvic lymph nodes	ICD-9-CM	Diagnosis
200.47	Mantle cell lymphoma, spleen	ICD-9-CM	Diagnosis
200.48	Mantle cell lymphoma, lymph nodes of multiple sites	ICD-9-CM	Diagnosis
200.5	Primary central nervous system lymphoma	ICD-9-CM	Diagnosis
200.50	Primary central nervous system lymphoma, unspecified site, extranodal and solid organ sites	ICD-9-CM	Diagnosis
200.51	Primary central nervous system lymphoma, lymph nodes of head, face, and neck	ICD-9-CM	Diagnosis
200.52	Primary central nervous system lymphoma, intrathoracic lymph nodes	ICD-9-CM	Diagnosis
200.53	Primary central nervous system lymphoma, intra-abdominal lymph nodes	ICD-9-CM	Diagnosis
200.54	Primary central nervous system lymphoma, lymph nodes of axilla and upper limb	ICD-9-CM	Diagnosis

Appendix F. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), Current Procedural Terminology, Fourth Edition (CPT-4, Category I-III), and Healthcare Common Procedure Coding System (HCPCS) Diagnosis and Procedure Codes Used to Define Covariates and Subgroup Criteria in this Report

Code	Description	Code Type	Code Category
200.55	Primary central nervous system lymphoma, lymph nodes of inguinal region and lower limb	ICD-9-CM	Diagnosis
200.56	Primary central nervous system lymphoma, intrapelvic lymph nodes	ICD-9-CM	Diagnosis
200.57	Primary central nervous system lymphoma, spleen	ICD-9-CM	Diagnosis
200.58	Primary central nervous system lymphoma, lymph nodes of multiple sites	ICD-9-CM	Diagnosis
200.6	Anaplastic large cell lymphoma	ICD-9-CM	Diagnosis
200.60	Anaplastic large cell lymphoma, unspecified site, extranodal and solid organ sites	ICD-9-CM	Diagnosis
200.61	Anaplastic large cell lymphoma, lymph nodes of head, face, and neck	ICD-9-CM	Diagnosis
200.62	Anaplastic large cell lymphoma, intrathoracic lymph nodes	ICD-9-CM	Diagnosis
200.63	Anaplastic large cell lymphoma, intra-abdominal lymph nodes	ICD-9-CM	Diagnosis
200.64	Anaplastic large cell lymphoma, lymph nodes of axilla and upper limb	ICD-9-CM	Diagnosis
200.65	Anaplastic large cell lymphoma, lymph nodes of inguinal region and lower limb	ICD-9-CM	Diagnosis
200.66	Anaplastic large cell lymphoma, intrapelvic lymph nodes	ICD-9-CM	Diagnosis
200.67	Anaplastic large cell lymphoma, spleen	ICD-9-CM	Diagnosis
200.68	Anaplastic large cell lymphoma, lymph nodes of multiple sites	ICD-9-CM	Diagnosis
200.7	Large cell lymphoma	ICD-9-CM	Diagnosis
200.70	Large cell lymphoma, unspecified site, extranodal and solid organ sites	ICD-9-CM	Diagnosis
200.71	Large cell lymphoma, lymph nodes of head, face, and neck	ICD-9-CM	Diagnosis
200.72	Large cell lymphoma, intrathoracic lymph nodes	ICD-9-CM	Diagnosis
200.73	Large cell lymphoma, intra-abdominal lymph nodes	ICD-9-CM	Diagnosis
200.74	Large cell lymphoma, lymph nodes of axilla and upper limb	ICD-9-CM	Diagnosis
200.75	Large cell lymphoma, lymph nodes of inguinal region and lower limb	ICD-9-CM	Diagnosis
200.76	Large cell lymphoma, intrapelvic lymph nodes	ICD-9-CM	Diagnosis
200.77	Large cell lymphoma, spleen	ICD-9-CM	Diagnosis
200.78	Large cell lymphoma, lymph nodes of multiple sites	ICD-9-CM	Diagnosis
200.8	Other named variants of lymphosarcoma and reticulosarcoma	ICD-9-CM	Diagnosis
200.80	Other named variants, unspecified site, extranodal and solid organ sites	ICD-9-CM	Diagnosis
200.81	Other named variants of lymphosarcoma and reticulosarcoma of lymph nodes of head, face, and neck	ICD-9-CM	Diagnosis
200.82	Other named variants of lymphosarcoma and reticulosarcoma of intrathoracic lymph nodes	ICD-9-CM	Diagnosis
200.83	Other named variants of lymphosarcoma and reticulosarcoma of intra-abdominal lymph nodes	ICD-9-CM	Diagnosis
200.84	Other named variants of lymphosarcoma and reticulosarcoma of lymph nodes of axilla and upper limb	ICD-9-CM	Diagnosis
200.85	Other named variants of lymphosarcoma and reticulosarcoma of lymph nodes of inguinal region and lower limb	ICD-9-CM	Diagnosis
200.86	Other named variants of lymphosarcoma and reticulosarcoma of intrapelvic lymph nodes	ICD-9-CM	Diagnosis
200.87	Other named variants of lymphosarcoma and reticulosarcoma of spleen	ICD-9-CM	Diagnosis
200.88	Other named variants of lymphosarcoma and reticulosarcoma of lymph nodes of multiple sites	ICD-9-CM	Diagnosis

Appendix F. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), Current Procedural Terminology, Fourth Edition (CPT-4, Category I-III), and Healthcare Common Procedure Coding System (HCPCS) Diagnosis and Procedure Codes Used to Define Covariates and Subgroup Criteria in this Report

Code	Description	Code Type	Code Category
201	Hodgkin's disease	ICD-9-CM	Diagnosis
201.0	Hodgkin's paragranuloma	ICD-9-CM	Diagnosis
201.00	Hodgkin's paragranuloma, unspecified site, extranodal and solid organ sites	ICD-9-CM	Diagnosis
201.01	Hodgkin's paragranuloma of lymph nodes of head, face, and neck	ICD-9-CM	Diagnosis
201.02	Hodgkin's paragranuloma of intrathoracic lymph nodes	ICD-9-CM	Diagnosis
201.03	Hodgkin's paragranuloma of intra-abdominal lymph nodes	ICD-9-CM	Diagnosis
201.04	Hodgkin's paragranuloma of lymph nodes of axilla and upper limb	ICD-9-CM	Diagnosis
201.05	Hodgkin's paragranuloma of lymph nodes of inguinal region and lower limb	ICD-9-CM	Diagnosis
201.06	Hodgkin's paragranuloma of intrapelvic lymph nodes	ICD-9-CM	Diagnosis
201.07	Hodgkin's paragranuloma of spleen	ICD-9-CM	Diagnosis
201.08	Hodgkin's paragranuloma of lymph nodes of multiple sites	ICD-9-CM	Diagnosis
201.1	Hodgkin's granuloma	ICD-9-CM	Diagnosis
201.10	Hodgkin's granuloma, unspecified site, extranodal and solid organ sites	ICD-9-CM	Diagnosis
201.11	Hodgkin's granuloma of lymph nodes of head, face, and neck	ICD-9-CM	Diagnosis
201.12	Hodgkin's granuloma of intrathoracic lymph nodes	ICD-9-CM	Diagnosis
201.13	Hodgkin's granuloma of intra-abdominal lymph nodes	ICD-9-CM	Diagnosis
201.14	Hodgkin's granuloma of lymph nodes of axilla and upper limb	ICD-9-CM	Diagnosis
201.15	Hodgkin's granuloma of lymph nodes of inguinal region and lower limb	ICD-9-CM	Diagnosis
201.16	Hodgkin's granuloma of intrapelvic lymph nodes	ICD-9-CM	Diagnosis
201.17	Hodgkin's granuloma of spleen	ICD-9-CM	Diagnosis
201.18	Hodgkin's granuloma of lymph nodes of multiple sites	ICD-9-CM	Diagnosis
201.2	Hodgkin's sarcoma	ICD-9-CM	Diagnosis
201.20	Hodgkin's sarcoma, unspecified site, extranodal and solid organ sites	ICD-9-CM	Diagnosis
201.21	Hodgkin's sarcoma of lymph nodes of head, face, and neck	ICD-9-CM	Diagnosis
201.22	Hodgkin's sarcoma of intrathoracic lymph nodes	ICD-9-CM	Diagnosis
201.23	Hodgkin's sarcoma of intra-abdominal lymph nodes	ICD-9-CM	Diagnosis
201.24	Hodgkin's sarcoma of lymph nodes of axilla and upper limb	ICD-9-CM	Diagnosis
201.25	Hodgkin's sarcoma of lymph nodes of inguinal region and lower limb	ICD-9-CM	Diagnosis
201.26	Hodgkin's sarcoma of intrapelvic lymph nodes	ICD-9-CM	Diagnosis
201.27	Hodgkin's sarcoma of spleen	ICD-9-CM	Diagnosis
201.28	Hodgkin's sarcoma of lymph nodes of multiple sites	ICD-9-CM	Diagnosis
201.4	Hodgkin's disease, lymphocytic-histiocytic predominance	ICD-9-CM	Diagnosis
201.40	Hodgkin's disease, lymphocytic-histiocytic predominance, unspecified site, extranodal and solid organ sites	ICD-9-CM	Diagnosis
201.41	Hodgkin's disease, lymphocytic-histiocytic predominance of lymph nodes of head, face, and neck	ICD-9-CM	Diagnosis
201.42	Hodgkin's disease, lymphocytic-histiocytic predominance of intrathoracic lymph nodes	ICD-9-CM	Diagnosis
201.43	Hodgkin's disease, lymphocytic-histiocytic predominance of intra-abdominal lymph nodes	ICD-9-CM	Diagnosis
201.44	Hodgkin's disease, lymphocytic-histiocytic predominance of lymph nodes of axilla and upper limb	ICD-9-CM	Diagnosis

Appendix F. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), Current Procedural Terminology, Fourth Edition (CPT-4, Category I-III), and Healthcare Common Procedure Coding System (HCPCS) Diagnosis and Procedure Codes Used to Define Covariates and Subgroup Criteria in this Report

Code	Description	Code Type	Code Category
201.45	Hodgkin's disease, lymphocytic-histiocytic predominance of lymph nodes of inguinal region and lower limb	ICD-9-CM	Diagnosis
201.46	Hodgkin's disease, lymphocytic-histiocytic predominance of intrapelvic lymph nodes	ICD-9-CM	Diagnosis
201.47	Hodgkin's disease, lymphocytic-histiocytic predominance of spleen	ICD-9-CM	Diagnosis
201.48	Hodgkin's disease, lymphocytic-histiocytic predominance of lymph nodes of multiple sites	ICD-9-CM	Diagnosis
201.5	Hodgkin's disease, nodular sclerosis	ICD-9-CM	Diagnosis
201.50	Hodgkin's disease, nodular sclerosis, unspecified site, extranodal and solid organ sites	ICD-9-CM	Diagnosis
201.51	Hodgkin's disease, nodular sclerosis, of lymph nodes of head, face, and neck	ICD-9-CM	Diagnosis
201.52	Hodgkin's disease, nodular sclerosis, of intrathoracic lymph nodes	ICD-9-CM	Diagnosis
201.53	Hodgkin's disease, nodular sclerosis, of intra-abdominal lymph nodes	ICD-9-CM	Diagnosis
201.54	Hodgkin's disease, nodular sclerosis, of lymph nodes of axilla and upper limb	ICD-9-CM	Diagnosis
201.55	Hodgkin's disease, nodular sclerosis, of lymph nodes of inguinal region and lower limb	ICD-9-CM	Diagnosis
201.56	Hodgkin's disease, nodular sclerosis, of intrapelvic lymph nodes	ICD-9-CM	Diagnosis
201.57	Hodgkin's disease, nodular sclerosis, of spleen	ICD-9-CM	Diagnosis
201.58	Hodgkin's disease, nodular sclerosis, of lymph nodes of multiple sites	ICD-9-CM	Diagnosis
201.6	Hodgkin's disease, mixed cellularity	ICD-9-CM	Diagnosis
201.60	Hodgkin's disease, mixed cellularity, unspecified site, extranodal and solid organ sites	ICD-9-CM	Diagnosis
201.61	Hodgkin's disease, mixed cellularity, involving lymph nodes of head, face, and neck	ICD-9-CM	Diagnosis
201.62	Hodgkin's disease, mixed cellularity, of intrathoracic lymph nodes	ICD-9-CM	Diagnosis
201.63	Hodgkin's disease, mixed cellularity, of intra-abdominal lymph nodes	ICD-9-CM	Diagnosis
201.64	Hodgkin's disease, mixed cellularity, of lymph nodes of axilla and upper limb	ICD-9-CM	Diagnosis
201.65	Hodgkin's disease, mixed cellularity, of lymph nodes of inguinal region and lower limb	ICD-9-CM	Diagnosis
201.66	Hodgkin's disease, mixed cellularity, of intrapelvic lymph nodes	ICD-9-CM	Diagnosis
201.67	Hodgkin's disease, mixed cellularity, of spleen	ICD-9-CM	Diagnosis
201.68	Hodgkin's disease, mixed cellularity, of lymph nodes of multiple sites	ICD-9-CM	Diagnosis
201.7	Hodgkin's disease, lymphocytic depletion	ICD-9-CM	Diagnosis
201.70	Hodgkin's disease, lymphocytic depletion, unspecified site, extranodal and solid organ sites	ICD-9-CM	Diagnosis
201.71	Hodgkin's disease, lymphocytic depletion, of lymph nodes of head, face, and neck	ICD-9-CM	Diagnosis
201.72	Hodgkin's disease, lymphocytic depletion, of intrathoracic lymph nodes	ICD-9-CM	Diagnosis
201.73	Hodgkin's disease, lymphocytic depletion, of intra-abdominal lymph nodes	ICD-9-CM	Diagnosis
201.74	Hodgkin's disease, lymphocytic depletion, of lymph nodes of axilla and upper limb	ICD-9-CM	Diagnosis

Appendix F. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), Current Procedural Terminology, Fourth Edition (CPT-4, Category I-III), and Healthcare Common Procedure Coding System (HCPCS) Diagnosis and Procedure Codes Used to Define Covariates and Subgroup Criteria in this Report

Code	Description	Code Type	Code Category
201.75	Hodgkin's disease, lymphocytic depletion, of lymph nodes of inguinal region and lower limb	ICD-9-CM	Diagnosis
201.76	Hodgkin's disease, lymphocytic depletion, of intrapelvic lymph nodes	ICD-9-CM	Diagnosis
201.77	Hodgkin's disease, lymphocytic depletion, of spleen	ICD-9-CM	Diagnosis
201.78	Hodgkin's disease, lymphocytic depletion, of lymph nodes of multiple sites	ICD-9-CM	Diagnosis
201.9	Hodgkin's disease, unspecified type	ICD-9-CM	Diagnosis
201.90	Hodgkin's disease, unspecified type, unspecified site, extranodal and solid organ sites	ICD-9-CM	Diagnosis
201.91	Hodgkin's disease, unspecified type, of lymph nodes of head, face, and neck	ICD-9-CM	Diagnosis
201.92	Hodgkin's disease, unspecified type, of intrathoracic lymph nodes	ICD-9-CM	Diagnosis
201.93	Hodgkin's disease, unspecified type, of intra-abdominal lymph nodes	ICD-9-CM	Diagnosis
201.94	Hodgkin's disease, unspecified type, of lymph nodes of axilla and upper limb	ICD-9-CM	Diagnosis
201.95	Hodgkin's disease, unspecified type, of lymph nodes of inguinal region and lower limb	ICD-9-CM	Diagnosis
201.96	Hodgkin's disease, unspecified type, of intrapelvic lymph nodes	ICD-9-CM	Diagnosis
201.97	Hodgkin's disease, unspecified type, of spleen	ICD-9-CM	Diagnosis
201.98	Hodgkin's disease, unspecified type, of lymph nodes of multiple sites	ICD-9-CM	Diagnosis
202	Other malignant neoplasms of lymphoid and histiocytic tissue	ICD-9-CM	Diagnosis
202.0	Nodular lymphoma	ICD-9-CM	Diagnosis
202.00	Nodular lymphoma, unspecified site, extranodal and solid organ sites	ICD-9-CM	Diagnosis
202.01	Nodular lymphoma of lymph nodes of head, face, and neck	ICD-9-CM	Diagnosis
202.02	Nodular lymphoma of intrathoracic lymph nodes	ICD-9-CM	Diagnosis
202.03	Nodular lymphoma of intra-abdominal lymph nodes	ICD-9-CM	Diagnosis
202.04	Nodular lymphoma of lymph nodes of axilla and upper limb	ICD-9-CM	Diagnosis
202.05	Nodular lymphoma of lymph nodes of inguinal region and lower limb	ICD-9-CM	Diagnosis
202.06	Nodular lymphoma of intrapelvic lymph nodes	ICD-9-CM	Diagnosis
202.07	Nodular lymphoma of spleen	ICD-9-CM	Diagnosis
202.08	Nodular lymphoma of lymph nodes of multiple sites	ICD-9-CM	Diagnosis
202.1	Mycosis fungoides	ICD-9-CM	Diagnosis
202.10	Mycosis fungoides, unspecified site, extranodal and solid organ sites	ICD-9-CM	Diagnosis
202.11	Mycosis fungoides of lymph nodes of head, face, and neck	ICD-9-CM	Diagnosis
202.12	Mycosis fungoides of intrathoracic lymph nodes	ICD-9-CM	Diagnosis
202.13	Mycosis fungoides of intra-abdominal lymph nodes	ICD-9-CM	Diagnosis
202.14	Mycosis fungoides of lymph nodes of axilla and upper limb	ICD-9-CM	Diagnosis
202.15	Mycosis fungoides of lymph nodes of inguinal region and lower limb	ICD-9-CM	Diagnosis
202.16	Mycosis fungoides of intrapelvic lymph nodes	ICD-9-CM	Diagnosis
202.17	Mycosis fungoides of spleen	ICD-9-CM	Diagnosis
202.18	Mycosis fungoides of lymph nodes of multiple sites	ICD-9-CM	Diagnosis
202.2	Sezary's disease	ICD-9-CM	Diagnosis
202.20	Sezary's disease, unspecified site, extranodal and solid organ sites	ICD-9-CM	Diagnosis
202.21	Sezary's disease of lymph nodes of head, face, and neck	ICD-9-CM	Diagnosis
202.22	Sezary's disease of intrathoracic lymph nodes	ICD-9-CM	Diagnosis

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Code	Description	Code Type	Code Category
202.23	Sezary's disease of intra-abdominal lymph nodes	ICD-9-CM	Diagnosis
202.24	Sezary's disease of lymph nodes of axilla and upper limb	ICD-9-CM	Diagnosis
202.25	Sezary's disease of lymph nodes of inguinal region and lower limb	ICD-9-CM	Diagnosis
202.26	Sezary's disease of intrapelvic lymph nodes	ICD-9-CM	Diagnosis
202.27	Sezary's disease of spleen	ICD-9-CM	Diagnosis
202.28	Sezary's disease of lymph nodes of multiple sites	ICD-9-CM	Diagnosis
202.3	Malignant histiocytosis	ICD-9-CM	Diagnosis
202.30	Malignant histiocytosis, unspecified site, extranodal and solid organ sites	ICD-9-CM	Diagnosis
202.31	Malignant histiocytosis of lymph nodes of head, face, and neck	ICD-9-CM	Diagnosis
202.32	Malignant histiocytosis of intrathoracic lymph nodes	ICD-9-CM	Diagnosis
202.33	Malignant histiocytosis of intra-abdominal lymph nodes	ICD-9-CM	Diagnosis
202.34	Malignant histiocytosis of lymph nodes of axilla and upper limb	ICD-9-CM	Diagnosis
202.35	Malignant histiocytosis of lymph nodes of inguinal region and lower limb	ICD-9-CM	Diagnosis
202.36	Malignant histiocytosis of intrapelvic lymph nodes	ICD-9-CM	Diagnosis
202.37	Malignant histiocytosis of spleen	ICD-9-CM	Diagnosis
202.38	Malignant histiocytosis of lymph nodes of multiple sites	ICD-9-CM	Diagnosis
202.4	Leukemic reticuloendotheliosis	ICD-9-CM	Diagnosis
202.40	Leukemic reticuloendotheliosis, unspecified site, extranodal and solid organ sites	ICD-9-CM	Diagnosis
202.41	Leukemic reticuloendotheliosis of lymph nodes of head, face, and neck	ICD-9-CM	Diagnosis
202.42	Leukemic reticuloendotheliosis of intrathoracic lymph nodes	ICD-9-CM	Diagnosis
202.43	Leukemic reticuloendotheliosis of intra-abdominal lymph nodes	ICD-9-CM	Diagnosis
202.44	Leukemic reticuloendotheliosis of lymph nodes of axilla and upper limb	ICD-9-CM	Diagnosis
202.45	Leukemic reticuloendotheliosis of lymph nodes of inguinal region and lower limb	ICD-9-CM	Diagnosis
202.46	Leukemic reticuloendotheliosis of intrapelvic lymph nodes	ICD-9-CM	Diagnosis
202.47	Leukemic reticuloendotheliosis of spleen	ICD-9-CM	Diagnosis
202.48	Leukemic reticuloendotheliosis of lymph nodes of multiple sites	ICD-9-CM	Diagnosis
202.5	Letterer-Siwe disease	ICD-9-CM	Diagnosis
202.50	Letterer-Siwe disease, unspecified site, extranodal and solid organ sites	ICD-9-CM	Diagnosis
202.51	Letterer-Siwe disease of lymph nodes of head, face, and neck	ICD-9-CM	Diagnosis
202.52	Letterer-Siwe disease of intrathoracic lymph nodes	ICD-9-CM	Diagnosis
202.53	Letterer-Siwe disease of intra-abdominal lymph nodes	ICD-9-CM	Diagnosis
202.54	Letterer-Siwe disease of lymph nodes of axilla and upper limb	ICD-9-CM	Diagnosis
202.55	Letterer-Siwe disease of lymph nodes of inguinal region and lower limb	ICD-9-CM	Diagnosis
202.56	Letterer-Siwe disease of intrapelvic lymph nodes	ICD-9-CM	Diagnosis
202.57	Letterer-Siwe disease of spleen	ICD-9-CM	Diagnosis
202.58	Letterer-Siwe disease of lymph nodes of multiple sites	ICD-9-CM	Diagnosis
202.6	Malignant mast cell tumors	ICD-9-CM	Diagnosis
202.60	Malignant mast cell tumors, unspecified site, extranodal and solid organ sites	ICD-9-CM	Diagnosis
202.61	Malignant mast cell tumors of lymph nodes of head, face, and neck	ICD-9-CM	Diagnosis
202.62	Malignant mast cell tumors of intrathoracic lymph nodes	ICD-9-CM	Diagnosis
202.63	Malignant mast cell tumors of intra-abdominal lymph nodes	ICD-9-CM	Diagnosis
202.64	Malignant mast cell tumors of lymph nodes of axilla and upper limb	ICD-9-CM	Diagnosis

Appendix F. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), Current Procedural Terminology, Fourth Edition (CPT-4, Category I-III), and Healthcare Common Procedure Coding System (HCPCS) Diagnosis and Procedure Codes Used to Define Covariates and Subgroup Criteria in this Report

Code	Description	Code Type	Code Category
202.65	Malignant mast cell tumors of lymph nodes of inguinal region and lower limb	ICD-9-CM	Diagnosis
202.66	Malignant mast cell tumors of intrapelvic lymph nodes	ICD-9-CM	Diagnosis
202.67	Malignant mast cell tumors of spleen	ICD-9-CM	Diagnosis
202.68	Malignant mast cell tumors of lymph nodes of multiple sites	ICD-9-CM	Diagnosis
202.7	Peripheral T-cell lymphoma	ICD-9-CM	Diagnosis
202.70	Peripheral T-cell lymphoma, unspecified site, extranodal and solid organ sites	ICD-9-CM	Diagnosis
202.71	Peripheral T-cell lymphoma, lymph nodes of head, face, and neck	ICD-9-CM	Diagnosis
202.72	Peripheral T-cell lymphoma, intrathoracic lymph nodes	ICD-9-CM	Diagnosis
202.73	Peripheral T-cell lymphoma, intra-abdominal lymph nodes	ICD-9-CM	Diagnosis
202.74	Peripheral T-cell lymphoma, lymph nodes of axilla and upper limb	ICD-9-CM	Diagnosis
202.75	Peripheral T-cell lymphoma, lymph nodes of inguinal region and lower limb	ICD-9-CM	Diagnosis
202.76	Peripheral T-cell lymphoma, intrapelvic lymph nodes	ICD-9-CM	Diagnosis
202.77	Peripheral T-cell lymphoma, spleen	ICD-9-CM	Diagnosis
202.78	Peripheral T-cell lymphoma, lymph nodes of multiple sites	ICD-9-CM	Diagnosis
202.8	Other malignant lymphomas	ICD-9-CM	Diagnosis
202.80	Other malignant lymphomas, unspecified site, extranodal and solid organ sites	ICD-9-CM	Diagnosis
202.81	Other malignant lymphomas of lymph nodes of head, face, and neck	ICD-9-CM	Diagnosis
202.82	Other malignant lymphomas of intrathoracic lymph nodes	ICD-9-CM	Diagnosis
202.83	Other malignant lymphomas of intra-abdominal lymph nodes	ICD-9-CM	Diagnosis
202.84	Other malignant lymphomas of lymph nodes of axilla and upper limb	ICD-9-CM	Diagnosis
202.85	Other malignant lymphomas of lymph nodes of inguinal region and lower limb	ICD-9-CM	Diagnosis
202.86	Other malignant lymphomas of intrapelvic lymph nodes	ICD-9-CM	Diagnosis
202.87	Other malignant lymphomas of spleen	ICD-9-CM	Diagnosis
202.88	Other malignant lymphomas of lymph nodes of multiple sites	ICD-9-CM	Diagnosis
202.9	Other and unspecified malignant neoplasms of lymphoid and histiocytic tissue	ICD-9-CM	Diagnosis
202.90	Other and unspecified malignant neoplasms of lymphoid and histiocytic tissue, unspecified site, extranodal and solid organ sites	ICD-9-CM	Diagnosis
202.91	Other and unspecified malignant neoplasms of lymphoid and histiocytic tissue of lymph nodes of head, face, and neck	ICD-9-CM	Diagnosis
202.92	Other and unspecified malignant neoplasms of lymphoid and histiocytic tissue of intrathoracic lymph nodes	ICD-9-CM	Diagnosis
202.93	Other and unspecified malignant neoplasms of lymphoid and histiocytic tissue of intra-abdominal lymph nodes	ICD-9-CM	Diagnosis
202.94	Other and unspecified malignant neoplasms of lymphoid and histiocytic tissue of lymph nodes of axilla and upper limb	ICD-9-CM	Diagnosis
202.95	Other and unspecified malignant neoplasms of lymphoid and histiocytic tissue of lymph nodes of inguinal region and lower limb	ICD-9-CM	Diagnosis
202.96	Other and unspecified malignant neoplasms of lymphoid and histiocytic tissue of intrapelvic lymph nodes	ICD-9-CM	Diagnosis

