

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 run(s).

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Overview for Request cder_mpl2p_wp028

Request ID: cder_mpl2p_wp028_nsdv_v01

Request Description: In this report we compared risk of stroke, intracranial hemorrhage, and bleeding outcomes associated with use of non-vitamin K oral anticoagulants (NOACs) in those aged 65 years or older in a subset of the Sentinel Distributed Database.

Sentinel Routine Querying Module: Cohort Identification and Descriptive Analysis (CIDA) and Propensity Score Analysis modules, version 10.3.2, with additional programming

Data Source: We distributed this request to the Duke Center for Medicare & Medicaid Services, a contributing Sentinel Distributed Database Data Partner, for execution on 100% Medicare fee-for-service data on September 27, 2021. Data from Medicare patients having both fee-for-service medical coverage and Part D drug coverage are included. The study period included data from October 19, 2010 to September 30, 2015. Please see Appendix A for a list of dates of available data for each Data

Study Design: We identified individuals with incident use of dabigatran, rivaroxaban, or apixaban and evaluated the occurrence of thromboembolic stroke (stroke), intracranial hemorrhage (ICH), major extracranial bleeding (MEB), and gastrointestinal bleeding (GIB) outcomes among patients aged 65 years or older. We performed all pairwise comparisons of the three NOACs using inverse probability of treatment weighting to adjust for confounding. This study used a retrospective new-user cohort design. This is a Type 2 analysis using the Propensity Score Analysis (PSA) module in the Query Request Package (QRP) documentation.

Exposure and Comparator: We defined exposures of interest as new use of standard dose rivaroxaban (20 mg once daily), dabigatran (150 mg twice daily), and apixaban (5 mg twice daily). We defined new use as no prior use of the standard dose of the exposure or any dose of the comparators or warfarin in the 183 days prior to the first qualifying dispensing (index). Exposures were defined using National Drug Codes (NDCs). Please see Appendix C for a list of generic and brand names used to define the

Outcomes of Interest: We defined the following outcomes of interest¹:

1. We defined MEB as one ICD-9-CM (International Classification of Diseases, 9th Revision, Clinical Modification) diagnosis code from "Major Extracranial Bleeding - List 1" as a primary diagnosis from an inpatient encounter AND no code from "Major Extracranial Bleeding - List 3" OR (one ICD-9-CM diagnosis code from "Major Extracranial Bleeding - List 2" as a primary diagnosis from an inpatient encounter AND one ICD-9-CM diagnosis code from "Major Extracranial Bleeding - List 1" as a secondary or unspecified diagnosis from an inpatient encounter on the same day AND no code from "Major Extracranial Bleeding - List 3").
2. We defined GIB as one ICD-9-CM diagnosis code from "Gastrointestinal Bleeding - List 1" as a primary diagnosis from an inpatient encounter OR (one ICD-9-CM diagnosis code from "Gastrointestinal Bleeding - List 2" as a primary diagnosis from an inpatient encounter AND one ICD-9-CM diagnosis code from "Gastrointestinal Bleeding - List 1" as a secondary or unspecified diagnosis from an inpatient encounter on the same day).

We excluded patients from the analysis if they had evidence of the outcome on the day of exposure initiation or in the 183 days preceding exposure initiation. Please see Appendix D for a list of diagnosis codes used to define outcomes in this request.

Cohort Eligibility Criteria: We required patients aged 65 years or older to be enrolled in plans with both medical and drug coverage for at least 183 days before the index dispensing, during which gaps in coverage of up to 45 days were allowed and treated as continuous enrollment. New use was defined as no use of apixaban, dabigatran, edoxaban, rivaroxaban, or warfarin in the 183 days period preceding the index dispensing. We included patients with evidence of atrial fibrillation in the 183 days preceding and including the index date. We excluded patients from the cohort if they had evidence of dialysis, kidney replacement, deep vein thrombosis, pulmonary embolism, joint replacement, mitral stenosis, valve replacement or valve repair in the 183 days prior to and including the index date. Dialysis was only assessed in outpatient care settings. Additionally, we excluded patients from the analysis if they had evidence of any other NOAC, warfarin or an institutional stay encounter on their index date. Inclusion and exclusion criteria were defined using NDCs, ICD-9-CM, and Current Procedural Terminology, Fourth Edition (CPT-4) codes. Please see Appendices D and F for a list of specific codes used to define cohort eligibility in this request.

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Follow-up Time: We determined follow-up time based on the length of the exposure episodes and censored on prespecified criteria. We created exposure episodes using outpatient pharmacy dispensing data. We bridged together exposure episodes less than three days apart and added three days at the end of each exposure episode. These "as treated" episodes are the time during which we assessed outcomes. Overlapping days supply of two dispensings were stockpiled up to 33% of the first dispensings days supply. We censored all exposure episodes upon initiation of any other NOAC, low dose of the index NOAC, warfarin or edoxaban dispensing, kidney transplant, dialysis, institutional stay encounter, major extracranial bleed, gastrointestinal bleed, intracranial hemorrhage, or ischemic stroke. Follow-up began on the day after exposure initiation and continued until the first occurrence of any of the following: 1) outcome occurrence; 2) requester-defined censoring criteria; 3) disenrollment; 4) recorded death; 5) end of exposure episode; 6) end of query period; or 7) end of available data. Only the first valid exposure episode that occurred during the study period was included per patient. Please see Appendices E and G for a list of codes used to define censoring criteria in

Baseline Covariates: We defined covariates using NDCs, ICD-9-CM diagnosis codes, CPT-4 codes, and Healthcare Common Procedure Coding System (HCPCS) codes. Please refer to Appendices H and I for a list of covariates, codes, and evaluation windows used to define covariates in this request. Please refer to Appendix M for evaluation windows used to defined covariates.

Propensity Score Estimation: For each of the three comparisons, we fit a logistic regression model separately for all patients, female patients, and male patients, to estimate the propensity score (PS) based on potential confounders outlined in Appendix K.

Inverse Probability of Treatment Weighting: Patients in non-overlapping regions of the PS distributions were trimmed, or excluded, from the population used for IPTW analysis. Patients were weighted using stabilized average treatment effect weights. Prior to generating effect estimates, we considered three potential thresholds at which to truncate IPT weights: 1) no truncation; 2) truncate weights at the 1st and 99th percentiles; and 3) truncate weights at the 2.5th and 97.5th percentile. Based on the weight distribution after truncating at each potential threshold, we selected "no truncation" and presented those results in this report. Effect estimates were not generated for the other potential truncation thresholds. Please see Appendices B1-B9 for descriptive statistics on the weight distributions for each model.

Analysis: For each comparison, we estimated IPT weighted hazard ratios and corresponding robust 95% confidence intervals.

Please see Appendix J for the specifications of parameters used in this request and and Appendix K for a study design diagram detailing this request.

Limitations: As with all observational studies, this evaluation was limited in its ability to control for all sources of potential bias. Algorithms used to define exposures, outcomes, inclusion and exclusion criteria, and covariates are imperfect and may be misclassified. Therefore, data should be interpreted with this limitation in mind.

Notes: Please contact the Sentinel Operations Center (info@sentinelssystem.org) for questions and to provide comments/suggestions for future enhancements to this document. For more information on Sentinel's routine querying modules, please refer to the documentation (<https://dev.sentinelssystem.org/projects/SENTINEL/repos/sentinel-routine-querying-tool-documentation/browse>).

¹Cunningham A, Stein CM, Chung CP, Daugherty JR, Smalley WE, Ray WA. An automated database case definition for serious bleeding related to oral anticoagulant use. *Pharmacoepidemiol Drug Saf.* 2011 Jun;20(6):560-6. doi: 10.1002/pds.2109. Epub 2011 Mar 8. PMID: 21387461; PMCID: PMC3365595.

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Figure 2e Forest Plot of Hazard Ratios (HR) and 95% Confidence Intervals (CI) for Inverse Probability of Treatment Weighted Analyses, Dabigatran vs Apixaban from One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

Figure 2f Forest Plot of Hazard Ratios (HR) and 95% Confidence Intervals (CI) for Inverse Probability of Treatment Weighted Analyses, Rivaroxaban vs Apixaban from One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

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

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).

Code Days - the minimum number of times the diagnosis must be found during the evaluation period in order to fulfill the algorithm to identify the corresponding patient characteristic.

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.

Computed Start Marketing Date - represents the first observed dispensing date among all valid users within a GROUP (scenario) within each Data Partner site.

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.

Switch Evaluation Step Value - value used to differentiate evaluation step. Each switch pattern can support up to 2 evaluation steps (0 = switch pattern evaluation start; 1 = first evaluation; 2 = second evaluation).

Switch Gap Inclusion Indicator - indicator for whether gaps in treatment episodes that are included in a switch episode will be counted as part of the switch episode duration.

Switch Pattern Cohort Inclusion Date - indicates which date to use for inclusion into the switch pattern cohort of interest as well as optionally as the index date of the treatment episode initiating the switch pattern. Valid options are the product approval date, product marketing date, other requester defined date, or computed start marketing date.

Switch Pattern Cohort Inclusion Strategy - indicates how the switch pattern cohort inclusion date will be used: 01: used only as a switch cohort entry date. First treatment episode dispensing date is used as index for computing time to first switch; 02: used as switch cohort entry date and as initial switch step index date for computing time to first switch.

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) Module***

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

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.

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 Rivaroxaban and Dabigatran Users (Unadjusted) in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

Characteristic ¹	Rivaroxaban Users		Dabigatran Users		Covariate Balance	
	Number	Percent	Number	Percent	Absolute Difference	Standardized Difference
Patients	110,113	100.0%	84,473	100.0%	-	-
Demographics	Mean	Standard Deviation	Mean	Standard Deviation		
Mean Age (Years)	75.5	6.4	76.1	6.6	-0.590	-0.091
Age (Years)	Number	Percent	Number	Percent		
65-74	56,862	51.6%	40,696	48.2%	3.463	0.069
75-84	43,527	39.5%	34,507	40.8%	-1.320	-0.027
85+	9,724	8.8%	9,270	11.0%	-2.143	-0.072
Sex						
Female	51,156	46.5%	40,824	48.3%	-1.870	-0.037
Male	58,957	53.5%	43,649	51.7%	1.870	0.037
Race						
American Indian or Alaska Native	315	0.3%	224	0.3%	0.021	0.004
Asian	1,440	1.3%	1,361	1.6%	-0.303	-0.025
Black or African American	3,949	3.6%	2,992	3.5%	0.044	0.002
Unknown	3,394	3.1%	2,459	2.9%	0.171	0.010
White	101,015	91.7%	77,437	91.7%	0.067	0.002
Ethnicity						
Hispanic origin	1,305	1.2%	1,116	1.3%	-0.136	-0.012
Year						
2010	-	0.0%	1,270	1.5%	-1.503	-
2011	149	0.1%	31,777	37.6%	-37.483	-1.091
2012	13,749	12.5%	23,083	27.3%	-14.840	-0.378
2013	31,382	28.5%	13,926	16.5%	12.014	0.291
2014	38,641	35.1%	9,433	11.2%	23.925	0.592
2015	26,192	23.8%	4,984	5.9%	17.886	0.520

Table 1a. Baseline Characteristics of Rivaroxaban and Dabigatran Users (Unadjusted) in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

	Rivaroxaban Users		Dabigatran Users		Covariate Balance	
	Mean	Standard Deviation	Mean	Standard Deviation	Absolute Difference	Standardized Difference
CHA ₂ DS ₂ VaSc	3.8	1.5	3.9	1.5	-0.103	-0.067
	Number	Percent	Number	Percent		
0-1	3,764	3.4%	2,768	3.3%	0.142	0.008
2	18,604	16.9%	12,937	15.3%	1.580	0.043
3	27,747	25.2%	19,780	23.4%	1.783	0.042
4	26,809	24.3%	21,630	25.6%	-1.259	-0.029
5	17,540	15.9%	13,978	16.5%	-0.618	-0.017
>= 6	15,649	14.2%	13,380	15.8%	-1.628	-0.046
	Mean	Standard Deviation	Mean	Standard Deviation		
HAS-BLED	2.5	0.9	2.5	0.9	-0.031	-0.034
	Number	Percent	Number	Percent		
0-1	10,717	9.7%	7,768	9.2%	0.537	0.018
2	50,353	45.7%	37,935	44.9%	0.821	0.016
3	34,587	31.4%	26,869	31.8%	-0.397	-0.009
>= 4	14,456	13.1%	11,901	14.1%	-0.960	-0.028
Baseline Medical Conditions -183 to -1 days:						
Acute myocardial infarction (Past 0-30 days)	1,613	1.5%	1,003	1.2%	0.277	0.024
Acute myocardial infarction (Past 31-183 days)	880	0.8%	692	0.8%	-0.020	-0.002
Cardioablation	2,335	2.1%	1,906	2.3%	-0.136	-0.009
Cardioversion	10,129	9.2%	8,099	9.6%	-0.389	-0.013
Coronary revascularization	16,265	14.8%	12,496	14.8%	-0.022	-0.001
Diabetes	35,515	32.3%	28,371	33.6%	-1.333	-0.028
Falls	5,260	4.8%	3,880	4.6%	0.184	0.009
Fractures	1,478	1.3%	1,132	1.3%	0.002	0.000
Heart failure (hospitalized)	13,913	12.6%	10,895	12.9%	-0.262	-0.008
Heart failure (outpatient)	24,279	22.0%	20,500	24.3%	-2.219	-0.053
Hypercholesterolemia	41,671	37.8%	33,068	39.1%	-1.302	-0.027
Hypertension	94,768	86.1%	73,079	86.5%	-0.447	-0.013
Kidney failure (acute)	5,253	4.8%	3,746	4.4%	0.336	0.016

Table 1a. Baseline Characteristics of Rivaroxaban and Dabigatran Users (Unadjusted) in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

	Rivaroxaban Users		Dabigatran Users		Covariate Balance	
	Number	Percent	Number	Percent	Absolute Difference	Standardized Difference
Kidney failure (chronic)	9,705	8.8%	8,332	9.9%	-1.050	-0.036
Nicotine dependency	24,121	21.9%	14,997	17.8%	4.152	0.104
Obesity	18,102	16.4%	11,356	13.4%	2.996	0.084
Other ischemic heart disease	48,516	44.1%	38,602	45.7%	-1.637	-0.033
Peptic ulcer disease	411	0.4%	331	0.4%	-0.019	-0.003
Prior hospitalized bleeding	723	0.7%	576	0.7%	-0.025	-0.003
Stroke (past 0-30 days)	1,822	1.7%	1,440	1.7%	-0.050	-0.004
Stroke (past 31-183 days)	1,343	1.2%	1,190	1.4%	-0.189	-0.017
Syncope	9,786	8.9%	7,432	8.8%	0.089	0.003
Transient ischemic attack	6,700	6.1%	5,568	6.6%	-0.507	-0.021
Walker use	-	0.0%	-	0.0%	0.000	-
Baseline Use (-183 to -1 days)						
ACEI/ARB	65,238	59.2%	50,652	60.0%	-0.716	-0.015
Amiodarone	11,577	10.5%	9,253	11.0%	-0.440	-0.014
Anti-coagulant (injectable)	9,899	9.0%	5,989	7.1%	1.900	0.070
Antiarrhythmics	14,710	13.4%	11,549	13.7%	-0.313	-0.009
Antiplatelets	16,070	14.6%	13,086	15.5%	-0.897	-0.025
Beta blockers	78,555	71.3%	59,992	71.0%	0.321	0.007
Calcium channel blockers	46,860	42.6%	36,268	42.9%	-0.378	-0.008
Digoxin	11,930	10.8%	12,634	15.0%	-4.122	-0.123
Diuretics (loop)	25,332	23.0%	21,899	25.9%	-2.919	-0.068
Diuretics (potassium sparing)	8,666	7.9%	7,309	8.7%	-0.782	-0.028
Diuretics (thiazide)	31,467	28.6%	24,777	29.3%	-0.754	-0.017
Dronedarone	4,262	3.9%	4,711	5.6%	-1.706	-0.080
Estrogen	2,363	2.1%	2,004	2.4%	-0.226	-0.015
Fibrates	4,732	4.3%	3,991	4.7%	-0.427	-0.021
H2-antagonist	5,895	5.4%	4,703	5.6%	-0.214	-0.009
Insulin	6,716	6.1%	5,402	6.4%	-0.296	-0.012
Metformin	17,112	15.5%	12,859	15.2%	0.318	0.009

Table 1a. Baseline Characteristics of Rivaroxaban and Dabigatran Users (Unadjusted) in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

	Rivaroxaban Users		Dabigatran Users		Covariate Balance	
	Number	Percent	Number	Percent	Absolute Difference	Standardized Difference
Nonsteroidal Anti-Inflammatory Drug (NSAIDs)	16,884	15.3%	12,773	15.1%	0.213	0.006
Nitrates	9,970	9.1%	8,488	10.0%	-0.994	-0.034
Other diabetes medications	6,488	5.9%	5,394	6.4%	-0.493	-0.021
Proton pump inhibitors	30,746	27.9%	22,698	26.9%	1.052	0.024
SSRI antidepressants	14,918	13.5%	11,429	13.5%	0.018	0.001
Statins	64,741	58.8%	49,327	58.4%	0.401	0.008
Sulfonyureas	9,228	8.4%	7,961	9.4%	-1.044	-0.037
Health Service Utilization Intensity:	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of ambulatory encounters	12.2	9.1	12.4	9.4	-0.186	-0.020
Mean number of emergency room encounters	0.4	0.8	0.3	0.7	0.043	0.057
Mean number of inpatient hospital encounters	0.5	0.7	0.5	0.7	-0.010	-0.013
Mean number of generics	9.6	4.8	9.7	4.8	-0.072	-0.015

¹Covariates in blue show a standardized difference greater than 0.1

Table 1b. Baseline Characteristics of Rivaroxaban and Dabigatran Users (Unadjusted, Trimmed, Unweighted) in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

Characteristic ¹	Rivaroxaban Users		Dabigatran Users		Covariate Balance	
	Number	Percent	Number	Percent	Absolute Difference	Standardized Difference
Patients	110,112	100.0%	84,471	100.0%	-	-
Demographics	Mean	Standard Deviation	Mean	Standard Deviation		
Mean Age (Years)	75.5	6.4	76.1	6.6	-0.590	-0.091
Age (Years)	Number	Percent	Number	Percent		
65-74	56,861	51.6%	40,696	48.2%	3.462	0.069
75-84	43,527	39.5%	34,505	40.8%	-1.319	-0.027
85+	9,724	8.8%	9,270	11.0%	-2.143	-0.072
Sex						
Female	51,156	46.5%	40,823	48.3%	-1.870	-0.037
Male	58,956	53.5%	43,648	51.7%	1.870	0.037
Race						
American Indian or Alaska Native	315	0.3%	224	0.3%	0.021	0.004
Asian	1,440	1.3%	1,361	1.6%	-0.303	-0.025
Black or African American	3,949	3.6%	2,992	3.5%	0.044	0.002
Unknown	3,394	3.1%	2,459	2.9%	0.171	0.010
White	101,014	91.7%	77,435	91.7%	0.067	0.002
Ethnicity						
Hispanic origin	1,305	1.2%	1,116	1.3%	-0.136	-0.012
Year						
2010	-	0.0%	1,270	1.5%	-1.503	-
2011	149	0.1%	31,775	37.6%	-37.481	-1.091
2012	13,749	12.5%	23,083	27.3%	-14.840	-0.378
2013	31,381	28.5%	13,926	16.5%	12.013	0.291
2014	38,641	35.1%	9,433	11.2%	23.925	0.592
2015	26,192	23.8%	4,984	5.9%	17.886	0.520
	Mean	Standard Deviation	Mean	Standard Deviation	Absolute Difference	Standardized Difference
CHA ₂ DS ₂ -VaSc	3.8	1.5	3.9	1.5	-0.103	-0.067
	Number	Percent	Number	Percent		
0-1	3,764	3.4%	2,768	3.3%	0.141	0.008
2	18,604	16.9%	12,937	15.3%	1.580	0.043

Table 1b. Baseline Characteristics of Rivaroxaban and Dabigatran Users (Unadjusted, Trimmed, Unweighted) in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

	Rivaroxaban Users		Dabigatran Users		Covariate Balance	
3	27,747	25.2%	19,780	23.4%	1.783	0.042
4	26,809	24.3%	21,630	25.6%	-1.259	-0.029
5	17,540	15.9%	13,978	16.5%	-0.618	-0.017
>= 6	15,648	14.2%	13,378	15.8%	-1.626	-0.046
	Mean	Standard Deviation	Mean	Standard Deviation		
HAS-BLED	2.5	0.9	2.5	0.9	-0.030	-0.034
	Number	Percent	Number	Percent		
0-1	10,717	9.7%	7,768	9.2%	0.537	0.018
2	50,353	45.7%	37,935	44.9%	0.820	0.016
3	34,587	31.4%	26,869	31.8%	-0.398	-0.009
>= 4	14,455	13.1%	11,899	14.1%	-0.959	-0.028
Baseline Medical Conditions -183 to -1 days:						
Acute myocardial infarction (Past 0-30 days)	1,613	1.5%	1,003	1.2%	0.277	0.024
Acute myocardial infarction (Past 31-183 days)	880	0.8%	692	0.8%	-0.020	-0.002
Cardioablation	2,335	2.1%	1,905	2.3%	-0.135	-0.009
Cardioversion	10,129	9.2%	8,098	9.6%	-0.388	-0.013
Coronary revascularization	16,264	14.8%	12,496	14.8%	-0.023	-0.001
Diabetes	35,514	32.3%	28,369	33.6%	-1.332	-0.028
Falls	5,260	4.8%	3,880	4.6%	0.184	0.009
Fractures	1,478	1.3%	1,132	1.3%	0.002	0.000
Heart failure (hospitalized)	13,913	12.6%	10,893	12.9%	-0.260	-0.008
Heart failure (outpatient)	24,279	22.0%	20,498	24.3%	-2.217	-0.053
Hypercholesterolemia	41,670	37.8%	33,067	39.1%	-1.303	-0.027
Hypertension	94,767	86.1%	73,077	86.5%	-0.447	-0.013
	Number	Percent	Number	Percent	Absolute Difference	Standardized Difference
Kidney failure (acute)	5,253	4.8%	3,746	4.4%	0.336	0.016
Kidney failure (chronic)	9,705	8.8%	8,330	9.9%	-1.048	-0.036
Nicotine dependency	24,120	21.9%	14,997	17.8%	4.151	0.104
Obesity	18,101	16.4%	11,356	13.4%	2.995	0.084
Other ischemic heart disease	48,515	44.1%	38,600	45.7%	-1.636	-0.033
Peptic ulcer disease	411	0.4%	331	0.4%	-0.019	-0.003

Table 1b. Baseline Characteristics of Rivaroxaban and Dabigatran Users (Unadjusted, Trimmed, Unweighted) in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

	Rivaroxaban Users		Dabigatran Users		Covariate Balance	
Prior hospitalized bleeding	723	0.7%	576	0.7%	-0.025	-0.003
Stroke (past 0-30 days)	1,822	1.7%	1,440	1.7%	-0.050	-0.004
Stroke (past 31-183 days)	1,343	1.2%	1,190	1.4%	-0.189	-0.017
Syncope	9,786	8.9%	7,432	8.8%	0.089	0.003
Transient ischemic attack	6,699	6.1%	5,568	6.6%	-0.508	-0.021
Walker use	-	0.0%	-	0.0%	0.000	-
Baseline Use (-183 to -1 days)						
ACEI/ARB	65,237	59.2%	50,651	60.0%	-0.717	-0.015
Amiodarone	11,577	10.5%	9,253	11.0%	-0.440	-0.014
Anti-coagulant (injectable)	9,899	9.0%	5,989	7.1%	1.900	0.070
Antiarrhythmics	14,710	13.4%	11,548	13.7%	-0.312	-0.009
Antiplatelets	16,069	14.6%	13,084	15.5%	-0.896	-0.025
Beta blockers	78,554	71.3%	59,990	71.0%	0.322	0.007
Calcium channel blockers	46,860	42.6%	36,267	42.9%	-0.378	-0.008
Digoxin	11,929	10.8%	12,632	15.0%	-4.121	-0.123
Diuretics (loop)	25,331	23.0%	21,897	25.9%	-2.918	-0.068
Diuretics (potassium sparing)	8,666	7.9%	7,309	8.7%	-0.783	-0.028
Diuretics (thiazide)	31,467	28.6%	24,777	29.3%	-0.755	-0.017
Dronedarone	4,262	3.9%	4,709	5.6%	-1.704	-0.080
Estrogen	2,363	2.1%	2,004	2.4%	-0.226	-0.015
Fibrates	4,732	4.3%	3,990	4.7%	-0.426	-0.021
H2-antagonist	5,895	5.4%	4,703	5.6%	-0.214	-0.009
	Number	Percent	Number	Percent	Absolute Difference	Standardized Difference
Insulin	6,715	6.1%	5,401	6.4%	-0.296	-0.012
Metformin	17,112	15.5%	12,859	15.2%	0.318	0.009
Nonsteroidal Anti-Inflammatory Drug (NSAIDs)	16,883	15.3%	12,773	15.1%	0.211	0.006
Nitrates	9,969	9.1%	8,487	10.0%	-0.994	-0.034
Other diabetes medications	6,488	5.9%	5,393	6.4%	-0.492	-0.021
Proton pump inhibitors	30,745	27.9%	22,697	26.9%	1.052	0.024
SSRI antidepressants	14,918	13.5%	11,429	13.5%	0.018	0.001
Statins	64,740	58.8%	49,326	58.4%	0.401	0.008
Sulfonyreas	9,228	8.4%	7,959	9.4%	-1.042	-0.037

Table 1b. Baseline Characteristics of Rivaroxaban and Dabigatran Users (Unadjusted, Trimmed, Unweighted) in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

Health Service Utilization Intensity:	Rivaroxaban Users		Dabigatran Users		Covariate Balance	
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of ambulatory encounters	12.2	9.1	12.4	9.4	-0.186	-0.020
Mean number of emergency room encounters	0.4	0.8	0.3	0.7	0.043	0.056
Mean number of inpatient hospital encounters	0.5	0.7	0.5	0.7	-0.010	-0.013
Mean number of generics	9.6	4.8	9.7	4.8	-0.072	-0.015

¹Covariates in blue show a standardized difference greater than 0.1

Table 1c. Baseline Characteristics of Rivaroxaban and Dabigatran Users (Inverse Probability of Treatment Weighted, Trimmed), Weight: Average Treatment Effect, Stabilized (ATES), in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