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Code	Description	Code Type	Code Category
202.97	Other and unspecified malignant neoplasms of lymphoid and histiocytic tissue of spleen	ICD-9-CM	Diagnosis
202.98	Other and unspecified malignant neoplasms of lymphoid and histiocytic tissue of lymph nodes of multiple sites	ICD-9-CM	Diagnosis
203	Multiple myeloma and immunoproliferative neoplasms	ICD-9-CM	Diagnosis
203.0	Multiple myeloma	ICD-9-CM	Diagnosis
203.00	Multiple myeloma, without mention of having achieved remission	ICD-9-CM	Diagnosis
203.01	Multiple myeloma in remission	ICD-9-CM	Diagnosis
203.02	Multiple myeloma, in relapse	ICD-9-CM	Diagnosis
203.1	Plasma cell leukemia	ICD-9-CM	Diagnosis
203.10	Plasma cell leukemia, without mention of having achieved remission	ICD-9-CM	Diagnosis
203.11	Plasma cell leukemia in remission	ICD-9-CM	Diagnosis
203.12	Plasma cell leukemia, in relapse	ICD-9-CM	Diagnosis
203.8	Other immunoproliferative neoplasms	ICD-9-CM	Diagnosis
203.80	Other immunoproliferative neoplasms, without mention of having achieved remission	ICD-9-CM	Diagnosis
203.81	Other immunoproliferative neoplasms in remission	ICD-9-CM	Diagnosis
203.82	Other immunoproliferative neoplasms, in relapse	ICD-9-CM	Diagnosis
204	Lymphoid leukemia	ICD-9-CM	Diagnosis
204.0	Acute lymphoid leukemia	ICD-9-CM	Diagnosis
204.00	Acute lymphoid leukemia, without mention of having achieved remission	ICD-9-CM	Diagnosis
204.01	Acute lymphoid leukemia in remission	ICD-9-CM	Diagnosis
204.02	Acute lymphoid leukemia, in relapse	ICD-9-CM	Diagnosis
204.1	Chronic lymphoid leukemia	ICD-9-CM	Diagnosis
204.10	Chronic lymphoid leukemia, without mention of having achieved remission	ICD-9-CM	Diagnosis
204.11	Chronic lymphoid leukemia in remission	ICD-9-CM	Diagnosis
204.12	Chronic lymphoid leukemia, in relapse	ICD-9-CM	Diagnosis
204.2	Subacute lymphoid leukemia	ICD-9-CM	Diagnosis
204.20	Subacute lymphoid leukemia, without mention of having achieved remission	ICD-9-CM	Diagnosis
204.21	Subacute lymphoid leukemia in remission	ICD-9-CM	Diagnosis
204.22	Subacute lymphoid leukemia, in relapse	ICD-9-CM	Diagnosis
204.8	Other lymphoid leukemia	ICD-9-CM	Diagnosis
204.80	Other lymphoid leukemia, without mention of having achieved remission	ICD-9-CM	Diagnosis
204.81	Other lymphoid leukemia in remission	ICD-9-CM	Diagnosis
204.82	Other lymphoid leukemia, in relapse	ICD-9-CM	Diagnosis
204.9	Unspecified lymphoid leukemia	ICD-9-CM	Diagnosis
204.90	Unspecified lymphoid leukemia, without mention of having achieved remission	ICD-9-CM	Diagnosis
204.91	Unspecified lymphoid leukemia in remission	ICD-9-CM	Diagnosis
204.92	Unspecified lymphoid leukemia, in relapse	ICD-9-CM	Diagnosis
205	Myeloid leukemia	ICD-9-CM	Diagnosis
205.0	Acute myeloid leukemia	ICD-9-CM	Diagnosis
205.00	Acute myeloid leukemia, without mention of having achieved remission	ICD-9-CM	Diagnosis

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Code	Description	Code Type	Code Category
205.01	Acute myeloid leukemia in remission	ICD-9-CM	Diagnosis
205.02	Acute myeloid leukemia, in relapse	ICD-9-CM	Diagnosis
205.1	Chronic myeloid leukemia	ICD-9-CM	Diagnosis
205.10	Chronic myeloid leukemia, without mention of having achieved remission	ICD-9-CM	Diagnosis
205.11	Chronic myeloid leukemia in remission	ICD-9-CM	Diagnosis
205.12	Chronic myeloid leukemia, in relapse	ICD-9-CM	Diagnosis
205.2	Subacute myeloid leukemia	ICD-9-CM	Diagnosis
205.20	Subacute myeloid leukemia, without mention of having achieved remission	ICD-9-CM	Diagnosis
205.21	Subacute myeloid leukemia in remission	ICD-9-CM	Diagnosis
205.22	Subacute myeloid leukemia, in relapse	ICD-9-CM	Diagnosis
205.3	Myeloid sarcoma	ICD-9-CM	Diagnosis
205.30	Myeloid sarcoma, without mention of having achieved remission	ICD-9-CM	Diagnosis
205.31	Myeloid sarcoma in remission	ICD-9-CM	Diagnosis
205.32	Myeloid sarcoma, in relapse	ICD-9-CM	Diagnosis
205.8	Other myeloid leukemia	ICD-9-CM	Diagnosis
205.80	Other myeloid leukemia, without mention of having achieved remission	ICD-9-CM	Diagnosis
205.81	Other myeloid leukemia in remission	ICD-9-CM	Diagnosis
205.82	Other myeloid leukemia, in relapse	ICD-9-CM	Diagnosis
205.9	Unspecified myeloid leukemia	ICD-9-CM	Diagnosis
205.90	Unspecified myeloid leukemia, without mention of having achieved remission	ICD-9-CM	Diagnosis
205.91	Unspecified myeloid leukemia in remission	ICD-9-CM	Diagnosis
205.92	Unspecified myeloid leukemia, in relapse	ICD-9-CM	Diagnosis
206	Monocytic leukemia	ICD-9-CM	Diagnosis
206.0	Acute monocytic leukemia	ICD-9-CM	Diagnosis
206.00	Acute monocytic leukemia, without mention of having achieved remission	ICD-9-CM	Diagnosis
206.01	Acute monocytic leukemia in remission	ICD-9-CM	Diagnosis
206.02	Acute monocytic leukemia, in relapse	ICD-9-CM	Diagnosis
206.1	Chronic monocytic leukemia	ICD-9-CM	Diagnosis
206.10	Chronic monocytic leukemia, without mention of having achieved remission	ICD-9-CM	Diagnosis
206.11	Chronic monocytic leukemia in remission	ICD-9-CM	Diagnosis
206.12	Chronic monocytic leukemia, in relapse	ICD-9-CM	Diagnosis
206.2	Subacute monocytic leukemia	ICD-9-CM	Diagnosis
206.20	Subacute monocytic leukemia, without mention of having achieved remission	ICD-9-CM	Diagnosis
206.21	Subacute monocytic leukemia in remission	ICD-9-CM	Diagnosis
206.22	Subacute monocytic leukemia, in relapse	ICD-9-CM	Diagnosis
206.8	Other monocytic leukemia	ICD-9-CM	Diagnosis
206.80	Other monocytic leukemia, without mention of having achieved remission	ICD-9-CM	Diagnosis
206.81	Other monocytic leukemia in remission	ICD-9-CM	Diagnosis

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Code	Description	Code Type	Code Category
206.82	Other monocytic leukemia, in relapse	ICD-9-CM	Diagnosis
206.9	Unspecified monocytic leukemia	ICD-9-CM	Diagnosis
206.90	Unspecified monocytic leukemia, without mention of having achieved remission	ICD-9-CM	Diagnosis
206.91	Unspecified monocytic leukemia in remission	ICD-9-CM	Diagnosis
206.92	Unspecified monocytic leukemia, in relapse	ICD-9-CM	Diagnosis
207	Other specified leukemia	ICD-9-CM	Diagnosis
207.0	Acute erythremia and erythroleukemia	ICD-9-CM	Diagnosis
207.00	Acute erythremia and erythroleukemia, without mention of having achieved remission	ICD-9-CM	Diagnosis
207.01	Acute erythremia and erythroleukemia in remission	ICD-9-CM	Diagnosis
207.02	Acute erythremia and erythroleukemia, in relapse	ICD-9-CM	Diagnosis
207.1	Chronic erythremia	ICD-9-CM	Diagnosis
207.10	Chronic erythremia, without mention of having achieved remission	ICD-9-CM	Diagnosis
207.11	Chronic erythremia in remission	ICD-9-CM	Diagnosis
207.12	Chronic erythremia, in relapse	ICD-9-CM	Diagnosis
207.2	Megakaryocytic leukemia	ICD-9-CM	Diagnosis
207.20	Megakaryocytic leukemia, without mention of having achieved remission	ICD-9-CM	Diagnosis
207.21	Megakaryocytic leukemia in remission	ICD-9-CM	Diagnosis
207.22	Megakaryocytic leukemia, in relapse	ICD-9-CM	Diagnosis
207.8	Other specified leukemia	ICD-9-CM	Diagnosis
207.80	Other specified leukemia, without mention of having achieved remission	ICD-9-CM	Diagnosis
207.81	Other specified leukemia in remission	ICD-9-CM	Diagnosis
207.82	Other specified leukemia, in relapse	ICD-9-CM	Diagnosis
208	Leukemia of unspecified cell type	ICD-9-CM	Diagnosis
208.0	Acute leukemia of unspecified cell type	ICD-9-CM	Diagnosis
208.00	Acute leukemia of unspecified cell type, without mention of having achieved remission	ICD-9-CM	Diagnosis
208.01	Acute leukemia of unspecified cell type in remission	ICD-9-CM	Diagnosis
208.02	Acute leukemia of unspecified cell type, in relapse	ICD-9-CM	Diagnosis
208.1	Chronic leukemia of unspecified cell type	ICD-9-CM	Diagnosis
208.10	Chronic leukemia of unspecified cell type, without mention of having achieved remission	ICD-9-CM	Diagnosis
208.11	Chronic leukemia of unspecified cell type in remission	ICD-9-CM	Diagnosis
208.12	Chronic leukemia of unspecified cell type, in relapse	ICD-9-CM	Diagnosis
208.2	Subacute leukemia of unspecified cell type	ICD-9-CM	Diagnosis
208.20	Subacute leukemia of unspecified cell type, without mention of having achieved remission	ICD-9-CM	Diagnosis
208.21	Subactue leukemia of unspecified cell type in remission	ICD-9-CM	Diagnosis
208.22	Subacute leukemia of unspecified cell type, in relapse	ICD-9-CM	Diagnosis
208.8	Other leukemia of unspecified cell type	ICD-9-CM	Diagnosis
208.80	Other leukemia of unspecified cell type, without mention of having achieved remission	ICD-9-CM	Diagnosis
208.81	Other leukemia of unspecified cell type in remission	ICD-9-CM	Diagnosis
208.82	Other leukemia of unspecified cell type, in relapse	ICD-9-CM	Diagnosis

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Code	Description	Code Type	Code Category
208.9	Unspecified leukemia	ICD-9-CM	Diagnosis
208.90	Unspecified leukemia, without mention of having achieved remission	ICD-9-CM	Diagnosis
208.91	Unspecified leukemia in remission	ICD-9-CM	Diagnosis
208.92	Unspecified leukemia, in relapse	ICD-9-CM	Diagnosis
209	Neuroendocrine tumors	ICD-9-CM	Diagnosis
209.0	Malignant carcinoid tumors of the small intestine	ICD-9-CM	Diagnosis
209.00	Malignant carcinoid tumor of the small intestine, unspecified portion	ICD-9-CM	Diagnosis
209.01	Malignant carcinoid tumor of the duodenum	ICD-9-CM	Diagnosis
209.02	Malignant carcinoid tumor of the jejunum	ICD-9-CM	Diagnosis
209.03	Malignant carcinoid tumor of the ileum	ICD-9-CM	Diagnosis
209.1	Malignant carcinoid tumors of the appendix, large intestine, and rectum	ICD-9-CM	Diagnosis
209.10	Malignant carcinoid tumor of the large intestine, unspecified portion	ICD-9-CM	Diagnosis
209.11	Malignant carcinoid tumor of the appendix	ICD-9-CM	Diagnosis
209.12	Malignant carcinoid tumor of the cecum	ICD-9-CM	Diagnosis
209.13	Malignant carcinoid tumor of the ascending colon	ICD-9-CM	Diagnosis
209.14	Malignant carcinoid tumor of the transverse colon	ICD-9-CM	Diagnosis
209.15	Malignant carcinoid tumor of the descending colon	ICD-9-CM	Diagnosis
209.16	Malignant carcinoid tumor of the sigmoid colon	ICD-9-CM	Diagnosis
209.17	Malignant carcinoid tumor of the rectum	ICD-9-CM	Diagnosis
209.2	Malignant carcinoid tumors of other and unspecified sites	ICD-9-CM	Diagnosis
209.20	Malignant carcinoid tumor of unknown primary site	ICD-9-CM	Diagnosis
209.21	Malignant carcinoid tumor of the bronchus and lung	ICD-9-CM	Diagnosis
209.22	Malignant carcinoid tumor of the thymus	ICD-9-CM	Diagnosis
209.23	Malignant carcinoid tumor of the stomach	ICD-9-CM	Diagnosis
209.24	Malignant carcinoid tumor of the kidney	ICD-9-CM	Diagnosis
209.25	Malignant carcinoid tumor of foregut, not otherwise specified	ICD-9-CM	Diagnosis
209.26	Malignant carcinoid tumor of midgut, not otherwise specified	ICD-9-CM	Diagnosis
209.27	Malignant carcinoid tumor of hindgut, not otherwise specified	ICD-9-CM	Diagnosis
209.29	Malignant carcinoid tumor of other sites	ICD-9-CM	Diagnosis
209.3	Malignant poorly differentiated neuroendocrine tumors	ICD-9-CM	Diagnosis
209.30	Malignant poorly differentiated neuroendocrine carcinoma, any site	ICD-9-CM	Diagnosis
209.31	Merkel cell carcinoma of the face	ICD-9-CM	Diagnosis
209.32	Merkel cell carcinoma of the scalp and neck	ICD-9-CM	Diagnosis
209.33	Merkel cell carcinoma of the upper limb	ICD-9-CM	Diagnosis
209.34	Merkel cell carcinoma of the lower limb	ICD-9-CM	Diagnosis
209.35	Merkel cell carcinoma of the trunk	ICD-9-CM	Diagnosis
209.36	Merkel cell carcinoma of other sites	ICD-9-CM	Diagnosis
209.7	Secondary neuroendocrine tumors	ICD-9-CM	Diagnosis
209.70	Secondary neuroendocrine tumor, unspecified site	ICD-9-CM	Diagnosis
209.71	Secondary neuroendocrine tumor of distant lymph nodes	ICD-9-CM	Diagnosis
209.72	Secondary neuroendocrine tumor of liver	ICD-9-CM	Diagnosis
209.73	Secondary neuroendocrine tumor of bone	ICD-9-CM	Diagnosis
209.74	Secondary neuroendocrine tumor of peritoneum	ICD-9-CM	Diagnosis
209.75	Secondary Merkel cell carcinoma	ICD-9-CM	Diagnosis
209.79	Secondary neuroendocrine tumor of other sites	ICD-9-CM	Diagnosis

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Code	Description	Code Type	Code Category
	Chronic Kidney Disease (Excluding End Stage Renal Disease)		
585.1	Chronic kidney disease, Stage I	ICD-9-CM	Diagnosis
585.2	Chronic kidney disease, Stage II (mild)	ICD-9-CM	Diagnosis
585.3	Chronic kidney disease, Stage III (moderate)	ICD-9-CM	Diagnosis
585.4	Chronic kidney disease, Stage IV (severe)	ICD-9-CM	Diagnosis
G0420	Face-to-face educational services related to the care of chronic kidney disease; individual, per session, per one hour	HCPCS	Procedure
G0421	Face-to-face educational services related to the care of chronic kidney disease; group, per session, per one hour	HCPCS	Procedure
G8487	I intend to report the chronic kidney disease (CKD) measures group	HCPCS	Procedure
G8771	Documentation of diagnosis of chronic kidney disease	HCPCS	Procedure
	Chronic Obstructive Pulmonary Disease		
491	Chronic bronchitis	ICD-9-CM	Diagnosis
491.0	Simple chronic bronchitis	ICD-9-CM	Diagnosis
491.1	Mucopurulent chronic bronchitis	ICD-9-CM	Diagnosis
491.2	Obstructive chronic bronchitis	ICD-9-CM	Diagnosis
491.20	Obstructive chronic bronchitis, without exacerbation	ICD-9-CM	Diagnosis
491.21	Obstructive chronic bronchitis, with (acute) exacerbation	ICD-9-CM	Diagnosis
491.22	Obstructive chronic bronchitis with acute bronchitis	ICD-9-CM	Diagnosis
491.8	Other chronic bronchitis	ICD-9-CM	Diagnosis
491.9	Unspecified chronic bronchitis	ICD-9-CM	Diagnosis
492	Emphysema	ICD-9-CM	Diagnosis
492.0	Emphysematous bleb	ICD-9-CM	Diagnosis
492.8	Other emphysema	ICD-9-CM	Diagnosis
496	Chronic airway obstruction, not elsewhere classified	ICD-9-CM	Diagnosis
	Dementia		
290.0	Senile dementia, uncomplicated	ICD-9-CM	Diagnosis
290.1	Presenile dementia	ICD-9-CM	Diagnosis
290.10	Presenile dementia, uncomplicated	ICD-9-CM	Diagnosis
290.11	Presenile dementia with delirium	ICD-9-CM	Diagnosis
290.12	Presenile dementia with delusional features	ICD-9-CM	Diagnosis
290.13	Presenile dementia with depressive features	ICD-9-CM	Diagnosis
290.2	Senile dementia with delusional or depressive features	ICD-9-CM	Diagnosis
290.20	Senile dementia with delusional features	ICD-9-CM	Diagnosis
290.21	Senile dementia with depressive features	ICD-9-CM	Diagnosis
290.3	Senile dementia with delirium	ICD-9-CM	Diagnosis
290.4	Vascular dementia	ICD-9-CM	Diagnosis
290.40	Vascular dementia, uncomplicated	ICD-9-CM	Diagnosis
290.41	Vascular dementia, with delirium	ICD-9-CM	Diagnosis
290.42	Vascular dementia, with delusions	ICD-9-CM	Diagnosis
290.43	Vascular dementia, with depressed mood	ICD-9-CM	Diagnosis
291.2	Alcohol-induced persisting dementia	ICD-9-CM	Diagnosis
292.82	Drug-induced persisting dementia	ICD-9-CM	Diagnosis
294.0	Amnestic disorder in conditions classified elsewhere	ICD-9-CM	Diagnosis
294.1	Dementia in conditions classified elsewhere	ICD-9-CM	Diagnosis

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Code	Description	Code Type	Code Category
294.10	Dementia in conditions classified elsewhere without behavioral disturbance	ICD-9-CM	Diagnosis
294.11	Dementia in conditions classified elsewhere with behavioral disturbance	ICD-9-CM	Diagnosis
294.8	Other persistent mental disorders due to conditions classified elsewhere	ICD-9-CM	Diagnosis
331.0	Alzheimer's disease	ICD-9-CM	Diagnosis
331.1	Frontotemporal dementia	ICD-9-CM	Diagnosis
331.11	Pick's disease	ICD-9-CM	Diagnosis
331.19	Other frontotemporal dementia	ICD-9-CM	Diagnosis
331.2	Senile degeneration of brain	ICD-9-CM	Diagnosis
331.7	Cerebral degeneration in diseases classified elsewhere	ICD-9-CM	Diagnosis
331.8	Other cerebral degeneration	ICD-9-CM	Diagnosis
331.81	Reye's syndrome	ICD-9-CM	Diagnosis
331.82	Dementia with Lewy bodies	ICD-9-CM	Diagnosis
331.83	Mild cognitive impairment, so stated	ICD-9-CM	Diagnosis
331.89	Other cerebral degeneration	ICD-9-CM	Diagnosis
331.9	Unspecified cerebral degeneration	ICD-9-CM	Diagnosis
797	Senility without mention of psychosis	ICD-9-CM	Diagnosis
	Depression		
296.2	Major depressive disorder, single episode	ICD-9-CM	Diagnosis
296.20	Major depressive disorder, single episode, unspecified	ICD-9-CM	Diagnosis
296.21	Major depressive disorder, single episode, mild	ICD-9-CM	Diagnosis
296.22	Major depressive disorder, single episode, moderate	ICD-9-CM	Diagnosis
296.23	Major depressive disorder, single episode, severe, without mention of psychotic behavior	ICD-9-CM	Diagnosis
296.24	Major depressive disorder, single episode, severe, specified as with psychotic behavior	ICD-9-CM	Diagnosis
296.25	Major depressive disorder, single episode, in partial or unspecified remission	ICD-9-CM	Diagnosis
296.26	Major depressive disorder, single episode in full remission	ICD-9-CM	Diagnosis
296.3	Major depressive disorder, recurrent episode	ICD-9-CM	Diagnosis
296.30	Major depressive disorder, recurrent episode, unspecified	ICD-9-CM	Diagnosis
296.31	Major depressive disorder, recurrent episode, mild	ICD-9-CM	Diagnosis
296.32	Major depressive disorder, recurrent episode, moderate	ICD-9-CM	Diagnosis
296.33	Major depressive disorder, recurrent episode, severe, without mention of psychotic behavior	ICD-9-CM	Diagnosis
296.34	Major depressive disorder, recurrent episode, severe, specified as with psychotic behavior	ICD-9-CM	Diagnosis
296.35	Major depressive disorder, recurrent episode, in partial or unspecified remission	ICD-9-CM	Diagnosis
296.36	Major depressive disorder, recurrent episode, in full remission	ICD-9-CM	Diagnosis
300.4	Dysthymic disorder	ICD-9-CM	Diagnosis
311	Depressive disorder, not elsewhere classified	ICD-9-CM	Diagnosis
	End Stage Renal Disease		
36145	Introduction of needle or intracatheter; arteriovenous shunt created for dialysis (cannula, fistula, or graft)	CPT-4	Procedure

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Code	Description	Code Type	Code Category
36800	Insertion of cannula for hemodialysis, other purpose (separate procedure); vein to vein	CPT-4	Procedure
36810	Insertion of cannula for hemodialysis, other purpose (separate procedure); arteriovenous, external (Scribner type)	CPT-4	Procedure
36815	Insertion of cannula for hemodialysis, other purpose (separate procedure); arteriovenous, external revision, or closure	CPT-4	Procedure
36825	Creation of arteriovenous fistula by other than direct arteriovenous anastomosis (separate procedure); autogenous graft	CPT-4	Procedure
36830	Creation of arteriovenous fistula by other than direct arteriovenous anastomosis (separate procedure); nonautogenous graft (eg, biological collagen, thermoplastic graft)	CPT-4	Procedure
36831	Thrombectomy, open, arteriovenous fistula without revision, autogenous or nonautogenous dialysis graft (separate procedure)	CPT-4	Procedure
36832	Revision, open, arteriovenous fistula; without thrombectomy, autogenous or nonautogenous dialysis graft (separate procedure)	CPT-4	Procedure
36833	Revision, open, arteriovenous fistula; with thrombectomy, autogenous or nonautogenous dialysis graft (separate procedure)	CPT-4	Procedure
38.95	Venous catheterization for renal dialysis	ICD-9-CM	Procedure
39.27	Arteriovenostomy for renal dialysis	ICD-9-CM	Procedure
39.42	Revision of arteriovenous shunt for renal dialysis	ICD-9-CM	Procedure
39.43	Removal of arteriovenous shunt for renal dialysis	ICD-9-CM	Procedure
39.53	Repair of arteriovenous fistula	ICD-9-CM	Procedure
39.93	Insertion of vessel-to-vessel cannula	ICD-9-CM	Procedure
39.94	Replacement of vessel-to-vessel cannula	ICD-9-CM	Procedure
39.95	Hemodialysis	ICD-9-CM	Procedure
458.21	Hypotension of hemodialysis	ICD-9-CM	Diagnosis
50323	Backbench standard preparation of cadaver donor renal allograft prior to transplantation, including dissection and removal of perinephric fat, diaphragmatic and retroperitoneal attachments, excision of adrenal gland, and preparation of ureter(s), renal vein(s), and renal artery(s), ligating branches, as necessary	CPT-4	Procedure
50325	Backbench standard preparation of living donor renal allograft (open or laparoscopic) prior to transplantation, including dissection and removal of perinephric fat and preparation of ureter(s), renal vein(s), and renal artery(s), ligating branches, as necessary	CPT-4	Procedure
50327	Backbench reconstruction of cadaver or living donor renal allograft prior to transplantation; venous anastomosis, each	CPT-4	Procedure
50328	Backbench reconstruction of cadaver or living donor renal allograft prior to transplantation; arterial anastomosis, each	CPT-4	Procedure
50329	Backbench reconstruction of cadaver or living donor renal allograft prior to transplantation; ureteral anastomosis, each	CPT-4	Procedure
50340	Recipient nephrectomy (separate procedure)	CPT-4	Procedure
50341	Recipient Nephrectomy (separate Procedure)	CPT-4	Procedure
50360	Renal allotransplantation, implantation of graft; without recipient nephrectomy	CPT-4	Procedure