Characteristic ^{1, 2, 3}	Rivaroxaban Users		Dabigatran Users		Covariate Balance	
	Number	Percent	Number	Percent	Absolute Difference	Standardized Difference
Patients	110,111	-	84,481	-	-	-
Demographics	Mean	Standard Deviation	Mean	Standard Deviation		
Mean Age (Years)	75.7	6.5	75.7	6.6	0.006	0.001
Age (Years)	Number	Percent	Number	Percent		
65-74	55,081	50.0%	42,557	50.4%	-0.352	-0.007
75-84	44,501	40.4%	33,478	39.6%	0.786	0.016
85+	10,529	9.6%	8,445	10.0%	-0.434	-0.015
Sex						
Female	52,021	47.2%	39,899	47.2%	0.015	0.000
Male	58,090	52.8%	44,581	52.8%	-0.015	-0.000
Race						
American Indian or Alaska Native	305	0.3%	232	0.3%	0.002	0.000
Asian	1,587	1.4%	1,217	1.4%	0.000	0.000
Black or African American	3,936	3.6%	3,023	3.6%	-0.004	-0.000
Unknown	3,312	3.0%	2,540	3.0%	0.001	0.000
White	100,971	91.7%	77,468	91.7%	0.000	0.000
Ethnicity						
Hispanic origin	1,307	1.2%	1,129	1.3%	-0.150	-0.013
Year						
2010	-	0.0%	1,205	1.4%	-1.427	-
2011	156	0.1%	30,938	36.6%	-36.480	-1.068
2012	14,208	12.9%	23,078	27.3%	-14.414	-0.366
2013	31,703	28.8%	14,238	16.9%	11.938	0.287
2014	38,387	34.9%	9,794	11.6%	23.269	0.573
2015	25,657	23.3%	5,226	6.2%	17.114	0.497
	Mean	Standard Deviation	Mean	Standard Deviation	Absolute Difference	Standardized Difference
CHA ₂ DS ₂ VaSc	3.9	1.5	3.9	1.5	-0.000	-0.000
	Number	Percent	Number	Percent		
0-1	3,697	3.4%	2,836	3.4%	0.000	0.000
2	17,824	16.2%	13,663	16.2%	0.014	0.000
3	26,900	24.4%	20,640	24.4%	-0.002	-0.000

Table 1c. Baseline Characteristics of Rivaroxaban and Dabigatran Users (Inverse Probability of Treatment Weighted, Trimmed), Weight: Average Treatment Effect, Stabilized (ATES), in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

	Rivaroxaban Users		Dabigatran Users		Covariate Balance	
4	27,389	24.9%	21,004	24.9%	0.011	0.000
5	17,843	16.2%	13,695	16.2%	-0.006	-0.000
>= 6	16,459	14.9%	12,643	15.0%	-0.018	-0.000
	Mean	Standard Deviation	Mean	Standard Deviation		
HAS-BLED	2.5	0.9	2.5	0.9	0.000	0.000
	Number	Percent	Number	Percent		
0-1	10,446	9.5%	8,005	9.5%	0.011	0.000
2	49,947	45.4%	38,303	45.3%	0.021	0.000
3	34,781	31.6%	26,703	31.6%	-0.021	-0.000
>= 4	14,937	13.6%	11,469	13.6%	-0.010	-0.000
Baseline Medical Conditions -183 to -1 days:						
Acute myocardial infarction (Past 0-30 days)	1,484	1.3%	1,147	1.4%	-0.010	-0.001
Acute myocardial infarction (Past 31-183 days)	892	0.8%	687	0.8%	-0.003	-0.000
Cardioablation	2,399	2.2%	1,842	2.2%	-0.001	-0.000
Cardioversion	10,326	9.4%	7,930	9.4%	-0.009	-0.000
Coronary revascularization	16,287	14.8%	12,513	14.8%	-0.020	-0.001
Diabetes	36,218	32.9%	27,821	32.9%	-0.040	-0.001
Falls	5,174	4.7%	3,975	4.7%	-0.006	-0.000
Fractures	1,476	1.3%	1,131	1.3%	0.002	0.000
Heart failure (hospitalized)	14,053	12.8%	10,803	12.8%	-0.025	-0.001
Heart failure (outpatient)	25,357	23.0%	19,472	23.0%	-0.020	-0.000
Hypercholesterolemia	42,351	38.5%	32,517	38.5%	-0.028	-0.001
Hypertension	95,006	86.3%	72,905	86.3%	-0.015	-0.000
	Number	Percent	Number	Percent	Absolute Difference	Standardized Difference
Kidney failure (acute)	5,095	4.6%	3,917	4.6%	-0.010	-0.000
Kidney failure (chronic)	10,212	9.3%	7,842	9.3%	-0.007	-0.000
Nicotine dependency	22,160	20.1%	17,028	20.2%	-0.031	-0.001
Obesity	16,695	15.2%	12,847	15.2%	-0.045	-0.001
Other ischemic heart disease	49,352	44.8%	37,903	44.9%	-0.046	-0.001
Peptic ulcer disease	418	0.4%	320	0.4%	0.001	0.000
Prior hospitalized bleeding	732	0.7%	561	0.7%	0.000	0.000

Table 1c. Baseline Characteristics of Rivaroxaban and Dabigatran Users (Inverse Probability of Treatment Weighted, Trimmed), Weight: Average Treatment Effect, Stabilized (ATES), in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

	Rivaroxaban Users		Dabigatran Users		Covariate Balance	
Stroke (past 0-30 days)	1,852	1.7%	1,423	1.7%	-0.003	-0.000
Stroke (past 31-183 days)	1,437	1.3%	1,105	1.3%	-0.003	-0.000
Syncope	9,731	8.8%	7,464	8.8%	0.003	0.000
Transient ischemic attack	6,945	6.3%	5,331	6.3%	-0.003	-0.000
Walker use	-	0.0%	-	0.0%	0.000	-
Baseline Use (-183 to -1 days)						
ACEI/ARB	65,575	59.6%	50,322	59.6%	-0.012	-0.000
Amiodarone	11,799	10.7%	9,059	10.7%	-0.008	-0.000
Anti-coagulant (injectable)	8,996	8.2%	6,911	8.2%	-0.010	-0.000
Antiarrhythmics	14,878	13.5%	11,413	13.5%	0.002	0.000
Antiplatelets	16,487	15.0%	12,652	15.0%	-0.003	-0.000
Beta blockers	78,418	71.2%	60,185	71.2%	-0.024	-0.001
Calcium channel blockers	47,068	42.7%	36,121	42.8%	-0.011	-0.000
Digoxin	13,908	12.6%	10,667	12.6%	0.004	0.000
Diuretics (loop)	26,764	24.3%	20,553	24.3%	-0.022	-0.001
Diuretics (potassium sparing)	9,037	8.2%	6,937	8.2%	-0.005	-0.000
Diuretics (thiazide)	31,790	28.9%	24,386	28.9%	0.005	0.000
Dronedarone	5,070	4.6%	3,890	4.6%	0.000	0.000
Estrogen	2,467	2.2%	1,893	2.2%	-0.001	-0.000
Fibrates	4,946	4.5%	3,796	4.5%	-0.002	-0.000
H2-antagonist	6,000	5.4%	4,613	5.5%	-0.011	-0.000
	Number	Percent	Number	Percent	Absolute Difference	Standardized Difference
Insulin	6,866	6.2%	5,277	6.2%	-0.011	-0.000
Metformin	16,992	15.4%	13,054	15.5%	-0.021	-0.001
Nonsteroidal Anti-Inflammatory Drug (NSAIDs)	16,790	15.2%	12,895	15.3%	-0.016	-0.000
Nitrates	10,468	9.5%	8,041	9.5%	-0.012	-0.000
Other diabetes medications	6,737	6.1%	5,169	6.1%	0.000	0.000
Proton pump inhibitors	30,246	27.5%	23,216	27.5%	-0.013	-0.000
SSRI antidepressants	14,928	13.6%	11,468	13.6%	-0.017	-0.001
Statins	64,581	58.7%	49,569	58.7%	-0.024	-0.000
Sulfonyureas	9,758	8.9%	7,488	8.9%	-0.002	-0.000

Table 1c. Baseline Characteristics of Rivaroxaban and Dabigatran Users (Inverse Probability of Treatment Weighted, Trimmed), Weight: Average Treatment Effect, Stabilized (ATES), in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

Health Service Utilization Intensity:	Rivaroxaban Users		Dabigatran Users		Covariate Balance	
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of ambulatory encounters	12.3	9.2	12.3	9.3	-0.002	-0.000
Mean number of emergency room encounters	0.4	0.8	0.4	0.8	-0.001	-0.001
Mean number of inpatient hospital encounters	0.5	0.7	0.5	0.7	-0.001	-0.001
Mean number of generics	9.7	4.8	9.7	4.9	-0.005	-0.001

¹Weighted patient characteristics tables facilitate the assessment of covariate balance after inverse probability weighting and should not be interpreted as a description of the unweighted population. Treated patients are weighted by the proportion of treated patients in the trimmed population divided by the inverse of their propensity score. Reference patients are weighted by 1 minus the proportion of treated patients in the trimmed population divided by 1 minus their propensity score.

²Covariates in blue show a standardized difference greater than 0.1

³Characteristics in italics were not included in the propensity score logistic regression model.

Table 1d. Baseline Characteristics of Female Rivaroxaban and Dabigatran Users (Unadjusted) in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

Characteristic ¹	Female Rivaroxaban Users		Female Dabigatran Users		Covariate Balance	
	Number	Percent	Number	Percent	Absolute Difference	Standardized Difference
Patients	51,156	100.0%	40,824	100.0%	-	-
Demographics	Mean	Standard Deviation	Mean	Standard Deviation		
Mean Age (Years)	76.3	6.6	77.2	6.8	-0.912	-0.135
Age (Years)	Number	Percent	Number	Percent		
65-74	23,750	46.4%	16,694	40.9%	5.534	0.112
75-84	21,506	42.0%	18,113	44.4%	-2.328	-0.047
85+	5,900	11.5%	6,017	14.7%	-3.206	-0.095
Sex						
Female	51,156	100.0%	40,824	100.0%	0.000	-
Race						
American Indian or Alaska Native	170	0.3%	125	0.3%	0.026	0.005
Asian	735	1.4%	701	1.7%	-0.280	-0.023
Black or African American	2,235	4.4%	1,794	4.4%	-0.025	-0.001
Unknown	1,356	2.7%	1,144	2.8%	-0.152	-0.009
White	46,660	91.2%	37,060	90.8%	0.431	0.015
Ethnicity						
Hispanic Origin	691	1.4%	627	1.5%	-0.185	-0.016
Year						
2010	-	0.0%	615	1.5%	-1.506	-
2011	60	0.1%	15,938	39.0%	-38.923	-1.126
2012	6,650	13.0%	11,218	27.5%	-14.479	-0.366
2013	14,873	29.1%	6,573	16.1%	12.973	0.314
2014	17,806	34.8%	4,269	10.5%	24.350	0.608
2015	11,767	23.0%	2,211	5.4%	17.586	0.520
	Mean	Standard Deviation	Mean	Standard Deviation	Absolute Difference	Standardized Difference
CHA ₂ DS ₂ -VASc	4.4	1.4	4.5	1.4	-0.135	-0.095
	Number	Percent	Number	Percent		
1	-	0.0%	-	0.0%	0.000	-
2	2,827	5.5%	1,730	4.2%	1.289	0.060
3	12,035	23.50%	8,212	20.1%	3.410	0.083
4	15,246	29.8%	12,766	31.3%	-1.468	-0.032

Table 1d. Baseline Characteristics of Female Rivaroxaban and Dabigatran Users (Unadjusted) in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

	Female Rivaroxaban Users		Female Dabigatran Users		Covariate Balance	
5	9,928	19.4%	8,200	20.1%	-0.679	-0.017
>= 6	11,120	21.7%	9,916	24.3%	-2.552	-0.061
	Mean	Standard Deviation	Mean	Standard Deviation		
HAS-BLED	2.5	0.9	2.6	0.9	-0.050	-0.056
	Number	Percent	Number	Percent		
1	4,617	9.0%	3,243	7.9%	1.081	0.039
2	23,557	46.0%	18,356	45.0%	1.086	0.022
3	16,265	31.8%	13,277	32.5%	-0.728	-0.016
>= 4	6,717	13.1%	5,948	14.6%	-1.439	-0.042
Baseline Medical Conditions -183 to -1 days:						
Acute myocardial infarction (Past 0-30 days)	699	1.4%	440	1.1%	0.289	0.026
Acute myocardial infarction (Past 31-183 days)	400	0.8%	311	0.8%	0.020	0.002
Cardioablation	812	1.6%	692	1.7%	-0.108	-0.008
Cardioversion	4,097	8.0%	3,405	8.3%	-0.332	-0.012
Coronary revascularization	4,603	9.0%	3,928	9.6%	-0.624	-0.021
Diabetes	15,507	30.3%	13,069	32.0%	-1.700	-0.037
Falls	3,080	6.0%	2,336	5.7%	0.299	0.013
Fractures	881	1.7%	734	1.8%	-0.076	-0.006
Heart failure (hospitalized)	6,853	13.4%	5,780	14.2%	-0.762	-0.022
Heart failure (outpatient)	11,327	22.1%	10,219	25.0%	-2.890	-0.068
Hypercholesterolemia	18,600	36.4%	15,347	37.6%	-1.234	-0.026
Hypertension	44,591	87.2%	36,061	88.3%	-1.166	-0.036
Kidney failure (acute)	2,182	4.3%	1,630	4.0%	0.273	0.014
	Number	Percent	Number	Percent	Absolute Difference	Standardized Difference
Kidney failure (chronic)	4,066	7.9%	3,708	9.1%	-1.135	-0.041
Nicotine dependency	9,144	17.9%	5,925	14.5%	3.361	0.091
Obesity	8,875	17.3%	5,684	13.9%	3.426	0.094
Other ischemic heart disease	18,443	36.1%	15,654	38.3%	-2.293	-0.047
Peptic ulcer disease	198	0.4%	176	0.4%	-0.044	-0.007
Prior hospitalized bleeding	368	0.7%	310	0.8%	-0.040	-0.005
Stroke (past 0-30 days)	927	1.8%	817	2.0%	-0.189	-0.014
Stroke (past 31-183 days)	746	1.5%	676	1.7%	-0.198	-0.016

Table 1d. Baseline Characteristics of Female Rivaroxaban and Dabigatran Users (Unadjusted) in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

	Female Rivaroxaban Users		Female Dabigatran Users		Covariate Balance	
Syncope	4,857	9.5%	3,948	9.7%	-0.176	-0.006
Transient ischemic attack	3,477	6.8%	3,046	7.5%	-0.664	-0.026
Walker use	-	0.0%	-	0.0%	0.000	-
Baseline Use (-183 to -1 days)						
ACEI/ARB	29,362	57.4%	24,137	59.1%	-1.728	-0.035
Amiodarone	5,134	10.0%	4,246	10.4%	-0.365	-0.012
Anti-coagulant (injectable)	4,569	8.9%	2,829	6.9%	2.002	0.074
Antiarrhythmics	7,623	14.9%	6,015	14.7%	0.167	0.005
Antiplatelets	6,280	12.3%	5,807	14.2%	-1.948	-0.057
Beta blockers	37,459	73.2%	29,847	73.1%	0.114	0.003
Calcium channel blockers	23,799	46.5%	19,428	47.6%	-1.067	-0.021
Digoxin	6,148	12.0%	6,726	16.5%	-4.457	-0.128
Diuretics (loop)	12,605	24.6%	11,558	28.3%	-3.671	-0.083
Diuretics (potassium sparing)	4,520	8.8%	3,964	9.7%	-0.874	-0.030
Diuretics (thiazide)	16,465	32.2%	13,473	33.0%	-0.817	-0.017
Dronedarone	2,083	4.1%	2,383	5.8%	-1.765	-0.081
Estrogen	2,358	4.6%	2,001	4.9%	-0.292	-0.014
Fibrates	1,828	3.6%	1,591	3.9%	-0.324	-0.017
H2-antagonist	3,266	6.4%	2,640	6.5%	-0.082	-0.003
Insulin	2,985	5.8%	2,558	6.3%	-0.431	-0.018
	Number	Percent	Number	Percent	Absolute Difference	Standardized Difference
Metformin	6,971	13.6%	5,612	13.7%	-0.120	-0.003
Nonsteroidal Anti-Inflammatory Drug (NSAIDs)	8,705	17.0%	6,625	16.2%	0.788	0.021
Nitrates	4,237	8.3%	3,858	9.5%	-1.168	-0.041
Other diabetes medications	2,646	5.2%	2,274	5.6%	-0.398	-0.018
Proton pump inhibitors	15,805	30.9%	12,250	30.0%	0.889	0.019
SSRI antidepressants	9,421	18.4%	7,296	17.9%	0.544	0.014
Statins	27,635	54.0%	22,315	54.7%	-0.640	-0.013
Sulfonyureas	3,652	7.1%	3,417	8.4%	-1.231	-0.046

Table 1d. Baseline Characteristics of Female Rivaroxaban and Dabigatran Users (Unadjusted) in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

Health Service Utilization Intensity:	Female Rivaroxaban Users		Female Dabigatran Users		Covariate Balance	
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of ambulatory encounters	12.5	9.0	12.7	9.4	-0.158	-0.017
Mean number of emergency room encounters	0.4	0.8	0.4	0.8	0.048	0.061
Mean number of inpatient hospital encounters	0.5	0.7	0.5	0.8	-0.021	-0.028
Mean number of generics	10.1	5.0	10.2	5.0	-0.113	-0.022

¹Covariates in blue show a standardized difference greater than 0.1

Table 1e. Baseline Characteristics of Female Rivaroxaban and Dabigatran Users (Unadjusted, Trimmed, Unweighted) in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

Characteristic ¹	Female Rivaroxaban Users		Female Dabigatran Users		Covariate Balance	
	Number	Percent	Number	Percent	Absolute Difference	Standardized Difference
Patients	51,155	100.0%	40,822	100.0%	-	-
Demographics	Mean	Standard Deviation	Mean	Standard Deviation		
Mean Age (Years)	76.3	6.6	77.2	6.8	-0.911	-0.135
Age (Years)	Number	Percent	Number	Percent		
65-74	23,749	46.4%	16,694	40.9%	5.531	0.112
75-84	21,506	42.0%	18,111	44.4%	-2.325	-0.047
85+	5,900	11.5%	6,017	14.7%	-3.206	-0.095
Sex						
Female	51,155	100.0%	40,822	100.0%	0.000	-
Race						
American Indian or Alaska Native	170	0.3%	125	0.3%	0.026	0.005
Asian	735	1.4%	701	1.7%	-0.280	-0.023
Black or African American	2,235	4.4%	1,794	4.4%	-0.026	-0.001
Unknown	1,356	2.7%	1,143	2.8%	-0.149	-0.009
White	46,659	91.2%	37,059	90.8%	0.429	0.015
Ethnicity						
Hispanic Origin	691	1.4%	626	1.5%	-0.183	-0.015
Year						
2010	-	0.0%	615	1.5%	-1.507	-
2011	60	0.1%	15,936	39.0%	-38.920	-1.126
2012	6,650	13.0%	11,218	27.5%	-14.481	-0.366
2013	14,873	29.1%	6,573	16.1%	12.973	0.314
2014	17,805	34.8%	4,269	10.5%	24.348	0.608
2015	11,767	23.0%	2,211	5.4%	17.586	0.520
	Mean	Standard Deviation	Mean	Standard Deviation	Absolute Difference	Standardized Difference
CHA ₂ DS ₂ VaSc	4.4	1.4	4.5	1.4	-0.135	-0.095
	Number	Percent	Number	Percent		
1	-	0.0%	-	0.0%	0.000	-
2	2,827	5.5%	1,730	4.2%	1.288	0.060
3	12,034	23.5%	8,212	20.1%	3.408	0.083
4	15,246	29.8%	12,766	31.3%	-1.469	-0.032

Table 1e. Baseline Characteristics of Female Rivaroxaban and Dabigatran Users (Unadjusted, Trimmed, Unweighted) in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

	Female Rivaroxaban Users		Female Dabigatran Users		Covariate Balance	
5	9,928	19.4%	8,200	20.1%	-0.680	-0.017
>= 6	11,120	21.7%	9,914	24.3%	-2.548	-0.061
	Mean	Standard Deviation	Mean	Standard Deviation		
HAS-BLED	2.5	0.9	2.6	0.9	-0.050	-0.056
	Number	Percent	Number	Percent		
1	4,617	9.0%	3,243	7.9%	1.081	0.039
2	23,556	46.0%	18,356	45.0%	1.082	0.022
3	16,265	31.8%	13,277	32.5%	-0.729	-0.016
>= 4	6,717	13.1%	5,946	14.6%	-1.435	-0.042
Baseline Medical Conditions -183 to -1 days:						
Acute myocardial infarction - Past 0-30 days	699	1.4%	440	1.1%	0.289	0.026
Acute myocardial infarction (Past 31-183 days)	400	0.8%	311	0.8%	0.020	0.002
Cardioablation	812	1.6%	692	1.7%	-0.108	-0.008
Cardioversion	4,097	8.0%	3,404	8.3%	-0.330	-0.012
Coronary revascularization	4,603	9.0%	3,928	9.6%	-0.624	-0.021
Diabetes	15,507	30.3%	13,067	32.0%	-1.696	-0.037
Falls	3,079	6.0%	2,336	5.7%	0.297	0.013
Fractures	881	1.7%	734	1.8%	-0.076	-0.006
Heart failure - hospitalized	6,853	13.4%	5,778	14.2%	-0.758	-0.022
Heart failure - outpatient	11,327	22.1%	10,217	25.0%	-2.886	-0.068
Hypercholesterolemia	18,599	36.4%	15,345	37.6%	-1.232	-0.026
Hypertension	44,590	87.2%	36,059	88.3%	-1.166	-0.036
Kidney failure - acute	2,182	4.3%	1,629	4.0%	0.275	0.014
	Number	Percent	Number	Percent	Absolute Difference	Standardized Difference
Kidney failure - chronic	4,066	7.9%	3,706	9.1%	-1.130	-0.040
Nicotine dependency	9,144	17.9%	5,925	14.5%	3.361	0.091
Obesity	8,874	17.3%	5,684	13.9%	3.423	0.094
Other ischemic heart disease	18,442	36.1%	15,652	38.3%	-2.291	-0.047
Peptic ulcer disease	198	0.4%	175	0.4%	-0.042	-0.007
Prior hospitalized bleeding	368	0.7%	309	0.8%	-0.038	-0.004
Stroke - past 0-30 days	927	1.8%	817	2.0%	-0.189	-0.014
Stroke - past 31-183 days	746	1.5%	676	1.7%	-0.198	-0.016

Table 1e. Baseline Characteristics of Female Rivaroxaban and Dabigatran Users (Unadjusted, Trimmed, Unweighted) in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

	Female Rivaroxaban Users		Female Dabigatran Users		Covariate Balance	
Syncope	4,857	9.5%	3,948	9.7%	-0.177	-0.006
Transient ischemic attack	3,477	6.8%	3,046	7.5%	-0.665	-0.026
Walker use	-	0.0%	-	0.0%	0.000	-
Baseline Use (-183 to -1 days)						
ACEI/ARB	29,361	57.4%	24,136	59.1%	-1.729	-0.035
Amiodarone	5,134	10.0%	4,246	10.4%	-0.365	-0.012
Anti-coagulant (injectable)	4,569	8.9%	2,829	6.9%	2.002	0.074
Antiarrhythmics	7,623	14.9%	6,014	14.7%	0.170	0.005
Antiplatelets	6,280	12.3%	5,805	14.2%	-1.944	-0.057
Beta blockers	37,458	73.2%	29,845	73.1%	0.114	0.003
Calcium channel blockers	23,798	46.5%	19,427	47.6%	-1.068	-0.021
Digoxin	6,148	12.0%	6,724	16.5%	-4.453	-0.128
Diuretics (loop)	12,605	24.6%	11,556	28.3%	-3.667	-0.083
Diuretics (potassium sparing)	4,520	8.8%	3,963	9.7%	-0.872	-0.030
Diuretics (thiazide)	16,464	32.2%	13,472	33.0%	-0.817	-0.017
Dronedarone	2,083	4.1%	2,381	5.8%	-1.761	-0.081
Estrogen	2,358	4.6%	2,001	4.9%	-0.292	-0.014
Fibrates	1,828	3.6%	1,591	3.9%	-0.324	-0.017
H2-antagonist	3,265	6.4%	2,640	6.5%	-0.085	-0.003
Insulin	2,985	5.8%	2,558	6.3%	-0.431	-0.018
	Number	Percent	Number	Percent	Absolute Difference	Standardized Difference
Metformin	6,971	13.6%	5,612	13.7%	-0.120	-0.003
Nonsteroidal Anti-Inflammatory Drug (NSAIDs)	8,705	17.0%	6,625	16.2%	0.788	0.021
Nitrates	4,237	8.3%	3,857	9.4%	-1.166	-0.041
Other diabetes medications	2,646	5.2%	2,273	5.6%	-0.396	-0.018
Proton pump inhibitors	15,804	30.9%	12,248	30.0%	0.891	0.019
SSRI antidepressants	9,420	18.4%	7,295	17.9%	0.544	0.014
Statins	27,634	54.0%	22,313	54.7%	-0.639	-0.013
Sulfonyureas	3,652	7.1%	3,415	8.4%	-1.227	-0.046

Table 1e. Baseline Characteristics of Female Rivaroxaban and Dabigatran Users (Unadjusted, Trimmed, Unweighted) in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

	Female Rivaroxaban Users		Female Dabigatran Users		Covariate Balance	
Health Service Utilization Intensity:						
Mean number of ambulatory encounters	12.5	9.0	12.7	9.4	-0.157	-0.017
Mean number of emergency room encounters	0.4	0.8	0.4	0.8	0.048	0.061
Mean number of inpatient hospital encounters	0.5	0.7	0.5	0.8	-0.021	-0.028
Mean number of generics	10.1	5.0	10.2	5.0	-0.112	-0.022

¹Covariates in blue show a standardized difference greater than 0.1

Table 1f. Baseline Characteristics of Female Rivaroxaban and Dabigatran Users (Inverse Probability of Treatment Weighted, Trimmed), Weight: Average Treatment Effect, Stabilized (ATES) in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