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Code	Description	Code Type	Code Category
50365	Renal allotransplantation, implantation of graft; with recipient nephrectomy	CPT-4	Procedure
50366	Renal Homotransplantation, Implantation Of Graft	CPT-4	Procedure
54.98	Peritoneal dialysis	ICD-9-CM	Procedure
55.6	Transplant of kidney	ICD-9-CM	Procedure
55.61	Renal autotransplantation	ICD-9-CM	Procedure
55.69	Other kidney transplantation	ICD-9-CM	Procedure
585.5	Chronic kidney disease, Stage V	ICD-9-CM	Diagnosis
585.6	End stage renal disease	ICD-9-CM	Diagnosis
90918	End-stage renal disease (ESRD) related services per full month; for patients younger than two years of age to include monitoring for the adequacy of nutrition, assessment of growth and development, and counseling of parents	CPT-4	Procedure
90919	End-stage renal disease (ESRD) related services per full month; for patients between two and eleven years of age to include monitoring for the adequacy of nutrition, assessment of growth and development, and counseling of parents	CPT-4	Procedure
90920	End-stage renal disease (ESRD) related services per full month; for patients between twelve and nineteen years of age to include monitoring for the adequacy of nutrition, assessment of growth and development, and counseling of parents	CPT-4	Procedure
90921	End-stage renal disease (ESRD) related services per full month; for patients twenty years of age and older	CPT-4	Procedure
90922	End-stage renal disease (ESRD) related services (less than full month), per day; for patients younger than two years of age	CPT-4	Procedure
90923	End-stage renal disease (ESRD) related services (less than full month), per day; for patients between two and eleven years of age	CPT-4	Procedure
90924	End-stage renal disease (ESRD) related services (less than full month), per day; for patients between twelve and nineteen years of age	CPT-4	Procedure
90925	End-stage renal disease (ESRD) related services (less than full month), per day; for patients twenty years of age and older	CPT-4	Procedure
90935	Hemodialysis procedure with single evaluation by a physician or other qualified health care professional	CPT-4	Procedure
90937	Hemodialysis procedure requiring repeated evaluation(s) with or without substantial revision of dialysis prescription	CPT-4	Procedure
90939	Hemodialysis access flow study to determine blood flow in grafts and arteriovenous fistulae by an indicator dilution method, hook-up; transcutaneous measurement and disconnection	CPT-4	Procedure
90940	Hemodialysis access flow study to determine blood flow in grafts and arteriovenous fistulae by an indicator method	CPT-4	Procedure
90941	Hemodialysis, For Acute Renal Failure And Or Intoxication,	CPT-4	Procedure
90942	Hemodialysis, For Acute Renal Failure And Or Intoxication,	CPT-4	Procedure
90943	Hemodialysis, For Acute Renal Failure And Or Intoxication,	CPT-4	Procedure
90944	Hemodialysis, For Acute Renal Failure And Or Intoxication,	CPT-4	Procedure

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Code	Description	Code Type	Code Category
90945	Dialysis procedure other than hemodialysis (eg, peritoneal dialysis, hemofiltration, or other continuous renal replacement therapies), with single evaluation by a physician or other qualified health care professional	CPT-4	Procedure
90947	Dialysis procedure other than hemodialysis (eg, peritoneal dialysis, hemofiltration, or other continuous renal replacement therapies) requiring repeated evaluations by a physician or other qualified health care professional, with or without substantial revision of dialysis prescription	CPT-4	Procedure
90951	End-stage renal disease (ESRD) related services monthly, for patients younger than 2 years of age to include monitoring for the adequacy of nutrition, assessment of growth and development, and counseling of parents; with 4 or more face-to-face visits by a physician or other qualified health care professional per month	CPT-4	Procedure
90952	End-stage renal disease (ESRD) related services monthly, for patients younger than 2 years of age to include monitoring for the adequacy of nutrition, assessment of growth and development, and counseling of parents; with 2-3 face-to-face visits by a physician or other qualified health care professional per month	CPT-4	Procedure
90953	End-stage renal disease (ESRD) related services monthly, for patients younger than 2 years of age to include monitoring for the adequacy of nutrition, assessment of growth and development, and counseling of parents; with 1 face-to-face visit by a physician or other qualified health care professional per month	CPT-4	Procedure
90954	End-stage renal disease (ESRD) related services monthly, for patients 2-11 years of age to include monitoring for the adequacy of nutrition, assessment of growth and development, and counseling of parents; with 4 or more face-to-face visits by a physician or other qualified health care professional per month	CPT-4	Procedure
90955	End-stage renal disease (ESRD) related services monthly, for patients 2-11 years of age to include monitoring for the adequacy of nutrition, assessment of growth and development, and counseling of parents; with 2-3 face-to-face visits by a physician or other qualified health care professional per month	CPT-4	Procedure
90956	End-stage renal disease (ESRD) related services monthly, for patients 2-11 years of age to include monitoring for the adequacy of nutrition, assessment of growth and development, and counseling of parents; with 1 face-to-face visit by a physician or other qualified health care professional per month	CPT-4	Procedure
90957	End-stage renal disease (ESRD) related services monthly, for patients 12-19 years of age to include monitoring for the adequacy of nutrition, assessment of growth and development, and counseling of parents; with 4 or more face-to-face visits by a physician or other qualified health care professional per month	CPT-4	Procedure

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Code	Description	Code Type	Code Category
90958	End-stage renal disease (ESRD) related services monthly, for patients 12-19 years of age to include monitoring for the adequacy of nutrition, assessment of growth and development, and counseling of parents; with 2-3 face-to-face visits by a physician or other qualified health care professional per month	CPT-4	Procedure
90959	End-stage renal disease (ESRD) related services monthly, for patients 12-19 years of age to include monitoring for the adequacy of nutrition, assessment of growth and development, and counseling of parents; with 1 face-to-face visit by a physician or other qualified health care professional per month	CPT-4	Procedure
90960	End-stage renal disease (ESRD) related services monthly, for patients 20 years of age and older; with 4 or more face-to-face visits by a physician or other qualified health care professional per month	CPT-4	Procedure
90961	End-stage renal disease (ESRD) related services monthly, for patients 20 years of age and older; with 2-3 face-to-face visits by a physician or other qualified health care professional per month	CPT-4	Procedure
90962	End-stage renal disease (ESRD) related services monthly, for patients 20 years of age and older; with 1 face-to-face visit by a physician or other qualified health care professional per month	CPT-4	Procedure
90963	End-stage renal disease (ESRD) related services for home dialysis per full month, for patients younger than 2 years of age to include monitoring for the adequacy of nutrition, assessment of growth and development, and counseling of parents	CPT-4	Procedure
90964	End-stage renal disease (ESRD) related services for home dialysis per full month, for patients 2-11 years of age to include monitoring for the adequacy of nutrition, assessment of growth and development, and counseling of parents	CPT-4	Procedure
90965	End-stage renal disease (ESRD) related services for home dialysis per full month, for patients 12-19 years of age to include monitoring for the adequacy of nutrition, assessment of growth and development, and counseling of parents	CPT-4	Procedure
90966	End-stage renal disease (ESRD) related services for home dialysis per full month, for patients 20 years of age and older	CPT-4	Procedure
90967	End-stage renal disease (ESRD) related services for dialysis less than a full month of service, per day; for patients younger than 2 years of age	CPT-4	Procedure
90968	End-stage renal disease (ESRD) related services for dialysis less than a full month of service, per day; for patients 2-11 years of age	CPT-4	Procedure
90969	End-stage renal disease (ESRD) related services for dialysis less than a full month of service, per day; for patients 12-19 years of age	CPT-4	Procedure
90970	End-stage renal disease (ESRD) related services for dialysis less than a full month of service, per day; for patients 20 years of age and older	CPT-4	Procedure
90976	Peritoneal Dialysis For End-stage Renal Disease (esrd),	CPT-4	Procedure
90977	Peritoneal Dialysis For End-stage Renal Disease (esrd),	CPT-4	Procedure
90978	Peritoneal Dialysis For End-stage Renal Disease (esrd),	CPT-4	Procedure
90979	Peritoneal Dialysis For End-stage Renal Disease (esrd),	CPT-4	Procedure

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Code	Description	Code Type	Code Category
90982	Peritoneal Dialysis For End-stage Renal Disease (esrd),	CPT-4	Procedure
90983	Peritoneal Dialysis For End-stage Renal Disease (esrd),	CPT-4	Procedure
90984	Peritoneal Dialysis For End-stage Renal Disease (esrd),	CPT-4	Procedure
90985	Peritoneal Dialysis For End-stage Renal Disease (esrd),	CPT-4	Procedure
90989	Dialysis training, patient, including helper where applicable, any mode, completed course	CPT-4	Procedure
90993	Dialysis training, patient, including helper where applicable, any mode, course not completed, per training session	CPT-4	Procedure
90995	End Stage Renal Disease (esrd) Related Services, Per Full Month	CPT-4	Procedure
90996	Continuous Arteriovenous Hemofiltration (cavh) (per Day)	CPT-4	Procedure
90997	Hemoperfusion (eg, with activated charcoal or resin)	CPT-4	Procedure
90998	End Stage Renal Disease (esrd) Related Services (less Than Full Month), Per Day	CPT-4	Procedure
90999	Unlisted dialysis procedure, inpatient or outpatient	CPT-4	Procedure
93990	Duplex scan of hemodialysis access (including arterial inflow, body of access and venous outflow)	CPT-4	Procedure
99512	Home visit for hemodialysis	CPT-4	Procedure
996.56	Mechanical complications due to peritoneal dialysis catheter	ICD-9-CM	Diagnosis
996.68	Infection and inflammatory reaction due to peritoneal dialysis catheter	ICD-9-CM	Diagnosis
996.73	Other complications due to renal dialysis device, implant, and graft	ICD-9-CM	Diagnosis
A4653	Peritoneal dialysis catheter anchoring device, belt, each	HCPCS	Procedure
A4656	Needle, any size, each	HCPCS	Procedure
A4657	Syringe, with or without needle, each	HCPCS	Procedure
A4670	Automatic blood pressure monitor	HCPCS	Procedure
A4671	Disposable cycler set used with cycler dialysis machine, each	HCPCS	Procedure
A4672	Drainage extension line, sterile, for dialysis, each	HCPCS	Procedure
A4673	Extension line with easy lock connectors, used with dialysis	HCPCS	Procedure
A4674	Chemicals/antiseptics solution used to clean/sterilize dialysis equipment, per 8 oz	HCPCS	Procedure
A4680	Activated carbon filter for hemodialysis, each	HCPCS	Procedure
A4706	Bicarbonate concentrate, solution, for hemodialysis, per gallon	HCPCS	Procedure
A4707	Bicarbonate concentrate, powder, for hemodialysis, per packet	HCPCS	Procedure
A4708	Acetate concentrate solution, for hemodialysis, per gallon	HCPCS	Procedure
A4709	Acid concentrate, solution, for hemodialysis, per gallon	HCPCS	Procedure
A4712	Water, sterile, for injection, per 10 ml	HCPCS	Procedure
A4714	Treated water (deionized, distilled, or reverse osmosis) for peritoneal dialysis, per gallon	HCPCS	Procedure
A4719	"Y set" tubing for peritoneal dialysis	HCPCS	Procedure
A4720	Dialysate solution, any concentration of dextrose, fluid volume greater than 249 cc, but less than or equal to 999 cc, for peritoneal dialysis	HCPCS	Procedure
A4721	Dialysate solution, any concentration of dextrose, fluid volume greater than 999 cc but less than or equal to 1999 cc, for peritoneal dialysis	HCPCS	Procedure
A4722	Dialysate solution, any concentration of dextrose, fluid volume greater than 1999 cc but less than or equal to 2999 cc, for peritoneal dialysis	HCPCS	Procedure

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Code	Description	Code Type	Code Category
A4723	Dialysate solution, any concentration of dextrose, fluid volume greater than 2999 cc but less than or equal to 3999 cc, for peritoneal dialysis	HCPCS	Procedure
A4724	Dialysate solution, any concentration of dextrose, fluid volume greater than 3999 cc but less than or equal to 4999 cc, for peritoneal dialysis	HCPCS	Procedure
A4725	Dialysate solution, any concentration of dextrose, fluid volume greater than 4999 cc but less than or equal to 5999 cc, for peritoneal dialysis	HCPCS	Procedure
A4726	Dialysate solution, any concentration of dextrose, fluid volume greater than 5999 cc, for peritoneal dialysis	HCPCS	Procedure
A4728	Dialysate solution, nondextrose containing, 500 ml	HCPCS	Procedure
A4730	Fistula cannulation set for hemodialysis, each	HCPCS	Procedure
A4736	Topical anesthetic, for dialysis, per g	HCPCS	Procedure
A4737	Injectable anesthetic, for dialysis, per 10 ml	HCPCS	Procedure
A4740	Shunt accessory, for hemodialysis, any type, each	HCPCS	Procedure
A4750	Blood tubing, arterial or venous, for hemodialysis, each	HCPCS	Procedure
A4755	Blood tubing, arterial and venous combined, for hemodialysis, each	HCPCS	Procedure
A4760	Dialysate solution test kit, for peritoneal dialysis, any type, each	HCPCS	Procedure
A4765	Dialysate concentrate, powder, additive for peritoneal dialysis, per packet	HCPCS	Procedure
A4766	Dialysate concentrate, solution, additive for peritoneal dialysis, per 10 ml	HCPCS	Procedure
A4770	Blood collection tube, vacuum, for dialysis, per 50	HCPCS	Procedure
A4771	Serum clotting time tube, for dialysis, per 50	HCPCS	Procedure
A4773	Occult blood test strips, for dialysis, per 50	HCPCS	Procedure
A4774	Ammonia test strips, for dialysis, per 50	HCPCS	Procedure
A4802	Protamine sulfate, for hemodialysis, per 50 mg	HCPCS	Procedure
A4860	Disposable catheter tips for peritoneal dialysis, per 10	HCPCS	Procedure
A4870	Plumbing and/or electrical work for home hemodialysis equipment	HCPCS	Procedure
A4890	Contracts, repair and maintenance, for hemodialysis equipment	HCPCS	Procedure
A4911	Drain bag/bottle, for dialysis, each	HCPCS	Procedure
A4913	Miscellaneous dialysis supplies, not otherwise specified	HCPCS	Procedure
A4918	Venous pressure clamp, for hemodialysis, each	HCPCS	Procedure
A4928	Surgical mask, per 20	HCPCS	Procedure
A4929	Tourniquet for dialysis, each	HCPCS	Procedure
C1881	Dialysis access system (implantable)	HCPCS	Procedure
E1500	Centrifuge, for dialysis	HCPCS	Procedure
E1520	Heparin infusion pump for hemodialysis	HCPCS	Procedure
E1530	Air bubble detector for hemodialysis, each, replacement	HCPCS	Procedure
E1540	Pressure alarm for hemodialysis, each, replacement	HCPCS	Procedure
E1550	Bath conductivity meter for hemodialysis, each	HCPCS	Procedure
E1560	Blood leak detector for hemodialysis, each, replacement	HCPCS	Procedure
E1570	Adjustable chair, for ESRD patients	HCPCS	Procedure
E1575	Transducer protectors/fluid barriers, for hemodialysis, any size, per 10	HCPCS	Procedure
E1580	Unipuncture control system for hemodialysis	HCPCS	Procedure
E1600	Delivery and/or installation charges for hemodialysis equipment	HCPCS	Procedure
E1610	Reverse osmosis water purification system, for hemodialysis	HCPCS	Procedure
E1615	Deionizer water purification system, for hemodialysis	HCPCS	Procedure
E1620	Blood pump for hemodialysis, replacement	HCPCS	Procedure

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Code	Description	Code Type	Code Category
E1625	Water softening system, for hemodialysis	HCPCS	Procedure
E1634	Peritoneal dialysis clamps, each	HCPCS	Procedure
E1635	Compact (portable) travel hemodialyzer system	HCPCS	Procedure
E1636	Sorbent cartridges, for hemodialysis, per 10	HCPCS	Procedure
E1637	Hemostats, each	HCPCS	Procedure
E1638	Heating pad, for peritoneal dialysis, any size, each	HCPCS	Procedure
E1639	Scale, each	HCPCS	Procedure
E1699	Dialysis equipment, not otherwise specified	HCPCS	Procedure
G0257	Unscheduled or emergency dialysis treatment for an ESRD patient in a hospital outpatient department that is not certified as an ESRD facility	HCPCS	Procedure
G0308	ESRD related services during the course of treatment, for patients under 2 years of age to include monitoring for the adequacy of nutrition, assessment of growth and development, and counseling of parents; with 4 or more face-to-face physician visits per month.	HCPCS	Procedure
G0309	ESRD related services during the course of treatment, for patients under 2 years of age to include monitoring for the adequacy of nutrition, assessment of growth and development, and counseling of parents; with 2 or 3 face-to-face physician visits per month.	HCPCS	Procedure
G0310	ESRD related services during the course of treatment, for patients under 2 years of age to include monitoring for the adequacy of nutrition, assessment of growth and development, and counseling of parents; with 1 face-to-face physician visit per month	HCPCS	Procedure
G0311	ESRD related services during the course of treatment, for patients between 2 and 11 years of age to include monitoring for the adequacy of nutrition, assessment of growth and development, and counseling of parents; with 4 or more face-to-face physician visits per month	HCPCS	Procedure
G0312	ESRD related services during the course of treatment, for patients between 2 and 11 years of age to include monitoring for the adequacy of nutrition, assessment of growth and development, and counseling of parents; with 2 or 3 face-to-face physician visits per month	HCPCS	Procedure
G0313	ESRD related services during the course of treatment, for patients between 2 and 11 years of age to include monitoring for the adequacy of nutrition, assessment of growth and development, and counseling of parents; with 1 face-to-face physician visit per month	HCPCS	Procedure
G0314	ESRD related services during the course of treatment, for patients between 12 and 19 years of age to include monitoring for the adequacy of nutrition, assessment of growth and development, and counseling of parents; with 4 or more face-to-face physician visits per month	HCPCS	Procedure
G0315	End Stage Renal disease (ESRD) related services during the course of treatment, for patients between 12 and 19 years of age to include monitoring for the adequacy of nutrition, assessment of growth and development, and counseling of parents; with two or three face-to-face physician visits per month	HCPCS	Procedure

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Code	Description	Code Type	Code Category
G0316	End Stage Renal disease (ESRD) related services during the course of treatment, for patients between 12 and 19 years of age to include monitoring for the adequacy of nutrition, assessment of growth and development, and counseling of parents; with one face-to-face physician visit per month	HCPCS	Procedure
G0317	End Stage Renal disease (ESRD) related services during the course of treatment, for patients 20 years of age and over; with four or more face-to-face physician visits per month	HCPCS	Procedure
G0318	ESRD related services during the course of treatment, for patients 20 years of age and over; with 2 or 3 face-to-face physician visits per month	HCPCS	Procedure
G0319	End Stage Renal disease (ESRD) related services during the course of treatment, for patients 20 years of age and over; with one face-to-face physician visit per month	HCPCS	Procedure
G0320	ESRD related services for home dialysis patients per full month; for patients under 2 years of age to include monitoring for adequacy of nutrition, assessment of growth and development, and counseling of parents	HCPCS	Procedure
G0321	ESRD related services for home dialysis patients per full month; for patients 2 to 11 years of age to include monitoring for adequacy of nutrition, assessment of growth and development, and counseling of parents	HCPCS	Procedure
G0322	End Stage Renal disease (ESRD) related services for home dialysis patients per full month; for patients 12 to 19 years of age to include monitoring for adequacy of nutrition, assessment of growth and development, and counseling of parents	HCPCS	Procedure
G0323	End Stage Renal disease (ESRD) related services for home dialysis patients per full month; for patients 20 years of age and older	HCPCS	Procedure
G0324	ESRD related services for home dialysis (less than full month), per day; for patients under 2 years of age	HCPCS	Procedure
G0325	ESRD related services for home dialysis (less than full month), per day; for patients between 2 and 11 years of age	HCPCS	Procedure
G0326	ESRD related services for home dialysis (less than full month), per day; for patients between twelve and nineteen years of age	HCPCS	Procedure
G0327	ESRD related services for home dialysis (less than full month), per day; for patients twenty years of age and over	HCPCS	Procedure
G8727	Patient receiving hemodialysis, peritoneal dialysis or kidney transplantation	HCPCS	Procedure
G9013	ESRD demo basic bundle Level I	HCPCS	Procedure
G9014	ESRD demo expanded bundle including venous access and related services	HCPCS	Procedure
J0635	Injection, calcitriol, 1 mcg amp.	HCPCS	Procedure
J0636	Injection, calcitriol, 0.1 mcg	HCPCS	Procedure
S2065	Simultaneous pancreas kidney transplantation	HCPCS	Procedure

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Code	Description	Code Type	Code Category
S9335	Home therapy, hemodialysis; administrative services, professional pharmacy services, care coordination, and all necessary supplies and equipment (drugs and nursing services coded separately), per diem	HCPCS	Procedure
S9339	Home therapy; peritoneal dialysis, administrative services, professional pharmacy services, care coordination and all necessary supplies and equipment (drugs and nursing visits coded separately), per diem	HCPCS	Procedure
V42.0	Kidney replaced by transplant	ICD-9-CM	Diagnosis
V45.1	Renal dialysis status	ICD-9-CM	Diagnosis
V45.11	Renal dialysis status	ICD-9-CM	Diagnosis
V45.12	Noncompliance with renal dialysis	ICD-9-CM	Diagnosis
V56	Encounter for dialysis and dialysis catheter care	ICD-9-CM	Diagnosis
V56.0	Encounter for extracorporeal dialysis	ICD-9-CM	Diagnosis
V56.1	Fitting and adjustment of extracorporeal dialysis catheter	ICD-9-CM	Diagnosis
V56.2	Fitting and adjustment of peritoneal dialysis catheter	ICD-9-CM	Diagnosis
V56.3	Encounter for adequacy testing for dialysis	ICD-9-CM	Diagnosis
V56.31	Encounter for adequacy testing for hemodialysis	ICD-9-CM	Diagnosis
V56.32	Encounter for adequacy testing for peritoneal dialysis	ICD-9-CM	Diagnosis
V56.8	Encounter other dialysis	ICD-9-CM	Diagnosis
	Fracture		
733.1	Pathologic fracture	ICD-9-CM	Diagnosis
733.10	Pathologic fracture, unspecified site	ICD-9-CM	Diagnosis
733.11	Pathologic fracture of humerus	ICD-9-CM	Diagnosis
733.12	Pathologic fracture of distal radius and ulna	ICD-9-CM	Diagnosis
733.13	Pathologic fracture of vertebrae	ICD-9-CM	Diagnosis
733.14	Pathologic fracture of neck of femur	ICD-9-CM	Diagnosis
733.15	Pathologic fracture of other specified part of femur	ICD-9-CM	Diagnosis
733.16	Pathologic fracture of tibia and fibula	ICD-9-CM	Diagnosis
733.19	Pathologic fracture of other specified site	ICD-9-CM	Diagnosis
733.93	Stress fracture of tibia or fibula	ICD-9-CM	Diagnosis
733.94	Stress fracture of the metatarsals	ICD-9-CM	Diagnosis
733.95	Stress fracture of other bone	ICD-9-CM	Diagnosis
733.96	Stress fracture of femoral neck	ICD-9-CM	Diagnosis
733.97	Stress fracture of shaft of femur	ICD-9-CM	Diagnosis
733.98	Stress fracture of pelvis	ICD-9-CM	Diagnosis
79.01	Closed reduction of fracture of humerus without internal fixation	ICD-9-CM	Procedure
79.02	Closed reduction of fracture of radius and ulna without internal fixation	ICD-9-CM	Procedure
79.03	Closed reduction of fracture of carpals and metacarpals without internal fixation	ICD-9-CM	Procedure
79.05	Closed reduction of fracture of femur without internal fixation	ICD-9-CM	Procedure
79.06	Closed reduction of fracture of tibia and fibula without internal fixation	ICD-9-CM	Procedure
79.07	Closed reduction of fracture of tarsals and metatarsals without internal fixation	ICD-9-CM	Procedure
79.11	Closed reduction of fracture of humerus with internal fixation	ICD-9-CM	Procedure
79.12	Closed reduction of fracture of radius and ulna with internal fixation	ICD-9-CM	Procedure

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Code	Description	Code Type	Code Category
79.13	Closed reduction of fracture of carpals and metacarpals with internal fixation	ICD-9-CM	Procedure
79.15	Closed reduction of fracture of femur with internal fixation	ICD-9-CM	Procedure
79.16	Closed reduction of fracture of tibia and fibula with internal fixation	ICD-9-CM	Procedure
79.17	Closed reduction of fracture of tarsals and metatarsals with internal fixation	ICD-9-CM	Procedure
79.21	Open reduction of fracture of humerus without internal fixation	ICD-9-CM	Procedure
79.22	Open reduction of fracture of radius and ulna without internal fixation	ICD-9-CM	Procedure
79.23	Open reduction of fracture of carpals and metacarpals without internal fixation	ICD-9-CM	Procedure
79.25	Open reduction of fracture of femur without internal fixation	ICD-9-CM	Procedure
79.26	Open reduction of fracture of tibia and fibula without internal fixation	ICD-9-CM	Procedure
79.27	Open reduction of fracture of tarsals and metatarsals without internal fixation	ICD-9-CM	Procedure
79.31	Open reduction of fracture of humerus with internal fixation	ICD-9-CM	Procedure
79.32	Open reduction of fracture of radius and ulna with internal fixation	ICD-9-CM	Procedure
79.33	Open reduction of fracture of carpals and metacarpals with internal fixation	ICD-9-CM	Procedure
79.35	Open reduction of fracture of femur with internal fixation	ICD-9-CM	Procedure
79.36	Open reduction of fracture of tibia and fibula with internal fixation	ICD-9-CM	Procedure
79.37	Open reduction of fracture of tarsals and metatarsals with internal fixation	ICD-9-CM	Procedure
79.61	Debridement of open fracture of humerus	ICD-9-CM	Procedure
79.62	Debridement of open fracture of radius and ulna	ICD-9-CM	Procedure
79.63	Debridement of open fracture of carpals and metacarpals	ICD-9-CM	Procedure
79.65	Debridement of open fracture of femur	ICD-9-CM	Procedure
79.66	Debridement of open fracture of tibia and fibula	ICD-9-CM	Procedure
79.67	Debridement of open fracture of tarsals and metatarsals	ICD-9-CM	Procedure
805	Fracture of vertebral column without mention of spinal cord injury	ICD-9-CM	Diagnosis
805.0	Closed fracture of cervical vertebra without mention of spinal cord injury	ICD-9-CM	Diagnosis
805.00	Closed fracture of cervical vertebra, unspecified level without mention of spinal cord injury	ICD-9-CM	Diagnosis
805.01	Closed fracture of first cervical vertebra without mention of spinal cord injury	ICD-9-CM	Diagnosis
805.02	Closed fracture of second cervical vertebra without mention of spinal cord injury	ICD-9-CM	Diagnosis
805.03	Closed fracture of third cervical vertebra without mention of spinal cord injury	ICD-9-CM	Diagnosis
805.04	Closed fracture of fourth cervical vertebra without mention of spinal cord injury	ICD-9-CM	Diagnosis
805.05	Closed fracture of fifth cervical vertebra without mention of spinal cord injury	ICD-9-CM	Diagnosis
805.06	Closed fracture of sixth cervical vertebra without mention of spinal cord injury	ICD-9-CM	Diagnosis