Characteristic ^{1, 2, 3}	Female Rivaroxaban Users		Female Dabigatran Users		Covariate Balance	
	Number	Percent	Number	Percent	Absolute Difference	Standardized Difference
Patients	51,156	-	40,827	-	-	-
Demographics	Mean	Standard Deviation	Mean	Standard Deviation		
Mean Age (Years)	76.7	6.7	76.7	6.8	0.008	0.001
Age (Years)	Number	Percent	Number	Percent		
65-74	22,410	43.8%	18,070	44.3%	-0.452	-0.009
75-84	22,210	43.4%	17,375	42.6%	0.858	0.017
85+	6,536	12.8%	5,382	13.2%	-0.406	-0.012
Sex						
Female	51,156	100.0%	40,827	100.0%	0.000	-
Race						
American Indian or Alaska Native	165	0.3%	132	0.3%	0.000	0.000
Asian	799	1.6%	637	1.6%	0.002	0.000
Black or African American	2,249	4.4%	1,795	4.4%	-0.001	-0.000
Unknown	1,391	2.7%	1,107	2.7%	0.008	0.001
White	46,552	91.0%	37,156	91.0%	-0.010	-0.000
Ethnicity						
Hispanic Origin	723	1.4%	601	1.5%	-0.059	-0.005
Year						
2010	-	0.0%	576	1.4%	-1.411	-
2011	64	0.1%	15,469	37.9%	-37.762	-1.098
2012	6,903	13.5%	11,222	27.5%	-13.993	-0.352
2013	15,049	29.4%	6,751	16.5%	12.881	0.310
2014	17,664	34.5%	4,471	11.0%	23.580	0.586
2015	11,476	22.4%	2,339	5.7%	16.706	0.495
	Mean	Standard Deviation	Mean	Standard Deviation	Absolute Difference	Standardized Difference
CHA ₂ DS ₂ -VASc	4.5	1.4	4.5	1.4	0.000	0.000
	Number	Percent	Number	Percent		
1	-	0.0%	-	1.5	0.000	-
2	2,527	4.9%	2,010	4.9%	0.017	0.001
3	11,257	22.0%	8,986	22.0%	-0.006	-0.000
4	15,561	30.4%	12,413	30.4%	0.016	0.000

Table 1f. Baseline Characteristics of Female Rivaroxaban and Dabigatran Users (Inverse Probability of Treatment Weighted, Trimmed), Weight: Average Treatment Effect, Stabilized (ATES) in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

	Female Rivaroxaban Users		Female Dabigatran Users		Covariate Balance	
5	10,085	19.7%	8,053	19.7%	-0.010	-0.000
>= 6	11,726	22.9%	9,365	22.9%	-0.016	-0.000
	Mean	Standard Deviation	Mean	Standard Deviation		
HAS-BLED	2.5	0.9	2.5	0.9	0.000	0.000
	Number	Percent	Number	Percent		
1	4,366	8.5%	3,479	8.5%	0.011	0.000
2	23,296	45.5%	18,584	45.5%	0.021	0.000
3	16,444	32.1%	13,140	32.2%	-0.038	-0.001
>= 4	7,051	13.8%	5,624	13.8%	0.007	0.000
Baseline Medical Conditions -183 to -1 days:						
Acute myocardial infarction (Past 0-30 days)	634	1.2%	508	1.2%	-0.005	-0.000
Acute myocardial infarction (Past 31-183 days)	396	0.8%	315	0.8%	0.003	0.000
Cardioablation	833	1.6%	664	1.6%	0.002	0.000
Cardioversion	4,174	8.2%	3,335	8.2%	-0.010	-0.000
Diabetes	4,756	9.3%	3,802	9.3%	-0.016	-0.001
Falls	15,933	31.1%	12,728	31.2%	-0.029	-0.001
Fractures	3,010	5.9%	2,407	5.9%	-0.012	-0.001
Heart failure (hospitalized)	899	1.8%	716	1.8%	0.004	0.000
Heart failure (outpatient)	7,025	13.7%	5,617	13.8%	-0.024	-0.001
Hypercholesterolemia	11,977	23.4%	9,565	23.4%	-0.015	-0.000
Hypertension	18,911	37.0%	15,106	37.0%	-0.033	-0.001
Kidney failure (acute)	44,874	87.7%	35,820	87.7%	-0.017	-0.001
	2,119	4.1%	1,691	4.1%	0.001	0.000
	Number	Percent	Number	Percent	Absolute Difference	Standardized Difference
Kidney failure (chronic)	4,323	8.4%	3,450	8.4%	0.000	0.000
Nicotine dependency	8,394	16.4%	6,716	16.5%	-0.041	-0.001
Obesity	8,106	15.8%	6,489	15.9%	-0.049	-0.001
Other ischemic heart disease	18,997	37.1%	15,183	37.2%	-0.054	-0.001
Peptic ulcer disease	206	0.4%	164	0.4%	0.001	0.000
Prior hospitalized bleeding	374	0.7%	297	0.7%	0.003	0.000
Stroke (past 0-30 days)	975	1.9%	779	1.9%	-0.002	-0.000
Stroke (past 31-183 days)	792	1.5%	633	1.6%	-0.004	-0.000

Table 1f. Baseline Characteristics of Female Rivaroxaban and Dabigatran Users (Inverse Probability of Treatment Weighted, Trimmed), Weight: Average Treatment Effect, Stabilized (ATES) in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

	Female Rivaroxaban Users		Female Dabigatran Users		Covariate Balance	
Syncope	4,894	9.6%	3,908	9.6%	-0.005	-0.000
Transient ischemic attack	3,635	7.1%	2,907	7.1%	-0.015	-0.001
Walker use	-	0.0%	-	0.0%	0.000	-
Baseline Use (-183 to -1 days)						
ACEI/ARB	29,756	58.2%	23,757	58.2%	-0.021	-0.000
Amiodarone	5,221	10.2%	4,174	10.2%	-0.017	-0.001
Anti-coagulant (injectable)	4,116	8.0%	3,290	8.1%	-0.012	-0.000
Antiarrhythmics	7,595	14.8%	6,061	14.8%	0.000	0.000
Antiplatelets	6,727	13.1%	5,371	13.2%	-0.006	-0.000
Beta blockers	37,440	73.2%	29,891	73.2%	-0.027	-0.001
Calcium channel blockers	24,067	47.0%	19,213	47.1%	-0.014	-0.000
Digoxin	7,168	14.0%	5,718	14.0%	0.005	0.000
Diuretics (loop)	13,461	26.3%	10,752	26.3%	-0.024	-0.001
Diuretics (potassium sparing)	4,712	9.2%	3,761	9.2%	-0.001	-0.000
Diuretics (thiazide)	16,628	32.5%	13,263	32.5%	0.019	0.000
Dronedarone	2,484	4.9%	1,982	4.9%	0.002	0.000
Estrogen	2,420	4.7%	1,932	4.7%	-0.003	-0.000
Fibrates	1,910	3.7%	1,526	3.7%	-0.004	-0.000
H2-antagonist	3,284	6.4%	2,626	6.4%	-0.013	-0.001
Insulin	3,089	6.0%	2,468	6.0%	-0.006	-0.000
	Number	Percent	Number	Percent	Absolute Difference	Standardized Difference
Metformin	7,020	13.7%	5,608	13.7%	-0.014	-0.000
Nonsteroidal Anti-Inflammatory Drug (NSAIDs)	8,530	16.7%	6,819	16.7%	-0.027	-0.001
Nitrates	4,507	8.8%	3,600	8.8%	-0.007	-0.000
Other diabetes medications	2,745	5.4%	2,191	5.4%	-0.002	-0.000
Proton pump inhibitors	15,606	30.5%	12,464	30.5%	-0.022	-0.000
SSRI antidepressants	9,301	18.2%	7,436	18.2%	-0.031	-0.001
Statins	27,806	54.4%	22,197	54.4%	-0.013	-0.000
Sulfonyureas	3,952	7.7%	3,152	7.7%	0.005	0.000

Table 1f. Baseline Characteristics of Female Rivaroxaban and Dabigatran Users (Inverse Probability of Treatment Weighted, Trimmed), Weight: Average Treatment Effect, Stabilized (ATES) in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

Health Service Utilization Intensity:	Female Rivaroxaban Users		Female Dabigatran Users		Covariate Balance	
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of ambulatory encounters	12.6	9.0	12.6	9.3	-0.001	-0.000
Mean number of emergency room encounters	0.4	0.8	0.4	0.8	-0.002	-0.002
Mean number of inpatient hospital encounters	0.5	0.7	0.5	0.7	-0.001	-0.001
Mean number of generics	10.2	5.0	10.2	5.1	-0.006	-0.001

¹Weighted patient characteristics tables facilitate the assessment of covariate balance after inverse probability weighting and should not be interpreted as a description of the unweighted population. Treated patients are weighted by the proportion of treated patients in the trimmed population divided by the inverse of their propensity score. Reference patients are weighted by 1 minus the proportion of treated patients in the trimmed population divided by 1 minus their propensity score.

²Covariates in blue show a standardized difference greater than 0.1

³Characteristics in italics were not included in the propensity score logistic regression model.

Table 1g. Baseline Characteristics of Male Rivaroxaban and Dabigatran Users (Unadjusted) in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

Characteristic ¹	Male Rivaroxaban Users		Male Dabigatran Users		Covariate Balance	
	Number	Percent	Number	Percent	Absolute Difference	Standardized Difference
Patients	58,957	100.0%	43,649	100.0%	-	-
Demographics	Mean	Standard Deviation	Mean	Standard Deviation		
Mean Age (Years)	74.7	6.1	75.0	6.2	-0.232	-0.038
Age (Years)	Number	Percent	Number	Percent		
65-74	33,112	56.2%	24,002	55.0%	1.174	0.024
75-84	22,021	37.4%	16,394	37.6%	-0.208	-0.004
85+	3,824	6.5%	3,253	7.5%	-0.967	-0.038
Sex						
Male	58,957	100.0%	43,649	100.0%	0.000	-
Race						
American Indian or Alaska Native	145	0.2%	99	0.2%	0.019	0.004
Asian	705	1.2%	660	1.5%	-0.316	-0.027
Black or African American	1,714	2.9%	1,198	2.7%	0.163	0.010
Unknown	2,038	3.5%	1,315	3.0%	0.444	0.025
White	54,355	92.2%	40,377	92.5%	-0.310	-0.012
Ethnicity						
Hispanic Origin	614	1.0%	489	1.1%	-0.079	-0.008
Year						
2010	-	0.0%	655	1.5%	-1.501	-
2011	89	0.2%	15,839	36.3%	-36.136	-1.059
2012	7,099	12.0%	11,865	27.2%	-15.142	-0.388
2013	16,509	28.0%	7,353	16.8%	11.156	0.270
2014	20,835	35.3%	5,164	11.8%	23.509	0.576
2015	14,425	24.5%	2,773	6.4%	18.114	0.518
	Mean	Standard Deviation	Mean	Standard Deviation	Absolute Difference	Standardized Difference
CHA ₂ DS ₂ -VASc	3.3	1.4	3.4	1.4	-0.033	-0.023
	Number	Percent	Number	Percent		
1	3,764	6.4%	2,768	6.3%	0.043	0.002
2	15,777	26.8%	11,207	25.7%	1.085	0.025
3	15,712	26.6%	11,568	26.5%	0.148	0.003
4	11,563	19.6%	8,864	20.3%	-0.695	-0.017

Table 1g. Baseline Characteristics of Male Rivaroxaban and Dabigatran Users (Unadjusted) in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

	Male Rivaroxaban Users		Male Dabigatran Users		Covariate Balance	
5	7,612	12.9%	5,778	13.2%	-0.326	-0.010
>= 6	4,529	7.7%	3,464	7.9%	-0.254	-0.009
	Mean	Standard Deviation	Mean	Standard Deviation		
HAS-BLED	2.5	0.9	2.5	0.9	-0.012	-0.013
	Number	Percent	Number	Percent		
1	6,100	10.3%	4,525	10.4%	-0.020	-0.001
2	26,796	45.5%	19,579	44.9%	0.595	0.012
3	18,322	31.1%	13,592	31.1%	-0.062	-0.001
>= 4	7,739	13.1%	5,953	13.6%	-0.512	-0.015
Baseline Medical Conditions -183 to -1 days:						
Acute myocardial infarction (Past 0-30 days)	914	1.6%	563	1.3%	0.260	0.022
Acute myocardial infarction (Past 31-183 days)	480	0.8%	381	0.9%	-0.059	-0.006
Cardioablation	1,523	2.6%	1,214	2.8%	-0.198	-0.012
Cardioversion	6,032	10.2%	4,694	10.8%	-0.523	-0.017
Coronary revascularization	11,662	19.8%	8,568	19.6%	0.151	0.004
Diabetes	20,008	33.9%	15,302	35.1%	-1.120	-0.024
Falls	2,180	3.7%	1,544	3.5%	0.160	0.009
Fractures	597	1.0%	398	0.9%	0.101	0.010
Heart failure (hospitalized)	7,060	12.0%	5,115	11.7%	0.256	0.008
Heart failure (outpatient)	12,952	22.0%	10,281	23.6%	-1.585	-0.038
Hypercholesterolemia	23,071	39.1%	17,721	40.6%	-1.467	-0.030
Hypertension	50,177	85.1%	37,018	84.8%	0.299	0.008
Kidney failure (acute)	3,071	5.2%	2,116	4.8%	0.361	0.017
	Number	Percent	Number	Percent	Absolute Difference	Standardized Difference
Kidney failure (chronic)	5,639	9.6%	4,624	10.6%	-1.029	-0.034
Nicotine dependency	14,977	25.4%	9,072	20.8%	4.619	0.110
Obesity	9,227	15.7%	5,672	13.0%	2.656	0.076
Other ischemic heart disease	30,073	51.0%	22,948	52.6%	-1.566	-0.031
Peptic ulcer disease	213	0.4%	155	0.4%	0.006	0.001
Prior hospitalized bleeding	355	0.6%	266	0.6%	-0.007	-0.001
Stroke (past 0-30 days)	895	1.5%	623	1.4%	0.091	0.008
Stroke (past 31-183 days)	597	1.0%	514	1.2%	-0.165	-0.016

Table 1g. Baseline Characteristics of Male Rivaroxaban and Dabigatran Users (Unadjusted) in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

	Male Rivaroxaban Users		Male Dabigatran Users		Covariate Balance	
Syncope	4,929	8.4%	3,484	8.0%	0.378	0.014
Transient ischemic attack	3,223	5.5%	2,522	5.8%	-0.311	-0.014
Walker use	-	0.0%	-	0.0%	0.000	-
Baseline Use (-183 to -1 days)						
ACEI/ARB	35,876	60.9%	26,515	60.7%	0.105	0.002
Amiodarone	6,443	10.9%	5,007	11.5%	-0.543	-0.017
Anti-coagulant (injectable)	5,330	9.0%	3,160	7.2%	1.801	0.066
Antiarrhythmics	7,087	12.0%	5,534	12.7%	-0.658	-0.020
Antiplatelets	9,790	16.6%	7,279	16.7%	-0.071	-0.002
Beta blockers	41,096	69.7%	30,145	69.1%	0.643	0.014
Calcium channel blockers	23,061	39.1%	16,840	38.6%	0.534	0.011
Digoxin	5,782	9.8%	5,908	13.5%	-3.728	-0.116
Diuretics (loop)	12,727	21.6%	10,341	23.7%	-2.104	-0.050
Diuretics (potassium sparing)	4,146	7.0%	3,345	7.7%	-0.631	-0.024
Diuretics (thiazide)	15,002	25.4%	11,304	25.9%	-0.452	-0.010
Dronedarone	2,179	3.7%	2,328	5.3%	-1.638	-0.079
Estrogen	*****	0.0%	*****	0.0%	0.002	0.002
Fibrates	2,904	4.9%	2,400	5.5%	-0.573	-0.026
H2-antagonist	2,629	4.5%	2,063	4.7%	-0.267	-0.013
Insulin	3,731	6.3%	2,844	6.5%	-0.187	-0.008
	Number	Percent	Number	Percent	Absolute Difference	Standardized Difference
Metformin	10,141	17.2%	7,247	16.6%	0.598	0.016
Nonsteroidal Anti-Inflammatory Drug (NSAIDs)	8,179	13.9%	6,148	14.1%	-0.212	-0.006
Nitrates	5,733	9.7%	4,630	10.6%	-0.883	-0.029
Other diabetes medications	3,842	6.5%	3,120	7.1%	-0.631	-0.025
Proton pump inhibitors	14,941	25.3%	10,448	23.9%	1.406	0.033
SSRI antidepressants	5,497	9.3%	4,133	9.5%	-0.145	-0.005
Statins	37,106	62.9%	27,012	61.9%	1.053	0.022
Sulfonyureas	5,576	9.5%	4,544	10.4%	-0.953	-0.032

Table 1g. Baseline Characteristics of Male Rivaroxaban and Dabigatran Users (Unadjusted) in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

Health Service Utilization Intensity:	Male Rivaroxaban Users		Male Dabigatran Users		Covariate Balance	
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of ambulatory encounters	12.0	9.2	12.2	9.5	-0.192	-0.021
Mean number of emergency room encounters	0.3	0.8	0.3	0.7	0.042	0.057
Mean number of inpatient hospital encounters	0.4	0.7	0.4	0.7	0.003	0.005
Mean number of generics	9.2	4.6	9.2	4.6	-0.001	-0.000

¹Covariates in blue show a standardized difference greater than 0.1

*****Data are not presented in these cells due to a small sample size or to assure a small cell cannot be recalculated through the cells presented.

Table 1h. Baseline Characteristics of Male Rivaroxaban and Dabigatran Users (Unadjusted, Trimmed, Unweighted) in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

Characteristic ¹	Male Rivaroxaban Users		Male Dabigatran Users		Covariate Balance	
	Number	Percent	Number	Percent	Absolute Difference	Standardized Difference
Patients	58,956	100.0%	43,648	100.0%	-	-
Demographics	Mean	Standard Deviation	Mean	Standard Deviation		
Mean Age (Years)	74.7	6.1	75.0	6.2	-0.232	-0.038
Age (Years)	Number	Percent	Number	Percent		
65-74	33,111	56.2%	24,001	55.0%	1.175	0.024
75-84	22,021	37.4%	16,394	37.6%	-0.208	-0.004
85+	3,824	6.5%	3,253	7.5%	-0.967	-0.038
Sex						
Male	58,956	100.0%	43,648	100.0%	0.000	-
Race						
American Indian or Alaska Native	145	0.2%	99	0.2%	0.019	0.004
Asian	705	1.2%	660	1.5%	-0.316	-0.027
Black or African American	1,714	2.9%	1,198	2.7%	0.163	0.010
Unknown	2,038	3.5%	1,315	3.0%	0.444	0.025
White	54,354	92.2%	40,376	92.5%	-0.309	-0.012
Ethnicity						
Hispanic Origin	614	1.0%	489	1.1%	-0.079	-0.008
Year						
2010	-	0.0%	655	1.5%	-1.501	-
2011	89	0.2%	15,839	36.3%	-36.137	-1.059
2012	7,099	12.0%	11,864	27.2%	-15.140	-0.388
2013	16,508	28.0%	7,353	16.8%	11.154	0.270
2014	20,835	35.3%	5,164	11.8%	23.509	0.576
2015	14,425	24.5%	2,773	6.4%	18.114	0.518
	Mean	Standard Deviation	Mean	Standard Deviation	Absolute Difference	Standardized Difference
CHA ₂ DS ₂ VaSc	3.3	1.4	3.4	1.4	-0.033	-0.023
	Number	Percent	Number	Percent		
1	3,764	6.4%	2,768	6.3%	0.043	0.002
2	15,777	26.8%	11,207	25.7%	1.085	0.025
3	15,712	26.70%	11,568	26.5%	0.147	0.003
4	11,563	19.6%	8,864	20.3%	-0.695	-0.017

Table 1h. Baseline Characteristics of Male Rivaroxaban and Dabigatran Users (Unadjusted, Trimmed, Unweighted) in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

	Male Rivaroxaban Users		Male Dabigatran Users		Covariate Balance	
5	7,612	12.9%	5,777	13.2%	-0.324	-0.010
>= 6	4,528	7.7%	3,464	7.9%	-0.256	-0.010
	Mean	Standard Deviation	Mean	Standard Deviation		
HAS-BLED	2.5	0.9	2.5	0.9	-0.012	-0.013
	Number	Percent	Number	Percent		
1	6,100	10.3%	4,525	10.4%	-0.020	-0.001
2	26,796	45.5%	19,579	44.9%	0.594	0.012
3	18,322	31.1%	13,592	31.1%	-0.063	-0.001
>= 4	7,738	13.1%	5,952	13.6%	-0.511	-0.015
Baseline Medical Conditions -183 to -1 days:						
Acute myocardial infarction (Past 0-30 days)	914	1.6%	563	1.3%	0.260	0.022
Acute myocardial infarction (Past 31-183 days)	480	0.8%	381	0.9%	-0.059	-0.006
Cardioablation	1,523	2.6%	1,214	2.8%	-0.198	-0.012
Cardioversion	6,032	10.2%	4,693	10.8%	-0.521	-0.017
Coronary revascularization	11,661	19.8%	8,568	19.6%	0.149	0.004
Diabetes	20,007	33.9%	15,301	35.1%	-1.120	-0.024
Falls	2,180	3.7%	1,544	3.5%	0.160	0.009
Fractures	597	1.0%	398	0.9%	0.101	0.010
Heart failure (hospitalized)	7,060	12.0%	5,114	11.7%	0.259	0.008
Heart failure (outpatient)	12,952	22.0%	10,280	23.6%	-1.583	-0.038
Hypercholesterolemia	23,070	39.1%	17,721	40.6%	-1.469	-0.030
Hypertension	50,176	85.1%	37,017	84.8%	0.300	0.008
Kidney failure (acute)	3,071	5.2%	2,116	4.8%	0.361	0.017
	Number	Percent	Number	Percent	Absolute Difference	Standardized Difference
Kidney failure (chronic)	5,639	9.6%	4,623	10.6%	-1.027	-0.034
Nicotine dependency	14,976	25.4%	9,072	20.8%	4.618	0.110
Obesity	9,226	15.6%	5,672	13.0%	2.654	0.076
Other ischemic heart disease	30,072	51.0%	22,947	52.6%	-1.565	-0.031
Peptic ulcer disease	213	0.4%	155	0.4%	0.006	0.001
Prior hospitalized bleeding	355	0.6%	266	0.6%	-0.007	-0.001
Stroke (past 0-30 days)	895	1.5%	623	1.4%	0.091	0.008
Stroke (past 31-183 days)	597	1.0%	514	1.2%	-0.165	-0.016

Table 1h. Baseline Characteristics of Male Rivaroxaban and Dabigatran Users (Unadjusted, Trimmed, Unweighted) in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

	Male Rivaroxaban Users		Male Dabigatran Users		Covariate Balance	
Syncope	4,929	8.4%	3,484	8.0%	0.378	0.014
Transient ischemic attack	3,222	5.5%	2,522	5.8%	-0.313	-0.014
Walker use	-	0.0%	-	0.0%	0.000	-
Baseline Use (-183 to -1 days)						
ACEI/ARB	35,875	60.9%	26,515	60.7%	0.103	0.002
Amiodarone	6,443	10.9%	5,006	11.5%	-0.541	-0.017
Anti-coagulant (injectable)	5,330	9.0%	3,160	7.2%	1.801	0.066
Antiarrhythmics	7,087	12.0%	5,534	12.7%	-0.658	-0.020
Antiplatelets	9,789	16.6%	7,278	16.7%	-0.070	-0.002
Beta blockers	41,095	69.7%	30,145	69.1%	0.641	0.014
Calcium channel blockers	23,061	39.1%	16,839	38.6%	0.537	0.011
Digoxin	5,781	9.8%	5,907	13.5%	-3.728	-0.116
Diuretics (loop)	12,726	21.6%	10,340	23.7%	-2.104	-0.050
Diuretics (potassium sparing)	4,146	7.0%	3,345	7.7%	-0.631	-0.024
Diuretics (thiazide)	15,002	25.4%	11,304	25.9%	-0.452	-0.010
Dronedarone	2,179	3.7%	2,327	5.3%	-1.635	-0.079
Estrogen	*****	0.0%	*****	0.0%	0.002	0.002
Fibrates	2,904	4.9%	2,399	5.5%	-0.571	-0.026
H2-antagonist	2,629	4.5%	2,062	4.7%	-0.265	-0.013
Insulin	3,730	6.3%	2,843	6.5%	-0.187	-0.008
	Number	Percent	Number	Percent	Absolute Difference	Standardized Difference
Metformin	10,141	17.2%	7,247	16.6%	0.598	0.016
Nonsteroidal Anti-Inflammatory Drug (NSAIDs)	8,178	13.9%	6,148	14.1%	-0.214	-0.006
Nitrates	5,732	9.7%	4,630	10.6%	-0.885	-0.029
Other diabetes medications	3,842	6.5%	3,119	7.1%	-0.629	-0.025
Proton pump inhibitors	14,940	25.3%	10,448	23.9%	1.404	0.033
SSRI antidepressants	5,497	9.3%	4,132	9.5%	-0.143	-0.005
Statins	37,105	62.9%	27,011	61.9%	1.053	0.022
Sulfonyureas	5,576	9.5%	4,544	10.4%	-0.953	-0.032

Table 1h. Baseline Characteristics of Male Rivaroxaban and Dabigatran Users (Unadjusted, Trimmed, Unweighted) in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

	Male Rivaroxaban Users		Male Dabigatran Users		Covariate Balance	
Health Service Utilization Intensity:						
Mean number of ambulatory encounters	12.0	9.2	12.2	9.5	-0.193	-0.021
Mean number of emergency room encounters	0.3	0.8	0.3	0.7	0.041	0.056
Mean number of inpatient hospital encounters	0.4	0.7	0.4	0.7	0.003	0.005
Mean number of generics	9.2	4.6	9.2	4.6	-0.001	-0.000

¹Covariates in blue show a standardized difference greater than 0.1

*****Data are not presented in these cells due to a small sample size or to assure a small cell cannot be recalculated through the cells presented.

Table 1i. Baseline Characteristics of Male Rivaroxaban and Dabigatran Users (Inverse Probability of Treatment Weighted, Trimmed), Weight: Average Treatment Effect, Stabilized (ATES) in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

Characteristic ^{1, 2, 3}	Male Rivaroxaban Users		Male Dabigatran Users		Covariate Balance	
	Number	Percent	Number	Percent	Absolute Difference	Standardized Difference
Patients	58,956	-	43,651	-	-	-
Demographics	Mean	Standard Deviation	Mean	Standard Deviation		
Mean Age (Years)	74.8	6.1	74.8	6.2	0.003	0.000
Age (Years)	Number	Percent	Number	Percent		
65-74	32,725	55.5%	24,412	55.9%	-0.420	-0.008
75-84	22,273	37.8%	16,128	36.9%	0.832	0.017
85+	3,959	6.7%	3,111	7.1%	-0.412	-0.016
Sex						
Male	58,956	100.0%	43,651	100.0%	0.000	-
Race						
American Indian or Alaska Native	139	0.2%	102	0.2%	0.003	0.001
Asian	785	1.3%	582	1.3%	-0.001	-0.000
Black or African American	1,675	2.8%	1,243	2.8%	-0.005	-0.000
Unknown	1,930	3.3%	1,433	3.3%	-0.011	-0.001
White	54,427	92.3%	40,292	92.3%	0.014	0.001
Ethnicity						
Hispanic Origin	592	1.0%	524	1.2%	-0.197	-0.019
Year						
2010	-	0.0%	627	1.4%	-1.437	-
2011	93	0.2%	15,474	35.4%	-35.292	-1.040
2012	7,310	12.4%	11,855	27.2%	-14.761	-0.377
2013	16,656	28.3%	7,492	17.2%	11.088	0.267
2014	20,714	35.1%	5,314	12.2%	22.961	0.561
2015	14,184	24.1%	2,888	6.6%	17.442	0.499
	Mean	Standard Deviation	Mean	Standard Deviation	Absolute Difference	Standardized Difference
CHA ₂ DS ₂ VaSc	3.3	1.4	3.3	1.4	0.001	0.001
	Number	Percent	Number	Percent		
1	3,754	6.4%	2,781	1.5	-0.002	-0.000
2	15,487	26.3%	11,460	26.3%	0.014	0.000
3	15,681	26.6%	11,608	26.6%	0.006	0.000
4	11,731	19.9%	8,682	19.9%	0.009	0.000

Table 1i. Baseline Characteristics of Male Rivaroxaban and Dabigatran Users (Inverse Probability of Treatment Weighted, Trimmed), Weight: Average Treatment Effect, Stabilized (ATES) in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

	Male Rivaroxaban Users		Male Dabigatran Users		Covariate Balance	
5	7,699	13.1%	5,705	13.1%	-0.010	-0.000
>= 6	4,604	7.8%	3,416	7.8%	-0.017	-0.001
	Mean	Standard Deviation	Mean	Standard Deviation		
HAS-BLED	2.5	0.9	2.5	0.9	-0.000	-0.000
	Number	Percent	Number	Percent		
1	6,102	10.4%	4,516	10.3%	0.006	0.000
2	26,639	45.2%	19,715	45.2%	0.020	0.000
3	18,331	31.1%	13,573	31.1%	-0.002	-0.000
>= 4	7,885	13.4%	5,848	13.4%	-0.023	-0.001
Baseline Medical Conditions -183 to -1 days:						
Acute myocardial infarction (Past 0-30 days)	852	1.4%	636	1.5%	-0.012	-0.001
Acute myocardial infarction (Past 31-183 days)	496	0.8%	370	0.8%	-0.006	-0.001
Cardioablation	1,575	2.7%	1,169	2.7%	-0.005	-0.000
Cardioversion	6,171	10.5%	4,570	10.5%	-0.002	-0.000
Coronary revascularization	11,623	19.7%	8,612	19.7%	-0.014	-0.000
Diabetes	20,310	34.4%	15,053	34.5%	-0.034	-0.001
Falls	2,142	3.6%	1,588	3.6%	-0.003	-0.000
Fractures	571	1.0%	423	1.0%	0.000	0.000
Heart failure (hospitalized)	7,010	11.9%	5,201	11.9%	-0.025	-0.001
Heart failure (outpatient)	13,374	22.7%	9,911	22.7%	-0.020	-0.000
Hypercholesterolemia	23,461	39.8%	17,381	39.8%	-0.024	-0.000
Hypertension	50,104	85.0%	37,099	85.0%	-0.005	-0.000
Kidney failure (acute)	2,983	5.1%	2,215	5.1%	-0.015	-0.001
	Number	Percent	Number	Percent	Absolute Difference	Standardized Difference
Kidney failure (chronic)	5,907	10.0%	4,378	10.0%	-0.011	-0.000
Nicotine dependency	13,824	23.4%	10,243	23.5%	-0.018	-0.000
Obesity	8,574	14.5%	6,365	14.6%	-0.039	-0.001
Other ischemic heart disease	30,482	51.7%	22,581	51.7%	-0.027	-0.001
Peptic ulcer disease	212	0.4%	157	0.4%	0.001	0.000
Prior hospitalized bleeding	357	0.6%	265	0.6%	-0.001	-0.000
Stroke (past 0-30 days)	874	1.5%	648	1.5%	-0.003	-0.000
Stroke (past 31-183 days)	639	1.1%	474	1.1%	-0.002	-0.000

Table 1i. Baseline Characteristics of Male Rivaroxaban and Dabigatran Users (Inverse Probability of Treatment Weighted, Trimmed), Weight: Average Treatment Effect, Stabilized (ATES) in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

	Male Rivaroxaban Users		Male Dabigatran Users		Covariate Balance	
Syncope	4,826	8.2%	3,571	8.2%	0.007	0.000
Transient ischemic attack	3,296	5.6%	2,437	5.6%	0.009	0.000
Walker use	-	0.0%	-	0.0%	0.000	-
Baseline Use (-183 to -1 days)						
ACEI/ARB	35,846	60.8%	26,543	60.8%	-0.006	-0.000
Amiodarone	6,584	11.2%	4,873	11.2%	0.004	0.000
Anti-coagulant (injectable)	4,881	8.3%	3,617	8.3%	-0.008	-0.000
Antiarrhythmics	7,260	12.3%	5,376	12.3%	-0.001	-0.000
Antiplatelets	9,800	16.6%	7,254	16.6%	0.003	0.000
Beta blockers	40,950	69.5%	30,331	69.5%	-0.027	-0.001
Calcium channel blockers	22,941	38.9%	16,992	38.9%	-0.015	-0.000
Digoxin	6,720	11.4%	4,973	11.4%	0.006	0.000
Diuretics (loop)	13,275	22.5%	9,836	22.5%	-0.017	-0.000
Diuretics (potassium sparing)	4,306	7.3%	3,190	7.3%	-0.004	-0.000
Diuretics (thiazide)	15,098	25.6%	11,180	25.6%	-0.003	-0.000
Dronedarone	2,583	4.4%	1,912	4.4%	0.001	0.000
Estrogen	*****	0.0%	*****	0.0%	-0.001	-0.001
Fibrates	3,048	5.2%	2,256	5.2%	0.001	0.000
H2-antagonist	2,699	4.6%	2,003	4.6%	-0.011	-0.001
Insulin	3,780	6.4%	2,804	6.4%	-0.011	-0.000
	Number	Percent	Number	Percent	Absolute Difference	Standardized Difference
Metformin	10,003	17.0%	7,415	17.0%	-0.020	-0.001
Nonsteroidal Anti-Inflammatory Drug (NSAIDs)	8,234	14.0%	6,098	14.0%	-0.003	-0.000
Nitrates	5,969	10.1%	4,425	10.1%	-0.011	-0.000
Other diabetes medications	4,004	6.8%	2,962	6.8%	0.005	0.000
Proton pump inhibitors	14,593	24.8%	10,809	24.8%	-0.010	-0.000
SSRI antidepressants	5,546	9.4%	4,110	9.4%	-0.009	-0.000
Statins	36,853	62.5%	27,300	62.5%	-0.032	-0.001
Sulfonyureas	5,826	9.9%	4,315	9.9%	-0.003	-0.000

Table 1i. Baseline Characteristics of Male Rivaroxaban and Dabigatran Users (Inverse Probability of Treatment Weighted, Trimmed), Weight: Average Treatment Effect, Stabilized (ATES) in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

Health Service Utilization Intensity:	Male Rivaroxaban Users		Male Dabigatran Users		Covariate Balance	
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of ambulatory encounters	12.1	9.3	12.1	9.3	-0.003	-0.000
Mean number of emergency room encounters	0.3	0.7	0.3	0.8	-0.001	-0.001
Mean number of inpatient hospital encounters	0.4	0.7	0.4	0.7	-0.001	-0.001
Mean number of generics	9.2	4.6	9.2	4.6	-0.004	-0.001

¹Weighted patient characteristics tables facilitate the assessment of covariate balance after inverse probability weighting and should not be interpreted as a description of the unweighted population. Treated patients are weighted by the proportion of treated patients in the trimmed population divided by the inverse of their propensity score. Reference patients are weighted by 1 minus the proportion of treated patients in the trimmed population divided by 1 minus their propensity score.

²Covariates in blue show a standardized difference greater than 0.1

³Characteristics in italics were not included in the propensity score logistic regression model.

Table 1j. Baseline Characteristics of Dabigatran and Apixaban Users (Unadjusted) in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

Characteristic ¹	Dabigatran Users		Apixaban Users		Covariate Balance	
	Number	Percent	Number	Percent	Absolute Difference	Standardized Difference
Patients	84,563	100.0%	76,887	100.0%	-	-
Demographics	Mean	Standard Deviation	Mean	Standard Deviation		
Mean Age (Years)	76.0	6.6	75.7	6.4	0.303	0.047
Age (Years)	Number	Percent	Number	Percent		
65-74	40,754	48.2%	37,862	49.2%	-1.050	-0.021
75-84	34,534	40.8%	31,785	41.3%	-0.502	-0.010
85+	9,275	11.0%	7,240	9.4%	1.552	0.051
Sex						
Female	40,870	48.3%	37,025	48.2%	0.176	0.004
Male	43,693	51.7%	39,862	51.8%	-0.176	-0.004
Race						
American Indian or Alaska Native	224	0.3%	156	0.2%	0.062	0.013
Asian	1,363	1.6%	786	1.0%	0.590	0.052
Black or African American	2,997	3.5%	2,889	3.8%	-0.213	-0.011
Unknown	2,461	2.9%	2,068	2.7%	0.221	0.013
White	77,518	91.7%	70,988	92.3%	-0.659	-0.024
Ethnicity						
Hispanic origin	1,116	1.3%	694	0.9%	0.417	0.040
Year						
2010	1,270	1.5%	-	0.0%	1.502	-
2011	31,777	37.6%	-	0.0%	37.578	-
2012	23,085	27.3%	-	0.0%	27.299	-
2013	13,942	16.5%	8,608	11.2%	5.291	0.154
2014	9,464	11.2%	30,302	39.4%	-28.219	-0.686
2015	5,025	5.9%	37,977	49.4%	-43.451	-1.111
	Mean	Standard Deviation	Mean	Standard Deviation	Absolute Difference	Standardized Difference
CHA ₂ DS ₂ VaSc	3.9	1.5	4.0	1.5	-0.042	-0.027
	Number	Percent	Number	Percent		
0-1	2,775	3.3%	2,049	2.7%	0.617	0.036
2	12,956	15.3%	11,591	15.1%	0.246	0.007
3	19,802	23.4%	18,638	24.2%	-0.824	-0.019

Table 1j. Baseline Characteristics of Dabigatran and Apixaban Users (Unadjusted) in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

	Dabigatran Users		Apixaban Users		Covariate Balance	
4	21,645	25.6%	18,803	24.5%	1.141	0.026
5	13,989	16.5%	13,114	17.1%	-0.514	-0.014
>= 6	13,396	15.8%	12,692	16.5%	-0.666	-0.018
	Mean	Standard Deviation	Mean	Standard Deviation		
HAS-BLED	2.5	0.9	2.6	0.9	-0.064	-0.070
	Number	Percent	Number	Percent		
0-1	7,777	9.2%	6,449	8.4%	0.809	0.029
2	37,985	44.9%	33,027	43.0%	1.964	0.040
3	26,894	31.8%	25,020	32.5%	-0.738	-0.016
>= 4	11,907	14.1%	12,391	16.1%	-2.035	-0.057
Baseline Medical Conditions -183 to -1 days:						
Acute myocardial infarction (Past 0-30 days)	1,003	1.2%	1,164	1.5%	-0.328	-0.028
Acute myocardial infarction (Past 31-183 days)	692	0.8%	857	1.1%	-0.296	-0.030
Cardioablation	1,910	2.3%	1,855	2.4%	-0.154	-0.010
Cardioversion	8,106	9.6%	8,173	10.6%	-1.044	-0.035
Coronary revascularization	12,513	14.8%	12,780	16.6%	-1.825	-0.050
Diabetes	28,399	33.6%	26,301	34.2%	-0.624	-0.013
Falls	3,888	4.6%	3,736	4.9%	-0.261	-0.012
Fractures	1,134	1.3%	992	1.3%	0.051	0.004
Heart failure (hospitalized)	10,900	12.9%	10,932	14.2%	-1.328	-0.039
Heart failure (outpatient)	20,516	24.3%	19,009	24.7%	-0.462	-0.011
Hypercholesterolemia	33,107	39.2%	29,176	37.9%	1.204	0.025
Hypertension	73,152	86.5%	67,467	87.7%	-1.242	-0.037
	Number	Percent	Number	Percent	Absolute Difference	Standardized Difference
Kidney failure (acute)	3,747	4.4%	5,426	7.1%	-2.626	-0.113
Kidney failure (chronic)	8,336	9.9%	10,550	13.7%	-3.864	-0.120
Nicotine dependency	15,016	17.8%	18,412	23.9%	-6.190	-0.153
Obesity	11,364	13.4%	14,263	18.6%	-5.112	-0.140
Other ischemic heart disease	38,638	45.7%	36,390	47.3%	-1.638	-0.033
Peptic ulcer disease	331	0.4%	342	0.4%	-0.053	-0.008
Prior hospitalized bleeding	575	0.7%	568	0.7%	-0.059	-0.007

Table 1j. Baseline Characteristics of Dabigatran and Apixaban Users (Unadjusted) in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

	Dabigatran Users		Apixaban Users		Covariate Balance	
Stroke (past 0-30 days)	1,440	1.7%	1,358	1.8%	-0.063	-0.005
Stroke (past 31-183 days)	1,191	1.4%	1,174	1.5%	-0.118	-0.010
Syncope	7,441	8.8%	7,446	9.7%	-0.885	-0.031
Transient ischemic attack	5,572	6.6%	5,120	6.7%	-0.070	-0.003
Walker use	-	0.0%	-	0.0%	0.000	-
Baseline Use (-183 to -1 days)						
ACEI/ARB	50,696	60.0%	47,211	61.4%	-1.453	-0.030
Amiodarone	9,261	11.0%	8,780	11.4%	-0.468	-0.015
Anti-coagulant (injectable)	5,994	7.1%	7,513	9.8%	-2.683	-0.097
Antiarrhythmics	11,567	13.7%	10,980	14.3%	-0.602	-0.017
Antiplatelets	13,100	15.5%	12,564	16.3%	-0.849	-0.023
Beta blockers	60,057	71.0%	56,937	74.1%	-3.032	-0.068
Calcium channel blockers	36,299	42.9%	33,105	43.1%	-0.131	-0.003
Digoxin	12,654	15.0%	7,161	9.3%	5.650	0.174
Diuretics (loop)	21,919	25.9%	20,350	26.5%	-0.547	-0.012
Diuretics (potassium sparing)	7,316	8.7%	6,643	8.6%	0.012	0.000
Diuretics (thiazide)	24,803	29.3%	22,274	29.0%	0.361	0.008
Dronedarone	4,718	5.6%	3,159	4.1%	1.471	0.069
Estrogen	2,005	2.4%	1,519	2.0%	0.395	0.027
Fibrates	3,991	4.7%	3,583	4.7%	0.059	0.003
H2-antagonist	4,707	5.6%	4,381	5.7%	-0.132	-0.006
	Number	Percent	Number	Percent	Absolute Difference	Standardized Difference
Insulin	5,409	6.4%	5,737	7.5%	-1.065	-0.042
Metformin	12,876	15.2%	12,470	16.2%	-0.992	-0.027
Nonsteroidal Anti-Inflammatory Drug (NSAIDs)	12,780	15.1%	11,443	14.9%	0.230	0.006
Nitrates	8,493	10.0%	7,924	10.3%	-0.263	-0.009
Other diabetes medications	5,403	6.4%	4,982	6.5%	-0.090	-0.004
Proton pump inhibitors	22,725	26.9%	23,274	30.3%	-3.397	-0.075
SSRI antidepressants	11,437	13.5%	10,860	14.1%	-0.600	-0.017
Statins	49,365	58.4%	47,745	62.1%	-3.721	-0.076
Sulfonyureas	7,971	9.4%	6,831	8.9%	0.542	0.019

Table 1j. Baseline Characteristics of Dabigatran and Apixaban Users (Unadjusted) in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

Health Service Utilization Intensity:	Dabigatran Users		Apixaban Users		Covariate Balance	
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of ambulatory encounters	12.4	9.4	13.0	9.3	-0.577	-0.062
Mean number of emergency room encounters	0.3	0.7	0.4	0.8	-0.064	-0.083
Mean number of inpatient hospital encounters	0.5	0.7	0.5	0.7	0.004	0.005
Mean number of generics	9.7	4.8	10.1	4.9	-0.380	-0.078

¹Covariates in blue show a standardized difference greater than 0.1

Table 1k. Baseline Characteristics of Dabigatran and Apixaban Users (Unadjusted, Trimmed, Unweighted) in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

Characteristic ¹	Dabigatran Users		Apixaban Users		Covariate Balance	
	Number	Percent	Number	Percent	Absolute Difference	Standardized Difference
Patients	84,561	100.0%	76,886	100.0%	-	-
Demographics	Mean	Standard Deviation	Mean	Standard Deviation		
Mean Age (Years)	76.0	6.6	75.7	6.4	0.303	0.047
Age (Years)	Number	Percent	Number	Percent		
65-74	40,753	48.2%	37,861	49.2%	-1.049	-0.021
75-84	34,534	40.8%	31,785	41.3%	-0.501	-0.010
85+	9,274	11.0%	7,240	9.4%	1.551	0.051
Sex						
Female	40,868	48.3%	37,024	48.2%	0.175	0.004
Male	43,693	51.7%	39,862	51.8%	-0.175	-0.004
Race						
American Indian or Alaska Native	224	0.3%	156	0.2%	0.062	0.013
Asian	1,362	1.6%	786	1.0%	0.588	0.052
Black or African American	2,997	3.5%	2,889	3.8%	-0.213	-0.011
Unknown	2,461	2.9%	2,068	2.7%	0.221	0.013
White	77,517	91.7%	70,987	92.3%	-0.658	-0.024
Ethnicity						
Hispanic origin	1,116	1.3%	694	0.9%	0.417	0.040
Year						
2010	1,270	1.5%	-	0.0%	1.502	-
2011	31,776	37.6%	-	0.0%	37.578	-
2012	23,084	27.3%	-	0.0%	27.299	-
2013	13,942	16.5%	8,608	11.2%	5.292	0.154
2014	9,464	11.2%	30,302	39.4%	-28.220	-0.686
2015	5,025	5.9%	37,976	49.4%	-43.450	-1.111
	Mean	Standard Deviation	Mean	Standard Deviation	Absolute Difference	Standardized Difference
CHA ₂ DS ₂ VaSc	3.9	1.5	4.0	1.5	-0.043	-0.027
	Number	Percent	Number	Percent		
0-1	2,775	3.3%	2,049	2.7%	0.617	0.036
2	12,956	15.3%	11,591	15.1%	0.246	0.007
3	19,802	23.4%	18,638	24.2%	-0.824	-0.019

Table 1k. Baseline Characteristics of Dabigatran and Apixaban Users (Unadjusted, Trimmed, Unweighted) in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

	Dabigatran Users		Apixaban Users		Covariate Balance	
4	21,645	25.6%	18,802	24.5%	1.143	0.026
5	13,989	16.5%	13,114	17.1%	-0.513	-0.014
>= 6	13,394	15.8%	12,692	16.5%	-0.668	-0.018
	Mean	Standard Deviation	Mean	Standard Deviation		
HAS-BLED	2.5	0.9	2.6	0.9	-0.064	-0.070
	Number	Percent	Number	Percent		
0-1	7,777	9.2%	6,449	8.4%	0.809	0.029
2	37,985	44.9%	33,027	43.0%	1.964	0.040
3	26,894	31.8%	25,019	32.5%	-0.736	-0.016
>= 4	11,905	14.1%	12,391	16.1%	-2.037	-0.057
Baseline Medical Conditions -183 to -1 days:						
Acute myocardial infarction (Past 0-30 days)	1,003	1.2%	1,164	1.5%	-0.328	-0.028
Acute myocardial infarction (Past 31-183 days)	692	0.8%	857	1.1%	-0.296	-0.030
Cardioablation	1,910	2.3%	1,855	2.4%	-0.154	-0.010
Cardioversion	8,105	9.6%	8,173	10.6%	-1.045	-0.035
Coronary revascularization	12,513	14.8%	12,780	16.6%	-1.824	-0.050
Diabetes	28,398	33.6%	26,300	34.2%	-0.624	-0.013
Falls	3,887	4.6%	3,735	4.9%	-0.261	-0.012
Fractures	1,134	1.3%	992	1.3%	0.051	0.004
Heart failure (hospitalized)	10,898	12.9%	10,932	14.2%	-1.331	-0.039
Heart failure (outpatient)	20,514	24.3%	19,008	24.7%	-0.463	-0.011
Hypercholesterolemia	33,107	39.2%	29,175	37.9%	1.206	0.025
Hypertension	73,150	86.5%	67,466	87.7%	-1.242	-0.037
	Number	Percent	Number	Percent	Absolute Difference	Standardized Difference
Kidney failure (acute)	3,746	4.4%	5,426	7.1%	-2.627	-0.113
Kidney failure (chronic)	8,336	9.9%	10,550	13.7%	-3.864	-0.120
Nicotine dependency	15,016	17.8%	18,412	23.9%	-6.190	-0.153
Obesity	11,364	13.4%	14,262	18.5%	-5.111	-0.140
Other ischemic heart disease	38,636	45.7%	36,389	47.3%	-1.638	-0.033
Peptic ulcer disease	331	0.4%	342	0.4%	-0.053	-0.008
Prior hospitalized bleeding	575	0.7%	568	0.7%	-0.059	-0.007

Table 1k. Baseline Characteristics of Dabigatran and Apixaban Users (Unadjusted, Trimmed, Unweighted) in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

	Dabigatran Users		Apixaban Users		Covariate Balance	
Stroke (past 0-30 days)	1,440	1.7%	1,358	1.8%	-0.063	-0.005
Stroke (past 31-183 days)	1,191	1.4%	1,174	1.5%	-0.118	-0.010
Syncope	7,440	8.8%	7,446	9.7%	-0.886	-0.031
Transient ischemic attack	5,572	6.6%	5,120	6.7%	-0.070	-0.003
Walker use	-	0.0%	-	0.0%	0.000	-
Baseline Use (-183 to -1 days)						
ACEI/ARB	50,695	60.0%	47,210	61.4%	-1.452	-0.030
Amiodarone	9,260	11.0%	8,780	11.4%	-0.469	-0.015
Anti-coagulant (injectable)	5,994	7.1%	7,512	9.8%	-2.682	-0.097
Antiarrhythmics	11,567	13.7%	10,979	14.3%	-0.601	-0.017
Antiplatelets	13,098	15.5%	12,564	16.3%	-0.852	-0.023
Beta blockers	60,055	71.0%	56,936	74.1%	-3.033	-0.068
Calcium channel blockers	36,298	42.9%	33,104	43.1%	-0.131	-0.003
Digoxin	12,652	15.0%	7,161	9.3%	5.648	0.174
Diuretics (loop)	21,917	25.9%	20,350	26.5%	-0.549	-0.012
Diuretics (potassium sparing)	7,316	8.7%	6,643	8.6%	0.012	0.000
Diuretics (thiazide)	24,802	29.3%	22,274	29.0%	0.360	0.008
Dronedarone	4,718	5.6%	3,159	4.1%	1.471	0.069
Estrogen	2,005	2.4%	1,519	2.0%	0.395	0.027
Fibrates	3,991	4.7%	3,583	4.7%	0.060	0.003
H2-antagonist	4,707	5.6%	4,381	5.7%	-0.132	-0.006
	Number	Percent	Number	Percent	Absolute Difference	Standardized Difference
Insulin	5,408	6.4%	5,737	7.5%	-1.066	-0.042
Metformin	12,876	15.2%	12,470	16.2%	-0.992	-0.027
Nonsteroidal Anti-Inflammatory Drug (NSAIDs)	12,779	15.1%	11,442	14.9%	0.230	0.006
Nitrates	8,492	10.0%	7,924	10.3%	-0.264	-0.009
Other diabetes medications	5,403	6.4%	4,982	6.5%	-0.090	-0.004
Proton pump inhibitors	22,724	26.9%	23,273	30.3%	-3.397	-0.075
SSRI antidepressants	11,437	13.5%	10,860	14.1%	-0.600	-0.017
Statins	49,365	58.4%	47,745	62.1%	-3.720	-0.076
Sulfonyureas	7,970	9.4%	6,831	8.9%	0.541	0.019

Table 1k. Baseline Characteristics of Dabigatran and Apixaban Users (Unadjusted, Trimmed, Unweighted) in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

Health Service Utilization Intensity:	Dabigatran Users		Apixaban Users		Covariate Balance	
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of ambulatory encounters	12.4	9.4	13.0	9.3	-0.577	-0.062
Mean number of emergency room encounters	0.3	0.7	0.4	0.8	-0.064	-0.083
Mean number of inpatient hospital encounters	0.5	0.7	0.5	0.7	0.003	0.005
Mean number of generics	9.7	4.8	10.1	4.9	-0.380	-0.078

¹Covariates in blue show a standardized difference greater than 0.1

Table 1I. Baseline Characteristics of Dabigatran and Apixaban Users (Inverse Probability of Treatment Weighted, Trimmed), Weight: Average Treatment Effect, Stabilized (ATES) in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