Appendix F. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), Current Procedural Terminology, Fourth Edition (CPT-4, Category I-III), and Healthcare Common Procedure Coding System (HCPCS) Diagnosis and Procedure Codes Used to Define Covariates and Subgroup Criteria in this Report

Code	Description	Code Type	Code Category
805.07	Closed fracture of seventh cervical vertebra without mention of spinal cord injury	ICD-9-CM	Diagnosis
805.08	Closed fracture of multiple cervical vertebrae without mention of spinal cord injury	ICD-9-CM	Diagnosis
805.1	Open fracture of cervical vertebra without mention of spinal cord injury	ICD-9-CM	Diagnosis
805.10	Open fracture of cervical vertebra, unspecified level without mention of spinal cord injury	ICD-9-CM	Diagnosis
805.11	Open fracture of first cervical vertebra without mention of spinal cord injury	ICD-9-CM	Diagnosis
805.12	Open fracture of second cervical vertebra without mention of spinal cord injury	ICD-9-CM	Diagnosis
805.13	Open fracture of third cervical vertebra without mention of spinal cord injury	ICD-9-CM	Diagnosis
805.14	Open fracture of fourth cervical vertebra without mention of spinal cord injury	ICD-9-CM	Diagnosis
805.15	Open fracture of fifth cervical vertebra without mention of spinal cord injury	ICD-9-CM	Diagnosis
805.16	Open fracture of sixth cervical vertebra without mention of spinal cord injury	ICD-9-CM	Diagnosis
805.17	Open fracture of seventh cervical vertebra without mention of spinal cord injury	ICD-9-CM	Diagnosis
805.18	Open fracture of multiple cervical vertebrae without mention of spinal cord injury	ICD-9-CM	Diagnosis
805.2	Closed fracture of dorsal (thoracic) vertebra without mention of spinal cord injury	ICD-9-CM	Diagnosis
805.3	Open fracture of dorsal (thoracic) vertebra without mention of spinal cord injury	ICD-9-CM	Diagnosis
805.4	Closed fracture of lumbar vertebra without mention of spinal cord injury	ICD-9-CM	Diagnosis
805.5	Open fracture of lumbar vertebra without mention of spinal cord injury	ICD-9-CM	Diagnosis
805.6	Closed fracture of sacrum and coccyx without mention of spinal cord injury	ICD-9-CM	Diagnosis
805.7	Open fracture of sacrum and coccyx without mention of spinal cord injury	ICD-9-CM	Diagnosis
805.8	Closed fracture of unspecified part of vertebral column without mention of spinal cord injury	ICD-9-CM	Diagnosis
805.9	Open fracture of unspecified part of vertebral column without mention of spinal cord injury	ICD-9-CM	Diagnosis
806	Fracture of vertebral column with spinal cord injury	ICD-9-CM	Diagnosis
806.0	Closed fracture of cervical vertebra with spinal cord injury	ICD-9-CM	Diagnosis
806.00	Closed fracture of C1-C4 level with unspecified spinal cord injury	ICD-9-CM	Diagnosis
806.01	Closed fracture of C1-C4 level with complete lesion of cord	ICD-9-CM	Diagnosis
806.02	Closed fracture of C1-C4 level with anterior cord syndrome	ICD-9-CM	Diagnosis
806.03	Closed fracture of C1-C4 level with central cord syndrome	ICD-9-CM	Diagnosis
806.04	Closed fracture of C1-C4 level with other specified spinal cord injury	ICD-9-CM	Diagnosis
806.05	Closed fracture of C5-C7 level with unspecified spinal cord injury	ICD-9-CM	Diagnosis

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Code	Description	Code Type	Code Category
806.06	Closed fracture of C5-C7 level with complete lesion of cord	ICD-9-CM	Diagnosis
806.07	Closed fracture of C5-C7 level with anterior cord syndrome	ICD-9-CM	Diagnosis
806.08	Closed fracture of C5-C7 level with central cord syndrome	ICD-9-CM	Diagnosis
806.09	Closed fracture of C5-C7 level with other specified spinal cord injury	ICD-9-CM	Diagnosis
806.1	Open fracture of cervical vertebra with spinal cord injury	ICD-9-CM	Diagnosis
806.10	Open fracture of C1-C4 level with unspecified spinal cord injury	ICD-9-CM	Diagnosis
806.11	Open fracture of C1-C4 level with complete lesion of cord	ICD-9-CM	Diagnosis
806.12	Open fracture of C1-C4 level with anterior cord syndrome	ICD-9-CM	Diagnosis
806.13	Open fracture of C1-C4 level with central cord syndrome	ICD-9-CM	Diagnosis
806.14	Open fracture of C1-C4 level with other specified spinal cord injury	ICD-9-CM	Diagnosis
806.15	Open fracture of C5-C7 level with unspecified spinal cord injury	ICD-9-CM	Diagnosis
806.16	Open fracture of C5-C7 level with complete lesion of cord	ICD-9-CM	Diagnosis
806.17	Open fracture of C5-C7 level with anterior cord syndrome	ICD-9-CM	Diagnosis
806.18	Open fracture of C5-C7 level with central cord syndrome	ICD-9-CM	Diagnosis
806.19	Open fracture of C5-C7 level with other specified spinal cord injury	ICD-9-CM	Diagnosis
806.2	Closed fracture of dorsal (thoracic) vertebra with spinal cord injury	ICD-9-CM	Diagnosis
806.20	Closed fracture of T1-T6 level with unspecified spinal cord injury	ICD-9-CM	Diagnosis
806.21	Closed fracture of T1-T6 level with complete lesion of cord	ICD-9-CM	Diagnosis
806.22	Closed fracture of T1-T6 level with anterior cord syndrome	ICD-9-CM	Diagnosis
806.23	Closed fracture of T1-T6 level with central cord syndrome	ICD-9-CM	Diagnosis
806.24	Closed fracture of T1-T6 level with other specified spinal cord injury	ICD-9-CM	Diagnosis
806.25	Closed fracture of T7-T12 level with unspecified spinal cord injury	ICD-9-CM	Diagnosis
806.26	Closed fracture of T7-T12 level with complete lesion of cord	ICD-9-CM	Diagnosis
806.27	Closed fracture of T7-T12 level with anterior cord syndrome	ICD-9-CM	Diagnosis
806.28	Closed fracture of T7-T12 level with central cord syndrome	ICD-9-CM	Diagnosis
806.29	Closed fracture of T7-T12 level with other specified spinal cord injury	ICD-9-CM	Diagnosis
806.3	Open fracture of dorsal vertebra with spinal cord injury	ICD-9-CM	Diagnosis
806.30	Open fracture of T1-T6 level with unspecified spinal cord injury	ICD-9-CM	Diagnosis
806.31	Open fracture of T1-T6 level with complete lesion of cord	ICD-9-CM	Diagnosis
806.32	Open fracture of T1-T6 level with anterior cord syndrome	ICD-9-CM	Diagnosis
806.33	Open fracture of T1-T6 level with central cord syndrome	ICD-9-CM	Diagnosis
806.34	Open fracture of T1-T6 level with other specified spinal cord injury	ICD-9-CM	Diagnosis
806.35	Open fracture of T7-T12 level with unspecified spinal cord injury	ICD-9-CM	Diagnosis
806.36	Open fracture of T7-T12 level with complete lesion of cord	ICD-9-CM	Diagnosis
806.37	Open fracture of T7-T12 level with anterior cord syndrome	ICD-9-CM	Diagnosis
806.38	Open fracture of T7-T12 level with central cord syndrome	ICD-9-CM	Diagnosis
806.39	Open fracture of T7-T12 level with other specified spinal cord injury	ICD-9-CM	Diagnosis
806.4	Closed fracture of lumbar spine with spinal cord injury	ICD-9-CM	Diagnosis
806.5	Open fracture of lumbar spine with spinal cord injury	ICD-9-CM	Diagnosis
806.6	Closed fracture of sacrum and coccyx with spinal cord injury	ICD-9-CM	Diagnosis
806.60	Closed fracture of sacrum and coccyx with unspecified spinal cord injury	ICD-9-CM	Diagnosis
806.61	Closed fracture of sacrum and coccyx with complete cauda equina lesion	ICD-9-CM	Diagnosis
806.62	Closed fracture of sacrum and coccyx with other cauda equina injury	ICD-9-CM	Diagnosis
806.69	Closed fracture of sacrum and coccyx with other spinal cord injury	ICD-9-CM	Diagnosis
806.7	Open fracture of sacrum and coccyx with spinal cord injury	ICD-9-CM	Diagnosis

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Code	Description	Code Type	Code Category
806.70	Open fracture of sacrum and coccyx with unspecified spinal cord injury	ICD-9-CM	Diagnosis
806.71	Open fracture of sacrum and coccyx with complete cauda equina lesion	ICD-9-CM	Diagnosis
806.72	Open fracture of sacrum and coccyx with other cauda equina injury	ICD-9-CM	Diagnosis
806.79	Open fracture of sacrum and coccyx with other spinal cord injury	ICD-9-CM	Diagnosis
806.8	Closed fracture of unspecified vertebra with spinal cord injury	ICD-9-CM	Diagnosis
806.9	Open fracture of unspecified vertebra with spinal cord injury	ICD-9-CM	Diagnosis
807	Fracture of rib(s), sternum, larynx, and trachea	ICD-9-CM	Diagnosis
807.0	Closed fracture of rib(s)	ICD-9-CM	Diagnosis
807.00	Closed fracture of rib(s), unspecified	ICD-9-CM	Diagnosis
807.01	Closed fracture of one rib	ICD-9-CM	Diagnosis
807.02	Closed fracture of two ribs	ICD-9-CM	Diagnosis
807.03	Closed fracture of three ribs	ICD-9-CM	Diagnosis
807.04	Closed fracture of four ribs	ICD-9-CM	Diagnosis
807.05	Closed fracture of five ribs	ICD-9-CM	Diagnosis
807.06	Closed fracture of six ribs	ICD-9-CM	Diagnosis
807.07	Closed fracture of seven ribs	ICD-9-CM	Diagnosis
807.08	Closed fracture of eight or more ribs	ICD-9-CM	Diagnosis
807.09	Closed fracture of multiple ribs, unspecified	ICD-9-CM	Diagnosis
807.1	Open fracture of rib(s)	ICD-9-CM	Diagnosis
807.10	Open fracture of rib(s), unspecified	ICD-9-CM	Diagnosis
807.11	Open fracture of one rib	ICD-9-CM	Diagnosis
807.12	Open fracture of two ribs	ICD-9-CM	Diagnosis
807.13	Open fracture of three ribs	ICD-9-CM	Diagnosis
807.14	Open fracture of four ribs	ICD-9-CM	Diagnosis
807.15	Open fracture of five ribs	ICD-9-CM	Diagnosis
807.16	Open fracture of six ribs	ICD-9-CM	Diagnosis
807.17	Open fracture of seven ribs	ICD-9-CM	Diagnosis
807.18	Open fracture of eight or more ribs	ICD-9-CM	Diagnosis
807.19	Open fracture of multiple ribs, unspecified	ICD-9-CM	Diagnosis
807.2	Closed fracture of sternum	ICD-9-CM	Diagnosis
807.3	Open fracture of sternum	ICD-9-CM	Diagnosis
807.4	Flail chest	ICD-9-CM	Diagnosis
808	Fracture of pelvis	ICD-9-CM	Diagnosis
808.0	Closed fracture of acetabulum	ICD-9-CM	Diagnosis
808.1	Open fracture of acetabulum	ICD-9-CM	Diagnosis
808.2	Closed fracture of pubis	ICD-9-CM	Diagnosis
808.3	Open fracture of pubis	ICD-9-CM	Diagnosis
808.4	Closed fracture of other specified part of pelvis	ICD-9-CM	Diagnosis
808.41	Closed fracture of ilium	ICD-9-CM	Diagnosis
808.42	Closed fracture of ischium	ICD-9-CM	Diagnosis
808.43	Multiple closed pelvic fractures with disruption of pelvic circle	ICD-9-CM	Diagnosis
808.44	Multiple closed pelvic fractures without disruption of pelvic circle	ICD-9-CM	Diagnosis
808.49	Closed fracture of other specified part of pelvis	ICD-9-CM	Diagnosis
808.5	Open fracture of other specified part of pelvis	ICD-9-CM	Diagnosis
808.51	Open fracture of ilium	ICD-9-CM	Diagnosis

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Code	Description	Code Type	Code Category
808.52	Open fracture of ischium	ICD-9-CM	Diagnosis
808.53	Multiple open pelvic fractures with disruption of pelvic circle	ICD-9-CM	Diagnosis
808.54	Multiple open pelvic fractures without disruption of pelvic circle	ICD-9-CM	Diagnosis
808.59	Open fracture of other specified part of pelvis	ICD-9-CM	Diagnosis
808.8	Unspecified closed fracture of pelvis	ICD-9-CM	Diagnosis
808.9	Unspecified open fracture of pelvis	ICD-9-CM	Diagnosis
809	Ill-defined fractures of bones of trunk	ICD-9-CM	Diagnosis
809.0	Fracture of bones of trunk, closed	ICD-9-CM	Diagnosis
809.1	Fracture of bones of trunk, open	ICD-9-CM	Diagnosis
81.65	Percutaneous vertebroplasty	ICD-9-CM	Diagnosis
81.66	Percutaneous vertebral augmentation	ICD-9-CM	Diagnosis
810	Fracture of clavicle	ICD-9-CM	Diagnosis
810.0	Closed fracture of clavicle	ICD-9-CM	Diagnosis
810.00	Unspecified part of closed fracture of clavicle	ICD-9-CM	Diagnosis
810.01	Closed fracture of sternal end of clavicle	ICD-9-CM	Diagnosis
810.02	Closed fracture of shaft of clavicle	ICD-9-CM	Diagnosis
810.03	Closed fracture of acromial end of clavicle	ICD-9-CM	Diagnosis
810.1	Open fracture of clavicle	ICD-9-CM	Diagnosis
810.10	Unspecified part of open fracture of clavicle	ICD-9-CM	Diagnosis
810.11	Open fracture of sternal end of clavicle	ICD-9-CM	Diagnosis
810.12	Open fracture of shaft of clavicle	ICD-9-CM	Diagnosis
810.13	Open fracture of acromial end of clavicle	ICD-9-CM	Diagnosis
811	Fracture of scapula	ICD-9-CM	Diagnosis
811.0	Closed fracture of scapula	ICD-9-CM	Diagnosis
811.00	Closed fracture of unspecified part of scapula	ICD-9-CM	Diagnosis
811.01	Closed fracture of acromial process of scapula	ICD-9-CM	Diagnosis
811.02	Closed fracture of coracoid process of scapula	ICD-9-CM	Diagnosis
811.03	Closed fracture of glenoid cavity and neck of scapula	ICD-9-CM	Diagnosis
811.09	Closed fracture of other part of scapula	ICD-9-CM	Diagnosis
811.1	Open fracture of scapula	ICD-9-CM	Diagnosis
811.10	Open fracture of unspecified part of scapula	ICD-9-CM	Diagnosis
811.11	Open fracture of acromial process of scapula	ICD-9-CM	Diagnosis
811.12	Open fracture of coracoid process	ICD-9-CM	Diagnosis
811.13	Open fracture of glenoid cavity and neck of scapula	ICD-9-CM	Diagnosis
811.19	Open fracture of other part of scapula	ICD-9-CM	Diagnosis
812	Fracture of humerus	ICD-9-CM	Diagnosis
812.0	Closed fracture of upper end of humerus	ICD-9-CM	Diagnosis
812.00	Closed fracture of unspecified part of upper end of humerus	ICD-9-CM	Diagnosis
812.01	Closed fracture of surgical neck of humerus	ICD-9-CM	Diagnosis
812.02	Closed fracture of anatomical neck of humerus	ICD-9-CM	Diagnosis
812.03	Closed fracture of greater tuberosity of humerus	ICD-9-CM	Diagnosis
812.09	Other closed fractures of upper end of humerus	ICD-9-CM	Diagnosis
812.1	Open fracture of upper end of humerus	ICD-9-CM	Diagnosis
812.10	Open fracture of unspecified part of upper end of humerus	ICD-9-CM	Diagnosis
812.11	Open fracture of surgical neck of humerus	ICD-9-CM	Diagnosis

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Code	Description	Code Type	Code Category
812.12	Open fracture of anatomical neck of humerus	ICD-9-CM	Diagnosis
812.13	Open fracture of greater tuberosity of humerus	ICD-9-CM	Diagnosis
812.19	Other open fracture of upper end of humerus	ICD-9-CM	Diagnosis
812.2	Closed fracture of shaft or unspecified part of humerus	ICD-9-CM	Diagnosis
812.20	Closed fracture of unspecified part of humerus	ICD-9-CM	Diagnosis
812.21	Closed fracture of shaft of humerus	ICD-9-CM	Diagnosis
812.3	Open fracture of shaft or unspecified part of humerus	ICD-9-CM	Diagnosis
812.30	Open fracture of unspecified part of humerus	ICD-9-CM	Diagnosis
812.31	Open fracture of shaft of humerus	ICD-9-CM	Diagnosis
812.4	Closed fracture of lower end of humerus	ICD-9-CM	Diagnosis
812.40	Closed fracture of unspecified part of lower end of humerus	ICD-9-CM	Diagnosis
812.41	Closed fracture of supracondylar humerus	ICD-9-CM	Diagnosis
812.42	Closed fracture of lateral condyle of humerus	ICD-9-CM	Diagnosis
812.43	Closed fracture of medial condyle of humerus	ICD-9-CM	Diagnosis
812.44	Closed fracture of unspecified condyle(s) of humerus	ICD-9-CM	Diagnosis
812.49	Other closed fracture of lower end of humerus	ICD-9-CM	Diagnosis
812.5	Open fracture of lower end of humerus	ICD-9-CM	Diagnosis
812.50	Open fracture of unspecified part of lower end of humerus	ICD-9-CM	Diagnosis
812.51	Open fracture of supracondylar humerus	ICD-9-CM	Diagnosis
812.52	Open fracture of lateral condyle of humerus	ICD-9-CM	Diagnosis
812.53	Open fracture of medial condyle of humerus	ICD-9-CM	Diagnosis
812.54	Open fracture of unspecified condyle(s) of humerus	ICD-9-CM	Diagnosis
812.59	Other open fracture of lower end of humerus	ICD-9-CM	Diagnosis
813	Fracture of radius and ulna	ICD-9-CM	Diagnosis
813.0	Closed fracture of upper end of radius and ulna	ICD-9-CM	Diagnosis
813.00	Unspecified fracture of radius and ulna, upper end of forearm, closed	ICD-9-CM	Diagnosis
813.01	Closed fracture of olecranon process of ulna	ICD-9-CM	Diagnosis
813.02	Closed fracture of coronoid process of ulna	ICD-9-CM	Diagnosis
813.03	Closed Monteggia's fracture	ICD-9-CM	Diagnosis
813.04	Other and unspecified closed fractures of proximal end of ulna (alone)	ICD-9-CM	Diagnosis
813.05	Closed fracture of head of radius	ICD-9-CM	Diagnosis
813.06	Closed fracture of neck of radius	ICD-9-CM	Diagnosis
813.07	Other and unspecified closed fractures of proximal end of radius (alone)	ICD-9-CM	Diagnosis
813.08	Closed fracture of radius with ulna, upper end (any part)	ICD-9-CM	Diagnosis
813.1	Open fracture of upper end of radius and ulna	ICD-9-CM	Diagnosis
813.10	Unspecified open fracture of upper end of forearm	ICD-9-CM	Diagnosis
813.11	Open fracture of olecranon process of ulna	ICD-9-CM	Diagnosis
813.12	Open fracture of coronoid process of ulna	ICD-9-CM	Diagnosis
813.13	Open Monteggia's fracture	ICD-9-CM	Diagnosis
813.14	Other and unspecified open fractures of proximal end of ulna (alone)	ICD-9-CM	Diagnosis
813.15	Open fracture of head of radius	ICD-9-CM	Diagnosis
813.16	Open fracture of neck of radius	ICD-9-CM	Diagnosis
813.17	Other and unspecified open fractures of proximal end of radius (alone)	ICD-9-CM	Diagnosis
813.18	Open fracture of radius with ulna, upper end (any part)	ICD-9-CM	Diagnosis
813.2	Closed fracture of shaft of radius and ulna	ICD-9-CM	Diagnosis

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Code	Description	Code Type	Code Category
813.20	Unspecified closed fracture of shaft of radius or ulna	ICD-9-CM	Diagnosis
813.21	Closed fracture of shaft of radius (alone)	ICD-9-CM	Diagnosis
813.22	Closed fracture of shaft of ulna (alone)	ICD-9-CM	Diagnosis
813.23	Closed fracture of shaft of radius with ulna	ICD-9-CM	Diagnosis
813.3	Open fracture of shaft of radius and ulna	ICD-9-CM	Diagnosis
813.30	Unspecified open fracture of shaft of radius or ulna	ICD-9-CM	Diagnosis
813.31	Open fracture of shaft of radius (alone)	ICD-9-CM	Diagnosis
813.32	Open fracture of shaft of ulna (alone)	ICD-9-CM	Diagnosis
813.33	Open fracture of shaft of radius with ulna	ICD-9-CM	Diagnosis
813.4	Closed fracture of lower end of radius and ulna	ICD-9-CM	Diagnosis
813.40	Unspecified closed fracture of lower end of forearm	ICD-9-CM	Diagnosis
813.41	Closed Colles' fracture	ICD-9-CM	Diagnosis
813.42	Other closed fractures of distal end of radius (alone)	ICD-9-CM	Diagnosis
813.43	Closed fracture of distal end of ulna (alone)	ICD-9-CM	Diagnosis
813.44	Closed fracture of lower end of radius with ulna	ICD-9-CM	Diagnosis
813.45	Torus fracture of radius (alone)	ICD-9-CM	Diagnosis
813.46	Torus fracture of ulna (alone)	ICD-9-CM	Diagnosis
813.47	Torus fracture of radius and ulna	ICD-9-CM	Diagnosis
813.5	Open fracture of lower end of radius and ulna	ICD-9-CM	Diagnosis
813.50	Unspecified open fracture of lower end of forearm	ICD-9-CM	Diagnosis
813.51	Open Colles' fracture	ICD-9-CM	Diagnosis
813.52	Other open fractures of distal end of radius (alone)	ICD-9-CM	Diagnosis
813.53	Open fracture of distal end of ulna (alone)	ICD-9-CM	Diagnosis
813.54	Open fracture of lower end of radius with ulna	ICD-9-CM	Diagnosis
813.8	Closed fracture of unspecified part of radius with ulna	ICD-9-CM	Diagnosis
813.80	Closed fracture of unspecified part of forearm	ICD-9-CM	Diagnosis
813.81	Closed fracture of unspecified part of radius (alone)	ICD-9-CM	Diagnosis
813.82	Closed fracture of unspecified part of ulna (alone)	ICD-9-CM	Diagnosis
813.83	Closed fracture of unspecified part of radius with ulna	ICD-9-CM	Diagnosis
813.9	Open fracture of unspecified part of radius with ulna	ICD-9-CM	Diagnosis
813.90	Open fracture of unspecified part of forearm	ICD-9-CM	Diagnosis
813.91	Open fracture of unspecified part of radius (alone)	ICD-9-CM	Diagnosis
813.92	Open fracture of unspecified part of ulna (alone)	ICD-9-CM	Diagnosis
813.93	Open fracture of unspecified part of radius with ulna	ICD-9-CM	Diagnosis
814	Fracture of carpal bone(s)	ICD-9-CM	Diagnosis
814.0	Closed fractures of carpal bones	ICD-9-CM	Diagnosis
814.00	Unspecified closed fracture of carpal bone	ICD-9-CM	Diagnosis
814.01	Closed fracture of navicular (scaphoid) bone of wrist	ICD-9-CM	Diagnosis
814.02	Closed fracture of lunate (semilunar) bone of wrist	ICD-9-CM	Diagnosis
814.03	Closed fracture of triquetral (cuneiform) bone of wrist	ICD-9-CM	Diagnosis
814.04	Closed fracture of pisiform bone of wrist	ICD-9-CM	Diagnosis
814.05	Closed fracture of trapezium bone (larger multangular) of wrist	ICD-9-CM	Diagnosis
814.06	Closed fracture of trapezoid bone (smaller multangular) of wrist	ICD-9-CM	Diagnosis
814.07	Closed fracture of capitate bone (os magnum) of wrist	ICD-9-CM	Diagnosis
814.08	Closed fracture of hamate (unciform) bone of wrist	ICD-9-CM	Diagnosis

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Code	Description	Code Type	Code Category
814.09	Closed fracture of other bone of wrist	ICD-9-CM	Diagnosis
814.1	Open fractures of carpal bones	ICD-9-CM	Diagnosis
814.10	Unspecified open fracture of carpal bone	ICD-9-CM	Diagnosis
814.11	Open fracture of navicular (scaphoid) bone of wrist	ICD-9-CM	Diagnosis
814.12	Open fracture of lunate (semilunar) bone of wrist	ICD-9-CM	Diagnosis
814.13	Open fracture of triquetral (cuneiform) bone of wrist	ICD-9-CM	Diagnosis
814.14	Open fracture of pisiform bone of wrist	ICD-9-CM	Diagnosis
814.15	Open fracture of trapezium bone (larger multangular) of wrist	ICD-9-CM	Diagnosis
814.16	Open fracture of trapezoid bone (smaller multangular) of wrist	ICD-9-CM	Diagnosis
814.17	Open fracture of capitate bone (os magnum) of wrist	ICD-9-CM	Diagnosis
814.18	Open fracture of hamate (unciform) bone of wrist	ICD-9-CM	Diagnosis
814.19	Open fracture of other bone of wrist	ICD-9-CM	Diagnosis
815	Fracture of metacarpal bone(s)	ICD-9-CM	Diagnosis
815.0	Closed fracture of metacarpal bones	ICD-9-CM	Diagnosis
815.00	Closed fracture of metacarpal bone(s), site unspecified	ICD-9-CM	Diagnosis
815.01	Closed fracture of base of thumb (first) metacarpal bone(s)	ICD-9-CM	Diagnosis
815.02	Closed fracture of base of other metacarpal bone(s)	ICD-9-CM	Diagnosis
815.03	Closed fracture of shaft of metacarpal bone(s)	ICD-9-CM	Diagnosis
815.04	Closed fracture of neck of metacarpal bone(s)	ICD-9-CM	Diagnosis
815.09	Closed fracture of multiple sites of metacarpus	ICD-9-CM	Diagnosis
815.1	Open fracture of metacarpal bones	ICD-9-CM	Diagnosis
815.10	Open fracture of metacarpal bone(s), site unspecified	ICD-9-CM	Diagnosis
815.11	Open fracture of base of thumb (first) metacarpal bone(s)	ICD-9-CM	Diagnosis
815.12	Open fracture of base of other metacarpal bone(s)	ICD-9-CM	Diagnosis
815.13	Open fracture of shaft of metacarpal bone(s)	ICD-9-CM	Diagnosis
815.14	Open fracture of neck of metacarpal bone(s)	ICD-9-CM	Diagnosis
815.19	Open fracture of multiple sites of metacarpus	ICD-9-CM	Diagnosis
818	Ill-defined fractures of upper limb	ICD-9-CM	Diagnosis
818.0	Ill-defined closed fractures of upper limb	ICD-9-CM	Diagnosis
818.1	Ill-defined open fractures of upper limb	ICD-9-CM	Diagnosis
819	Multiple fractures involving both upper limbs, and upper limb with rib(s) and sternum	ICD-9-CM	Diagnosis
819.0	Multiple closed fractures involving both upper limbs, and upper limb with rib(s) and sternum	ICD-9-CM	Diagnosis
819.1	Multiple open fractures involving both upper limbs, and upper limb with rib(s) and sternum	ICD-9-CM	Diagnosis
820	Fracture of neck of femur	ICD-9-CM	Diagnosis
820.0	Closed transcervical fracture	ICD-9-CM	Diagnosis
820.00	Closed fracture of unspecified intracapsular section of neck of femur	ICD-9-CM	Diagnosis
820.01	Closed fracture of epiphysis (separation) (upper) of neck of femur	ICD-9-CM	Diagnosis
820.02	Closed fracture of midcervical section of femur	ICD-9-CM	Diagnosis
820.03	Closed fracture of base of neck of femur	ICD-9-CM	Diagnosis
820.09	Other closed transcervical fracture of femur	ICD-9-CM	Diagnosis
820.1	Open transcervical fracture	ICD-9-CM	Diagnosis
820.10	Open fracture of unspecified intracapsular section of neck of femur	ICD-9-CM	Diagnosis