Characteristic ^{1, 2, 3}	Dabigatran Users		Apixaban Users		Covariate Balance	
	Number	Percent	Number	Percent	Absolute Difference	Standardized Difference
Patients	84,600	-	76,863	-	-	-
Demographics	Mean	Standard Deviation	Mean	Standard Deviation		
Mean Age (Years)	75.9	6.6	75.9	6.4	0.001	0.000
Age (Years)	Number	Percent	Number	Percent		
65-74	41,640	49.2%	37,206	48.4%	0.813	0.016
75-84	34,097	40.3%	32,080	41.7%	-1.433	-0.029
85+	8,864	10.5%	7,577	9.9%	0.619	0.020
Sex						
Female	40,779	48.2%	37,055	48.2%	-0.007	-0.000
Male	43,821	51.8%	39,808	51.8%	0.007	0.000
Race						
American Indian or Alaska Native	199	0.2%	181	0.2%	0.000	0.000
Asian	1,122	1.3%	1,014	1.3%	0.007	0.001
Black or African American	3,089	3.7%	2,811	3.7%	-0.005	-0.000
Unknown	2,382	2.8%	2,165	2.8%	-0.001	-0.000
White	77,808	92.0%	70,693	92.0%	-0.001	-0.000
Ethnicity						
Hispanic origin	1,083	1.3%	725	0.9%	0.337	0.032
Year						
2010	1,202	1.4%	-	0.0%	1.421	-
2011	31,009	36.7%	-	0.0%	36.654	-
2012	23,021	27.2%	-	0.0%	27.211	-
2013	14,210	16.8%	8,890	11.6%	5.231	0.150
2014	9,858	11.7%	30,468	39.6%	-27.987	-0.677
2015	5,300	6.3%	37,505	48.8%	-42.530	-1.083
	Mean	Standard Deviation	Mean	Standard Deviation	Absolute Difference	Standardized Difference
CHA ₂ DS ₂ VaSc	3.9	1.6	3.9	1.5	-0.003	-0.002
	Number	Percent	Number	Percent		
0-1	2,534	3.0%	2,315	3.0%	-0.016	-0.001
2	12,840	15.2%	11,661	15.2%	0.006	0.000
3	20,155	23.8%	18,301	23.8%	0.014	0.000

Table 1I. Baseline Characteristics of Dabigatran and Apixaban Users (Inverse Probability of Treatment Weighted, Trimmed), Weight: Average Treatment Effect, Stabilized (ATES) in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

	Dabigatran Users		Apixaban Users		Covariate Balance	
4	21,176	25.0%	19,240	25.0%	0.000	0.000
5	14,190	16.8%	12,903	16.8%	-0.014	-0.000
>= 6	13,704	16.2%	12,444	16.2%	0.009	0.000
	Mean	Standard Deviation	Mean	Standard Deviation		
HAS-BLED	2.6	0.9	2.6	0.9	0.001	0.001
	Number	Percent	Number	Percent		
0-1	7,447	8.8%	6,775	8.8%	-0.012	-0.000
2	37,170	43.9%	33,786	44.0%	-0.020	-0.000
3	27,231	32.2%	24,727	32.2%	0.018	0.000
>= 4	12,752	15.1%	11,575	15.1%	0.014	0.000
Baseline Medical Conditions -183 to -1 days:						
Acute myocardial infarction (Past 0-30 days)	1,141	1.3%	1,035	1.3%	0.002	0.000
Acute myocardial infarction (Past 31-183 days)	827	1.0%	742	1.0%	0.012	0.001
Cardioablation	1,968	2.3%	1,788	2.3%	0.001	0.000
Cardioversion	8,563	10.1%	7,786	10.1%	-0.008	-0.000
Coronary revascularization	13,264	15.7%	12,056	15.7%	-0.007	-0.000
Diabetes	28,706	33.9%	26,074	33.9%	0.008	0.000
Falls	4,007	4.7%	3,636	4.7%	0.006	0.000
Fractures	1,116	1.3%	1,010	1.3%	0.004	0.000
Heart failure (hospitalized)	11,503	13.6%	10,452	13.6%	-0.001	-0.000
Heart failure (outpatient)	20,760	24.5%	18,880	24.6%	-0.025	-0.001
Hypercholesterolemia	32,655	38.6%	29,662	38.6%	0.009	0.000
Hypertension	73,684	87.1%	66,927	87.1%	0.023	0.001
	Number	Percent	Number	Percent	Absolute Difference	Standardized Difference
Kidney failure (acute)	4,853	5.7%	4,387	5.7%	0.030	0.001
Kidney failure (chronic)	9,924	11.7%	8,993	11.7%	0.031	0.001
Nicotine dependency	17,593	20.8%	15,962	20.8%	0.029	0.001
Obesity	13,500	16.0%	12,237	15.9%	0.037	0.001
Other ischemic heart disease	39,363	46.5%	35,751	46.5%	0.016	0.000
Peptic ulcer disease	352	0.4%	321	0.4%	-0.002	-0.000
Prior hospitalized bleeding	602	0.7%	544	0.7%	0.004	0.000

Table 1I. Baseline Characteristics of Dabigatran and Apixaban Users (Inverse Probability of Treatment Weighted, Trimmed), Weight: Average Treatment Effect, Stabilized (ATES) in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

	Dabigatran Users		Apixaban Users		Covariate Balance	
Stroke (past 0-30 days)	1,466	1.7%	1,334	1.7%	-0.003	-0.000
Stroke (past 31-183 days)	1,248	1.5%	1,131	1.5%	0.004	0.000
Syncope	7,807	9.2%	7,082	9.2%	0.014	0.000
Transient ischemic attack	5,600	6.6%	5,091	6.6%	-0.004	-0.000
Walker use	-	0.0%	-	0.0%	0.000	-
Baseline Use (-183 to -1 days)						
ACEI/ARB	51,348	60.7%	46,641	60.7%	0.013	0.000
Amiodarone	9,437	11.2%	8,589	11.2%	-0.019	-0.001
Anti-coagulant (injectable)	7,110	8.4%	6,449	8.4%	0.014	0.000
Antiarrhythmics	11,833	14.0%	10,758	14.0%	-0.009	-0.000
Antiplatelets	13,409	15.8%	12,170	15.8%	0.016	0.000
Beta blockers	61,352	72.5%	55,760	72.5%	-0.025	-0.001
Calcium channel blockers	36,322	42.9%	33,007	42.9%	-0.009	-0.000
Digoxin	10,391	12.3%	9,447	12.3%	-0.008	-0.000
Diuretics (loop)	22,212	26.3%	20,194	26.3%	-0.018	-0.000
Diuretics (potassium sparing)	7,345	8.7%	6,676	8.7%	-0.003	-0.000
Diuretics (thiazide)	24,667	29.2%	22,397	29.1%	0.018	0.000
Dronedarone	4,121	4.9%	3,735	4.9%	0.013	0.001
Estrogen	1,842	2.2%	1,669	2.2%	0.006	0.000
Fibrates	3,964	4.7%	3,605	4.7%	-0.005	-0.000
H2-antagonist	4,788	5.7%	4,338	5.6%	0.015	0.001
	Number	Percent	Number	Percent	Absolute Difference	Standardized Difference
Insulin	5,873	6.9%	5,328	6.9%	0.011	0.000
Metformin	13,314	15.7%	12,089	15.7%	0.010	0.000
Nonsteroidal Anti-Inflammatory Drug (NSAIDs)	12,733	15.1%	11,565	15.0%	0.006	0.000
Nitrates	8,615	10.2%	7,820	10.2%	0.010	0.000
Other diabetes medications	5,447	6.4%	4,948	6.4%	0.001	0.000
Proton pump inhibitors	24,145	28.5%	21,911	28.5%	0.035	0.001
SSRI antidepressants	11,713	13.8%	10,639	13.8%	0.004	0.000
Statins	50,918	60.2%	46,264	60.2%	-0.004	-0.000
Sulfonyureas	7,754	9.2%	7,055	9.2%	-0.014	-0.000

Table 1I. Baseline Characteristics of Dabigatran and Apixaban Users (Inverse Probability of Treatment Weighted, Trimmed), Weight: Average Treatment Effect, Stabilized (ATES) in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

Health Service Utilization Intensity:	Dabigatran Users		Apixaban Users		Covariate Balance	
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of ambulatory encounters	12.7	9.6	12.7	9.1	0.005	0.001
Mean number of emergency room encounters	0.4	0.8	0.4	0.8	0.002	0.002
Mean number of inpatient hospital encounters	0.5	0.7	0.5	0.7	0.000	0.000
Mean number of generics	9.9	4.9	9.9	4.8	0.004	0.001

¹Weighted patient characteristics tables facilitate the assessment of covariate balance after inverse probability weighting and should not be interpreted as a description of the unweighted population. Treated patients are weighted by the proportion of treated patients in the trimmed population divided by the inverse of their propensity score. Reference patients are weighted by 1 minus the proportion of treated patients in the trimmed population divided by 1 minus their propensity score.

²Covariates in blue show a standardized difference greater than 0.1

³Characteristics in italics were not included in the propensity score logistic regression model.

Table 1m. Baseline Characteristics of Female Dabigatran and Apixaban Users (Unadjusted) in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

Characteristic ¹	Female Dabigatran Users		Female Apixaban Users		Covariate Balance	
	Number	Percent	Number	Percent	Absolute Difference	Standardized Difference
Patients	40,870	100.0%	37,025	100.0%	-	-
Demographics	Mean	Standard Deviation	Mean	Standard Deviation		
Mean Age (Years)	77.2	6.8	76.3	6.5	0.893	0.134
Age (Years)	Number	Percent	Number	Percent		
65-74	16,721	40.9%	16,772	45.3%	-4.386	-0.089
75-84	18,129	44.4%	16,179	43.7%	0.660	0.013
85+	6,020	14.7%	4,074	11.0%	3.726	0.111
Sex						
Female	40,870	100.0%	37,025	100.0%	0.000	-
Race						
American Indian or Alaska Native	125	0.3%	77	0.2%	0.098	0.019
Asian	703	1.7%	400	1.1%	0.640	0.054
Black or African American	1,797	4.4%	1,682	4.5%	-0.146	-0.007
Unknown	1,145	2.8%	796	2.1%	0.652	0.042
White	37,100	90.8%	34,070	92.0%	-1.243	-0.044
Ethnicity						
Hispanic Origin	627	1.5%	389	1.1%	0.483	0.043
Year						
2010	615	1.5%	-	0.0%	1.505	-
2011	15,938	39.0%	-	0.0%	38.997	-
2012	11,220	27.5%	-	0.0%	27.453	-
2013	6,582	16.1%	4,036	10.9%	5.204	0.153
2014	4,284	10.5%	14,669	39.6%	-29.137	-0.714
2015	2,231	5.5%	18,320	49.5%	-44.021	-1.134
	Mean	Standard Deviation	Mean	Standard Deviation	Absolute Difference	Standardized Difference
CHA ₂ DS ₂ -VASc	4.5	1.4	4.5	1.5	0.014	0.009
	Number	Percent	Number	Percent		
0-1	-	0.0%	-	1.5	0.000	-
2	1,733	4.2%	1,843	5.0%	-0.737	-0.035
3	8,226	20.1%	8,012	21.6%	-1.512	-0.037
4	12,778	31.3%	10,727	29.0%	2.293	0.050

Table 1m. Baseline Characteristics of Female Dabigatran and Apixaban Users (Unadjusted) in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

	Female Dabigatran Users		Female Apixaban Users		Covariate Balance	
5	8,206	20.1%	7,310	19.7%	0.335	0.008
>= 6	9,927	24.3%	9,133	24.7%	-0.378	-0.009
	Mean	Standard Deviation	Mean	Standard Deviation		
HAS-BLED	2.6	0.9	2.6	0.9	-0.036	-0.040
	Number	Percent	Number	Percent		
0-1	3,247	7.9%	2,949	8.0%	-0.020	-0.001
2	18,388	45.0%	16,073	43.4%	1.580	0.032
3	13,287	32.5%	12,123	32.7%	-0.232	-0.005
>= 4	5,948	14.6%	5,880	15.9%	-1.328	-0.037
Baseline Medical Conditions -183 to -1 days:						
Acute myocardial infarction (Past 0-30 days)	440	1.1%	504	1.4%	-0.285	-0.026
Acute myocardial infarction (Past 31-183 days)	311	0.8%	384	1.0%	-0.276	-0.029
Cardioablation	693	1.7%	740	2.0%	-0.303	-0.023
Cardioversion	3,408	8.3%	3,433	9.3%	-0.933	-0.033
Coronary revascularization	3,936	9.6%	3,948	10.7%	-1.033	-0.034
Diabetes	13,086	32.0%	12,041	32.5%	-0.503	-0.011
Falls	2,342	5.7%	2,238	6.0%	-0.314	-0.013
Fractures	735	1.8%	586	1.6%	0.216	0.017
Heart failure (hospitalized)	5,781	14.1%	5,711	15.4%	-1.280	-0.036
Heart failure (outpatient)	10,223	25.0%	9,289	25.1%	-0.075	-0.002
Hypercholesterolemia	15,369	37.6%	13,441	36.3%	1.302	0.027
Hypertension	36,099	88.3%	32,827	88.7%	-0.335	-0.011
Kidney failure (acute)	1,631	4.0%	2,448	6.6%	-2.621	-0.117
	Number	Percent	Number	Percent	Absolute Difference	Standardized Difference
Kidney failure (chronic)	3,710	9.1%	4,592	12.4%	-3.325	-0.108
Nicotine dependency	5,935	14.5%	7,442	20.1%	-5.578	-0.148
Obesity	5,686	13.9%	7,352	19.9%	-5.944	-0.159
Other ischemic heart disease	15,668	38.3%	14,416	38.9%	-0.600	-0.012
Peptic ulcer disease	176	0.4%	193	0.5%	-0.091	-0.013
Prior hospitalized bleeding	309	0.8%	303	0.8%	-0.062	-0.007
Stroke (past 0-30 days)	816	2.0%	695	1.9%	0.119	0.009
Stroke (past 31-183 days)	677	1.7%	645	1.7%	-0.086	-0.007

Table 1m. Baseline Characteristics of Female Dabigatran and Apixaban Users (Unadjusted) in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

	Female Dabigatran Users		Female Apixaban Users		Covariate Balance	
Syncope	3,952	9.7%	3,968	10.7%	-1.047	-0.035
Transient ischemic attack	3,049	7.5%	2,744	7.4%	0.049	0.002
Walker use	-	0.0%	-	0.0%	0.000	-
Baseline Use (-183 to -1 days)						
ACEI/ARB	24,156	59.1%	22,108	59.7%	-0.607	-0.012
Amiodarone	4,248	10.4%	3,966	10.7%	-0.318	-0.010
Anti-coagulant (injectable)	2,831	6.9%	3,554	9.6%	-2.672	-0.097
Antiarrhythmics	6,026	14.7%	5,940	16.0%	-1.299	-0.036
Antiplatelets	5,813	14.2%	5,049	13.6%	0.586	0.017
Beta blockers	29,879	73.1%	27,999	75.6%	-2.514	-0.058
Calcium channel blockers	19,444	47.6%	17,513	47.3%	0.275	0.006
Digoxin	6,738	16.5%	3,701	10.0%	6.490	0.192
Diuretics (loop)	11,569	28.3%	10,579	28.6%	-0.266	-0.006
Diuretics (potassium sparing)	3,970	9.7%	3,575	9.7%	0.058	0.002
Diuretics (thiazide)	13,485	33.0%	12,035	32.5%	0.490	0.010
Dronedarone	2,385	5.8%	1,666	4.5%	1.336	0.060
Estrogen	2,002	4.9%	1,515	4.1%	0.807	0.039
Fibrates	1,589	3.9%	1,460	3.9%	-0.055	-0.003
H2-antagonist	2,643	6.5%	2,419	6.5%	-0.067	-0.003
Insulin	2,559	6.3%	2,670	7.2%	-0.950	-0.038
	Number	Percent	Number	Percent	Absolute Difference	Standardized Difference
Metformin	5,622	13.8%	5,393	14.6%	-0.810	-0.023
Nonsteroidal Anti-Inflammatory Drug (NSAIDs)	6,626	16.2%	6,144	16.6%	-0.382	-0.010
Nitrates	3,862	9.4%	3,456	9.3%	0.115	0.004
Other diabetes medications	2,280	5.6%	2,101	5.7%	-0.096	-0.004
Proton pump inhibitors	12,267	30.0%	12,354	33.4%	-3.352	-0.072
SSRI antidepressants	7,301	17.9%	6,966	18.8%	-0.950	-0.025
Statins	22,331	54.6%	21,187	57.2%	-2.584	-0.052
Sulfonyureas	3,422	8.4%	2,911	7.9%	0.511	0.019

Table 1m. Baseline Characteristics of Female Dabigatran and Apixaban Users (Unadjusted) in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

Health Service Utilization Intensity:	Female Dabigatran Users		Female Apixaban Users		Covariate Balance	
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of ambulatory encounters	12.7	9.4	13.2	9.2	-0.512	-0.055
Mean number of emergency room encounters	0.4	0.8	0.5	0.9	-0.076	-0.094
Mean number of inpatient hospital encounters	0.5	0.8	0.5	0.7	0.013	0.017
Mean number of generics	10.2	5.0	10.6	5.1	-0.332	-0.066

¹Covariates in blue show a standardized difference greater than 0.1

Table 1n. Baseline Characteristics of Female Dabigatran and Apixaban Users (Unadjusted, Trimmed, Unweighted) in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

Characteristic ¹	Female Dabigatran Users		Female Apixaban Users		Covariate Balance	
	Number	Percent	Number	Percent	Absolute Difference	Standardized Difference
Patients	40,853	100.0%	37,024	100.0%	-	-
Demographics	Mean	Standard Deviation	Mean	Standard Deviation		
Mean Age (Years)	77.2	6.8	76.3	6.5	0.891	0.134
Age (Years)	Number	Percent	Number	Percent		
65-74	16,718	40.9%	16,771	45.3%	-4.375	-0.088
75-84	18,120	44.4%	16,179	43.7%	0.655	0.013
85+	6,015	14.7%	4,074	11.0%	3.720	0.111
Sex						
Female	40,853	100.0%	37,024	100.0%	0.000	-
Race						
American Indian or Alaska Native	124	0.3%	77	0.2%	0.096	0.019
Asian	698	1.7%	400	1.1%	0.628	0.054
Black or African American	1,797	4.4%	1,682	4.5%	-0.144	-0.007
Unknown	1,144	2.8%	796	2.1%	0.650	0.042
White	37,090	90.8%	34,069	92.0%	-1.230	-0.044
Ethnicity						
Hispanic Origin	627	1.5%	389	1.1%	0.484	0.043
Year						
2010	613	1.5%	-	0.0%	1.501	-
2011	15,932	39.0%	-	0.0%	38.998	-
2012	11,214	27.4%	-	0.0%	27.450	-
2013	6,581	16.1%	4,036	10.9%	5.208	0.153
2014	4,284	10.5%	14,669	39.6%	-29.134	-0.714
2015	2,229	5.5%	18,319	49.5%	-44.023	-1.134
	Mean	Standard Deviation	Mean	Standard Deviation	Absolute Difference	Standardized Difference
CHA ₂ DS ₂ -VASc	4.5	1.4	4.5	1.5	0.013	0.009
	Number	Percent	Number	Percent		
0-1	-	0.0%	-	1.5	0.000	-
2	1,733	4.2%	1,843	5.0%	-0.736	-0.035
3	8,225	20.1%	8,012	21.6%	-1.507	-0.037
4	12,775	31.3%	10,726	29.0%	2.300	0.050

Table 1n. Baseline Characteristics of Female Dabigatran and Apixaban Users (Unadjusted, Trimmed, Unweighted) in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

	Female Dabigatran Users		Female Apixaban Users		Covariate Balance	
5	8,203	20.1%	7,310	19.7%	0.335	0.008
>= 6	9,917	24.3%	9,133	24.7%	-0.393	-0.009
	Mean	Standard Deviation	Mean	Standard Deviation		
HAS-BLED	2.6	0.9	2.6	0.9	-0.036	-0.040
	Number	Percent	Number	Percent		
0-1	3,247	7.9%	2,949	8.0%	-0.017	-0.001
2	18,388	45.0%	16,073	43.4%	1.598	0.032
3	13,277	32.5%	12,122	32.7%	-0.241	-0.005
>= 4	5,941	14.5%	5,880	15.9%	-1.339	-0.037
Baseline Medical Conditions -183 to -1 days:						
Acute myocardial infarction (Past 0-30 days)	440	1.1%	504	1.4%	-0.284	-0.026
Acute myocardial infarction (Past 31-183 days)	311	0.8%	384	1.0%	-0.276	-0.029
Cardioablation	692	1.7%	740	2.0%	-0.305	-0.023
Cardioversion	3,406	8.3%	3,433	9.3%	-0.935	-0.033
Coronary revascularization	3,933	9.6%	3,948	10.7%	-1.036	-0.034
Diabetes	13,078	32.0%	12,040	32.5%	-0.507	-0.011
Falls	2,340	5.7%	2,237	6.0%	-0.314	-0.013
Fractures	733	1.8%	586	1.6%	0.211	0.016
Heart failure (hospitalized)	5,771	14.1%	5,711	15.4%	-1.299	-0.037
Heart failure (outpatient)	10,210	25.0%	9,288	25.1%	-0.094	-0.002
Hypercholesterolemia	15,359	37.6%	13,440	36.3%	1.295	0.027
Hypertension	36,083	88.3%	32,826	88.7%	-0.337	-0.011
Kidney failure (acute)	1,630	4.0%	2,448	6.6%	-2.622	-0.117
	Number	Percent	Number	Percent	Absolute Difference	Standardized Difference
Kidney failure (chronic)	3,710	9.1%	4,592	12.4%	-3.321	-0.107
Nicotine dependency	5,935	14.5%	7,442	20.1%	-5.573	-0.148
Obesity	5,686	13.9%	7,351	19.9%	-5.936	-0.159
Other ischemic heart disease	15,656	38.3%	14,415	38.9%	-0.611	-0.013
Peptic ulcer disease	176	0.4%	193	0.5%	-0.090	-0.013
Prior hospitalized bleeding	309	0.8%	303	0.8%	-0.062	-0.007
Stroke (past 0-30 days)	816	2.0%	695	1.9%	0.120	0.009
Stroke (past 31-183 days)	677	1.7%	645	1.7%	-0.085	-0.007

Table 1n. Baseline Characteristics of Female Dabigatran and Apixaban Users (Unadjusted, Trimmed, Unweighted) in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

	Female Dabigatran Users		Female Apixaban Users		Covariate Balance	
Syncope	3,948	9.7%	3,968	10.7%	-1.053	-0.035
Transient ischemic attack	3,047	7.5%	2,744	7.4%	0.047	0.002
Walker use	-	0.0%	-	0.0%	0.000	-
Baseline Use (-183 to -1 days)						
ACEI/ARB	24,145	59.1%	22,107	59.7%	-0.608	-0.012
Amiodarone	4,240	10.4%	3,966	10.7%	-0.333	-0.011
Anti-coagulant (injectable)	2,830	6.9%	3,553	9.6%	-2.669	-0.097
Antiarrhythmics	6,024	14.7%	5,939	16.0%	-1.295	-0.036
Antiplatelets	5,803	14.2%	5,049	13.6%	0.567	0.016
Beta blockers	29,872	73.1%	27,998	75.6%	-2.501	-0.057
Calcium channel blockers	19,438	47.6%	17,512	47.3%	0.281	0.006
Digoxin	6,722	16.5%	3,701	10.0%	6.458	0.192
Diuretics (loop)	11,562	28.3%	10,579	28.6%	-0.272	-0.006
Diuretics (potassium sparing)	3,968	9.7%	3,575	9.7%	0.057	0.002
Diuretics (thiazide)	13,480	33.0%	12,035	32.5%	0.490	0.010
Dronedarone	2,380	5.8%	1,666	4.5%	1.326	0.060
Estrogen	2,000	4.9%	1,515	4.1%	0.804	0.039
Fibrates	1,589	3.9%	1,460	3.9%	-0.054	-0.003
H2-antagonist	2,641	6.5%	2,419	6.5%	-0.069	-0.003
Insulin	2,558	6.3%	2,670	7.2%	-0.950	-0.038
	Number	Percent	Number	Percent	Absolute Difference	Standardized Difference
Metformin	5,621	13.8%	5,393	14.6%	-0.807	-0.023
Nonsteroidal Anti-Inflammatory Drug (NSAIDs)	6,622	16.2%	6,143	16.6%	-0.383	-0.010
Nitrates	3,857	9.4%	3,456	9.3%	0.107	0.004
Other diabetes medications	2,279	5.6%	2,101	5.7%	-0.096	-0.004
Proton pump inhibitors	12,261	30.0%	12,353	33.4%	-3.352	-0.072
SSRI antidepressants	7,297	17.9%	6,966	18.8%	-0.953	-0.025
Statins	22,321	54.6%	21,187	57.2%	-2.588	-0.052
Sulfonyureas	3,420	8.4%	2,911	7.9%	0.509	0.019

Table 1n. Baseline Characteristics of Female Dabigatran and Apixaban Users (Unadjusted, Trimmed, Unweighted) in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

Health Service Utilization Intensity:	Female Dabigatran Users		Female Apixaban Users		Covariate Balance	
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of ambulatory encounters	12.7	9.4	13.2	9.2	-0.512	-0.055
Mean number of emergency room encounters	0.4	0.8	0.5	0.8	-0.075	-0.094
Mean number of inpatient hospital encounters	0.5	0.8	0.5	0.7	0.011	0.015
Mean number of generics	10.2	5.0	10.6	5.1	-0.333	-0.066

¹Covariates in blue show a standardized difference greater than 0.1

Table 1o. Baseline Characteristics of Female Dabigatran and Apixaban Users (Inverse Probability of Treatment Weighted, Trimmed), Weight: Average Treatment Effect, Stabilized (ATES) in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

Characteristic ^{1, 2, 3}	Female Dabigatran Users		Female Apixaban Users		Covariate Balance	
	Number	Percent	Number	Percent	Absolute Difference	Standardized Difference
Patients	40,884	-	37,009	-	-	-
Demographics	Mean	Standard Deviation	Mean	Standard Deviation		
Mean Age (Years)	76.7	6.8	76.7	6.6	-0.002	-0.000
Age (Years)	Number	Percent	Number	Percent		
65-74	17,924	43.8%	15,756	42.6%	1.269	0.026
75-84	17,513	42.8%	16,679	45.1%	-2.230	-0.045
85+	5,447	13.3%	4,575	12.4%	0.961	0.029
Sex						
Female	40,884	100.0%	37,009	100.0%	0.000	-
Race						
American Indian or Alaska Native	105	0.3%	95	0.3%	-0.000	-0.000
Asian	574	1.4%	515	1.4%	0.012	0.001
Black or African American	1,829	4.5%	1,658	4.5%	-0.007	-0.000
Unknown	1,019	2.5%	926	2.5%	-0.008	-0.001
White	37,357	91.4%	33,815	91.4%	0.004	0.000
Ethnicity						
Hispanic Origin	560	1.4%	461	1.2%	0.122	0.011
Year						
2010	573	1.4%	-	0.0%	1.402	-
2011	15,486	37.9%	-	0.0%	37.879	-
2012	11,193	27.4%	-	0.0%	27.378	-
2013	6,737	16.5%	4,184	11.3%	5.173	0.150
2014	4,506	11.0%	14,765	39.9%	-28.874	-0.703
2015	2,388	5.8%	18,061	48.8%	-42.959	-1.100
	Mean	Standard Deviation	Mean	Standard Deviation	Absolute Difference	Standardized Difference
CHA ₂ DS ₂ -VaSc	4.5	1.4	4.5	1.5	-0.007	-0.005
	Number	Percent	Number	Percent		
0-1	-	0.0%	-	1.5	0.000	-
2	1,876	4.6%	1,699	4.6%	-0.003	-0.000
3	8,523	20.8%	7,717	20.9%	-0.004	-0.000
4	12,313	30.1%	11,141	30.1%	0.013	0.000

Table 1o. Baseline Characteristics of Female Dabigatran and Apixaban Users (Inverse Probability of Treatment Weighted, Trimmed), Weight: Average Treatment Effect, Stabilized (ATES) in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

	Female Dabigatran Users		Female Apixaban Users		Covariate Balance	
5	8,135	19.9%	7,369	19.9%	-0.014	-0.000
>= 6	10,037	24.6%	9,083	24.5%	0.009	0.000
	Mean	Standard Deviation	Mean	Standard Deviation		
HAS-BLED	2.6	0.9	2.6	0.9	-0.000	-0.000
	Number	Percent	Number	Percent		
0-1	3,241	7.9%	2,937	7.9%	-0.008	-0.000
2	18,059	44.2%	16,354	44.2%	-0.018	-0.000
3	13,366	32.7%	12,094	32.7%	0.016	0.000
>= 4	6,217	15.2%	5,624	15.2%	0.010	0.000
Baseline Medical Conditions -183 to -1 days:						
Acute myocardial infarction (Past 0-30 days)	496	1.2%	449	1.2%	-0.002	-0.000
Acute myocardial infarction (Past 31-183 days)	369	0.9%	331	0.9%	0.010	0.001
Cardioablation	752	1.8%	681	1.8%	-0.001	-0.000
Cardioversion	3,618	8.9%	3,280	8.9%	-0.012	-0.000
Coronary revascularization	4,150	10.2%	3,761	10.2%	-0.010	-0.000
Diabetes	13,218	32.3%	11,970	32.3%	-0.013	-0.000
Falls	2,417	5.9%	2,180	5.9%	0.021	0.001
Fractures	697	1.7%	630	1.7%	0.003	0.000
Heart failure (hospitalized)	6,077	14.9%	5,498	14.9%	0.006	0.000
Heart failure (outpatient)	10,261	25.1%	9,298	25.1%	-0.024	-0.001
Hypercholesterolemia	15,152	37.1%	13,705	37.0%	0.031	0.001
Hypertension	36,185	88.5%	32,757	88.5%	-0.004	-0.000
Kidney failure (acute)	2,153	5.3%	1,942	5.2%	0.019	0.001
	Number	Percent	Number	Percent	Absolute Difference	Standardized Difference
Kidney failure (chronic)	4,372	10.7%	3,947	10.7%	0.030	0.001
Nicotine dependency	7,071	17.3%	6,387	17.3%	0.039	0.001
Obesity	6,903	16.9%	6,226	16.8%	0.063	0.002
Other ischemic heart disease	15,828	38.7%	14,318	38.7%	0.025	0.001
Peptic ulcer disease	193	0.5%	174	0.5%	0.002	0.000
Prior hospitalized bleeding	320	0.8%	287	0.8%	0.006	0.001
Stroke (past 0-30 days)	792	1.9%	720	1.9%	-0.008	-0.001
Stroke (past 31-183 days)	700	1.7%	631	1.7%	0.006	0.000

Table 1o. Baseline Characteristics of Female Dabigatran and Apixaban Users (Inverse Probability of Treatment Weighted, Trimmed), Weight: Average Treatment Effect, Stabilized (ATES) in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

	Female Dabigatran Users		Female Apixaban Users		Covariate Balance	
Syncope	4,163	10.2%	3,763	10.2%	0.016	0.001
Transient ischemic attack	3,048	7.5%	2,747	7.4%	0.034	0.001
Walker use	-	0.0%	-	0.0%	0.000	-
Baseline Use (-183 to -1 days)						
ACEI/ARB	24,314	59.5%	22,016	59.5%	-0.019	-0.000
Amiodarone	4,327	10.6%	3,916	10.6%	0.001	0.000
Anti-coagulant (injectable)	3,372	8.2%	3,046	8.2%	0.019	0.001
Antiarrhythmics	6,294	15.4%	5,708	15.4%	-0.027	-0.001
Antiplatelets	5,691	13.9%	5,146	13.9%	0.014	0.000
Beta blockers	30,402	74.4%	27,521	74.4%	0.001	0.000
Calcium channel blockers	19,372	47.4%	17,550	47.4%	-0.038	-0.001
Digoxin	5,477	13.4%	4,965	13.4%	-0.019	-0.001
Diuretics (loop)	11,664	28.5%	10,565	28.5%	-0.017	-0.000
Diuretics (potassium sparing)	3,980	9.7%	3,593	9.7%	0.025	0.001
Diuretics (thiazide)	13,397	32.8%	12,130	32.8%	-0.008	-0.000
Dronedarone	2,119	5.2%	1,917	5.2%	0.002	0.000
Estrogen	1,839	4.5%	1,661	4.5%	0.011	0.001
Fibrates	1,608	3.9%	1,460	3.9%	-0.011	-0.001
H2-antagonist	2,670	6.5%	2,405	6.5%	0.033	0.001
Insulin	2,756	6.7%	2,494	6.7%	0.002	0.000
	Number	Percent	Number	Percent	Absolute Difference	Standardized Difference
Metformin	5,809	14.2%	5,261	14.2%	-0.007	-0.000
Nonsteroidal Anti-Inflammatory Drug (NSAIDs)	6,741	16.5%	6,097	16.5%	0.012	0.000
Nitrates	3,845	9.4%	3,485	9.4%	-0.011	-0.000
Other diabetes medications	2,308	5.6%	2,089	5.6%	0.001	0.000
Proton pump inhibitors	12,958	31.7%	11,698	31.6%	0.086	0.002
SSRI antidepressants	7,509	18.4%	6,786	18.3%	0.030	0.001
Statins	22,867	55.9%	20,700	55.9%	0.001	0.000
Sulfonyureas	3,324	8.1%	3,017	8.2%	-0.022	-0.001

Table 1o. Baseline Characteristics of Female Dabigatran and Apixaban Users (Inverse Probability of Treatment Weighted, Trimmed), Weight: Average Treatment Effect, Stabilized (ATES) in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

Health Service Utilization Intensity:	Female Dabigatran Users		Female Apixaban Users		Covariate Balance	
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of ambulatory encounters	13.0	9.6	12.9	9.0	0.010	0.001
Mean number of emergency room encounters	0.4	0.8	0.4	0.8	0.004	0.005
Mean number of inpatient hospital encounters	0.5	0.7	0.5	0.8	-0.000	-0.000
Mean number of generics	10.4	5.1	10.4	5.0	0.007	0.001

¹Weighted patient characteristics tables facilitate the assessment of covariate balance after inverse probability weighting and should not be interpreted as a description of the unweighted population. Treated patients are weighted by the proportion of treated patients in the trimmed population divided by the inverse of their propensity score. Reference patients are weighted by 1 minus the proportion of treated patients in the trimmed population divided by 1 minus their propensity score.

²Covariates in blue show a standardized difference greater than 0.1

³Characteristics in italics were not included in the propensity score logistic regression model.

Table 1p. Baseline Characteristics of Male Dabigatran and Apixaban Users (Unadjusted) in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

Characteristic ¹	Male Dabigatran Users		Male Apixaban Users		Covariate Balance	
	Number	Percent	Number	Percent	Absolute Difference	Standardized Difference
Patients	43,693	100.0%	39,862	100.0%	-	-
Demographics	Mean	Standard Deviation	Mean	Standard Deviation		
Mean Age (Years)	75.0	6.2	75.2	6.2	-0.252	-0.040
Age (Years)	Number	Percent	Number	Percent		
65-74	24,033	55.0%	21,090	52.9%	2.097	0.042
75-84	16,405	37.5%	15,606	39.2%	-1.604	-0.033
85+	3,255	7.4%	3,166	7.9%	-0.493	-0.018
Sex						
Male	43,693	100.0%	39,862	100.0%	0.000	-
Race						
American Indian or Alaska Native	99	0.2%	79	0.2%	0.028	0.006
Asian	660	1.5%	386	1.0%	0.542	0.049
Black or African American	1,200	2.7%	1,207	3.0%	-0.282	-0.017
Unknown	1,316	3.0%	1,272	3.2%	-0.179	-0.010
White	40,418	92.5%	36,918	92.6%	-0.110	-0.004
Ethnicity	489	1.1%	305	0.8%	0.354	0.037
Hispanic Origin						
Year						
2010	655	1.5%	-	0.0%	1.499	-
2011	15,839	36.3%	-	0.0%	36.251	-
2012	11,865	27.2%	-	0.0%	27.155	-
2013	7,360	16.8%	4,572	11.5%	5.375	0.155
2014	5,180	11.9%	15,633	39.2%	-27.362	-0.661
2015	2,794	6.4%	19,657	49.3%	-42.918	-1.090
	Mean	Standard Deviation	Mean	Standard Deviation	Absolute Difference	Standardized Difference
CHA ₂ DS ₂ -VaSc	3.4	1.4	3.4	1.5	-0.098	-0.068
	Number	Percent	Number	Percent		
0-1	2,775	6.4%	2,049	5.1%	1.211	0.052
2	11,223	25.7%	9,748	24.5%	1.232	0.028
3	11,576	26.5%	10,626	26.7%	-0.163	-0.004
4	8,867	20.3%	8,076	20.3%	0.034	0.001

Table 1p. Baseline Characteristics of Male Dabigatran and Apixaban Users (Unadjusted) in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

	Male Dabigatran Users		Male Apixaban Users		Covariate Balance	
5	5,783	13.2%	5,804	14.6%	-1.325	-0.038
>= 6	3,469	7.9%	3,559	8.9%	-0.989	-0.036
	Mean	Standard Deviation	Mean	Standard Deviation		
HAS-BLED	2.5	0.9	2.6	0.9	-0.091	-0.097
	Number	Percent	Number	Percent		
0-1	4,530	10.4%	3,500	8.8%	1.588	0.054
2	19,597	44.9%	16,954	42.5%	2.320	0.047
3	13,607	31.1%	12,897	32.4%	-1.212	-0.026
>= 4	5,959	13.6%	6,511	16.3%	-2.696	-0.076
Baseline Medical Conditions -183 to -1 days:						
Acute myocardial infarction (Past 0-30 days)	563	1.3%	660	1.7%	-0.367	-0.030
Acute myocardial infarction (Past 31-183 days)	381	0.9%	473	1.2%	-0.315	-0.031
Cardioablation	1,217	2.8%	1,115	2.8%	-0.012	-0.001
Cardioversion	4,698	10.8%	4,740	11.9%	-1.139	-0.036
Coronary revascularization	8,577	19.6%	8,832	22.2%	-2.526	-0.062
Diabetes	15,313	35.0%	14,260	35.8%	-0.727	-0.015
Falls	1,546	3.5%	1,498	3.8%	-0.220	-0.012
Fractures	399	0.9%	406	1.0%	-0.105	-0.011
Heart failure (hospitalized)	5,119	11.7%	5,221	13.1%	-1.382	-0.042
Heart failure (outpatient)	10,293	23.6%	9,720	24.4%	-0.827	-0.019
Hypercholesterolemia	17,738	40.6%	15,735	39.5%	1.123	0.023
Hypertension	37,053	84.8%	34,640	86.9%	-2.097	-0.060
Kidney failure (acute)	2,116	4.8%	2,978	7.5%	-2.628	-0.109
	Number	Percent	Number	Percent	Absolute Difference	Standardized Difference
Kidney failure (chronic)	4,626	10.6%	5,958	14.9%	-4.359	-0.131
Nicotine dependency	9,081	20.8%	10,970	27.5%	-6.736	-0.158
Obesity	5,678	13.0%	6,911	17.3%	-4.342	-0.121
Other ischemic heart disease	22,970	52.6%	21,974	55.1%	-2.554	-0.051
Peptic ulcer disease	155	0.4%	149	0.4%	-0.019	-0.003
Prior hospitalized bleeding	266	0.6%	265	0.7%	-0.056	-0.007
Stroke (past 0-30 days)	624	1.4%	663	1.7%	-0.235	-0.019
Stroke (past 31-183 days)	514	1.2%	529	1.3%	-0.151	-0.014

Table 1p. Baseline Characteristics of Male Dabigatran and Apixaban Users (Unadjusted) in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

	Male Dabigatran Users		Male Apixaban Users		Covariate Balance	
Syncope	3,489	8.0%	3,478	8.7%	-0.740	-0.027
Transient ischemic attack	2,523	5.8%	2,376	6.0%	-0.186	-0.008
Walker use	-	0.0%	-	0.0%	0.000	-
Baseline Use (-183 to -1 days)						
ACEI/ARB	26,540	60.7%	25,103	63.0%	-2.233	-0.046
Amiodarone	5,013	11.5%	4,814	12.1%	-0.603	-0.019
Anti-coagulant (injectable)	3,163	7.2%	3,959	9.9%	-2.693	-0.096
Antiarrhythmics	5,541	12.7%	5,040	12.6%	0.038	0.001
Antiplatelets	7,287	16.7%	7,515	18.9%	-2.175	-0.057
Beta blockers	30,178	69.1%	28,938	72.6%	-3.527	-0.078
Calcium channel blockers	16,855	38.6%	15,592	39.1%	-0.539	-0.011
Digoxin	5,916	13.5%	3,460	8.7%	4.860	0.155
Diuretics (loop)	10,350	23.7%	9,771	24.5%	-0.824	-0.019
Diuretics (potassium sparing)	3,346	7.7%	3,068	7.7%	-0.039	-0.001
Diuretics (thiazide)	11,318	25.9%	10,239	25.7%	0.217	0.005
Dronedarone	2,333	5.3%	1,493	3.7%	1.594	0.077
Estrogen	*****	0.0%	*****	0.0%	-0.003	-0.003
Fibrates	2,402	5.5%	2,123	5.3%	0.172	0.008
H2-antagonist	2,064	4.7%	1,962	4.9%	-0.198	-0.009
Insulin	2,850	6.5%	3,067	7.7%	-1.171	-0.046
	Number	Percent	Number	Percent	Absolute Difference	Standardized Difference
Metformin	7,254	16.6%	7,077	17.8%	-1.152	-0.031
Nonsteroidal Anti-Inflammatory Drug (NSAIDs)	6,154	14.1%	5,299	13.3%	0.791	0.023
Nitrates	4,631	10.6%	4,468	11.2%	-0.610	-0.020
Other diabetes medications	3,123	7.1%	2,881	7.2%	-0.080	-0.003
Proton pump inhibitors	10,458	23.9%	10,920	27.4%	-3.459	-0.079
SSRI antidepressants	4,136	9.5%	3,894	9.8%	-0.303	-0.010
Statins	27,034	61.9%	26,558	66.6%	-4.752	-0.099
Sulfonyureas	4,549	10.4%	3,920	9.8%	0.577	0.019

Table 1p. Baseline Characteristics of Male Dabigatran and Apixaban Users (Unadjusted) in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

Health Service Utilization Intensity:	Male Dabigatran Users		Male Apixaban Users		Covariate Balance	
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of ambulatory encounters	12.2	9.5	12.8	9.4	-0.639	-0.068
Mean number of emergency room encounters	0.3	0.7	0.4	0.8	-0.054	-0.072
Mean number of inpatient hospital encounters	0.4	0.7	0.5	0.7	-0.005	-0.007
Mean number of generics	9.2	4.6	9.7	4.7	-0.428	-0.092

¹Covariates in blue show a standardized difference greater than 0.1

*****Data are not presented in these cells due to a small sample size or to assure a small cell cannot be recalculated through the cells presented.

Table 1q. Baseline Characteristics of Male Dabigatran and Apixaban Users (Unadjusted, Trimmed, Unweighted) in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

Characteristic ¹	Male Dabigatran Users		Male Apixaban Users		Covariate Balance	
	Number	Percent	Number	Percent	Absolute Difference	Standardized Difference
Patients	43,693	100.0%	39,862	100.0%	-	-
Demographics	Mean	Standard Deviation	Mean	Standard Deviation		
Mean Age (Years)	75.0	6.2	75.2	6.2	-0.252	-0.040
Age (Years)	Number	Percent	Number	Percent		
65-74	24,033	55.0%	21,090	52.9%	2.097	0.042
75-84	16,405	37.5%	15,606	39.2%	-1.604	-0.033
85+	3,255	7.4%	3,166	7.9%	-0.493	-0.018
Sex						
Male	43,693	100.0%	39,862	100.0%	0.000	-
Race						
American Indian or Alaska Native	99	0.2%	79	0.2%	0.028	0.006
Asian	660	1.5%	386	1.0%	0.542	0.049
Black or African American	1,200	2.7%	1,207	3.0%	-0.282	-0.017
Unknown	1,316	3.0%	1,272	3.2%	-0.179	-0.010
White	40,418	92.5%	36,918	92.6%	-0.110	-0.004
Ethnicity						
Hispanic Origin	489	1.1%	305	0.8%	0.354	0.037
Year						
2010	655	1.5%	-	0.0%	1.499	-
2011	15,839	36.3%	-	0.0%	36.251	-
2012	11,865	27.2%	-	0.0%	27.155	-
2013	7,360	16.8%	4,572	11.5%	5.375	0.155
2014	5,180	11.9%	15,633	39.2%	-27.362	-0.661
2015	2,794	6.4%	19,657	49.3%	-42.918	-1.090
	Mean	Standard Deviation	Mean	Standard Deviation	Absolute Difference	Standardized Difference
CHA ₂ DS ₂ -VASc	3.4	1.4	3.4	1.5	-0.098	-0.068
	Number	Percent	Number	Percent		
0-1	2,775	6.4%	2,049	5.1%	1.211	0.052
2	11,223	25.7%	9,748	24.5%	1.232	0.028
3	11,576	26.5%	10,626	26.7%	-0.163	-0.004
4	8,867	20.3%	8,076	20.3%	0.034	0.001

Table 1q. Baseline Characteristics of Male Dabigatran and Apixaban Users (Unadjusted, Trimmed, Unweighted) in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

	Male Dabigatran Users		Male Apixaban Users		Covariate Balance	
5	5,783	13.2%	5,804	14.6%	-1.325	-0.038
>= 6	3,469	7.9%	3,559	8.9%	-0.989	-0.036
	Mean	Standard Deviation	Mean	Standard Deviation		
HAS-BLED	2.5	0.9	2.6	0.9	-0.091	-0.097
	Number	Percent	Number	Percent		
0-1	4,530	10.4%	3,500	8.8%	1.588	0.054
2	19,597	44.9%	16,954	42.5%	2.320	0.047
3	13,607	31.1%	12,897	32.4%	-1.212	-0.026
>= 4	5,959	13.6%	6,511	16.3%	-2.696	-0.076
Baseline Medical Conditions -183 to -1 days:						
Acute myocardial infarction (Past 0-30 days)	563	1.3%	660	1.7%	-0.367	-0.030
Acute myocardial infarction (Past 31-183 days)	381	0.9%	473	1.2%	-0.315	-0.031
Cardioablation	1,217	2.8%	1,115	2.8%	-0.012	-0.001
Cardioversion	4,698	10.8%	4,740	11.9%	-1.139	-0.036
Coronary revascularization	8,577	19.6%	8,832	22.2%	-2.526	-0.062
Diabetes	15,313	35.0%	14,260	35.8%	-0.727	-0.015
Falls	1,546	3.5%	1,498	3.8%	-0.220	-0.012
Fractures	399	0.9%	406	1.0%	-0.105	-0.011
Heart failure (hospitalized)	5,119	11.7%	5,221	13.1%	-1.382	-0.042
Heart failure (outpatient)	10,293	23.6%	9,720	24.4%	-0.827	-0.019
Hypercholesterolemia	17,738	40.6%	15,735	39.5%	1.123	0.023
Hypertension	37,053	84.8%	34,640	86.9%	-2.097	-0.060
Kidney failure (acute)	2,116	4.8%	2,978	7.5%	-2.628	-0.109
	Number	Percent	Number	Percent	Absolute Difference	Standardized Difference
Kidney failure (chronic)	4,626	10.6%	5,958	14.9%	-4.359	-0.131
Nicotine dependency	9,081	20.8%	10,970	27.5%	-6.736	-0.158
Obesity	5,678	13.0%	6,911	17.3%	-4.342	-0.121
Other ischemic heart disease	22,970	52.6%	21,974	55.1%	-2.554	-0.051
Peptic ulcer disease	155	0.4%	149	0.4%	-0.019	-0.003
Prior hospitalized bleeding	266	0.6%	265	0.7%	-0.056	-0.007
Stroke (past 0-30 days)	624	1.4%	663	1.7%	-0.235	-0.019
Stroke (past 31-183 days)	514	1.2%	529	1.3%	-0.151	-0.014

Table 1q. Baseline Characteristics of Male Dabigatran and Apixaban Users (Unadjusted, Trimmed, Unweighted) in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

	Male Dabigatran Users		Male Apixaban Users		Covariate Balance	
Syncope	3,489	8.0%	3,478	8.7%	-0.740	-0.027
Transient ischemic attack	2,523	5.8%	2,376	6.0%	-0.186	-0.008
Walker use	-	0.0%	-	0.0%	0.000	-
Baseline Use (-183 to -1 days)						
ACEI/ARB	26,540	60.7%	25,103	63.0%	-2.233	-0.046
Amiodarone	5,013	11.5%	4,814	12.1%	-0.603	-0.019
Anti-coagulant (injectable)	3,163	7.2%	3,959	9.9%	-2.693	-0.096
Antiarrhythmics	5,541	12.7%	5,040	12.6%	0.038	0.001
Antiplatelets	7,287	16.7%	7,515	18.9%	-2.175	-0.057
Beta blockers	30,178	69.1%	28,938	72.6%	-3.527	-0.078
Calcium channel blockers	16,855	38.6%	15,592	39.1%	-0.539	-0.011
Digoxin	5,916	13.5%	3,460	8.7%	4.860	0.155
Diuretics (loop)	10,350	23.7%	9,771	24.5%	-0.824	-0.019
Diuretics (potassium sparing)	3,346	7.7%	3,068	7.7%	-0.039	-0.001
Diuretics (thiazide)	11,318	25.9%	10,239	25.7%	0.217	0.005
Dronedarone	2,333	5.3%	1,493	3.7%	1.594	0.077
Estrogen	*****	0.0%	*****	0.0%	-0.003	-0.003
Fibrates	2,402	5.5%	2,123	5.3%	0.172	0.008
H2-antagonist	2,064	4.7%	1,962	4.9%	-0.198	-0.009
Insulin	2,850	6.5%	3,067	7.7%	-1.171	-0.046
	Number	Percent	Number	Percent	Absolute Difference	Standardized Difference
Metformin	7,254	16.6%	7,077	17.8%	-1.152	-0.031
Nonsteroidal Anti-Inflammatory Drug (NSAIDs)	6,154	14.1%	5,299	13.3%	0.791	0.023
Nitrates	4,631	10.6%	4,468	11.2%	-0.610	-0.020
Other diabetes medications	3,123	7.1%	2,881	7.2%	-0.080	-0.003
Proton pump inhibitors	10,458	23.9%	10,920	27.4%	-3.459	-0.079
SSRI antidepressants	4,136	9.5%	3,894	9.8%	-0.303	-0.010
Statins	27,034	61.9%	26,558	66.6%	-4.752	-0.099
Sulfonyureas	4,549	10.4%	3,920	9.8%	0.577	0.019

Table 1q. Baseline Characteristics of Male Dabigatran and Apixaban Users (Unadjusted, Trimmed, Unweighted) in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

Health Service Utilization Intensity:	Male Dabigatran Users		Male Apixaban Users		Covariate Balance	
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of ambulatory encounters	12.2	9.5	12.8	9.4	-0.639	-0.068
Mean number of emergency room encounters	0.3	0.7	0.4	0.8	-0.054	-0.072
Mean number of inpatient hospital encounters	0.4	0.7	0.5	0.7	-0.005	-0.007
Mean number of generics	9.2	4.6	9.7	4.7	-0.428	-0.092

¹Covariates in blue show a standardized difference greater than 0.1

*****Data are not presented in these cells due to a small sample size or to assure a small cell cannot be recalculated through the cells presented.