Appendix F. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), Current Procedural Terminology, Fourth Edition (CPT-4, Category I-III), and Healthcare Common Procedure Coding System (HCPCS) Diagnosis and Procedure Codes Used to Define Covariates and Subgroup Criteria in this Report

Code	Description	Code Type	Code Category
820.11	Open fracture of epiphysis (separation) (upper) of neck of femur	ICD-9-CM	Diagnosis
820.12	Open fracture of midcervical section of femur	ICD-9-CM	Diagnosis
820.13	Open fracture of base of neck of femur	ICD-9-CM	Diagnosis
820.19	Other open transcervical fracture of femur	ICD-9-CM	Diagnosis
820.2	Closed pertrochanteric fracture of femur	ICD-9-CM	Diagnosis
820.20	Closed fracture of unspecified trochanteric section of femur	ICD-9-CM	Diagnosis
820.21	Closed fracture of intertrochanteric section of femur	ICD-9-CM	Diagnosis
820.22	Closed fracture of subtrochanteric section of femur	ICD-9-CM	Diagnosis
820.3	Open pertrochanteric fracture of femur	ICD-9-CM	Diagnosis
820.30	Open fracture of unspecified trochanteric section of femur	ICD-9-CM	Diagnosis
820.31	Open fracture of intertrochanteric section of femur	ICD-9-CM	Diagnosis
820.32	Open fracture of subtrochanteric section of femur	ICD-9-CM	Diagnosis
820.8	Closed fracture of unspecified part of neck of femur	ICD-9-CM	Diagnosis
820.9	Open fracture of unspecified part of neck of femur	ICD-9-CM	Diagnosis
821	Fracture of other and unspecified parts of femur	ICD-9-CM	Diagnosis
821.0	Closed fracture of shaft or unspecified part of femur	ICD-9-CM	Diagnosis
821.00	Closed fracture of unspecified part of femur	ICD-9-CM	Diagnosis
821.01	Closed fracture of shaft of femur	ICD-9-CM	Diagnosis
821.1	Open fracture of shaft or unspecified part of femur	ICD-9-CM	Diagnosis
821.10	Open fracture of unspecified part of femur	ICD-9-CM	Diagnosis
821.11	Open fracture of shaft of femur	ICD-9-CM	Diagnosis
821.2	Closed fracture of lower end of femur	ICD-9-CM	Diagnosis
821.20	Closed fracture of unspecified part of lower end of femur	ICD-9-CM	Diagnosis
821.21	Closed fracture of femoral condyle	ICD-9-CM	Diagnosis
821.22	Closed fracture of lower epiphysis of femur	ICD-9-CM	Diagnosis
821.23	Closed supracondylar fracture of femur	ICD-9-CM	Diagnosis
821.29	Other closed fracture of lower end of femur	ICD-9-CM	Diagnosis
821.3	Open fracture of lower end of femur	ICD-9-CM	Diagnosis
821.30	Open fracture of unspecified part of lower end of femur	ICD-9-CM	Diagnosis
821.31	Open fracture of femoral condyle	ICD-9-CM	Diagnosis
821.32	Open fracture of lower epiphysis of femur	ICD-9-CM	Diagnosis
821.33	Open supracondylar fracture of femur	ICD-9-CM	Diagnosis
821.39	Other open fracture of lower end of femur	ICD-9-CM	Diagnosis
822	Fracture of patella	ICD-9-CM	Diagnosis
822.0	Closed fracture of patella	ICD-9-CM	Diagnosis
822.1	Open fracture of patella	ICD-9-CM	Diagnosis
823	Fracture of tibia and fibula	ICD-9-CM	Diagnosis
823.0	Closed fracture of upper end of tibia and fibula	ICD-9-CM	Diagnosis
823.00	Closed fracture of upper end of tibia	ICD-9-CM	Diagnosis
823.01	Closed fracture of upper end of fibula	ICD-9-CM	Diagnosis
823.02	Closed fracture of upper end of fibula with tibia	ICD-9-CM	Diagnosis
823.1	Open fracture of upper end of tibia and fibula	ICD-9-CM	Diagnosis
823.10	Open fracture of upper end of tibia	ICD-9-CM	Diagnosis
823.11	Open fracture of upper end of fibula	ICD-9-CM	Diagnosis
823.12	Open fracture of upper end of fibula with tibia	ICD-9-CM	Diagnosis

Appendix F. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), Current Procedural Terminology, Fourth Edition (CPT-4, Category I-III), and Healthcare Common Procedure Coding System (HCPCS) Diagnosis and Procedure Codes Used to Define Covariates and Subgroup Criteria in this Report

Code	Description	Code Type	Code Category
823.2	Closed fracture of shaft of tibia and fibula	ICD-9-CM	Diagnosis
823.20	Closed fracture of shaft of tibia	ICD-9-CM	Diagnosis
823.21	Closed fracture of shaft of fibula	ICD-9-CM	Diagnosis
823.22	Closed fracture of shaft of fibula with tibia	ICD-9-CM	Diagnosis
823.3	Open fracture of shaft of tibia and fibula	ICD-9-CM	Diagnosis
823.30	Open fracture of shaft of tibia	ICD-9-CM	Diagnosis
823.31	Open fracture of shaft of fibula	ICD-9-CM	Diagnosis
823.32	Open fracture of shaft of fibula with tibia	ICD-9-CM	Diagnosis
823.4	Torus fracture of tibia and fibula	ICD-9-CM	Diagnosis
823.40	Torus fracture of tibia alone	ICD-9-CM	Diagnosis
823.41	Torus fracture of fibula alone	ICD-9-CM	Diagnosis
823.42	Torus fracture of fibula with tibia	ICD-9-CM	Diagnosis
823.8	Closed fracture of unspecified part of tibia and fibula	ICD-9-CM	Diagnosis
823.80	Closed fracture of unspecified part of tibia	ICD-9-CM	Diagnosis
823.81	Closed fracture of unspecified part of fibula	ICD-9-CM	Diagnosis
823.82	Closed fracture of unspecified part of fibula with tibia	ICD-9-CM	Diagnosis
823.9	Open fracture of unspecified part of tibia and fibula	ICD-9-CM	Diagnosis
823.90	Open fracture of unspecified part of tibia	ICD-9-CM	Diagnosis
823.91	Open fracture of unspecified part of fibula	ICD-9-CM	Diagnosis
823.92	Open fracture of unspecified part of fibula with tibia	ICD-9-CM	Diagnosis
824	Fracture of ankle	ICD-9-CM	Diagnosis
824.0	Closed fracture of medial malleolus	ICD-9-CM	Diagnosis
824.1	Open fracture of medial malleolus	ICD-9-CM	Diagnosis
824.2	Closed fracture of lateral malleolus	ICD-9-CM	Diagnosis
824.3	Open fracture of lateral malleolus	ICD-9-CM	Diagnosis
824.4	Closed bimalleolar fracture	ICD-9-CM	Diagnosis
824.5	Open bimalleolar fracture	ICD-9-CM	Diagnosis
824.6	Closed trimalleolar fracture	ICD-9-CM	Diagnosis
824.7	Open trimalleolar fracture	ICD-9-CM	Diagnosis
824.8	Unspecified closed fracture of ankle	ICD-9-CM	Diagnosis
824.9	Unspecified open fracture of ankle	ICD-9-CM	Diagnosis
825	Fracture of one or more tarsal and metatarsal bones	ICD-9-CM	Diagnosis
825.0	Closed fracture of calcaneus	ICD-9-CM	Diagnosis
825.1	Open fracture of calcaneus	ICD-9-CM	Diagnosis
825.2	Closed fracture of other tarsal and metatarsal bones	ICD-9-CM	Diagnosis
825.20	Closed fracture of unspecified bone(s) of foot (except toes)	ICD-9-CM	Diagnosis
825.21	Closed fracture of astragalus	ICD-9-CM	Diagnosis
825.22	Closed fracture of navicular (scaphoid) bone of foot	ICD-9-CM	Diagnosis
825.23	Closed fracture of cuboid bone	ICD-9-CM	Diagnosis
825.24	Closed fracture of cuneiform bone of foot	ICD-9-CM	Diagnosis
825.25	Closed fracture of metatarsal bone(s)	ICD-9-CM	Diagnosis
825.29	Other closed fracture of tarsal and metatarsal bones	ICD-9-CM	Diagnosis
825.3	Open fracture of other tarsal and metatarsal bones	ICD-9-CM	Diagnosis
825.30	Open fracture of unspecified bone(s) of foot (except toes)	ICD-9-CM	Diagnosis
825.31	Open fracture of astragalus	ICD-9-CM	Diagnosis

Appendix F. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), Current Procedural Terminology, Fourth Edition (CPT-4, Category I-III), and Healthcare Common Procedure Coding System (HCPCS) Diagnosis and Procedure Codes Used to Define Covariates and Subgroup Criteria in this Report

Code	Description	Code Type	Code Category
825.32	Open fracture of navicular (scaphoid) bone of foot	ICD-9-CM	Diagnosis
825.33	Open fracture of cuboid bone	ICD-9-CM	Diagnosis
825.34	Open fracture of cuneiform bone of foot,	ICD-9-CM	Diagnosis
825.35	Open fracture of metatarsal bone(s)	ICD-9-CM	Diagnosis
825.39	Other open fractures of tarsal and metatarsal bones	ICD-9-CM	Diagnosis
827	Other, multiple, and ill-defined fractures of lower limb	ICD-9-CM	Diagnosis
827.0	Other, multiple and ill-defined closed fractures of lower limb	ICD-9-CM	Diagnosis
827.1	Other, multiple and ill-defined open fractures of lower limb	ICD-9-CM	Diagnosis
828	Multiple fractures involving both lower limbs, lower with upper limb, and lower limb(s) with rib(s) and sternum	ICD-9-CM	Diagnosis
828.0	Multiple closed fractures involving both lower limbs, lower with upper limb, and lower limb(s) with rib(s) and sternum	ICD-9-CM	Diagnosis
828.1	Multiple fractures involving both lower limbs, lower with upper limb, and lower limb(s) with rib(s) and sternum, open	ICD-9-CM	Diagnosis
V54.13	Aftercare for healing traumatic fracture of hip	ICD-9-CM	Diagnosis
V54.23	Aftercare for healing pathologic fracture of hip	ICD-9-CM	Diagnosis
Human Immunodeficiency Virus or Acquired Immunodeficiency Syndrome			
042	Human immunodeficiency virus [HIV]	ICD-9-CM	Diagnosis
043	HIV infection causing other specified conditions	ICD-9-CM	Diagnosis
043.1	HIV infection causing lymphadenopathy	ICD-9-CM	Diagnosis
043.2	HIV infection causing other disorders involving the immune mechanism	ICD-9-CM	Diagnosis
043.3	HIV infection causing other specified conditions	ICD-9-CM	Diagnosis
043.9	AIDS related complex, unspecified	ICD-9-CM	Diagnosis
044	Other HIV infection	ICD-9-CM	Diagnosis
044.0	Other HIV infection	ICD-9-CM	Diagnosis
044.9	HIV infection, unspecified	ICD-9-CM	Diagnosis
795.71	Nonspecific serologic evidence of human immunodeficiency virus (HIV)	ICD-9-CM	Diagnosis
V08	Asymptomatic human immunodeficiency virus (HIV) infection status	ICD-9-CM	Diagnosis
Hyperlipidemia or Lipid Disorder			
272.0	Pure hypercholesterolemia	ICD-9-CM	Diagnosis
272.1	Pure hyperglyceridemia	ICD-9-CM	Diagnosis
272.2	Mixed hyperlipidemia	ICD-9-CM	Diagnosis
272.4	Other and unspecified hyperlipidemia	ICD-9-CM	Diagnosis
Hypertension			
401	Essential hypertension	ICD-9-CM	Diagnosis
401.0	Essential hypertension, malignant	ICD-9-CM	Diagnosis
401.1	Essential hypertension, benign	ICD-9-CM	Diagnosis
401.9	Unspecified essential hypertension	ICD-9-CM	Diagnosis
402	Hypertensive heart disease	ICD-9-CM	Diagnosis
402.0	Malignant hypertensive heart disease	ICD-9-CM	Diagnosis
402.00	Malignant hypertensive heart disease without heart failure	ICD-9-CM	Diagnosis
402.1	Benign hypertensive heart disease	ICD-9-CM	Diagnosis
402.10	Benign hypertensive heart disease without heart failure	ICD-9-CM	Diagnosis
402.9	Unspecified hypertensive heart disease	ICD-9-CM	Diagnosis
402.90	Unspecified hypertensive heart disease without heart failure	ICD-9-CM	Diagnosis

Appendix F. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), Current Procedural Terminology, Fourth Edition (CPT-4, Category I-III), and Healthcare Common Procedure Coding System (HCPCS) Diagnosis and Procedure Codes Used to Define Covariates and Subgroup Criteria in this Report

Code	Description	Code Type	Code Category
403	Hypertensive chronic kidney disease	ICD-9-CM	Diagnosis
403.0	Hypertensive chronic kidney disease, malignant	ICD-9-CM	Diagnosis
403.00	Hypertensive chronic kidney disease, malignant, with chronic kidney disease stage I through stage IV, or unspecified	ICD-9-CM	Diagnosis
403.01	Hypertensive chronic kidney disease, malignant, with chronic kidney disease stage V or end stage renal disease	ICD-9-CM	Diagnosis
403.1	Hypertensive chronic kidney disease, benign	ICD-9-CM	Diagnosis
403.10	Hypertensive chronic kidney disease, benign, with chronic kidney disease stage I through stage IV, or unspecified	ICD-9-CM	Diagnosis
403.11	Hypertensive chronic kidney disease, benign, with chronic kidney disease stage V or end stage renal disease	ICD-9-CM	Diagnosis
403.9	Hypertensive chronic kidney disease, unspecified	ICD-9-CM	Diagnosis
403.90	Hypertensive chronic kidney disease, unspecified, with chronic kidney disease stage I through stage IV, or unspecified	ICD-9-CM	Diagnosis
403.91	Hypertensive chronic kidney disease, unspecified, with chronic kidney disease stage V or end stage renal disease	ICD-9-CM	Diagnosis
404	Hypertensive heart and chronic kidney disease	ICD-9-CM	Diagnosis
404.0	Hypertensive heart and chronic kidney disease, malignant	ICD-9-CM	Diagnosis
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	Diagnosis
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	Diagnosis
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	Diagnosis
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	Diagnosis
404.1	Hypertensive heart and chronic kidney disease, benign	ICD-9-CM	Diagnosis
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	Diagnosis
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	Diagnosis
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	Diagnosis
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	Diagnosis
404.9	Hypertensive heart and chronic kidney disease, unspecified	ICD-9-CM	Diagnosis
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	Diagnosis
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	Diagnosis

Appendix F. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), Current Procedural Terminology, Fourth Edition (CPT-4, Category I-III), and Healthcare Common Procedure Coding System (HCPCS) Diagnosis and Procedure Codes Used to Define Covariates and Subgroup Criteria in this Report

Code	Description	Code Type	Code Category
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	Diagnosis
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	Diagnosis
405	Secondary hypertension	ICD-9-CM	Diagnosis
405.0	Secondary hypertension, malignant	ICD-9-CM	Diagnosis
405.01	Secondary renovascular hypertension, malignant	ICD-9-CM	Diagnosis
405.09	Other secondary hypertension, malignant	ICD-9-CM	Diagnosis
405.1	Secondary hypertension, benign	ICD-9-CM	Diagnosis
405.11	Secondary renovascular hypertension, benign	ICD-9-CM	Diagnosis
405.19	Other secondary hypertension, benign	ICD-9-CM	Diagnosis
405.9	Unspecified secondary hypertension, unspecified	ICD-9-CM	Diagnosis
405.91	Secondary renovascular hypertension, unspecified	ICD-9-CM	Diagnosis
405.99	Other secondary hypertension, unspecified	ICD-9-CM	Diagnosis
	Hypoglycemia		
250.8	Diabetes with other specified manifestations	ICD-9-CM	Diagnosis
250.80	Diabetes with other specified manifestations, type II or unspecified type, not stated as uncontrolled	ICD-9-CM	Diagnosis
250.81	Diabetes with other specified manifestations, type I [juvenile type], not stated as uncontrolled	ICD-9-CM	Diagnosis
250.82	Diabetes with other specified manifestations, type II or unspecified type, uncontrolled	ICD-9-CM	Diagnosis
250.83	Diabetes with other specified manifestations, type I [juvenile type], uncontrolled	ICD-9-CM	Diagnosis
251.0	Hypoglycemic coma	ICD-9-CM	Diagnosis
251.1	Other specified hypoglycemia	ICD-9-CM	Diagnosis
251.2	Hypoglycemia, unspecified	ICD-9-CM	Diagnosis
	Obesity (or Weight Gain)		
278.0	Overweight and obesity	ICD-9-CM	Diagnosis
278.00	Obesity, unspecified	ICD-9-CM	Diagnosis
278.01	Morbid obesity	ICD-9-CM	Diagnosis
278.02	Overweight	ICD-9-CM	Diagnosis
278.03	Obesity hypoventilation syndrome	ICD-9-CM	Diagnosis
783.1	Abnormal weight gain	ICD-9-CM	Diagnosis
793.91	Image test inconclusive due to excess body fat	ICD-9-CM	Diagnosis
V85.3	Body Mass Index between 30-39, adult	ICD-9-CM	Diagnosis
V85.30	Body Mass Index 30.0-30.9, adult	ICD-9-CM	Diagnosis
V85.31	Body Mass Index 31.0-31.9, adult	ICD-9-CM	Diagnosis
V85.32	Body Mass Index 32.0-32.9, adult	ICD-9-CM	Diagnosis
V85.33	Body Mass Index 33.0-33.9, adult	ICD-9-CM	Diagnosis
V85.34	Body Mass Index 34.0-34.9, adult	ICD-9-CM	Diagnosis
V85.35	Body Mass Index 35.0-35.9, adult	ICD-9-CM	Diagnosis
V85.36	Body Mass Index 36.0-36.9, adult	ICD-9-CM	Diagnosis
V85.37	Body Mass Index 37.0-37.9, adult	ICD-9-CM	Diagnosis

Appendix F. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), Current Procedural Terminology, Fourth Edition (CPT-4, Category I-III), and Healthcare Common Procedure Coding System (HCPCS) Diagnosis and Procedure Codes Used to Define Covariates and Subgroup Criteria in this Report

Code	Description	Code Type	Code Category
V85.38	Body Mass Index 38.0-38.9, adult	ICD-9-CM	Diagnosis
V85.39	Body Mass Index 39.0-39.9, adult	ICD-9-CM	Diagnosis
V85.4	Body Mass Index 40 and over, adult	ICD-9-CM	Diagnosis
V85.41	Body Mass Index 40.0-44.9, adult	ICD-9-CM	Diagnosis
V85.42	Body Mass Index 45.0-49.9, adult	ICD-9-CM	Diagnosis
V85.43	Body Mass Index 50.0-59.9, adult	ICD-9-CM	Diagnosis
V85.44	Body Mass Index 60.0-69.9, adult	ICD-9-CM	Diagnosis
V85.45	Body Mass Index 70 and over, adult	ICD-9-CM	Diagnosis
	Osteoporosis		
733.0	Osteoporosis	ICD-9-CM	Diagnosis
733.00	Unspecified osteoporosis	ICD-9-CM	Diagnosis
733.01	Senile osteoporosis	ICD-9-CM	Diagnosis
733.02	Idiopathic osteoporosis	ICD-9-CM	Diagnosis
733.03	Disuse osteoporosis	ICD-9-CM	Diagnosis
733.09	Other osteoporosis	ICD-9-CM	Diagnosis
V17.81	Family history of, Osteoporosis	ICD-9-CM	Diagnosis
V82.81	Special screening for osteoporosis	ICD-9-CM	Diagnosis
	Peripheral Neuropathy		
250.6	Diabetes with neurological manifestations	ICD-9-CM	Diagnosis
250.60	Diabetes with neurological manifestations, type II or unspecified type, not stated as uncontrolled	ICD-9-CM	Diagnosis
250.61	Diabetes with neurological manifestations, type I [juvenile type], not stated as uncontrolled	ICD-9-CM	Diagnosis
250.62	Diabetes with neurological manifestations, type II or unspecified type, uncontrolled	ICD-9-CM	Diagnosis
250.63	Diabetes with neurological manifestations, type I [juvenile type], uncontrolled	ICD-9-CM	Diagnosis
337.1	Peripheral autonomic neuropathy in disorders classified elsewhere	ICD-9-CM	Diagnosis
354	Mononeuritis of upper limb and mononeuritis multiplex	ICD-9-CM	Diagnosis
354.0	Carpal tunnel syndrome	ICD-9-CM	Diagnosis
354.1	Other lesion of median nerve	ICD-9-CM	Diagnosis
354.2	Lesion of ulnar nerve	ICD-9-CM	Diagnosis
354.3	Lesion of radial nerve	ICD-9-CM	Diagnosis
354.4	Causalgia of upper limb	ICD-9-CM	Diagnosis
354.5	Mononeuritis multiplex	ICD-9-CM	Diagnosis
354.8	Other mononeuritis of upper limb	ICD-9-CM	Diagnosis
354.9	Unspecified mononeuritis of upper limb	ICD-9-CM	Diagnosis
355	Mononeuritis of lower limb and unspecified site	ICD-9-CM	Diagnosis
355.0	Lesion of sciatic nerve	ICD-9-CM	Diagnosis
355.1	Meralgia paresthetica	ICD-9-CM	Diagnosis
355.2	Other lesion of femoral nerve	ICD-9-CM	Diagnosis
355.3	Lesion of lateral popliteal nerve	ICD-9-CM	Diagnosis
355.4	Lesion of medial popliteal nerve	ICD-9-CM	Diagnosis
355.5	Tarsal tunnel syndrome	ICD-9-CM	Diagnosis
355.6	Lesion of plantar nerve	ICD-9-CM	Diagnosis

Appendix F. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), Current Procedural Terminology, Fourth Edition (CPT-4, Category I-III), and Healthcare Common Procedure Coding System (HCPCS) Diagnosis and Procedure Codes Used to Define Covariates and Subgroup Criteria in this Report

Code	Description	Code Type	Code Category
355.7	Other mononeuritis of lower limb	ICD-9-CM	Diagnosis
355.71	Causalgia of lower limb	ICD-9-CM	Diagnosis
355.79	Other mononeuritis of lower limb	ICD-9-CM	Diagnosis
355.8	Unspecified mononeuritis of lower limb	ICD-9-CM	Diagnosis
355.9	Mononeuritis of unspecified site	ICD-9-CM	Diagnosis
357.2	Polyneuropathy in diabetes	ICD-9-CM	Diagnosis
	Tobacco Use		
305.1	Nondependent tobacco use disorder	ICD-9-CM	Diagnosis
V15.82	Personal history of tobacco use, presenting hazards to health	ICD-9-CM	Diagnosis

Appendix G. List of Generic Names of Medical Products Used to Define Covariates in this Report

Generic Name
Anti-Diabetic Medication
Saxagliptin
saxagliptin hcl/metformin hcl
saxagliptin hcl
Sitagliptin
sitagliptin phos/metformin hcl
sitagliptin/simvastatin
sitagliptin phosphate
Long-Acting Insulin
hum insulin nph/reg insulin hm
insulin glargine,hum.rec.anlog
insulin nph human semi-syn
insulin nph s-s/reg insuln s-s
insuln asp prt/insulin aspart
nph, human insulin isophane
insulin detemir
insulin npl/insulin lispro
ins zn,bf (p)/ins zn,pk (p)
insul,pk pure/insul nph,pk-p
insulin isophane nph,bf-pk
insulin protamine zinc,beef
insulin protamine zn,beef (p)
insulin protamine zn,bf-pk
insulin protamine zn,pork (p)
insulin zinc beef
insulin zinc ext,beef (p)
insulin zinc extend human rec
insulin zinc extended,beef
insulin zinc extended,bf-pk
insulin zinc human rec
insulin zinc human semi-syn
insulin zinc prompt,beef
insulin zinc prompt,bf-pk
insulin zinc prompt,pork pure
insulin zinc,beef purified
insulin zinc,beef-pork
insulin zinc,pork purified
Pioglitazone
alogliptin benz/pioglitzone
pioglitazone hcl
pioglitazone hcl/metformin hcl
pioglitazone hcl/glimepiride

Appendix G. List of Generic Names of Medical Products Used to Define Covariates in this Report