Table 1r. Baseline Characteristics of Male Dabigatran and Apixaban Users (Inverse Probability of Treatment Weighted, Trimmed), Weight: Average Treatment Effect, Stabilized (ATES) in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

Characteristic ^{1, 2, 3}	Male Dabigatran Users		Male Apixaban Users		Covariate Balance	
	Number	Percent	Number	Percent	Absolute Difference	Standardized Difference
Patients	43,710	-	39,854	-	-	-
Demographics	Mean	Standard Deviation	Mean	Standard Deviation		
Mean Age (Years)	75.1	6.3	75.1	6.2	0.002	0.000
Age (Years)	Number	Percent	Number	Percent		
65-74	23,710	54.2%	21,433	53.8%	0.464	0.009
75-84	16,621	38.0%	15,382	38.6%	-0.572	-0.012
85+	3,379	7.7%	3,038	7.6%	0.107	0.004
Sex						
Male	43,710	100.0%	39,854	100.0%	0.000	-
Race						
American Indian or Alaska Native	93	0.2%	85	0.2%	-0.001	-0.000
Asian	545	1.2%	498	1.2%	-0.002	-0.000
Black or African American	1,265	2.9%	1,154	2.9%	-0.001	-0.000
Unknown	1,370	3.1%	1,248	3.1%	0.004	0.000
White	40,437	92.5%	36,869	92.5%	0.000	0.000
Ethnicity						
Hispanic Origin	516	1.2%	286	0.7%	0.464	0.048
Year						
2010	625	1.4%	-	0.0%	1.430	-
2011	15,501	35.5%	-	0.0%	35.463	-
2012	11,817	27.0%	-	0.0%	27.034	-
2013	7,485	17.1%	4,717	11.8%	5.290	0.151
2014	5,357	12.3%	15,707	39.4%	-27.154	-0.653
2015	2,925	6.7%	19,431	48.8%	-42.062	-1.064
	Mean	Standard Deviation	Mean	Standard Deviation	Absolute Difference	Standardized Difference
CHA ₂ DS ₂ -VaSc	3.4	1.4	3.4	1.4	-0.001	-0.001
	Number	Percent	Number	Percent		
0-1	2,530	5.8%	2,319	1.5	-0.032	-0.001
2	10,951	25.1%	9,978	25.0%	0.017	0.000
3	11,616	26.6%	10,583	26.6%	0.020	0.000
4	8,863	20.3%	8,079	20.3%	0.007	0.000

Table 1r. Baseline Characteristics of Male Dabigatran and Apixaban Users (Inverse Probability of Treatment Weighted, Trimmed), Weight: Average Treatment Effect, Stabilized (ATES) in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

	Male Dabigatran Users		Male Apixaban Users		Covariate Balance	
5	6,066	13.9%	5,536	13.9%	-0.015	-0.000
>= 6	3,684	8.4%	3,358	8.4%	0.003	0.000
	Mean	Standard Deviation	Mean	Standard Deviation		
HAS-BLED	2.6	0.9	2.6	0.9	0.002	0.002
	Number	Percent	Number	Percent		
0-1	4,207	9.6%	3,845	9.6%	-0.022	-0.001
2	19,104	43.7%	17,422	43.7%	-0.009	-0.000
3	13,861	31.7%	12,635	31.7%	0.008	0.000
>= 4	6,538	15.0%	5,952	14.9%	0.023	0.001
Baseline Medical Conditions -183 to -1 days:						
Acute myocardial infarction (Past 0-30 days)	644	1.5%	585	1.5%	0.005	0.000
Acute myocardial infarction (Past 31-183 days)	456	1.0%	411	1.0%	0.013	0.001
Cardioablation	1,213	2.8%	1,105	2.8%	0.004	0.000
Cardioversion	4,939	11.3%	4,507	11.3%	-0.009	-0.000
Coronary revascularization	9,096	20.8%	8,302	20.8%	-0.021	-0.001
Diabetes	15,481	35.4%	14,112	35.4%	0.008	0.000
Falls	1,593	3.6%	1,454	3.6%	-0.004	-0.000
Fractures	418	1.0%	381	1.0%	0.000	0.000
Heart failure (hospitalized)	5,425	12.4%	4,952	12.4%	-0.015	-0.000
Heart failure (outpatient)	10,489	24.0%	9,583	24.0%	-0.048	-0.001
Hypercholesterolemia	17,493	40.0%	15,958	40.0%	-0.021	-0.000
Hypertension	37,493	85.8%	34,167	85.7%	0.047	0.001
Kidney failure (acute)	2,697	6.2%	2,446	6.1%	0.034	0.001
	Number	Percent	Number	Percent	Absolute Difference	Standardized Difference
Kidney failure (chronic)	5,553	12.7%	5,049	12.7%	0.036	0.001
Nicotine dependency	10,514	24.1%	9,576	24.0%	0.027	0.001
Obesity	6,608	15.1%	6,014	15.1%	0.028	0.001
Other ischemic heart disease	23,514	53.8%	21,439	53.8%	0.003	0.000
Peptic ulcer disease	159	0.4%	147	0.4%	-0.005	-0.001
Prior hospitalized bleeding	282	0.6%	257	0.6%	0.002	0.000
Stroke (past 0-30 days)	675	1.5%	615	1.5%	0.001	0.000
Stroke (past 31-183 days)	547	1.3%	496	1.2%	0.006	0.001

Table 1r. Baseline Characteristics of Male Dabigatran and Apixaban Users (Inverse Probability of Treatment Weighted, Trimmed), Weight: Average Treatment Effect, Stabilized (ATES) in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

	Male Dabigatran Users		Male Apixaban Users		Covariate Balance	
Syncope	3,645	8.3%	3,317	8.3%	0.016	0.001
Transient ischemic attack	2,559	5.9%	2,342	5.9%	-0.021	-0.001
Walker use	-	0.0%	-	0.0%	0.000	-
Baseline Use (-183 to -1 days)						
ACEI/ARB	27,032	61.8%	24,631	61.8%	0.039	0.001
Amiodarone	5,105	11.7%	4,672	11.7%	-0.043	-0.001
Anti-coagulant (injectable)	3,744	8.6%	3,407	8.5%	0.016	0.001
Antiarrhythmics	5,539	12.7%	5,047	12.7%	0.008	0.000
Antiplatelets	7,716	17.7%	7,035	17.7%	-0.000	-0.000
Beta blockers	30,951	70.8%	28,240	70.9%	-0.050	-0.001
Calcium channel blockers	16,960	38.8%	15,452	38.8%	0.029	0.001
Digoxin	4,911	11.2%	4,487	11.3%	-0.024	-0.001
Diuretics (loop)	10,551	24.1%	9,630	24.2%	-0.026	-0.001
Diuretics (potassium sparing)	3,361	7.7%	3,077	7.7%	-0.031	-0.001
Diuretics (thiazide)	11,276	25.8%	10,266	25.8%	0.037	0.001
Dronedarone	2,000	4.6%	1,817	4.6%	0.015	0.001
Estrogen	*****	0.0%	*****	0.0%	0.001	0.001
Fibrates	2,354	5.4%	2,145	5.4%	0.003	0.000
H2-antagonist	2,118	4.8%	1,931	4.8%	0.002	0.000
Insulin	3,113	7.1%	2,832	7.1%	0.017	0.001
	Number	Percent	Number	Percent	Absolute Difference	Standardized Difference
Metformin	7,498	17.2%	6,826	17.1%	0.025	0.001
Nonsteroidal Anti-Inflammatory Drug (NSAIDs)	6,001	13.7%	5,465	13.7%	0.017	0.000
Nitrates	4,760	10.9%	4,332	10.9%	0.019	0.001
Other diabetes medications	3,135	7.2%	2,857	7.2%	0.004	0.000
Proton pump inhibitors	11,208	25.6%	10,222	25.6%	-0.007	-0.000
SSRI antidepressants	4,216	9.6%	3,846	9.7%	-0.005	-0.000
Statins	28,036	64.1%	25,574	64.2%	-0.031	-0.001
Sulfonyureas	4,422	10.1%	4,036	10.1%	-0.009	-0.000

Table 1r. Baseline Characteristics of Male Dabigatran and Apixaban Users (Inverse Probability of Treatment Weighted, Trimmed), Weight: Average Treatment Effect, Stabilized (ATES) in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

Health Service Utilization Intensity:	Male Dabigatran Users		Male Apixaban Users		Covariate Balance	
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of ambulatory encounters	12.5	9.7	12.5	9.2	0.003	0.000
Mean number of emergency room encounters	0.3	0.7	0.3	0.7	0.001	0.002
Mean number of inpatient hospital encounters	0.5	0.7	0.5	0.7	-0.000	-0.000
Mean number of generics	9.4	4.7	9.4	4.6	0.000	0.000

¹Weighted patient characteristics tables facilitate the assessment of covariate balance after inverse probability weighting and should not be interpreted as a description of the unweighted population. Treated patients are weighted by the proportion of treated patients in the trimmed population divided by the inverse of their propensity score. Reference patients are weighted by 1 minus the proportion of treated patients in the trimmed population divided by 1 minus their propensity score.

²Covariates in blue show a standardized difference greater than 0.1

³Characteristics in italics were not included in the propensity score logistic regression model.

Table 1s. Baseline Characteristics of Rivaroxaban and Apixaban Users (Unadjusted) in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

Characteristic ¹	Rivaroxaban Users		Apixaban Users		Covariate Balance	
	Number	Percent	Number	Percent	Absolute Difference	Standardized Difference
Patients	111,817	100.0%	77,233	100.0%	-	-
Demographics	Mean	Standard Deviation	Mean	Standard Deviation		
Mean Age (Years)	75.5	6.4	75.7	6.4	-0.288	-0.045
Age (Years)	Number	Percent	Number	Percent		
65-74	57,788	51.7%	38,033	49.2%	2.436	0.049
75-84	44,196	39.5%	31,939	41.4%	-1.829	-0.037
85+	9,833	8.8%	7,261	9.4%	-0.608	-0.021
Sex						
Female	51,898	46.4%	37,129	48.1%	-1.661	-0.033
Male	59,919	53.6%	40,104	51.9%	1.661	0.033
Race						
American Indian or Alaska Native	323	0.3%	159	0.2%	0.083	0.017
Asian	1,478	1.3%	785	1.0%	0.305	0.028
Black or African American	3,992	3.6%	2,889	3.7%	-0.171	-0.009
Unknown	3,439	3.1%	2,067	2.7%	0.399	0.024
White	102,585	91.7%	71,333	92.4%	-0.617	-0.023
Ethnicity						
Hispanic origin	1,323	1.2%	689	0.9%	0.291	0.029
Year						
2010	-	0.0%	-	0.0%	0.000	-
2011	151	0.1%	-	0.0%	0.135	-
2012	13,985	12.5%	-	0.0%	12.507	-
2013	31,948	28.6%	8,722	11.3%	17.279	0.443
2014	39,225	35.1%	30,571	39.6%	-4.503	-0.093
2015	26,508	23.7%	37,940	49.1%	-25.417	-0.548
	Mean	Standard Deviation	Mean	Standard Deviation	Absolute Difference	Standardized Difference
CHA ₂ DS ₂ VaSc	3.8	1.5	4.0	1.5	-0.148	-0.096
	Number	Percent	Number	Percent		
0-1	3,843	3.4%	2,078	2.7%	0.746	0.043
2	18,982	17.0%	11,654	15.1%	1.887	0.051
3	28,174	25.2%	18,732	24.3%	0.943	0.022

Table 1s. Baseline Characteristics of Rivaroxaban and Apixaban Users (Unadjusted) in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

	Rivaroxaban Users		Apixaban Users		Covariate Balance	
4	27,230	24.4%	18,873	24.4%	-0.084	-0.002
5	17,781	15.9%	13,138	17.0%	-1.109	-0.030
>= 6	15,807	14.1%	12,758	16.5%	-2.382	-0.066
	Mean	Standard Deviation	Mean	Standard Deviation		
HAS-BLED	2.5	0.9	2.6	0.9	-0.096	-0.104
	Number	Percent	Number	Percent		
0-1	10,926	9.8%	6,480	8.4%	1.381	0.048
2	51,173	45.8%	33,220	43.0%	2.752	0.055
3	35,080	31.4%	25,089	32.5%	-1.112	-0.024
>= 4	14,638	13.1%	12,444	16.1%	-3.021	-0.086
Baseline Medical Conditions -183 to -1 days:						
Acute myocardial infarction (Past 0-30 days)	1,618	1.4%	1,161	1.5%	-0.056	-0.005
Acute myocardial infarction (Past 31-183 days)	886	0.8%	857	1.1%	-0.317	-0.033
Cardioablation	2,384	2.1%	1,870	2.4%	-0.289	-0.019
Cardioversion	10,318	9.2%	8,208	10.6%	-1.400	-0.047
Coronary revascularization	16,460	14.7%	12,836	16.6%	-1.899	-0.052
Diabetes	35,981	32.2%	26,403	34.2%	-2.008	-0.043
Falls	5,335	4.8%	3,750	4.9%	-0.084	-0.004
Fractures	1,497	1.3%	993	1.3%	0.053	0.005
Heart failure (hospitalized)	14,060	12.6%	10,969	14.2%	-1.628	-0.048
Heart failure (outpatient)	24,600	22.0%	19,092	24.7%	-2.720	-0.064
Hypercholesterolemia	42,317	37.8%	29,286	37.9%	-0.074	-0.002
Hypertension	96,189	86.0%	67,758	87.7%	-1.708	-0.051
	Number	Percent	Number	Percent	Absolute Difference	Standardized Difference
Kidney failure (acute)	5,305	4.7%	5,444	7.0%	-2.304	-0.098
Kidney failure (chronic)	9,834	8.8%	10,601	13.7%	-4.931	-0.156
Nicotine dependency	24,353	21.8%	18,443	23.9%	-2.100	-0.050
Obesity	18,301	16.4%	14,307	18.5%	-2.158	-0.057
Other ischemic heart disease	49,248	44.0%	36,549	47.3%	-3.280	-0.066
Peptic ulcer disease	415	0.4%	348	0.5%	-0.079	-0.012
Prior hospitalized bleeding	733	0.7%	573	0.7%	-0.086	-0.010

Table 1s. Baseline Characteristics of Rivaroxaban and Apixaban Users (Unadjusted) in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

	Rivaroxaban Users		Apixaban Users		Covariate Balance	
Stroke (past 0-30 days)	1,843	1.6%	1,376	1.8%	-0.133	-0.010
Stroke (past 31-183 days)	1,356	1.2%	1,175	1.5%	-0.309	-0.027
Syncope	9,909	8.9%	7,455	9.7%	-0.791	-0.027
Transient ischemic attack	6,792	6.1%	5,150	6.7%	-0.594	-0.024
Walker use	-	0.0%	-	0.0%	0.000	-
Baseline Use (-183 to -1 days)						
ACEI/ARB	66,177	59.2%	47,413	61.4%	-2.206	-0.045
Amiodarone	11,791	10.5%	8,840	11.4%	-0.901	-0.029
Anti-coagulant (injectable)	10,015	9.0%	7,554	9.8%	-0.824	-0.028
Antiarrhythmics	15,095	13.5%	11,060	14.3%	-0.821	-0.024
Antiplatelets	16,261	14.5%	12,610	16.3%	-1.785	-0.049
Beta blockers	79,721	71.3%	57,195	74.1%	-2.759	-0.062
Calcium channel blockers	47,519	42.5%	33,224	43.0%	-0.521	-0.011
Digoxin	12,156	10.9%	7,176	9.3%	1.580	0.052
Diuretics (loop)	25,702	23.0%	20,422	26.4%	-3.456	-0.080
Diuretics (potassium sparing)	8,815	7.9%	6,687	8.7%	-0.775	-0.028
Diuretics (thiazide)	31,909	28.5%	22,383	29.0%	-0.444	-0.010
Dronedarone	4,401	3.9%	3,184	4.1%	-0.187	-0.009
Estrogen	2,400	2.1%	1,522	2.0%	0.176	0.012
Fibrates	4,800	4.3%	3,601	4.7%	-0.370	-0.018
H2-antagonist	5,973	5.3%	4,402	5.7%	-0.358	-0.016
	Number	Percent	Number	Percent	Absolute Difference	Standardized Difference
Insulin	6,804	6.1%	5,769	7.5%	-1.385	-0.055
Metformin	17,325	15.5%	12,498	16.2%	-0.688	-0.019
Nonsteroidal Anti-Inflammatory Drug (NSAIDs)	17,105	15.3%	11,485	14.9%	0.427	0.012
Nitrates	10,087	9.0%	7,938	10.3%	-1.257	-0.043
Other diabetes medications	6,562	5.9%	5,008	6.5%	-0.616	-0.026
Proton pump inhibitors	31,220	27.9%	23,389	30.3%	-2.363	-0.052
SSRI antidepressants	15,153	13.6%	10,896	14.1%	-0.556	-0.016
Statins	65,691	58.7%	47,936	62.1%	-3.318	-0.068
Sulfonyreas	9,335	8.3%	6,856	8.9%	-0.529	-0.019

Table 1s. Baseline Characteristics of Rivaroxaban and Apixaban Users (Unadjusted) in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

Health Service Utilization Intensity:	Rivaroxaban Users		Apixaban Users		Covariate Balance	
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of ambulatory encounters	12.2	9.1	13.0	9.3	-0.763	-0.083
Mean number of emergency room encounters	0.4	0.8	0.4	0.8	-0.021	-0.027
Mean number of inpatient hospital encounters	0.5	0.7	0.5	0.7	-0.007	-0.010
Mean number of generics	9.6	4.8	10.1	4.9	-0.451	-0.092

¹Covariates in blue show a standardized difference greater than 0.1

Table 1t. Baseline Characteristics of Rivaroxaban and Apixaban Users (Unadjusted, Trimmed, Unweighted) in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

Characteristic ¹	Rivaroxaban Users		Apixaban Users		Covariate Balance	
	Number	Percent	Number	Percent	Absolute Difference	Standardized Difference
Patients	111,814	100.0%	77,231	100.0%	-	-
Demographics	Mean	Standard Deviation	Mean	Standard Deviation		
Mean Age (Years)	75.5	6.4	75.7	6.4	-0.288	-0.045
Age (Years)	Number	Percent	Number	Percent		
65-74	57,785	51.7%	38,033	49.2%	2.434	0.049
75-84	44,196	39.5%	31,938	41.4%	-1.828	-0.037
85+	9,833	8.8%	7,260	9.4%	-0.606	-0.021
Sex						
Female	51,898	46.4%	37,127	48.1%	-1.658	-0.033
Male	59,916	53.6%	40,104	51.9%	1.658	0.033
Race						
American Indian or Alaska Native	322	0.3%	159	0.2%	0.082	0.017
Asian	1,478	1.3%	785	1.0%	0.305	0.028
Black or African American	3,992	3.6%	2,889	3.7%	-0.171	-0.009
Unknown	3,439	3.1%	2,067	2.7%	0.399	0.024
White	102,583	91.7%	71,331	92.4%	-0.616	-0.023
Ethnicity						
Hispanic origin	1,323	1.2%	689	0.9%	0.291	0.029
Year						
2010	-	0.0%	-	0.0%	0.000	-
2011	151	0.1%	-	0.0%	0.135	-
2012	13,985	12.5%	-	0.0%	12.507	-
2013	31,948	28.6%	8,722	11.3%	17.279	0.443
2014	39,224	35.1%	30,571	39.6%	-4.504	-0.093
2015	26,506	23.7%	37,938	49.1%	-25.417	-0.548
	Mean	Standard Deviation	Mean	Standard Deviation	Absolute Difference	Standardized Difference
CHA ₂ DS ₂ VaSc	3.8	1.5	4.0	1.5	-0.147	-0.096
	Number	Percent	Number	Percent		
0-1	3,843	3.4%	2,078	2.7%	0.746	0.043
2	18,982	17.0%	11,654	15.1%	1.887	0.051
3	28,174	25.2%	18,732	24.3%	0.943	0.022

Table 1t. Baseline Characteristics of Rivaroxaban and Apixaban Users (Unadjusted, Trimmed, Unweighted) in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

	Rivaroxaban Users		Apixaban Users		Covariate Balance	
4	27,229	24.4%	18,873	24.4%	-0.085	-0.002
5	17,779	15.9%	13,138	17.0%	-1.111	-0.030
>= 6	15,807	14.1%	12,756	16.5%	-2.380	-0.066
	Mean	Standard Deviation	Mean	Standard Deviation		
HAS-BLED	2.5	0.9	2.6	0.9	-0.096	-0.104
	Number	Percent	Number	Percent		
0-1	10,926	9.8%	6,480	8.4%	1.381	0.048
2	51,172	45.8%	33,220	43.0%	2.751	0.055
3	35,080	31.4%	25,088	32.5%	-1.111	-0.024
>= 4	14,636	13.1%	12,443	16.1%	-3.022	-0.086
Baseline Medical Conditions -183 to -1 days:						
Acute myocardial infarction (Past 0-30 days)	1,618	1.4%	1,161	1.5%	-0.056	-0.005
Acute myocardial infarction (Past 31-183 days)	886	0.8%	856	1.1%	-0.316	-0.033
Cardioablation	2,384	2.1%	1,870	2.4%	-0.289	-0.019
Cardioversion	10,318	9.2%	8,207	10.6%	-1.399	-0.047
Coronary revascularization	16,458	14.7%	12,834	16.6%	-1.899	-0.052
Diabetes	35,979	32.2%	26,401	34.2%	-2.007	-0.043
Falls	5,332	4.8%	3,750	4.9%	-0.087	-0.004
Fractures	1,496	1.3%	993	1.3%	0.052	0.005
Heart failure (hospitalized)	14,058	12.6%	10,968	14.2%	-1.629	-0.048
Heart failure (outpatient)	24,598	22.0%	19,091	24.7%	-2.720	-0.064
Hypercholesterolemia	42,316	37.8%	29,285	37.9%	-0.074	-0.002
Hypertension	96,186	86.0%	67,756	87.7%	-1.708	-0.051
	Number	Percent	Number	Percent	Absolute Difference	Standardized Difference
Kidney failure (acute)	5,304	4.7%	5,442	7.0%	-2.303	-0.098
Kidney failure (chronic)	9,834	8.8%	10,599	13.7%	-4.929	-0.156
Nicotine dependency	24,350	21.8%	18,442	23.9%	-2.102	-0.050
Obesity	18,298	16.4%	14,307	18.5%	-2.160	-0.057
Other ischemic heart disease	49,245	44.0%	36,547	47.3%	-3.280	-0.066
Peptic ulcer disease	414	0.4%	348	0.5%	-0.080	-0.013
Prior hospitalized bleeding	733	0.7%	573	0.7%	-0.086	-0.010

Table 1t. Baseline Characteristics of Rivaroxaban and Apixaban Users (Unadjusted, Trimmed, Unweighted) in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

	Rivaroxaban Users		Apixaban Users		Covariate Balance	
Stroke (past 0-30 days)	1,843	1.6%	1,376	1.8%	-0.133	-0.010
Stroke (past 31-183 days)	1,356	1.2%	1,175	1.5%	-0.309	-0.027
Syncope	9,908	8.9%	7,455	9.7%	-0.792	-0.027
Transient ischemic attack	6,792	6.1%	5,149	6.7%	-0.593	-0.024
Walker use	-	0.0%	-	0.0%	0.000	-
Baseline Use (-183 to -1 days)						
ACEI/ARB	66,175	59.2%	47,412	61.4%	-2.207	-0.045
Amiodarone	11,791	10.5%	8,839	11.4%	-0.900	-0.029
Anti-coagulant (injectable)	10,013	9.0%	7,554	9.8%	-0.826	-0.028
Antiarrhythmics	15,095	13.5%	11,059	14.3%	-0.819	-0.024
Antiplatelets	16,261	14.5%	12,609	16.3%	-1.783	-0.049
Beta blockers	79,719	71.3%	57,193	74.1%	-2.758	-0.062
Calcium channel blockers	47,516	42.5%	33,224	43.0%	-0.523	-0.011
Digoxin	12,154	10.9%	7,176	9.3%	1.578	0.052
Diuretics (loop)	25,701	23.0%	20,420	26.4%	-3.455	-0.080
Diuretics (potassium sparing)	8,815	7.9%	6,687	8.7%	-0.775	-0.028
Diuretics (thiazide)	31,909	28.5%	22,383	29.0%	-0.444	-0.010
Dronedarone	4,401	3.9%	3,184	4.1%	-0.187	-0.009
Estrogen	2,400	2.1%	1,522	2.0%	0.176	0.012
Fibrates	4,800	4.3%	3,601	4.7%	-0.370	-0.018
H2-antagonist	5,973	5.3%	4,402	5.7%	-0.358	-0.016
	Number	Percent	Number	Percent	Absolute Difference	Standardized Difference
Insulin	6,803	6.1%	5,768	7.5%	-1.384	-0.055
Metformin	17,325	15.5%	12,497	16.2%	-0.687	-0.019
Nonsteroidal Anti-Inflammatory Drug (NSAIDs)	17,105	15.3%	11,484	14.9%	0.428	0.012
Nitrates	10,085	9.0%	7,936	10.3%	-1.256	-0.043
Other diabetes medications	6,562	5.9%	5,008	6.5%	-0.616	-0.026
Proton pump inhibitors	31,218	27.9%	23,388	30.3%	-2.364	-0.052
SSRI antidepressants	15,151	13.6%	10,896	14.1%	-0.558	-0.016
Statins	65,689	58.7%	47,934	62.1%	-3.317	-0.068
Sulfonyureas	9,334	8.3%	6,856	8.9%	-0.529	-0.019

Table 1t. Baseline Characteristics of Rivaroxaban and Apixaban Users (Unadjusted, Trimmed, Unweighted) in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

Health Service Utilization Intensity:	Rivaroxaban Users		Apixaban Users		Covariate Balance	
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of ambulatory encounters	12.2	9.1	13.0	9.3	-0.762	-0.083
Mean number of emergency room encounters	0.4	0.8	0.4	0.8	-0.022	-0.027
Mean number of inpatient hospital encounters	0.5	0.7	0.5	0.7	-0.008	-0.010
Mean number of generics	9.6	4.8	10.1	4.9	-0.451	-0.092

¹Covariates in blue show a standardized difference greater than 0.1

Table 1u. Baseline Characteristics of Rivaroxaban and Apixaban Users (Inverse Probability of Treatment Weighted, Trimmed), Weight: Average Treatment Effect, Stabilized (ATES) in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

Characteristic ^{1, 2, 3}	Rivaroxaban Users		Apixaban Users		Covariate Balance	
	Number	Percent	Number	Percent	Absolute Difference	Standardized Difference
Patients	111,814	-	77,234	-	-	-
Demographics	Mean	Standard Deviation	Mean	Standard Deviation		
Mean Age (Years)	75.6	6.4	75.6	6.3	0.002	0.000
Age (Years)	Number	Percent	Number	Percent		
65-74	56,893	50.9%	38,972	50.5%	0.423	0.008
75-84	44,774	40.0%	31,336	40.6%	-0.529	-0.011
85+	10,146	9.1%	6,927	9.0%	0.106	0.004
Sex						
Female	52,647	47.1%	36,369	47.1%	-0.005	-0.000
Male	59,167	52.9%	40,865	52.9%	0.005	0.000
Race						
American Indian or Alaska Native	287	0.3%	200	0.3%	-0.003	-0.001
Asian	1,341	1.2%	930	1.2%	-0.005	-0.000
Black or African American	4,070	3.6%	2,815	3.6%	-0.005	-0.000
Unknown	3,262	2.9%	2,256	2.9%	-0.003	-0.000
White	102,855	92.0%	71,034	92.0%	0.016	0.001
Ethnicity						
Hispanic origin	1,277	1.1%	723	0.9%	0.206	0.020
Year						
2010	-	0.0%	-	0.0%	0.000	-
2011	149	0.1%	-	0.0%	0.133	-
2012	13,916	12.4%	-	0.0%	12.446	-
2013	31,859	28.5%	8,795	11.4%	17.105	0.438
2014	39,255	35.1%	30,598	39.6%	-4.510	-0.093
2015	26,635	23.8%	37,841	49.0%	-25.174	-0.542
	Mean	Standard Deviation	Mean	Standard Deviation	Absolute Difference	Standardized Difference
CHA ₂ DS ₂ VaSc	3.9	1.5	3.9	1.5	-0.003	-0.002
	Number	Percent	Number	Percent		
0-1	3,505	3.1%	2,427	3.1%	-0.007	-0.000
2	18,124	16.2%	12,520	16.2%	-0.001	-0.000
3	27,738	24.8%	19,150	24.8%	0.013	0.000