Generic Name
Second Generation Sulfonylurea
glipizide/metformin hcl
glyburide/metformin hcl
pioglitazone hcl/glimepiride
glimepiride
glipizide
glyburide
glyburide,micronized
rosiglitazone/glimepiride
Alpha-Glucosidase Inhibitor
acarbose
miglitol
Biguanide
metformin/aa comb.#7/hc#125/ch
metformin/caff/aa7/hrb125/chol
metformin hcl
saxagliptin hcl/metformin hcl
sitagliptin phos/metformin hcl
glipizide/metformin hcl
glyburide/metformin hcl
alogliptin benz/metformin hcl
linagliptin/metformin hcl
repaglinide/metformin hcl
pioglitazone hcl/metformin hcl
rosiglitazone/metformin hcl
Other Dipeptidyl Peptidase-4 (DPP-4) Inhibitor
alogliptin benzoate
linagliptin
alogliptin benz/metformin hcl
linagliptin/metformin hcl
alogliptin benz/pioglitzone
Meglitinide
nateglinide
repaglinide
repaglinide/metformin hcl
First Generation Sulfonylurea
acetohexamide
chlorpropamide
tolazamide
tolbutamide

Appendix G. List of Generic Names of Medical Products Used to Define Covariates in this Report

Generic Name
Short-Acting Insulin
insulin regular,human&rel.unt
reg insulin hm/rlse/chbr/ihlr
insulin reg human semi-syn
insulin regular, human
insulin reg, hum s-s buff
insulin regular,beef-pork
insulin regular,human buffered
insulin,beef
insulin,pork
insulin,pork purified
insulin,pork reg. concentrate
insulin aspart
insulin glulisine
insulin lispro
insulin isophane,beef
insulin isophane,beef pure
insulin isophane,pork pure
Other Thiazolidinedione
rosiglitazone maleate
troglitazone
rosiglitazone/metformin hcl
rosiglitazone/glimepiride
Other Anti-Diabetes Medication (GLP-1 Analogues, Amylin Analog-Types, Canagliflozin)
canagliflozin
exenatide
liraglutide
pramlintide acetate
exenatide microspheres
Anti-Hypertensive Agent
Angiotensin-Converting Enzyme (ACE) Inhibitor
benazepril hcl
ramipril
lisinopril/dietary sup.cmb10
enalapril maleate
captopril
fosinopril sodium
lisinopril
moexipril hcl
perindopril erbumine
quinapril hcl
trandolapril
amlodipine besylate/benazepril
enalapril maleate/felodipine
enalapril mal/diltiazem mal
trandolapril/verapamil hcl
benazepril/hydrochlorothiazide

Appendix G. List of Generic Names of Medical Products Used to Define Covariates in this Report

Generic Name
captopril/hydrochlorothiazide
enalapril/hydrochlorothiazide
fosinopril/hydrochlorothiazide
lisinopril/hydrochlorothiazide
moexipril/hydrochlorothiazide
quinapril/hydrochlorothiazide
Alpha Blocker
prazosin hcl
terazosin hcl
doxazosin mesylate
prazosin hcl/polythiazide
Angiotensin Receptor Blocker (ARB)
valsartan
azilsartan medoxomil
candesartan cilexetil
eprosartan mesylate
irbesartan
losartan potassium
olmesartan medoxomil
telmisartan
amlodipine bes/olmesartan med
amlodipine/valsartan
telmisartan/amlodipine
amlodipine/valsartan/hcthiazid
olmesartan/amlodipin/hcthiazid
azilsartan med/chlorthalidone
candesartan/hydrochlorothiazid
eprosartan/hydrochlorothiazide
irbesartan/hydrochlorothiazide
losartan/hydrochlorothiazide
olmesartan/hydrochlorothiazide
telmisartan/hydrochlorothiazid
valsartan/hydrochlorothiazide
aliskiren/valsartan
Beta Blocker
acebutolol hcl
propranolol hcl
carvedilol phosphate
metoprolol/dietary suppl.cmb10
atenolol
betaxolol hcl
bisoprolol fumarate
carvedilol
labetalol hcl
metoprolol tartrate
nadolol
penbutolol sulfate

Appendix G. List of Generic Names of Medical Products Used to Define Covariates in this Report

Generic Name
pindolol
timolol maleate
metoprolol succinate
propranolol/hydrochlorothiazid
atenolol/chlorthalidone
bisoprolol fumarate/hctz
metoprolol/hydrochlorothiazide
nadolol/bendroflumethiazide
timolol/hydrochlorothiazide
metoprolol succinate/hctz
Calcium (Ca) Channel Blocker
amlodipine besylate/benazepril
enalapril maleate/felodipine
enalapril mal/diltiazem mal
trandolapril/verapamil hcl
amlodipine bes/olmesartan med
amlodipine/valsartan
telmisartan/amlodipine
amlodipine/valsartan/hcthiazid
olmesartan/amlodipin/hcthiazid
isradipine
nicardipine hcl
nifedipine
diltiazem hcl
verapamil hcl
amlodipine besylate
diltiazem malate
felodipine
amlodipine/atorvastatin
aliskiren/amlodipine besylate
aliskiren/amlodipin/hcthiazide
Direct Vasodilator
tolazoline hcl
hydralazine hcl
minoxidil
hydralazine/reserpin/hcthiazid
hydralazine/hydrochlorothiazid
Loop Diuretic
furosemide
bumetanide
ethacrynic acid
torsemide
Aldosterone Receptor Agonist (ARA)
eplerenone
spironolactone
Non-ARA Potassium (K) Sparing Diuretic
triamterene

Appendix G. List of Generic Names of Medical Products Used to Define Covariates in this Report

Generic Name
amiloride hcl
triamterene/hydrochlorothiazid
amiloride/hydrochlorothiazide
spironolact/hydrochlorothiazid
Thiazide Diuretic
benazepril/hydrochlorothiazide
captopril/hydrochlorothiazide
enalapril/hydrochlorothiazide
fosinopril/hydrochlorothiazide
lisinopril/hydrochlorothiazide
moexipril/hydrochlorothiazide
quinapril/hydrochlorothiazide
clonidine hcl/chlorthalidone
methyldopa/chlorothiazide
methyldopa/hydrochlorothiazide
prazosin hcl/polythiazide
amlodipine/valsartan/hcthiazid
olmesartan/amlodipin/hcthiazid
azilsartan med/chlorthalidone
candesartan/hydrochlorothiazid
eprosartan/hydrochlorothiazide
irbesartan/hydrochlorothiazide
losartan/hydrochlorothiazide
olmesartan/hydrochlorothiazide
telmisartan/hydrochlorothiazid
valsartan/hydrochlorothiazide
propranolol/hydrochlorothiazid
atenolol/chlorthalidone
bisoprolol fumarate/hctz
metoprolol/hydrochlorothiazide
nadolol/bendroflumethiazide
timolol/hydrochlorothiazide
metoprolol succinate/hctz
triamterene/hydrochlorothiazid
amiloride/hydrochlorothiazide
spironolact/hydrochlorothiazid
aliskiren/amlodipin/hcthiazide
aliskiren/hydrochlorothiazide
deserpidine/hydrochlorothiazid
deserpidine/methyclothiazide
rauwolfia serpentina/bfmtz
reserpine/chlorothiazide
reserpine/hydrochlorothiazide
reserpine/hydroflumethiazide
reserpine/methyclothiazide
reserpine/polythiazide
hydrochlorothiazide

Appendix G. List of Generic Names of Medical Products Used to Define Covariates in this Report

Generic Name
chlorothiazide
bendroflumethiazide
chlorthalidone
guanethid/hydrochlorothiazide
hydroflumethiazide
indapamide
methyclothiazide
metolazone
polythiazide
trichlormethiazide
hydralazine/reserpin/hcthiazid
hydralazine/hydrochlorothiazid
Central Alpha-2 Receptor Agonist
clonidine hcl
methyldopa
clonidine hcl/chlorthalidone
methyldopa/chlorothiazide
methyldopa/hydrochlorothiazide
Reserpine and Derivative
rauwolfia serpentina
reserpine
deserpidine/hydrochlorothiazid
deserpidine/methyclothiazide
rauwolfia serpentina/bfmtz
reserpine/chlorothiazide
reserpine/hydrochlorothiazide
reserpine/hydroflumethiazide
reserpine/methyclothiazide
reserpine/polythiazide
hydralazine/reserpin/hcthiazid
Lipid-Lowering Agent
amlodipine/atorvastatin
clofibrate
fenofibrate
fenofibrate,micronized
fluvastatin sodium
icosapent ethyl
lomitapide mesylate
niacin
fenofibric acid (choline)
colestipol hcl
cholestyramine (with sugar)
cholestyramine/aspartame
colesevelam hcl
aspirin(calc&mg)/pravastatin
atorvastatin calcium
cerivastatin sodium

Appendix G. List of Generic Names of Medical Products Used to Define Covariates in this Report

Generic Name
dextrothyroxine sodium
ezetimibe
fenofibrate nanocrystallized
fenofibric acid
gemfibrozil
lovastatin
pitavastatin calcium
pravastatin sodium
rosuvastatin calcium
simvastatin
ezetimibe/atorvastatin calcium
ezetimibe/simvastatin
niacin/lovastatin
niacin/simvastatin
sitagliptin/simvastatin

This request utilized the Cohort Identification and Descriptive Analysis (CIDA) module, with Propensity Score Matching (PSM) Analysis, version 7.3.4 to recreate a protocol-based assessment (PBA) of investigation on acute myocardial infarction (AMI) and hospitalized heart failure (hHF) following saxagliptin or sitagliptin use in comparison to long-acting insulin, pioglitazone, and second-generation sulfonylureas using updated data and CIDA features.

Query Period: See specifications for monitoring periods for each comparison

Listed below are Data Partner-specific (DP) end dates for certain monitoring periods when specified below.

DP:	AMI DP-Specific End Date (based on ETL DP Max Date):	hHF DP-Specific End Date (based on ETL DP Max Date):
01	3/31/2014	N/A
02	5/31/2014	1/31/2014
03	12/31/2012	12/31/2012
05	4/30/2014	12/31/2013
06	6/30/2014	3/31/2014
07	1/31/2014	10/31/2013
08	12/31/2012	12/31/2012
10	7/31/2014	N/A
13	6/30/2014	8/30/2013
14	7/31/2014	N/A
15	12/31/2013	9/30/2013
16	6/30/2012	6/30/2012
17	6/30/2012	6/30/2012

Coverage Requirement: Medical and Drug Coverage

Pre-exposure enrollment (days): 12 months (365 days)

Enrollment Gap: 45 days

Sex: Female or Male only

Age Groups: 18-29, 30-44, 45-54, 55-64, 65-74, 75-84, 85+ years

18-64, 65+ years (PS matching only)

Patient-level Return: No

Envelope Macro Use: No

Freeze Data: Yes

Appendix H.1. Specifications for Parameters in this Request, Comparison 1; Saxagliptin vs Sitagliptin, Comparison 2; Saxagliptin vs Pioglitazone

		Comparison 1		Comparison 2	
		Exposure of Interest Group	**Reference Group**	**Exposure of Interest Group**	**Reference Group**
Drug/Exposure Definition	**Monitoring Period Start**	8/1/2009		8/1/2009	
	Monitoring Period End	DP-specific		DP-specific	
	Exposure	Saxagliptin	Sitagliptin	Saxagliptin	Pioglitazone
	Incidence with Respect to	Saxagliptin, sitagliptin	Saxagliptin, sitagliptin	Saxagliptin, pioglitazone	Saxagliptin, pioglitazone
	Washout (days)	365	365	365	365
	Exposure Episode Truncation Criteria	Death, Query end date, End of exposure use, Occurrence of first AMI, Use of sitagliptin	Death, Query end date, End of exposure use, Occurrence of first AMI, Use of saxagliptin	Death, Query end date, End of exposure use, Occurrence of first AMI, Use of Pioglitazone	Death, Query end date, End of exposure use, Occurrence of first AMI, Use of Saxagliptin
	Cohort Definition	Only the first valid treatment episode during the query period (01)	Only the first valid treatment episode during the query period (01)	Only the first valid treatment episode during the query period (01)	Only the first valid treatment episode during the query period (01)
	Exposure Episode Gap	33% previous days' supply	33% previous days' supply	33% previous days' supply	33% previous days' supply
	Exposure Extension Period	12 days	12 days	12 days	12 days
	Minimum Episode Duration	1 day	1 day	1 day	1 day
	Minimum Days Supplied	1 day	1 day	1 day	1 day
Outcome Definition	**Event/Outcome**	AMI	AMI	AMI	AMI
	Care Setting/Diagnosis Position	Inpatient Primary (IPP)	IPP	IPP	IPP
	Event Incidence with Respect to	AMI	AMI	AMI	AMI
	Event Incidence Criteria Care Setting / Diagnosis Position	IPP	IPP	IPP	IPP
	Event Washout (days)	60	60	60	60
	Blackout Period	0 days	0 days	0 days	0 days

Appendix H.1. Specifications for Parameters in this Request, Comparison 1; Saxagliptin vs Sitagliptin, Comparison 2; Saxagliptin vs Pioglitazone

Inclusion/ Exclusion Criteria

Conditions	Diabetes (diagnosis or medication, not including short-acting insulins)	Diabetes (diagnosis or medication, not including short-acting insulins)	Diabetes (diagnosis or medication, not including short-acting insulins)	Diabetes (diagnosis or medication, not including short-acting insulins)
Include or Exclude	Inclusion	Inclusion	Inclusion	Inclusion
Care Setting/Diagnosis Position	Any	Any	Any	Any
Lookback Period	(-365, -1)	(-365, -1)	(-365, -1)	(-365, -1)
Number of Code Occurrences	1 instance	1 instance	1 instance	1 instance

Inclusion/ Exclusion Criteria

Conditions	Gestational diabetes	Gestational diabetes	Gestational diabetes	Gestational diabetes
Include or Exclude	Exclusion	Exclusion	Exclusion	Exclusion
Care Setting/Diagnosis Position	Any	Any	Any	Any
Lookback Period	(-365, 0)	(-365, 0)	(-365, 0)	(-365, 0)
Number of Code Occurrences	1 instance	1 instance	1 instance	1 instance

Inclusion/ Exclusion Criteria

Conditions			Congestive heart failure	Congestive heart failure
Include or Exclude			Exclusion	Exclusion
Care Setting/Diagnosis Position			Any	Any
Lookback Period			(-365, -1)	(-365, -1)
Number of Code Occurrences			1 instance	1 instance

Stockpiling Algorithm

Same Day Dispensing (Days Supplied)	Sum	Sum	Sum	Sum
Same Day Dispensing (Amount Supplied)	Sum	Sum	Sum	Sum
Range of Allowable Days Supplied	Max 120 Days (inclusive)	Max 120 Days (inclusive)	Max 120 Days (inclusive)	Max 120 Days (inclusive)
Range of Allowable Amount Supplied	N/A	N/A	N/A	N/A
Overlap Percentage Processing	Default	Default	Default	Default

Baseline Covariates/Utilization/Comorbidity Score

Covariates	(See Covariates table)	(See Covariates table)
Care Setting/Diagnosis Position	inpatient (IP*), outpatient (ambulatory visit (AV*) only) (Stroke (narrow), AMI (narrow), and hHF must have Diagnosis Position of Primary)	inpatient (IP*), outpatient (ambulatory visit (AV*) only) (Stroke (narrow), AMI (narrow), and hHF must have Diagnosis Position of Primary)
Covariate Evaluation Window (days)	(-365, -1) for Baseline or (0, 0) for Concurrent unless otherwise stated	(-365, -1) for Baseline or (0, 0) for Concurrent unless otherwise stated
Comorbidity Score Evaluation window (days)	(-365, -1)	(-365, -1)
Medical Utilization Evaluation Window	(-365, -1)	(-365, -1)
Medical Utilization Care setting	IP, Inpatient stay (IS), AV, Other ambulatory visit (OA), Emergency department (ED)	IP, IS, AV, OA, ED
Drug Utilization Evaluation Window	(-365, -1)	(-365, -1)

Propensity Score Analysis/Subgroup Analysis

Analysis type	Propensity score analysis	Propensity score analysis
Perform HDPS Analysis	No	No
Matching Ratio	1:1	1:1
Matching Caliper Settings	0.01	0.01
Subgroup Analyses	Prior cardiovascular disease (Yes, No) Age groups (00-64, 65+ years) Sex (Male, Female)	Prior cardiovascular disease (Yes, No) Age groups (00-64, 65+ years) Sex (Male, Female)
Population used for rematching within subgroups	Total population	Total population

Appendix H.2. Specifications for Parameters in this Request, Comparison 3; Saxagliptin vs Long-acting insulins, Comparison 4; Saxagliptin vs Second-generation sulfonylureas

This request utilized the Cohort Identification and Descriptive Analysis (CIDA) module, with Propensity Score Matching (PSM) Analysis, version 7.3.4 to recreate a protocol-based assessment (PBA) of investigation on acute myocardial infarction (AMI) and hospitalized heart failure (hHF) following saxagliptin or sitagliptin use in comparison to long-acting insulin, pioglitazone, and second-generation sulfonylureas using updated data and CIDA features.

Query Period: See specifications for monitoring periods for each comparison

Listed below are Data Partner-specific (DP) end dates for certain monitoring periods when specified below.

DP:	AMI DP-Specific End Date (based on ETL DP Max Date):	hHF DP-Specific End Date (based on ETL DP Max Date):
01	3/31/2014	N/A
02	5/31/2014	1/31/2014
03	12/31/2012	12/31/2012
05	4/30/2014	12/31/2013
06	6/30/2014	3/31/2014
07	1/31/2014	10/31/2013
08	12/31/2012	12/31/2012
10	7/31/2014	N/A
13	6/30/2014	8/30/2013
14	7/31/2014	N/A
15	12/31/2013	9/30/2013
16	6/30/2012	6/30/2012
17	6/30/2012	6/30/2012

Coverage Requirement: Medical and Drug Coverage

Pre-exposure enrollment (days): 12 months (365 days)

Enrollment Gap: 45 days

Sex: Female or Male only

Age Groups: 18-29, 30-44, 45-54, 55-64, 65-74, 75-84, 85+ years

18-64, 65+ years (PS matching only)

Patient-level Return: No

Envelope Macro Use: No

Freeze Data: Yes

		Comparison 3		Comparison 4	
		Exposure of Interest Group	Reference Group	Exposure of Interest Group	Reference Group
Drug/Exposure Definition	**Monitoring Period Start**	8/1/2009		8/1/2009	
	Monitoring Period End	DP-specific		DP-specific	
	Exposure	Saxagliptin	Long-acting insulins	Saxagliptin	Second-generation sulfonylureas
	Incidence with Respect to	Saxagliptin, long-acting insulins	Saxagliptin, long-acting insulins	Saxagliptin, second-generation sulfonylureas	Saxagliptin, second-generation sulfonylureas
	Washout (days)	365 days	365 days	365 days	365 days
	Exposure Episode Truncation Criteria	Death, Query end date, End of exposure use, Occurrence of first AMI, Use of long-acting insulins	Death, Query end date, End of exposure use, Occurrence of first AMI, Use of saxagliptin	Death, Query end date, End of exposure use, Occurrence of first AMI, Use of second-generation	Death, Query end date, End of exposure use, Occurrence of first AMI, Use of saxagliptin
	Cohort Definition	Only the first valid treatment episode during the query period (01)	Only the first valid treatment episode during the query period (01)	Only the first valid treatment episode during the query period (01)	Only the first valid treatment episode during the query period (01)
	Exposure Episode Gap	33% previous days' supply	33% previous days' supply	33% previous days' supply	33% previous days' supply
	Exposure Extension Period	12 days	12 days	12 days	12 days
	Minimum Episode Duration	1 day	1 day	1 day	1 day
	Minimum Days Supplied	1 day	1 day	1 day	1 day
Outcome Definition	**Event/Outcome**	AMI	AMI	AMI	AMI
	Care Setting/Diagnosis Position	Inpatient Primary (IPP)	IPP	IPP	IPP
	Event Incidence with Respect to	AMI	AMI	AMI	AMI
	Event Incidence Criteria Care Setting / Diagnosis Position	IPP	IPP	IPP	IPP
	Event Washout (days)	60 days	60 days	60 days	60 days
	Blackout Period	0 days	0 days	0 days	0 days

Inclusion/ Exclusion Criteria	**Conditions**	Diabetes (diagnosis or medication, not including short-acting insulins)	Diabetes (diagnosis or medication, not including short-acting insulins)	Diabetes (diagnosis or medication, not including short-acting insulins)	Diabetes (diagnosis or medication, not including short-acting insulins)
	Include or Exclude	Inclusion	Inclusion	Inclusion	Inclusion
	Care Setting/Diagnosis Position	Any	Any	Any	Any
	Lookback Period	(-365, -1)	(-365, -1)	(-365, -1)	(-365, -1)
	Number of Code Occurrences	1 instance	1 instance	1 instance	1 instance
Inclusion/ Exclusion Criteria	**Conditions**	Gestational diabetes	Gestational diabetes	Gestational diabetes	Gestational diabetes
	Include or Exclude	Exclusion	Exclusion	Exclusion	Exclusion
	Care Setting/Diagnosis Position	Any	Any	Any	Any
	Lookback Period	(-365, 0)	(-365, 0)	(-365, 0)	(-365, 0)
	Number of Code Occurrences	1 instance	1 instance	1 instance	1 instance
Inclusion/ Exclusion Criteria	**Conditions**	Short-acting insulin use only (defined as: Only one diabetes medication class (see Covariates table) AND this class is a short-acting insulin dispensing)	Short-acting insulin use only (defined as: Only one diabetes medication class (see Covariates table) AND this class is a short-acting insulin dispensing)		
	Include or Exclude	Exclusion	Exclusion		
	Care Setting/Diagnosis Position	Any	Any		
	Lookback Period	(-365, -1)	(-365, -1)		
	Number of Code Occurrences	1 instance	1 instance		
Stockpiling Algorithm	**Same Day Dispensing (Days Supplied)**	Sum	Sum	Sum	Sum
	Same Day Dispensing (Amount Supplied)	Sum	Sum	Sum	Sum
	Range of Allowable Days Supplied	Max 120 Days (inclusive)	Max 120 Days (inclusive)	Max 120 Days (inclusive)	Max 120 Days (inclusive)
	Range of Allowable Amount Supplied	N/A	N/A	N/A	N/A
	Overlap Percentage Processing	Default	Default	Default	Default

Baseline Covariates/Utilization/Comorbidity Score

Covariates	(See Covariates table)	(See Covariates table)
Care Setting/Diagnosis Position	inpatient (IP*), outpatient (ambulatory visit (AV*) only) (Stroke (narrow), AMI (narrow), and hHF must have Diagnosis Position of Primary)	inpatient (IP*), outpatient (ambulatory visit (AV*) only) (Stroke (narrow), AMI (narrow), and hHF must have Diagnosis Position of Primary)
Covariate Evaluation Window (days)	(-365, -1) for Baseline or (0, 0) for Concurrent unless otherwise stated	(-365, -1) for Baseline or (0, 0) for Concurrent unless otherwise stated
Comorbidity Score Evaluation window (days)	(-365, -1)	(-365, -1)
Medical Utilization Evaluation Window	(-365, -1)	(-365, -1)
Medical Utilization Care setting	IP, Inpatient stay (IS), AV, Other ambulatory visit (OA), Emergency department (ED)	IP, IS, AV, OA, ED
Drug Utilization Evaluation Window	(-365, -1)	(-365, -1)

Propensity Score Analysis/Subgroup Analysis

Analysis type	Propensity score analysis	Propensity score analysis
Perform HDPS Analysis	No	No
Matching Ratio	1:1	1:1
Matching Caliper Settings	0.01	0.01
Subgroup Analyses	Prior cardiovascular disease (Yes, No) Age groups (00-64, 65+ years) Sex (Male, Female)	Prior cardiovascular disease (Yes, No) Age groups (00-64, 65+ years) Sex (Male, Female)
Population used for rematching within subgroups	Total population	Total population

Appendix H.3. Specifications for Parameters in this Request, Comparison 5; Sitagliptin vs Pioglitazone, Comparison 6; Sitagliptin vs Long-acting insulins

This request utilized the Cohort Identification and Descriptive Analysis (CIDA) module, with Propensity Score Matching (PSM) Analysis, version 7.3.4 to recreate a protocol-based assessment (PBA) of investigation on acute myocardial infarction (AMI) and hospitalized heart failure (hHF) following saxagliptin or sitagliptin use in comparison to long-acting insulin, pioglitazone, and second-generation sulfonylureas using updated data and CIDA features.

Query Period: See specifications for monitoring periods for each comparison

Listed below are Data Partner-specific (DP) end dates for certain monitoring periods when specified below.

DP:	AMI DP-Specific End Date (based on ETL DP Max Date):	hHF DP-Specific End Date (based on ETL DP Max Date):
01	3/31/2014	N/A
02	5/31/2014	1/31/2014
03	12/31/2012	12/31/2012
05	4/30/2014	12/31/2013
06	6/30/2014	3/31/2014
07	1/31/2014	10/31/2013
08	12/31/2012	12/31/2012
10	7/31/2014	N/A
13	6/30/2014	8/30/2013
14	7/31/2014	N/A
15	12/31/2013	9/30/2013
16	6/30/2012	6/30/2012
17	6/30/2012	6/30/2012

Coverage Requirement: Medical and Drug Coverage

Pre-exposure enrollment (days): 12 months (365 days)

Enrollment Gap: 45 days

Sex: Female or Male only

Age Groups: 18-29, 30-44, 45-54, 55-64, 65-74, 75-84, 85+ years

18-64, 65+ years (PS matching only)

Patient-level Return: No

Envelope Macro Use: No

Freeze Data: Yes

		Comparison 5		Comparison 6	
		Exposure of Interest Group	Reference Group	Exposure of Interest Group	Reference Group
Drug/Exposure Definition	**Monitoring Period Start**	10/1/2006		10/1/2006	
	Monitoring Period End	DP-specific		DP-specific	
	Exposure	Sitagliptin	Pioglitazone	Sitagliptin	Long-acting insulins
	Incidence with Respect to	Sitagliptin, pioglitazone	Sitagliptin, pioglitazone	Sitagliptin, long-acting insulins	Sitagliptin, long-acting insulins
	Washout (days)	365 days	365 days	365 days	365 days
	Exposure Episode Truncation Criteria	Death, Query end date, End of exposure use, Occurrence of first AMI, Use of pioglitazone	Death, Query end date, End of exposure use, Occurrence of first AMI, Use of sitagliptin	Death, Query end date, End of exposure use, Occurrence of first AMI, Use of long-acting insulins	Death, Query end date, End of exposure use, Occurrence of first AMI, Use of sitagliptin
	Cohort Definition	Only the first valid treatment episode during the query period (01)	Only the first valid treatment episode during the query period (01)	Only the first valid treatment episode during the query period (01)	Only the first valid treatment episode during the query period (01)
	Exposure Episode Gap	33% previous days' supply	33% previous days' supply	33% previous days' supply	33% previous days' supply
	Exposure Extension Period	12 days	12 days	12 days	12 days
	Minimum Episode Duration	1 day	1 day	1 day	1 day
	Minimum Days Supplied	1 day	1 day	1 day	1 day
Outcome Definition	**Event/Outcome**	AMI	AMI	AMI	AMI
	Care Setting/Diagnosis Position	Inpatient Primary (IPP)	IPP	IPP	IPP
	Event Incidence with Respect to	AMI	AMI	AMI	AMI
	Event Incidence Criteria Care Setting / Diagnosis Position	IPP	IPP	IPP	IPP
	Event Washout (days)	60 days	60 days	60 days	60 days
	Blackout Period	0 days	0 days	0 days	0 days

Appendix H.3. Specifications for Parameters in this Request, Comparison 5; Sitagliptin vs Pioglitazone, Comparison 6; Sitagliptin vs Long-acting insulins

Inclusion/ Exclusion Criteria	**Conditions**	Diabetes (diagnosis or medication, not including short-acting insulins)	Diabetes (diagnosis or medication, not including short-acting insulins)	Diabetes (diagnosis or medication, not including short-acting insulins)	Diabetes (diagnosis or medication, not including short-acting insulins)
	Include or Exclude	Inclusion	Inclusion	Inclusion	Inclusion
	Care Setting/Diagnosis Position	Any	Any	Any	Any
	Lookback Period	(-365, -1)	(-365, -1)	(-365, -1)	(-365, -1)
	Number of Code Occurrences	1 instance	1 instance	1 instance	1 instance
Inclusion/ Exclusion Criteria	**Conditions**	Gestational diabetes	Gestational diabetes	Gestational diabetes	Gestational diabetes
	Include or Exclude	Exclusion	Exclusion	Exclusion	Exclusion
	Care Setting/Diagnosis Position	Any	Any	Any	Any
	Lookback Period	(-365, 0)	(-365, 0)	(-365, 0)	(-365, 0)
	Number of Code Occurrences	1 instance	1 instance	1 instance	1 instance
Inclusion/ Exclusion Criteria	**Conditions**	Congestive heart failure	Congestive heart failure	Short-acting insulin use only (defined as: Only one diabetes medication class (see Covariates table) AND this class is a short-acting insulin dispensing)	Short-acting insulin use only (defined as: Only one diabetes medication class (see Covariates table) AND this class is a short-acting insulin dispensing)
	Include or Exclude	Exclusion	Exclusion	Exclusion	Exclusion
	Care Setting/Diagnosis Position	Any	Any	Any	Any
	Lookback Period	(-365, -1)	(-365, -1)	(-365, -1)	(-365, -1)
	Number of Code Occurrences	1 instance	1 instance	1 instance	1 instance
Stockpiling Algorithm	**Same Day Dispensing (Days Supplied)**	Sum	Sum	Sum	Sum
	Same Day Dispensing (Amount Supplied)	Sum	Sum	Sum	Sum
	Range of Allowable Days Supplied	Max 120 Days (inclusive)	Max 120 Days (inclusive)	Max 120 Days (inclusive)	Max 120 Days (inclusive)
	Range of Allowable Amount Supplied	N/A	N/A	N/A	N/A
	Overlap Percentage Processing	Default	Default	Default	Default

Baseline Covariates/Utilization/Comorbidity Score

Covariates	(See Covariates table)	(See Covariates table)
Care Setting/Diagnosis Position	inpatient (IP*), outpatient (ambulatory visit (AV*) only) (Stroke (narrow), AMI (narrow), and hHF must have Diagnosis Position of Primary)	inpatient (IP*), outpatient (ambulatory visit (AV*) only) (Stroke (narrow), AMI (narrow), and hHF must have Diagnosis Position of Primary)
Covariate Evaluation Window (days)	(-365, -1) for Baseline or (0, 0) for Concurrent unless otherwise stated	(-365, -1) for Baseline or (0, 0) for Concurrent unless otherwise stated
Comorbidity Score Evaluation window (days)	(-365, -1)	(-365, -1)
Medical Utilization Evaluation Window	(-365, -1)	(-365, -1)
Medical Utilization Care setting	IP, Inpatient stay (IS), AV, Other ambulatory visit (OA), Emergency department (ED)	IP, IS, AV, OA, ED
Drug Utilization Evaluation Window	(-365, -1)	(-365, -1)

Propensity Score Analysis/Subgroup Analysis

Analysis type	Propensity score analysis	Propensity score analysis
Perform HDPS Analysis	No	No
Matching Ratio	1:1	1:1
Matching Caliper Settings	0.01	0.01
Subgroup Analyses	Prior cardiovascular disease (Yes, No) Age groups (00-64, 65+ years) Sex (Male, Female)	Prior cardiovascular disease (Yes, No) Age groups (00-64, 65+ years) Sex (Male, Female)
Population used for rematching within subgroups	Total population	Total population

Appendix H.4. Specifications for Parameters in this Request, Comparison 7; Sitagliptin vs Second-generation sulfonylureas

This request utilized the Cohort Identification and Descriptive Analysis (CIDA) module, with Propensity Score Matching (PSM) Analysis, version 7.3.4 to recreate a protocol-based assessment (PBA) of investigation on acute myocardial infarction (AMI) and hospitalized heart failure (hHF) following saxagliptin or sitagliptin use in comparison to long-acting insulin, pioglitazone, and second-generation sulfonylureas using updated data and CIDA features.

Query Period: See specifications for monitoring periods for each comparison

Listed below are Data Partner-specific (DP) end dates for certain monitoring periods when specified below.

DP:	AMI DP-Specific End Date (based on ETL DP Max Date):	hHF DP-Specific End Date (based on ETL DP Max Date):
01	3/31/2014	N/A
02	5/31/2014	1/31/2014
03	12/31/2012	12/31/2012
05	4/30/2014	12/31/2013
06	6/30/2014	3/31/2014
07	1/31/2014	10/31/2013
08	12/31/2012	12/31/2012
10	7/31/2014	N/A
13	6/30/2014	8/30/2013
14	7/31/2014	N/A
15	12/31/2013	9/30/2013
16	6/30/2012	6/30/2012
17	6/30/2012	6/30/2012

Coverage Requirement: Medical and Drug Coverage

Pre-exposure enrollment (days): 12 months (365 days)

Enrollment Gap: 45 days

Sex: Female or Male only

Age Groups: 18-29, 30-44, 45-54, 55-64, 65-74, 75-84, 85+ years

18-64, 65+ years (PS matching only)

Patient-level Return: No

Envelope Macro Use: No

Freeze Data: Yes

		Comparison 7	
		Exposure of Interest Group	**Reference Group**
	Monitoring Period Start	10/1/2006	
	Monitoring Period End	DP-specific	
Drug/Exposure Definition	**Exposure**	Sitagliptin	Second-generation sulfonylureas
	Incidence with Respect to	Sitagliptin, second-generation sulfonylureas	Sitagliptin, second-generation sulfonylureas
	Washout (days)	365	365
	Exposure Episode Truncation Criteria	Death, Query end date, End of exposure use, Occurrence of first AMI, Use of second-generation sulfonylureas	Death, Query end date, End of exposure use, Occurrence of first AMI, Use of sitagliptin
	Cohort Definition	Only the first valid treatment episode during the query period (01)	Only the first valid treatment episode during the query period (01)
	Exposure Episode Gap	33% previous days' supply	33% previous days' supply
	Exposure Extension Period	12 days	12 days
	Minimum Episode Duration	1 day	1 day
	Minimum Days Supplied	1 day	1 day
Outcome Definition	**Event/Outcome**	AMI	AMI
	Care Setting/Diagnosis Position	Inpatient Primary (IPP)	IPP
	Event Incidence with Respect to	AMI	AMI
	Event Incidence Criteria Care Setting / Diagnosis Position	IPP	IPP
	Event Washout (days)	60	60
	Blackout Period	0 days	0 days

Inclusion/ Exclusion Criteria

Conditions	Diabetes (diagnosis or medication, not including short-acting insulins)	Diabetes (diagnosis or medication, not including short-acting insulins)
Include or Exclude	Inclusion	Inclusion
Care Setting/Diagnosis Position	Any	Any
Lookback Period	(-365, -1)	(-365, -1)
Number of Code Occurrences	1 instance	1 instance

Inclusion/ Exclusion Criteria

Conditions	Gestational diabetes	Gestational diabetes
Include or Exclude	Exclusion	Exclusion
Care Setting/Diagnosis Position	Any	Any
Lookback Period	(-365, 0)	(-365, 0)
Number of Code Occurrences	1 instance	1 instance

Inclusion/ Exclusion Criteria

Conditions		
Include or Exclude		
Care Setting/Diagnosis Position		
Lookback Period		
Number of Code Occurrences		

Stockpiling Algorithm

Same Day Dispensing (Days Supplied)	Sum	Sum
Same Day Dispensing (Amount Supplied)	Sum	Sum
Range of Allowable Days Supplied	Max 120 Days (inclusive)	Max 120 Days (inclusive)
Range of Allowable Amount Supplied	N/A	N/A
Overlap Percentage Processing	Default	Default

Baseline Covariates/Utilization/Comorbidity Score

Covariates	(See Covariates table)
Care Setting/Diagnosis Position	inpatient (IP*), outpatient (ambulatory visit (AV*) only) (Stroke (narrow), AMI (narrow), and hHF must have Diagnosis Position of Primary)
Covariate Evaluation Window (days)	(-365, -1) for Baseline or (0, 0) for Concurrent unless otherwise stated
Comorbidity Score Evaluation window (days)	(-365, -1)
Medical Utilization Evaluation Window	(-365, -1)
Medical Utilization Care setting	IP, Inpatient stay (IS), AV, Other ambulatory visit (OA), Emergency department (ED)
Drug Utilization Evaluation Window	(-365, -1)

Propensity Score Analysis/Subgroup Analysis

Analysis type	Propensity score analysis
Perform HDPS Analysis	No
Matching Ratio	1:1
Matching Caliper Settings	0.01
Subgroup Analyses	Prior cardiovascular disease (Yes, No) Age groups (00-64, 65+ years) Sex (Male, Female)
Population used for rematching within subgroups	Total population

This request utilized the Cohort Identification and Descriptive Analysis (CIDA) module, with Propensity Score Matching (PSM) Analysis, version 7.3.4 to recreate a protocol-based assessment (PBA) of investigation on acute myocardial infarction (AMI) and hospitalized heart failure (hHF) following saxagliptin or sitagliptin use in comparison to long-acting insulin, pioglitazone, and second-generation sulfonylureas using updated data and CIDA features.

Query Period: See specifications for monitoring periods for each comparison

Listed below are Data Partner-specific (DP) end dates for certain monitoring periods when specified below.

DP:	AMI DP-Specific End Date (based on ETL DP Max Date):	hHF DP-Specific End Date (based on ETL DP Max Date):
01	3/31/2014	N/A
02	5/31/2014	1/31/2014
03	12/31/2012	12/31/2012
05	4/30/2014	12/31/2013
06	6/30/2014	3/31/2014
07	1/31/2014	10/31/2013
08	12/31/2012	12/31/2012
10	7/31/2014	N/A
13	6/30/2014	8/30/2013
14	7/31/2014	N/A
15	12/31/2013	9/30/2013
16	6/30/2012	6/30/2012
17	6/30/2012	6/30/2012

Coverage Requirement: Medical and Drug Coverage

Pre-exposure enrollment (days): 12 months (365 days)

Enrollment Gap: 45 days

Sex: Female or Male only

Age Groups: 18-29, 30-44, 45-54, 55-64, 65-74, 75-84, 85+ years

18-64, 65+ years (PS matching only)

Patient-level Return: No

Envelope Macro Use: No

Freeze Data: Yes

		Comparison 8		Comparison 9	
		Exposure of Interest Group	Reference Group	Exposure of Interest Group	Reference Group
	Monitoring Period Start	8/1/2009		8/1/2009	
	Monitoring Period End	DP-specific		DP-specific	
Drug/Exposure Definition	**Exposure**	Saxagliptin	Sitagliptin	Saxagliptin	Pioglitazone
	Incidence with Respect to	Saxagliptin, sitagliptin	Saxagliptin, sitagliptin	Saxagliptin, pioglitazone	Saxagliptin, pioglitazone
	Washout (days)	365 days	365 days	365 days	365 days
	Exposure Episode Truncation Criteria	Death, Query end date, End of exposure use, Occurrence of first hHF, Use of sitagliptin	Death, Query end date, End of exposure use, Occurrence of first hHF, Use of saxagliptin	Death, Query end date, End of exposure use, Occurrence of first hHF, Use of Pioglitazone	Death, Query end date, End of exposure use, Occurrence of first hHF, Use of Saxagliptin
	Cohort Definition	Only the first valid treatment episode during the query period (01)	Only the first valid treatment episode during the query period (01)	Only the first valid treatment episode during the query period (01)	Only the first valid treatment episode during the query period (01)
	Exposure Episode Gap	33% previous days' supply	33% previous days' supply	33% previous days' supply	33% previous days' supply
	Exposure Extension Period	12 days	12 days	12 days	12 days
	Minimum Episode Duration	1 day	1 day	1 day	1 day
	Minimum Days Supplied	1 day	1 day	1 day	1 day
Outcome Definition	**Event/Outcome**	hHF	hHF	hHF	hHF
	Care Setting/Diagnosis Position	Inpatient Primary (IPP)	IPP	IPP	IPP
	Event Incidence with Respect to	hHF or AMI	hHF or AMI	hHF or AMI	hHF or AMI
	Event Incidence Criteria Care Setting / Diagnosis Position	IPP	IPP	IPP	IPP
	Event Washout (days)	60 days	60 days	60 days	60 days
	Blackout Period	0 days	0 days	0 days	0 days

Inclusion/ Exclusion Criteria	**Conditions**	Diabetes (diagnosis or medication, not including short-acting insulins)	Diabetes (diagnosis or medication, not including short-acting insulins)	Diabetes (diagnosis or medication, not including short-acting insulins)	Diabetes (diagnosis or medication, not including short-acting insulins)
	Include or Exclude	Inclusion	Inclusion	Inclusion	Inclusion
	Care Setting/Diagnosis Position	Any	Any	Any	Any
	Lookback Period	(-365, -1)	(-365, -1)	(-365, -1)	(-365, -1)
	Number of Code Occurrences	1 instance	1 instance	1 instance	1 instance
Inclusion/ Exclusion Criteria	**Conditions**	Gestational diabetes	Gestational diabetes	Gestational diabetes	Gestational diabetes
	Include or Exclude	Exclusion	Exclusion	Exclusion	Exclusion
	Care Setting/Diagnosis Position	Any	Any	Any	Any
	Lookback Period	(-365, 0)	(-365, 0)	(-365, 0)	(-365, 0)
	Number of Code Occurrences	1 instance	1 instance	1 instance	1 instance
Inclusion/ Exclusion Criteria	**Conditions**			Congestive heart failure	Congestive heart failure
	Include or Exclude			Exclusion	Exclusion
	Care Setting/Diagnosis Position			Any	Any
	Lookback Period			(-365, -1)	(-365, -1)
	Number of Code Occurrences			1 instance	1 instance
Stockpiling Algorithm	**Same Day Dispensing (Days Supplied)**	Sum	Sum	Sum	Sum
	Same Day Dispensing (Amount Supplied)	Sum	Sum	Sum	Sum
	Range of Allowable Days Supplied	Max 120 Days (inclusive)	Max 120 Days (inclusive)	Max 120 Days (inclusive)	Max 120 Days (inclusive)
	Range of Allowable Amount Supplied	N/A	N/A	N/A	N/A
	Overlap Percentage Processing	Default	Default	Default	Default

Baseline Covariates/Utilization/Comorbidity Score

Covariates	(See Covariates table)	(See Covariates table)
Care Setting/Diagnosis Position	inpatient (IP*), outpatient (ambulatory visit (AV*) only) (Stroke (narrow), AMI (narrow), and hHF must have Diagnosis Position of Primary)	inpatient (IP*), outpatient (ambulatory visit (AV*) only) (Stroke (narrow), AMI (narrow), and hHF must have Diagnosis Position of Primary)
Covariate Evaluation Window (days)	(-365, -1) for Baseline or (0, 0) for Concurrent unless otherwise stated	(-365, -1) for Baseline or (0, 0) for Concurrent unless otherwise stated
Comorbidity Score Evaluation window (days)	(-365, -1)	(-365, -1)
Medical Utilization Evaluation Window	(-365, -1)	(-365, -1)
Medical Utilization Care setting	IP, Inpatient stay (IS), AV, Other ambulatory visit (OA), Emergency department (ED)	IP, IS, AV, OA, ED
Drug Utilization Evaluation Window	(-365, -1)	(-365, -1)

Propensity Score Analysis/Subgroup Analysis

Analysis type	Propensity score analysis	Propensity score analysis
Perform HDPS Analysis	No	No
Matching Ratio	1:1	1:1
Matching Caliper Settings	0.01	0.01
Subgroup Analyses	Prior cardiovascular disease (Yes, No) Age groups (00-64, 65+ years) Sex (Male, Female)	Prior cardiovascular disease (Yes, No) Age groups (00-64, 65+ years) Sex (Male, Female)
Population used for rematching within subgroups	Total population	Total population

This request utilized the Cohort Identification and Descriptive Analysis (CIDA) module, with Propensity Score Matching (PSM) Analysis, version 7.3.4 to recreate a protocol-based assessment (PBA) of investigation on acute myocardial infarction (AMI) and hospitalized heart failure (hHF) following saxagliptin or sitagliptin use in comparison to long-acting insulin, pioglitazone, and second-generation sulfonylureas using updated data and CIDA features.

Query Period: See specifications for monitoring periods for each comparison

Listed below are Data Partner-specific (DP) end dates for certain monitoring periods when specified below.

DP:	AMI DP-Specific End Date (based on ETL DP Max Date):	hHF DP-Specific End Date (based on ETL DP Max Date):
01	3/31/2014	N/A
02	5/31/2014	1/31/2014
03	12/31/2012	12/31/2012
05	4/30/2014	12/31/2013
06	6/30/2014	3/31/2014
07	1/31/2014	10/31/2013
08	12/31/2012	12/31/2012
10	7/31/2014	N/A
13	6/30/2014	8/30/2013
14	7/31/2014	N/A
15	12/31/2013	9/30/2013
16	6/30/2012	6/30/2012
17	6/30/2012	6/30/2012

Coverage Requirement: Medical and Drug Coverage

Pre-exposure enrollment (days): 12 months (365 days)

Enrollment Gap: 45 days

Sex: Female or Male only

Age Groups: 18-29, 30-44, 45-54, 55-64, 65-74, 75-84, 85+ years

18-64, 65+ years (PS matching only)

Patient-level Return: No

Envelope Macro Use: No

Freeze Data: Yes

		Comparison 10		Comparison 11	
		Exposure of Interest Group	Reference Group	Exposure of Interest Group	Reference Group
	Monitoring Period Start	8/1/2009		8/1/2009	
	Monitoring Period End	DP-specific		DP-specific	
Drug/Exposure Definition	**Exposure**	Saxagliptin	Long-acting insulins	Saxagliptin	Second-generation sulfonylureas
	Incidence with Respect to	Saxagliptin, long-acting insulins	Saxagliptin, long-acting insulins	Saxagliptin, second-generation sulfonylureas	Saxagliptin, second-generation sulfonylureas
	Washout (days)	365 days	365 days	365 days	365 days
	Exposure Episode Truncation Criteria	Death, Query end date, End of exposure use, Occurrence of first hHF, Use of long-acting insulins	Death, Query end date, End of exposure use, Occurrence of first hHF, Use of saxagliptin	Death, Query end date, End of exposure use, Occurrence of first hHF, Use of second-generation sulfonylureas	Death, Query end date, End of exposure use, Occurrence of first hHF, Use of saxagliptin
	Cohort Definition	Only the first valid treatment episode during the query period (01)	Only the first valid treatment episode during the query period (01)	Only the first valid treatment episode during the query period (01)	Only the first valid treatment episode during the query period (01)
	Exposure Episode Gap	33% previous days' supply	33% previous days' supply	33% previous days' supply	33% previous days' supply
	Exposure Extension Period	12 days	12 days	12 days	12 days
	Minimum Episode Duration	1 day	1 day	1 day	1 day
	Minimum Days Supplied	1 day	1 day	1 day	1 day
Outcome Definition	**Event/Outcome**	hHF	hHF	hHF	hHF
	Care Setting/Diagnosis Position	Inpatient Primary (IPP)	IPP	IPP	IPP
	Event Incidence with Respect to	hHF or AMI	hHF or AMI	hHF or AMI	hHF or AMI
	Event Incidence Criteria Care Setting / Diagnosis Position	IPP	IPP	IPP	IPP
	Event Washout (days)	60 days	60 days	60 days	60 days
	Blackout Period	0 days	0 days	0 days	0 days

Inclusion/ Exclusion Criteria	**Conditions**	Diabetes (diagnosis or medication, not including short-acting insulins)	Diabetes (diagnosis or medication, not including short-acting insulins)	Diabetes (diagnosis or medication, not including short-acting insulins)	Diabetes (diagnosis or medication, not including short-acting insulins)
	Include or Exclude	Inclusion	Inclusion	Inclusion	Inclusion
	Care Setting/Diagnosis Position	Any	Any	Any	Any
	Lookback Period	(-365, -1)	(-365, -1)	(-365, -1)	(-365, -1)
	Number of Code Occurrences	1 instance	1 instance	1 instance	1 instance
Inclusion/ Exclusion Criteria	**Conditions**	Gestational diabetes	Gestational diabetes	Gestational diabetes	Gestational diabetes
	Include or Exclude	Exclusion	Exclusion	Exclusion	Exclusion
	Care Setting/Diagnosis Position	Any	Any	Any	Any
	Lookback Period	(-365, 0)	(-365, 0)	(-365, 0)	(-365, 0)
	Number of Code Occurrences	1 instance	1 instance	1 instance	1 instance
Inclusion/ Exclusion Criteria	**Conditions**	Short-acting insulin use only (defined as: Only one diabetes medication class (see Covariates table) AND this class is a short-acting insulin dispensing)	Short-acting insulin use only (defined as: Only one diabetes medication class (see Covariates table) AND this class is a short-acting insulin dispensing)		
	Include or Exclude	Exclusion	Exclusion		
	Care Setting/Diagnosis Position	Any	Any		
	Lookback Period	(-365, -1)	(-365, -1)		
	Number of Code Occurrences	1 instance	1 instance		
Stockpiling Algorithm	**Same Day Dispensing (Days Supplied)**	Sum	Sum	Sum	Sum
	Same Day Dispensing (Amount Supplied)	Sum	Sum	Sum	Sum
	Range of Allowable Days Supplied	Max 120 Days (inclusive)	Max 120 Days (inclusive)	Max 120 Days (inclusive)	Max 120 Days (inclusive)
	Range of Allowable Amount Supplied	N/A	N/A	N/A	N/A
	Overlap Percentage Processing	Default	Default	Default	Default

Baseline Covariates/Utilization/Comorbidity Score

Covariates	(See Covariates table)	(See Covariates table)
Care Setting/Diagnosis Position	inpatient (IP*), outpatient (ambulatory visit (AV*) only) (Stroke (narrow), AMI (narrow), and hHF must have Diagnosis Position of Primary)	inpatient (IP*), outpatient (ambulatory visit (AV*) only) (Stroke (narrow), AMI (narrow), and hHF must have Diagnosis Position of Primary)
Covariate Evaluation Window (days)	(-365, -1) for Baseline or (0, 0) for Concurrent unless otherwise stated	(-365, -1) for Baseline or (0, 0) for Concurrent unless otherwise stated
Comorbidity Score Evaluation window (days)	(-365, -1)	(-365, -1)
Medical Utilization Evaluation Window	(-365, -1)	(-365, -1)
Medical Utilization Care setting	IP, Inpatient stay (IS), AV, Other ambulatory visit (OA), Emergency department (ED)	IP, IS, AV, OA, ED
Drug Utilization Evaluation Window	(-365, -1)	(-365, -1)

Propensity Score Analysis/Subgroup Analysis

Analysis type	Propensity score analysis	Propensity score analysis
Perform HDPS Analysis	No	No
Matching Ratio	1:1	1:1
Matching Caliper Settings	0.01	0.01
Subgroup Analyses	Prior cardiovascular disease (Yes, No) Age groups (00-64, 65+ years) Sex (Male, Female)	Prior cardiovascular disease (Yes, No) Age groups (00-64, 65+ years) Sex (Male, Female)
Population used for rematching within subgroups	Total population	Total population

This request utilized the Cohort Identification and Descriptive Analysis (CIDA) module, with Propensity Score Matching (PSM) Analysis, version 7.3.4 to recreate a protocol-based assessment (PBA) of investigation on acute myocardial infarction (AMI) and hospitalized heart failure (hHF) following saxagliptin or sitagliptin use in comparison to long-acting insulin, pioglitazone, and second-generation sulfonylureas using updated data and CIDA features.

Query Period: See specifications for monitoring periods for each comparison

Listed below are Data Partner-specific (DP) end dates for certain monitoring periods when specified below.

DP:	AMI DP-Specific End Date (based on ETL DP Max Date):	hHF DP-Specific End Date (based on ETL DP Max Date):
01	3/31/2014	N/A
02	5/31/2014	1/31/2014
03	12/31/2012	12/31/2012
05	4/30/2014	12/31/2013
06	6/30/2014	3/31/2014
07	1/31/2014	10/31/2013
08	12/31/2012	12/31/2012
10	7/31/2014	N/A
13	6/30/2014	8/30/2013
14	7/31/2014	N/A
15	12/31/2013	9/30/2013
16	6/30/2012	6/30/2012
17	6/30/2012	6/30/2012

Coverage Requirement: Medical and Drug Coverage

Pre-exposure enrollment (days): 12 months (365 days)

Enrollment Gap: 45 days

Sex: Female or Male only

Age Groups: 18-29, 30-44, 45-54, 55-64, 65-74, 75-84, 85+ years

18-64, 65+ years (PS matching only)

Patient-level Return: No

Envelope Macro Use: No

Freeze Data: Yes

		Comparison 12		Comparison 13	
		Exposure of Interest Group	Reference Group	Exposure of Interest Group	Reference Group
Drug/Exposure Definition	**Monitoring Period Start**	10/1/2006		10/1/2006	
	Monitoring Period End	DP-specific		DP-specific	
	Exposure	Sitagliptin	Pioglitazone	Sitagliptin	Long-acting insulins
	Incidence with Respect to	Sitagliptin, pioglitazone	Sitagliptin, pioglitazone	Sitagliptin, long-acting insulins	Sitagliptin, long-acting insulins
	Washout (days)	365 days	365 days	365 days	365 days
	Exposure Episode Truncation Criteria	Death, Query end date, End of exposure use, Occurrence of first hHF, Use of pioglitazone	Death, Query end date, End of exposure use, Occurrence of first hHF, Use of sitagliptin	Death, Query end date, End of exposure use, Occurrence of first hHF, Use of long-acting insulins	Death, Query end date, End of exposure use, Occurrence of first hHF, Use of sitagliptin
	Cohort Definition	Only the first valid treatment episode during the query period (01)	Only the first valid treatment episode during the query period (01)	Only the first valid treatment episode during the query period (01)	Only the first valid treatment episode during the query period (01)
	Exposure Episode Gap	33% previous days' supply	33% previous days' supply	33% previous days' supply	33% previous days' supply
	Exposure Extension Period	12 days	12 days	12 days	12 days
	Minimum Episode Duration	1 day	1 day	1 day	1 day
	Minimum Days Supplied	1 day	1 day	1 day	1 day
Outcome Definition	**Event/Outcome**	hHF	hHF	hHF	hHF
	Care Setting/Diagnosis Position	Inpatient Primary (IPP)	IPP	IPP	IPP
	Event Incidence with Respect to	hHF or AMI	hHF or AMI	hHF or AMI	hHF or AMI
	Event Incidence Criteria Care Setting / Diagnosis Position	IPP	IPP	IPP	IPP
	Event Washout (days)	60 days	60 days	60 days	60 days
	Blackout Period	0 days	0 days	0 days	0 days

Inclusion/ Exclusion Criteria	**Conditions**	Diabetes (diagnosis or medication, not including short-acting insulins)	Diabetes (diagnosis or medication, not including short-acting insulins)	Diabetes (diagnosis or medication, not including short-acting insulins)	Diabetes (diagnosis or medication, not including short-acting insulins)
	Include or Exclude	Inclusion	Inclusion	Inclusion	Inclusion
	Care Setting/Diagnosis Position	Any	Any	Any	Any
	Lookback Period	(-365, -1)	(-365, -1)	(-365, -1)	(-365, -1)
	Number of Code Occurrences	1 instance	1 instance	1 instance	1 instance
Inclusion/ Exclusion Criteria	**Conditions**	Gestational diabetes	Gestational diabetes	Gestational diabetes	Gestational diabetes
	Include or Exclude	Exclusion	Exclusion	Exclusion	Exclusion
	Care Setting/Diagnosis Position	Any	Any	Any	Any
	Lookback Period	(-365, 0)	(-365, 0)	(-365, 0)	(-365, 0)
	Number of Code Occurrences	1 instance	1 instance	1 instance	1 instance
Inclusion/ Exclusion Criteria	**Conditions**	Congestive heart failure	Congestive heart failure	Short-acting insulin use only (defined as: Only one diabetes medication class (see Covariates table) AND this class is a short-acting insulin dispensing)	Short-acting insulin use only (defined as: Only one diabetes medication class (see Covariates table) AND this class is a short-acting insulin dispensing)
	Include or Exclude	Exclusion	Exclusion	Exclusion	Exclusion
	Care Setting/Diagnosis Position	Any	Any	Any	Any
	Lookback Period	(-365, -1)	(-365, -1)	(-365, -1)	(-365, -1)
	Number of Code Occurrences	1 instance	1 instance	1 instance	1 instance
Stockpiling Algorithm	**Same Day Dispensing (Days Supplied)**	Sum	Sum	Sum	Sum
	Same Day Dispensing (Amount Supplied)	Sum	Sum	Sum	Sum
	Range of Allowable Days Supplied	Max 120 Days (inclusive)	Max 120 Days (inclusive)	Max 120 Days (inclusive)	Max 120 Days (inclusive)
	Range of Allowable Amount Supplied	N/A	N/A	N/A	N/A
	Overlap Percentage Processing	Default	Default	Default	Default

Baseline Covariates/Utilization/Comorbidity Score

Covariates	(See Covariates table)	(See Covariates table)
Care Setting/Diagnosis Position	inpatient (IP*), outpatient (ambulatory visit (AV*) only) (Stroke (narrow), AMI (narrow), and hHF must have Diagnosis Position of Primary)	inpatient (IP*), outpatient (ambulatory visit (AV*) only) (Stroke (narrow), AMI (narrow), and hHF must have Diagnosis Position of Primary)
Covariate Evaluation Window (days)	(-365, -1) for Baseline or (0, 0) for Concurrent unless otherwise stated	(-365, -1) for Baseline or (0, 0) for Concurrent unless otherwise stated
Comorbidity Score Evaluation window (days)	(-365, -1)	(-365, -1)
Medical Utilization Evaluation Window	(-365, -1)	(-365, -1)
Medical Utilization Care setting	IP, Inpatient stay (IS), AV, Other ambulatory visit (OA), Emergency department (ED)	IP, IS, AV, OA, ED
Drug Utilization Evaluation Window	(-365, -1)	(-365, -1)

Propensity Score Analysis/Subgroup Analysis

Analysis type	Propensity score analysis	Propensity score analysis
Perform HDPS Analysis	No	No
Matching Ratio	1:1	1:1
Matching Caliper Settings	0.01	0.01
Subgroup Analyses	Prior cardiovascular disease (Yes, No) Age groups (00-64, 65+ years) Sex (Male, Female)	Prior cardiovascular disease (Yes, No) Age groups (00-64, 65+ years) Sex (Male, Female)
Population used for rematching within subgroups	Total population	Total population

Appendix H.8. Specifications for Parameters in this Request, Comparison 14; Sitagliptin vs Second-generation sulfonylureas

This request utilized the Cohort Identification and Descriptive Analysis (CIDA) module, with Propensity Score Matching (PSM) Analysis, version 7.3.4 to recreate a protocol-based assessment (PBA) of investigation on acute myocardial infarction (AMI) and hospitalized heart failure (hHF) following saxagliptin or sitagliptin use in comparison to long-acting insulin, pioglitazone, and second-generation sulfonylureas using updated data and CIDA features.

Query Period: See specifications for monitoring periods for each comparison

Listed below are Data Partner-specific (DP) end dates for certain monitoring periods when specified below.

DP:	AMI DP-Specific End Date (based on ETL DP Max Date):	hHF DP-Specific End Date (based on ETL DP Max Date):
01	3/31/2014	N/A
02	5/31/2014	1/31/2014
03	12/31/2012	12/31/2012
05	4/30/2014	12/31/2013
06	6/30/2014	3/31/2014
07	1/31/2014	10/31/2013
08	12/31/2012	12/31/2012
10	7/31/2014	N/A
13	6/30/2014	8/30/2013
14	7/31/2014	N/A
15	12/31/2013	9/30/2013
16	6/30/2012	6/30/2012
17	6/30/2012	6/30/2012

Coverage Requirement: Medical and Drug Coverage
Pre-exposure enrollment (days): 12 months (365 days)
Enrollment Gap: 45 days
Sex: Female or Male only
Age Groups: 18-29, 30-44, 45-54, 55-64, 65-74, 75-84, 85+ years
18-64, 65+ years (PS matching only)
Patient-level Return: No
Envelope Macro Use: No
Freeze Data: Yes

		Comparison 14	
		Exposure of Interest Group	**Reference Group**
	Monitoring Period Start	10/1/2006	
	Monitoring Period End	DP-specific	
Drug/Exposure Definition	**Exposure**	Sitagliptin	Second-generation sulfonylureas
	Incidence with Respect to	Sitagliptin, second-generation sulfonylureas	Sitagliptin, second-generation sulfonylureas
	Washout (days)	365	365
	Exposure Episode Truncation Criteria	Death, Query end date, End of exposure use, Occurrence of first hHF, Use of second-generation sulfonylureas	Death, Query end date, End of exposure use, Occurrence of first hHF, Use of sitagliptin
	Cohort Definition	Only the first valid treatment episode during the query period (01)	Only the first valid treatment episode during the query period (01)
	Exposure Episode Gap	33% previous days' supply	33% previous days' supply
	Exposure Extension Period	12 days	12 days
	Minimum Episode Duration	1 day	1 day
	Minimum Days Supplied	1 day	1 day
Outcome Definition	**Event/Outcome**	hHF	hHF
	Care Setting/Diagnosis Position	Inpatient Primary (IPP)	IPP
	Event Incidence with Respect to	hHF or AMI	hHF or AMI
	Event Incidence Criteria Care Setting / Diagnosis Position	IPP	IPP
	Event Washout (days)	60	60
	Blackout Period	0 days	0 days

Inclusion/ Exclusion Criteria

Conditions	Diabetes (diagnosis or medication, not including short-acting insulins)	Diabetes (diagnosis or medication, not including short-acting insulins)
Include or Exclude	Inclusion	Inclusion
Care Setting/Diagnosis Position	Any	Any
Lookback Period	(-365, -1)	(-365, -1)
Number of Code Occurrences	1 instance	1 instance

Inclusion/ Exclusion Criteria

Conditions	Gestational diabetes	Gestational diabetes
Include or Exclude	Exclusion	Exclusion
Care Setting/Diagnosis Position	Any	Any
Lookback Period	(-365, 0)	(-365, 0)
Number of Code Occurrences	1 instance	1 instance

Inclusion/ Exclusion Criteria

Conditions		
Include or Exclude		
Care Setting/Diagnosis Position		
Lookback Period		
Number of Code Occurrences		

Stockpiling Algorithm

Same Day Dispensing (Days Supplied)	Sum	Sum
Same Day Dispensing (Amount Supplied)	Sum	Sum
Range of Allowable Days Supplied	Max 120 Days (inclusive)	Max 120 Days (inclusive)
Range of Allowable Amount Supplied	N/A	N/A
Overlap Percentage Processing	Default	Default

Baseline Covariates/Utilization/Comorbidity Score

Covariates	(See Covariates table)
Care Setting/Diagnosis Position	inpatient (IP*), outpatient (ambulatory visit (AV*) only) (Stroke (narrow), AMI (narrow), and hHF must have Diagnosis Position of Primary)
Covariate Evaluation Window (days)	(-365, -1) for Baseline or (0, 0) for Concurrent unless otherwise stated
Comorbidity Score Evaluation window (days)	(-365, -1)
Medical Utilization Evaluation Window	(-365, -1)
Medical Utilization Care setting	IP, Inpatient stay (IS), AV, Other ambulatory visit (OA), Emergency deaprtment (ED)
Drug Utilization Evaluation Window	(-365, -1)

Propensity Score Analysis/Subgroup Analysis

Analysis type	Propensity score analysis
Perform HDPS Analysis	No
Matching Ratio	1:1
Matching Caliper Settings	0.01
Subgroup Analyses	Prior cardiovascular disease (Yes, No) Age groups (00-64, 65+ years) Sex (Male, Female)
Population used for rematching within subgroups	Total population

Appendix I. List and Definition of Covariates Appearing in Table 1, Propensity Score Model (PSM), or Subgroup Definition in All Comparisons, All Analyses and Outcomes

Group	Covariate	Code Type	Care Setting	Form	Time (days)	Analysis
Prior Cardiovascular Disease	Prior acute myocardial infarction (AMI) (broad)	Diagnosis (Dx), Procedure (Px)	Inpatient (IP*), Ambulatory visit (AV*)	Categorical	(-365, -61)	No PS model
Prior Cardiovascular Disease	Prior acute myocardial infarction (AMI) (narrow)	Dx, Px	Inpatient primary (IPP)	Categorical	(-365, -61)	PS model
Prior Cardiovascular Disease	All prior acute myocardial infarction (AMI) (broad)	Dx, Px	IP*, AV*	Categorical	(-365, -1)	No PS model
Prior Cardiovascular Disease	Prior hospitalized heart failure (hHF)	Dx, Px	IPP	Categorical	(-365, -61)	hHF outcome only
Prior Cardiovascular Disease	Other ischemic heart disease	Dx, Px	IP*, AV*	Categorical	(-365, -1)	PS model
Prior Cardiovascular Disease	Heart failure	Dx, Px	IP*, AV*	Categorical	(-365, -1)	PS model
Prior Cardiovascular Disease	Other heart disease	Dx, Px	IP*, AV*	Categorical	(-365, -1)	PS model
Prior Cardiovascular Disease	Stroke (broad)	Dx, Px	IP*, AV*	Categorical	(-365, -1)	PS model
Prior Cardiovascular Disease	Stroke (narrow)	Dx, Px	IPP	Categorical	(-365, -1)	PS model
Prior Cardiovascular Disease	Peripheral arterial disease	Dx, Px	IP*, AV*	Categorical	(-365, -1)	PS model
Prior Cardiovascular Disease	All coronary revascularization procedures (see below)	Dx, Px	IP*, AV*	Categorical	(-365, -1)	PS model
Prior Cardiovascular Disease	Coronary artery bypass graft	Dx, Px	IP*, AV*	Categorical	(-365, -1)	No PS model
Prior Cardiovascular Disease	Percutaneous coronary intervention	Dx, Px	IP*, AV*	Categorical	(-365, -1)	No PS model
Prior Cardiovascular Disease	All carotid revascularization procedures (see below)	Dx, Px	IP*, AV*	Categorical	(-365, -1)	PS model
Prior Cardiovascular Disease	Carotid endarterectomy, stenting, angioplasty, or atherectomy	Dx, Px	IP*, AV*	Categorical	(-365, -1)	No PS model
Prior Cardiovascular Disease	Carotid bypass	Dx, Px	IP*, AV*	Categorical	(-365, -1)	No PS model
Prior Cardiovascular Disease	All lower extremity revascularization (see below)	Dx, Px	IP*, AV*	Categorical	(-365, -1)	PS model
Prior Cardiovascular Disease	Lower extremity endarterectomy, stenting, angioplasty, or	Dx, Px	IP*, AV*	Categorical	(-365, -1)	No PS model
Prior Cardiovascular Disease	Lower extremity bypass	Dx, Px	IP*, AV*	Categorical	(-365, -1)	No PS model
Prior Cardiovascular Disease	Lower extremity amputation	Dx, Px	IP*, AV*	Categorical	(-365, -1)	No PS model
Prior Cardiovascular Disease	All prior cardiovascular disease covariates	Dx, Px	IP*, AV*	Categorical	(-365, -1)	Subgroup definition
Comorbidities	Asthma	Dx, Px	IP*, AV*	Categorical	(-365, -1)	PS model
Comorbidities	Cancer (excluding non-melanoma skin cancer)	Dx, Px	IP*, AV*	Categorical	(-365, -1)	PS model
Comorbidities	Chronic kidney disease (excluding ESRD)	Dx, Px	IP*, AV*	Categorical	(-365, -1)	PS model
Comorbidities	Chronic obstructive pulmonary disease	Dx, Px	IP*, AV*	Categorical	(-365, -1)	PS model
Comorbidities	Dementia	Dx, Px	IP*, AV*	Categorical	(-365, -1)	PS model
Comorbidities	Depression	Dx, Px	IP*, AV*	Categorical	(-365, -1)	PS model
Comorbidities	End stage renal disease (ESRD)	Dx, Px	IP*, AV*	Categorical	(-365, -1)	PS model

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Group	Covariate	Code Type	Care Setting	Form	Time (days)	Analysis
Comorbidities	Fracture	Dx, Px	IP*, AV*	Categorical	(-365, -1)	PS model
Comorbidities	HIV/AIDS	Dx, Px	IP*, AV*	Categorical	(-365, -1)	PS model
Comorbidities	Hyperlipidemia or lipid disorder	Dx, Px	IP*, AV*	Categorical	(-365, -1)	PS model
Comorbidities	Hypertension	Dx, Px	IP*, AV*	Categorical	(-365, -1)	PS model
Comorbidities	Hypoglycemia	Dx, Px	IP*, AV*	Categorical	(-365, -1)	PS model
Comorbidities	Obesity (or weight gain)	Dx, Px	IP*, AV*	Categorical	(-365, -1)	PS model
Comorbidities	Osteoporosis	Dx, Px	IP*, AV*	Categorical	(-365, -1)	PS model
Comorbidities	Peripheral neuropathy	Dx, Px	IP*, AV*	Categorical	(-365, -1)	PS model
Comorbidities	Tobacco use	Dx, Px	IP*, AV*	Categorical	(-365, -1)	PS model
Comorbidities	All comorbidity covariates	Dx, Px	IP*, AV*	Categorical	(-365, -1)	No PS model
Anti-Diabetics	Alpha-glucosidase inhibitors	Rx	N/A	Categorical	(-365, -1)	PS model
Anti-Diabetics	Biguanides	Rx	N/A	Categorical	(-365, -1)	PS model
Anti-Diabetics	Other dipeptidyl peptidase 4 (DPP-4) inhibitors	Rx	N/A	Categorical	(-365, -1)	PS model
Anti-Diabetics	Meglitinides	Rx	N/A	Categorical	(-365, -1)	PS model
Anti-Diabetics	Saxagliptin*	Rx	N/A	Categorical	(-365, -1)	PS model
Anti-Diabetics	Sitagliptin*	Rx	N/A	Categorical	(-365, -1)	PS model
Anti-Diabetics	Pioglitazone*	Rx	N/A	Categorical	(-365, -1)	PS model
Anti-Diabetics	First-generation sulfonylureas	Rx	N/A	Categorical	(-365, -1)	PS model
Anti-Diabetics	Second-generation sulfonylureas*	Rx	N/A	Categorical	(-365, -1)	PS model
Anti-Diabetics	Long-acting insulins*	Rx	N/A	Categorical	(-365, -1)	PS model
Anti-Diabetics	Short-acting insulins	Rx	N/A	Categorical	(-365, -1)	PS model
Anti-Diabetics	Other thiazolidinediones	Rx	N/A	Categorical	(-365, -1)	PS model
Anti-Diabetics	Other anti-diabetics (Canagliflozin, GLP-1 analogues, amylin analog-type)	Rx	N/A	Categorical	(-365, -1)	PS model
Anti-Diabetics	All anti-diabetics	Rx	N/A	Categorical	(-365, -1)	No PS model
Anti-Hypertensive Agents	Angiotensin-converting enzyme (ACE) inhibitors	Rx	N/A	Categorical	(-365, -1)	PS model
Anti-Hypertensive Agents	Alpha blockers	Rx	N/A	Categorical	(-365, -1)	PS model
Anti-Hypertensive Agents	Angiotensin receptor blockers	Rx	N/A	Categorical	(-365, -1)	PS model
Anti-Hypertensive Agents	Beta blockers	Rx	N/A	Categorical	(-365, -1)	PS model
Anti-Hypertensive Agents	Calcium channel blockers	Rx	N/A	Categorical	(-365, -1)	PS model
Anti-Hypertensive Agents	Direct vasodilators	Rx	N/A	Categorical	(-365, -1)	PS model
Anti-Hypertensive Agents	Loop diuretics	Rx	N/A	Categorical	(-365, -1)	PS model

Appendix I. List and Definition of Covariates Appearing in Table 1, Propensity Score Model (PSM), or Subgroup Definition in All Comparisons, All Analyses and Outcomes

Group	Covariate	Code Type	Care Setting	Form	Time (days)	Analysis
Anti-Hypertensive Agents	Aldosterone receptor agonists (ARAs)	Rx	N/A	Categorical	(-365, -1)	PS model
Anti-Hypertensive Agents	Non-ARA potassium sparing diuretics	Rx	N/A	Categorical	(-365, -1)	PS model
Anti-Hypertensive Agents	Thiazide diuretics	Rx	N/A	Categorical	(-365, -1)	PS model
Anti-Hypertensive Agents	Renin inhibitors	Rx	N/A	Categorical	(-365, -1)	PS model
Anti-Hypertensive Agents	Central alpha-2 receptor agonists (clonidine, all combinations)	Rx	N/A	Categorical	(-365, -1)	PS model
Anti-Hypertensive Agents	Reserpine and derivatives	Rx	N/A	Categorical	(-365, -1)	PS model
Anti-Hypertensive Agents	All anti-hypertensive agents	Rx	N/A	Categorical	(-365, -1)	No PS model
Lipid-Lowering Agents	Lipid-lowering agents	Rx	N/A	Categorical	(-365, -1)	PS model
Anti-Diabetics Concurrent	Alpha-glucosidase inhibitors	Rx	N/A	Categorical	(0, 0)	PS model
Anti-Diabetics Concurrent	Biguanides	Rx	N/A	Categorical	(0, 0)	PS model
Anti-Diabetics Concurrent	Other DPP-4 inhibitors	Rx	N/A	Categorical	(0, 0)	PS model
Anti-Diabetics Concurrent	Meglitinides	Rx	N/A	Categorical	(0, 0)	PS model
Anti-Diabetics Concurrent	Saxagliptin*	Rx	N/A	Categorical	(0, 0)	PS model
Anti-Diabetics Concurrent	Sitagliptin*	Rx	N/A	Categorical	(0, 0)	PS model
Anti-Diabetics Concurrent	Pioglitazone*	Rx	N/A	Categorical	(0, 0)	PS model
Anti-Diabetics Concurrent	First-generation sulfonylureas	Rx	N/A	Categorical	(0, 0)	PS model
Anti-Diabetics Concurrent	Second-generation sulfonylureas*	Rx	N/A	Categorical	(0, 0)	PS model
Anti-Diabetics Concurrent	Long-acting insulins*	Rx	N/A	Categorical	(0, 0)	PS model
Anti-Diabetics Concurrent	Short-acting insulins	Rx	N/A	Categorical	(0, 0)	PS model
Anti-Diabetics Concurrent	Other thiazolidinediones	Rx	N/A	Categorical	(0, 0)	PS model
Anti-Diabetics Concurrent	Other anti-diabetics (Canagliflozin, GLP-1 analogues, amylin analog-type)	Rx	N/A	Categorical	(0, 0)	PS model
Anti-Diabetes Concurrent	All anti-diabetics	Rx	N/A	Categorical	(0, 0)	No PS model
Anti-Hypertensive Agents Concurrent	Angiotensin-converting enzyme inhibitors	Rx	N/A	Categorical	(0, 0)	PS model
Anti-Hypertensive Agents Concurrent	Alpha blockers	Rx	N/A	Categorical	(0, 0)	PS model
Anti-Hypertensive Agents Concurrent	Angiotensin receptor blockers	Rx	N/A	Categorical	(0, 0)	PS model
Anti-Hypertensive Agents Concurrent	Beta blockers	Rx	N/A	Categorical	(0, 0)	PS model
Anti-Hypertensive Agents Concurrent	Calcium channel blockers	Rx	N/A	Categorical	(0, 0)	PS model
Anti-Hypertensive Agents Concurrent	Direct vasodilators	Rx	N/A	Categorical	(0, 0)	PS model
Anti-Hypertensive Agents Concurrent	Loop diuretics	Rx	N/A	Categorical	(0, 0)	PS model
Anti-Hypertensive Agents Concurrent	Aldosterone receptor agonists (ARAs)	Rx	N/A	Categorical	(0, 0)	PS model
Anti-Hypertensive Agents Concurrent	Non-ARA potassium sparing diuretics	Rx	N/A	Categorical	(0, 0)	PS model

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Group	Covariate	Code Type	Care Setting	Form	Time (days)	Analysis
Anti-Hypertensive Agents Concurrent	Thiazide diuretics	Rx	N/A	Categorical	(0, 0)	PS model
Anti-Hypertensive Agents Concurrent	Renin inhibitors	Rx	N/A	Categorical	(0, 0)	PS model
Anti-Hypertensive Agents Concurrent	Central alpha-2 receptor agonists (clonidine, all combinations)	Rx	N/A	Categorical	(0, 0)	PS model
Anti-Hypertensive Agents Concurrent	Reserpine and derivatives	Rx	N/A	Categorical	(0, 0)	PS model
Anti-Hypertensive Agents Concurrent	All anti-hypertensive agents	Rx	N/A	Categorical	(0, 0)	No PS model
Lipid-Lowering Agents Concurrent	Lipid-lowering agents	Rx	N/A	Categorical	(0, 0)	PS model
Demographics	Age	N/A	N/A	Continuous	N/A	PS model
Demographics	Sex	N/A	N/A	Categorical	N/A	PS model
Demographics	Calendar year	N/A	N/A	Categorical	N/A	PS model
Utilization	Non-acute institutional stay (IS visit) during prior year	N/A	N/A	Categorical	(-365, -1)	PS model
Utilization	Any hospitalization (IP visit) within prior 30 days	N/A	N/A	Categorical	(-30, -1)	PS model
Utilization	Any hospitalization (IP visit) 31-365 days	N/A	N/A	Categorical	(-365, -31)	PS model
Utilization	Any ED visit within prior 30 days	N/A	N/A	Categorical	(-30, -1)	PS model
Utilization	Any ED visit 31-365 days before	N/A	N/A	Categorical	(-365, -31)	PS model
Utilization	Number of outpatient (AV) visits in prior year	N/A	N/A	Continuous	(-365, -1)	PS model
Utilization	Number of unique medications dispensed in prior year	N/A	N/A	Continuous	(-365, -1)	PS model

All covariates listed will appear in Table 1 output
The notes below applies to both baseline and concurrent covariates.

Red indicates these covariates were grouped into aggregate "other" group for respective group for propensity score (PS) model.
- Other anti-diabetics (Replication): Alpha glucosidase inhibitors, DPP-4, meglitinides, first-generation sulfonylureas, saxagliptin, other anti-diabetics (Canagliflozin, GLP-1 analogues, amylin analog-type). Note that saxagliptin is not included in this aggregate covariate for analyses where saxagliptin is the exposure of interest.
- Other anti-hypertensives: Central alpha-2 receptor agonists, alpha blockers, aldosterone receptor antagonists, potassium sparing diuretics, loop diuretics, direct vasodilators, renin inhibitors, reserpine and derivatives

Final anti-diabetic covariates to be used in "Replication" PS model : Biguanides, short-acting insulins, thiazolidinediones, exposure anti-diabetics*, other anti-diabetics (as defined in the row above)
Final anti-hypertensive covariates to be used in both PS model: ACE-inhibitors, angiotensin receptor blockers, beta blockers, calcium channel blockers, thiazide diuretics, other anti-hypertensives (as defined in the row above)

*Treatment drugs are only included in PS model if **not** part of treatment-comparator pair. For example, saxagliptin-insulin would have sitagliptin, pioglitazone, and sulfonylureas, but not long-acting insulins, within PS model.