Table 1u. Baseline Characteristics of Rivaroxaban and Apixaban Users (Inverse Probability of Treatment Weighted, Trimmed), Weight: Average Treatment Effect, Stabilized (ATES) in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

	Rivaroxaban Users		Apixaban Users		Covariate Balance	
4	27,273	24.4%	18,839	24.4%	-0.000	-0.000
5	18,283	16.4%	12,628	16.4%	0.001	0.000
>= 6	16,890	15.1%	11,670	15.1%	-0.005	-0.000
	Mean	Standard Deviation	Mean	Standard Deviation		
HAS-BLED	2.5	0.9	2.5	0.9	0.001	0.001
	Number	Percent	Number	Percent		
0-1	10,295	9.2%	7,114	9.2%	-0.003	-0.000
2	49,914	44.6%	34,476	44.6%	0.002	0.000
3	35,586	31.8%	24,582	31.8%	-0.001	-0.000
>= 4	16,019	14.3%	11,063	14.3%	0.002	0.000
Baseline Medical Conditions -183 to -1 days:						
Acute myocardial infarction (Past 0-30 days)	1,642	1.5%	1,135	1.5%	-0.001	-0.000
Acute myocardial infarction (Past 31-183 days)	1,039	0.9%	717	0.9%	0.001	0.000
Cardioablation	2,514	2.2%	1,736	2.2%	0.001	0.000
Cardioversion	10,953	9.8%	7,564	9.8%	0.002	0.000
Coronary revascularization	17,336	15.5%	11,981	15.5%	-0.008	-0.000
Diabetes	36,869	33.0%	25,461	33.0%	0.007	0.000
Falls	5,382	4.8%	3,721	4.8%	-0.005	-0.000
Fractures	1,471	1.3%	1,014	1.3%	0.002	0.000
Heart failure (hospitalized)	14,782	13.2%	10,214	13.2%	-0.005	-0.000
Heart failure (outpatient)	25,819	23.1%	17,833	23.1%	0.001	0.000
Hypercholesterolemia	42,375	37.9%	29,283	37.9%	-0.017	-0.000
Hypertension	96,959	86.7%	66,967	86.7%	0.009	0.000
	Number	Percent	Number	Percent	Absolute Difference	Standardized Difference
Kidney failure (acute)	6,363	5.7%	4,396	5.7%	-0.001	-0.000
Kidney failure (chronic)	12,082	10.8%	8,343	10.8%	0.003	0.000
Nicotine dependency	25,308	22.6%	17,485	22.6%	-0.006	-0.000
Obesity	19,294	17.3%	13,329	17.3%	-0.003	-0.000
Other ischemic heart disease	50,751	45.4%	35,053	45.4%	0.003	0.000
Peptic ulcer disease	458	0.4%	317	0.4%	-0.000	-0.000
Prior hospitalized bleeding	778	0.7%	538	0.7%	-0.001	-0.000

Table 1u. Baseline Characteristics of Rivaroxaban and Apixaban Users (Inverse Probability of Treatment Weighted, Trimmed), Weight: Average Treatment Effect, Stabilized (ATES) in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

	Rivaroxaban Users		Apixaban Users		Covariate Balance	
Stroke (past 0-30 days)	1,912	1.7%	1,322	1.7%	-0.003	-0.000
Stroke (past 31-183 days)	1,504	1.3%	1,039	1.3%	0.000	0.000
Syncope	10,299	9.2%	7,118	9.2%	-0.006	-0.000
Transient ischemic attack	7,072	6.3%	4,887	6.3%	-0.002	-0.000
Walker use	-	0.0%	-	0.0%	0.000	-
Baseline Use (-183 to -1 days)						
ACEI/ARB	67,210	60.1%	46,437	60.1%	-0.016	-0.000
Amiodarone	12,187	10.9%	8,416	10.9%	0.003	0.000
Anti-coagulant (injectable)	10,405	9.3%	7,202	9.3%	-0.019	-0.001
Antiarrhythmics	15,516	13.9%	10,730	13.9%	-0.016	-0.000
Antiplatelets	17,091	15.3%	11,805	15.3%	0.001	0.000
Beta blockers	80,975	72.4%	55,933	72.4%	-0.001	-0.000
Calcium channel blockers	47,707	42.7%	32,930	42.6%	0.030	0.001
Digoxin	11,441	10.2%	7,911	10.2%	-0.010	-0.000
Diuretics (loop)	27,254	24.4%	18,822	24.4%	0.004	0.000
Diuretics (potassium sparing)	9,170	8.2%	6,340	8.2%	-0.007	-0.000
Diuretics (thiazide)	32,115	28.7%	22,182	28.7%	0.002	0.000
Dronedarone	4,490	4.0%	3,102	4.0%	-0.000	-0.000
Estrogen	2,322	2.1%	1,608	2.1%	-0.005	-0.000
Fibrates	4,965	4.4%	3,426	4.4%	0.004	0.000
H2-antagonist	6,150	5.5%	4,252	5.5%	-0.005	-0.000
	Number	Percent	Number	Percent	Absolute Difference	Standardized Difference
Insulin	7,424	6.6%	5,129	6.6%	-0.001	-0.000
Metformin	17,660	15.8%	12,204	15.8%	-0.007	-0.000
Nonsteroidal Anti-Inflammatory Drug (NSAIDs)	16,934	15.1%	11,708	15.2%	-0.014	-0.000
Nitrates	10,653	9.5%	7,360	9.5%	-0.001	-0.000
Other diabetes medications	6,850	6.1%	4,735	6.1%	-0.004	-0.000
Proton pump inhibitors	32,316	28.9%	22,322	28.9%	0.000	0.000
SSRI antidepressants	15,428	13.8%	10,665	13.8%	-0.010	-0.000
Statins	67,197	60.1%	46,421	60.1%	-0.006	-0.000
Sulfonyreas	9,567	8.6%	6,604	8.6%	0.006	0.000

Table 1u. Baseline Characteristics of Rivaroxaban and Apixaban Users (Inverse Probability of Treatment Weighted, Trimmed), Weight: Average Treatment Effect, Stabilized (ATES) in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

Health Service Utilization Intensity:	Rivaroxaban Users		Apixaban Users		Covariate Balance	
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of ambulatory encounters	12.6	9.4	12.6	9.0	-0.007	-0.001
Mean number of emergency room encounters	0.4	0.8	0.4	0.8	-0.001	-0.001
Mean number of inpatient hospital encounters	0.5	0.7	0.5	0.7	-0.001	-0.001
Mean number of generics	9.8	4.9	9.8	4.9	-0.003	-0.001

¹Weighted patient characteristics tables facilitate the assessment of covariate balance after inverse probability weighting and should not be interpreted as a description of the unweighted population. Treated patients are weighted by the proportion of treated patients in the trimmed population divided by the inverse of their propensity score. Reference patients are weighted by 1 minus the proportion of treated patients in the trimmed population divided by 1 minus their propensity score.

²Covariates in blue show a standardized difference greater than 0.1

³Characteristics in italics were not included in the propensity score logistic regression model.

Table 1v. Baseline Characteristics of Female Rivaroxaban and Apixaban Users (Unadjusted) in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

Characteristic ¹	Female Rivaroxaban Users		Female Apixaban Users		Covariate Balance	
	Number	Percent	Number	Percent	Absolute Difference	Standardized Difference
Patients	51,898	100.0%	37,129	100.0%	-	-
Demographics	Mean	Standard Deviation	Mean	Standard Deviation		
Mean Age (Years)	76.3	6.6	76.3	6.5	-0.022	-0.003
Age (Years)	Number	Percent	Number	Percent		
65-74	24,112	46.5%	16,819	45.3%	1.162	0.023
75-84	21,821	42.0%	16,229	43.7%	-1.664	-0.034
85+	5,965	11.5%	4,081	11.0%	0.502	0.016
Sex						
Female	51,898	100.0%	37,129	100.0%	0.000	-
Race						
American Indian or Alaska Native	172	0.3%	78	0.2%	0.121	0.023
Asian	752	1.4%	398	1.1%	0.377	0.034
Black or African American	2,259	4.4%	1,680	4.5%	-0.172	-0.008
Unknown	1,372	2.6%	793	2.1%	0.508	0.033
White	47,343	91.2%	34,180	92.1%	-0.834	-0.030
Ethnicity						
Hispanic Origin	698	1.3%	388	1.0%	0.300	0.028
Year						
2010	-	0.0%	-	0.0%	0.000	-
2011	61	0.1%	-	0.0%	0.118	-
2012	6,763	13.0%	-	0.0%	13.031	-
2013	15,120	29.1%	4,085	11.0%	18.132	0.465
2014	18,070	34.8%	14,770	39.8%	-4.962	-0.103
2015	11,884	22.9%	18,274	49.2%	-26.319	-0.570
	Mean	Standard Deviation	Mean	Standard Deviation	Absolute Difference	Standardized Difference
CHA ₂ DS ₂ -VASc	4.4	1.4	4.5	1.5	-0.124	-0.086
	Number	Percent	Number	Percent		
0-1	-	0.0%	-	1.5	0.000	-
2	2,877	5.5%	1,850	5.0%	0.561	0.025
3	12,230	23.6%	8,043	21.7%	1.903	0.046
4	15,511	29.9%	10,758	29.0%	0.913	0.020

Table 1v. Baseline Characteristics of Female Rivaroxaban and Apixaban Users (Unadjusted) in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

	Female Rivaroxaban Users		Female Apixaban Users		Covariate Balance	
5	10,048	19.4%	7,318	19.7%	-0.349	-0.009
>= 6	11,232	21.6%	9,160	24.7%	-3.028	-0.072
	Mean	Standard Deviation	Mean	Standard Deviation		
HAS-BLED	2.5	0.9	2.6	0.9	-0.086	-0.095
	Number	Percent	Number	Percent		
0-1	4,688	9.0%	2,959	8.0%	1.064	0.038
2	23,934	46.1%	16,145	43.5%	2.634	0.053
3	16,481	31.8%	12,127	32.7%	-0.905	-0.019
>= 4	6,795	13.1%	5,898	15.9%	-2.792	-0.079
Baseline Medical Conditions -183 to -1 days:						
Acute myocardial infarction (Past 0-30 days)	701	1.4%	502	1.4%	-0.001	-0.000
Acute myocardial infarction (Past 31-183 days)	404	0.8%	386	1.0%	-0.261	-0.028
Cardioablation	830	1.6%	747	2.0%	-0.413	-0.031
Cardioversion	4,169	8.0%	3,448	9.3%	-1.253	-0.045
Coronary revascularization	4,651	9.0%	3,960	10.7%	-1.704	-0.057
Diabetes	15,696	30.2%	12,071	32.5%	-2.267	-0.049
Falls	3,120	6.0%	2,241	6.0%	-0.024	-0.001
Fractures	890	1.7%	583	1.6%	0.145	0.011
Heart failure (hospitalized)	6,924	13.3%	5,720	15.4%	-2.064	-0.059
Heart failure (outpatient)	11,478	22.1%	9,314	25.1%	-2.969	-0.070
Hypercholesterolemia	18,867	36.4%	13,448	36.2%	0.134	0.003
Hypertension	45,238	87.2%	32,918	88.7%	-1.491	-0.046
Kidney failure (acute)	2,194	4.2%	2,455	6.6%	-2.385	-0.105
	Number	Percent	Number	Percent	Absolute Difference	Standardized Difference
Kidney failure (chronic)	4,107	7.9%	4,602	12.4%	-4.481	-0.149
Nicotine dependency	9,232	17.8%	7,452	20.1%	-2.282	-0.058
Obesity	8,972	17.3%	7,356	19.8%	-2.524	-0.065
Other ischemic heart disease	18,697	36.0%	14,448	38.9%	-2.887	-0.060
Peptic ulcer disease	198	0.4%	196	0.5%	-0.146	-0.022
Prior hospitalized bleeding	370	0.7%	304	0.8%	-0.106	-0.012
Stroke (past 0-30 days)	938	1.8%	705	1.9%	-0.091	-0.007
Stroke (past 31-183 days)	750	1.4%	644	1.7%	-0.289	-0.023

Table 1v. Baseline Characteristics of Female Rivaroxaban and Apixaban Users (Unadjusted) in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

	Female Rivaroxaban Users		Female Apixaban Users		Covariate Balance	
Syncope	4,919	9.5%	3,964	10.7%	-1.198	-0.040
Transient ischemic attack	3,516	6.8%	2,748	7.4%	-0.626	-0.024
Walker use	-	0.0%	-	0.0%	0.000	-
Baseline Use (-183 to -1 days)						
ACEI/ARB	29,752	57.3%	22,178	59.7%	-2.404	-0.049
Amiodarone	5,221	10.1%	3,990	10.7%	-0.686	-0.022
Anti-coagulant (injectable)	4,618	8.9%	3,561	9.6%	-0.693	-0.024
Antiarrhythmics	7,806	15.0%	5,965	16.1%	-1.025	-0.028
Antiplatelets	6,350	12.2%	5,056	13.6%	-1.382	-0.041
Beta blockers	37,978	73.2%	28,079	75.6%	-2.447	-0.056
Calcium channel blockers	24,105	46.4%	17,569	47.3%	-0.872	-0.017
Digoxin	6,260	12.1%	3,716	10.0%	2.054	0.066
Diuretics (loop)	12,776	24.6%	10,598	28.5%	-3.926	-0.089
Diuretics (potassium sparing)	4,585	8.8%	3,595	9.7%	-0.848	-0.029
Diuretics (thiazide)	16,673	32.1%	12,079	32.5%	-0.406	-0.009
Dronedarone	2,145	4.1%	1,672	4.5%	-0.370	-0.018
Estrogen	2,395	4.6%	1,518	4.1%	0.526	0.026
Fibrates	1,850	3.6%	1,459	3.9%	-0.365	-0.019
H2-antagonist	3,303	6.4%	2,417	6.5%	-0.145	-0.006
Insulin	3,015	5.8%	2,672	7.2%	-1.387	-0.056
	Number	Percent	Number	Percent	Absolute Difference	Standardized Difference
Metformin	7,040	13.6%	5,391	14.5%	-0.955	-0.027
Nonsteroidal Anti-Inflammatory Drug (NSAIDs)	8,799	17.0%	6,151	16.6%	0.388	0.010
Nitrates	4,281	8.2%	3,461	9.3%	-1.073	-0.038
Other diabetes medications	2,672	5.1%	2,113	5.7%	-0.542	-0.024
Proton pump inhibitors	16,044	30.9%	12,392	33.4%	-2.461	-0.053
SSRI antidepressants	9,558	18.4%	6,975	18.8%	-0.369	-0.009
Statins	28,019	54.0%	21,240	57.2%	-3.217	-0.065
Sulfonyureas	3,681	7.1%	2,918	7.9%	-0.766	-0.029

Table 1v. Baseline Characteristics of Female Rivaroxaban and Apixaban Users (Unadjusted) in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

Health Service Utilization Intensity:	Female Rivaroxaban Users		Female Apixaban Users		Covariate Balance	
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of ambulatory encounters	12.5	9.0	13.2	9.2	-0.660	-0.073
Mean number of emergency room encounters	0.4	0.8	0.5	0.9	-0.028	-0.034
Mean number of inpatient hospital encounters	0.5	0.7	0.5	0.7	-0.009	-0.013
Mean number of generics	10.1	5.0	10.6	5.1	-0.443	-0.087

¹Covariates in blue show a standardized difference greater than 0.1

Table 1w. Baseline Characteristics of Female Rivaroxaban and Apixaban Users (Unadjusted, Trimmed, Unweighted) in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

Characteristic ¹	Female Rivaroxaban Users		Female Apixaban Users		Covariate Balance	
	Number	Percent	Number	Percent	Absolute Difference	Standardized Difference
Patients	51,898	100.0%	37,125	100.0%	-	-
Demographics	Mean	Standard Deviation	Mean	Standard Deviation		
Mean Age (Years)	76.3	6.6	76.3	6.5	-0.022	-0.003
Age (Years)	Number	Percent	Number	Percent		
65-74	24,112	46.5%	16,817	45.3%	1.162	0.023
75-84	21,821	42.0%	16,228	43.7%	-1.666	-0.034
85+	5,965	11.5%	4,080	11.0%	0.504	0.016
Sex						
Female	51,898	100.0%	37,125	100.0%	0.000	-
Race						
American Indian or Alaska Native	172	0.3%	78	0.2%	0.121	0.023
Asian	752	1.4%	398	1.1%	0.377	0.034
Black or African American	2,259	4.4%	1,680	4.5%	-0.172	-0.008
Unknown	1,372	2.6%	793	2.1%	0.508	0.033
White	47,343	91.2%	34,176	92.1%	-0.833	-0.030
Ethnicity						
Hispanic Origin	698	1.3%	388	1.0%	0.300	0.028
Year						
2010	-	0.0%	-	0.0%	0.000	-
2011	61	0.1%	-	0.0%	0.118	-
2012	6,763	13.0%	-	0.0%	13.031	-
2013	15,120	29.1%	4,085	11.0%	18.131	0.465
2014	18,070	34.8%	14,769	39.8%	-4.964	-0.103
2015	11,884	22.9%	18,271	49.2%	-26.316	-0.570
	Mean	Standard Deviation	Mean	Standard Deviation	Absolute Difference	Standardized Difference
CHA ₂ DS ₂ -VASc	4.4	1.4	4.5	1.5	-0.124	-0.085
	Number	Percent	Number	Percent		
0-1	-	0.0%	-	1.5	0.000	-
2	2,877	5.5%	1,850	5.0%	0.560	0.025
3	12,230	23.6%	8,043	21.7%	1.901	0.045
4	15,511	29.9%	10,758	29.0%	0.910	0.020

Table 1w. Baseline Characteristics of Female Rivaroxaban and Apixaban Users (Unadjusted, Trimmed, Unweighted) in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

	Female Rivaroxaban Users		Female Apixaban Users		Covariate Balance	
5	10,048	19.4%	7,318	19.7%	-0.351	-0.009
>= 6	11,232	21.6%	9,156	24.7%	-3.020	-0.072
	Mean	Standard Deviation	Mean	Standard Deviation		
HAS-BLED	2.5	0.9	2.6	0.9	-0.086	-0.095
	Number	Percent	Number	Percent		
0-1	4,688	9.0%	2,959	8.0%	1.063	0.038
2	23,934	46.1%	16,145	43.5%	2.629	0.053
3	16,481	31.8%	12,126	32.7%	-0.906	-0.019
>= 4	6,795	13.1%	5,895	15.9%	-2.786	-0.079
Baseline Medical Conditions -183 to -1 days:						
Acute myocardial infarction (Past 0-30 days)	701	1.4%	502	1.4%	-0.001	-0.000
Acute myocardial infarction (Past 31-183 days)	404	0.8%	386	1.0%	-0.261	-0.028
Cardioablation	830	1.6%	745	2.0%	-0.407	-0.031
Cardioversion	4,169	8.0%	3,445	9.3%	-1.246	-0.044
Coronary revascularization	4,651	9.0%	3,957	10.7%	-1.697	-0.057
Diabetes	15,696	30.2%	12,067	32.5%	-2.260	-0.049
Falls	3,120	6.0%	2,241	6.0%	-0.025	-0.001
Fractures	890	1.7%	583	1.6%	0.145	0.011
Heart failure (hospitalized)	6,924	13.3%	5,717	15.4%	-2.058	-0.059
Heart failure (outpatient)	11,478	22.1%	9,311	25.1%	-2.964	-0.070
Hypercholesterolemia	18,867	36.4%	13,446	36.2%	0.136	0.003
Hypertension	45,238	87.2%	32,914	88.7%	-1.490	-0.046
Kidney failure (acute)	2,194	4.2%	2,451	6.6%	-2.374	-0.105
	Number	Percent	Number	Percent	Absolute Difference	Standardized Difference
Kidney failure (chronic)	4,107	7.9%	4,598	12.4%	-4.472	-0.148
Nicotine dependency	9,232	17.8%	7,449	20.1%	-2.276	-0.058
Obesity	8,972	17.3%	7,353	19.8%	-2.518	-0.065
Other ischemic heart disease	18,697	36.0%	14,445	38.9%	-2.883	-0.060
Peptic ulcer disease	198	0.4%	196	0.5%	-0.146	-0.022
Prior hospitalized bleeding	370	0.7%	304	0.8%	-0.106	-0.012
Stroke (past 0-30 days)	938	1.8%	705	1.9%	-0.092	-0.007
Stroke (past 31-183 days)	750	1.4%	644	1.7%	-0.290	-0.023

Table 1w. Baseline Characteristics of Female Rivaroxaban and Apixaban Users (Unadjusted, Trimmed, Unweighted) in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

	Female Rivaroxaban Users		Female Apixaban Users		Covariate Balance	
Syncope	4,919	9.5%	3,964	10.7%	-1.199	-0.040
Transient ischemic attack	3,516	6.8%	2,747	7.4%	-0.624	-0.024
Walker use	-	0.0%	-	0.0%	0.000	-
Baseline Use (-183 to -1 days)						
ACEI/ARB	29,752	57.3%	22,177	59.7%	-2.408	-0.049
Amiodarone	5,221	10.1%	3,988	10.7%	-0.682	-0.022
Anti-coagulant (injectable)	4,618	8.9%	3,561	9.6%	-0.694	-0.024
Antiarrhythmics	7,806	15.0%	5,962	16.1%	-1.018	-0.028
Antiplatelets	6,350	12.2%	5,054	13.6%	-1.378	-0.041
Beta blockers	37,978	73.2%	28,075	75.6%	-2.445	-0.056
Calcium channel blockers	24,105	46.4%	17,567	47.3%	-0.872	-0.017
Digoxin	6,260	12.1%	3,716	10.0%	2.053	0.066
Diuretics (loop)	12,776	24.6%	10,594	28.5%	-3.919	-0.089
Diuretics (potassium sparing)	4,585	8.8%	3,595	9.7%	-0.849	-0.029
Diuretics (thiazide)	16,673	32.1%	12,078	32.5%	-0.407	-0.009
Dronedarone	2,145	4.1%	1,672	4.5%	-0.371	-0.018
Estrogen	2,395	4.6%	1,518	4.1%	0.526	0.026
Fibrates	1,850	3.6%	1,459	3.9%	-0.365	-0.019
H2-antagonist	3,303	6.4%	2,417	6.5%	-0.146	-0.006
Insulin	3,015	5.8%	2,671	7.2%	-1.385	-0.056
	Number	Percent	Number	Percent	Absolute Difference	Standardized Difference
Metformin	7,040	13.6%	5,390	14.5%	-0.953	-0.027
Nonsteroidal Anti-Inflammatory Drug (NSAIDs)	8,799	17.0%	6,150	16.6%	0.389	0.010
Nitrates	4,281	8.2%	3,459	9.3%	-1.068	-0.038
Other diabetes medications	2,672	5.1%	2,112	5.7%	-0.540	-0.024
Proton pump inhibitors	16,044	30.9%	12,389	33.4%	-2.457	-0.053
SSRI antidepressants	9,558	18.4%	6,975	18.8%	-0.371	-0.010
Statins	28,019	54.0%	21,236	57.2%	-3.213	-0.065
Sulfonyureas	3,681	7.1%	2,917	7.9%	-0.764	-0.029

Table 1w. Baseline Characteristics of Female Rivaroxaban and Apixaban Users (Unadjusted, Trimmed, Unweighted) in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

Health Service Utilization Intensity:	Female Rivaroxaban Users		Female Apixaban Users		Covariate Balance	
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of ambulatory encounters	12.5	9.0	13.2	9.2	-0.656	-0.072
Mean number of emergency room encounters	0.4	0.8	0.5	0.9	-0.028	-0.033
Mean number of inpatient hospital encounters	0.5	0.7	0.5	0.7	-0.009	-0.013
Mean number of generics	10.1	5.0	10.6	5.1	-0.443	-0.087

¹Covariates in blue show a standardized difference greater than 0.1

Table 1x. Baseline Characteristics of Female Rivaroxaban and Apixaban Users (Inverse Probability of Treatment Weighted, Trimmed), Weight: Average Treatment Effect, Stabilized (ATES) in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

Characteristic ^{1, 2, 3}	Female Rivaroxaban Users		Female Apixaban Users		Covariate Balance	
	Number	Percent	Number	Percent	Absolute Difference	Standardized Difference
Patients	51,896	-	37,127	-	-	-
Demographics	Mean	Standard Deviation	Mean	Standard Deviation		
Mean Age (Years)	76.3	6.6	76.3	6.5	0.005	0.001
Age (Years)	Number	Percent	Number	Percent		
65-74	24,071	46.4%	16,926	45.6%	0.794	0.016
75-84	21,878	42.2%	16,135	43.5%	-1.301	-0.026
85+	5,947	11.5%	4,066	11.0%	0.507	0.016
Sex						
Female	51,896	100.0%	37,127	100.0%	0.000	-
Race						
American Indian or Alaska Native	147	0.3%	106	0.3%	-0.003	-0.001
Asian	672	1.3%	483	1.3%	-0.004	-0.000
Black or African American	2,298	4.4%	1,646	4.4%	-0.005	-0.000
Unknown	1,264	2.4%	903	2.4%	0.002	0.000
White	47,515	91.6%	33,989	91.5%	0.009	0.000
Ethnicity						
Hispanic Origin	645	1.2%	437	1.2%	0.067	0.006
Year						
2010	-	0.0%	-	0.0%	0.000	-
2011	61	0.1%	-	0.0%	0.117	-
2012	6,729	13.0%	-	0.0%	12.967	-
2013	15,075	29.0%	4,118	11.1%	17.955	0.460
2014	18,073	34.8%	14,792	39.8%	-5.016	-0.104
2015	11,959	23.0%	18,217	49.1%	-26.022	-0.563
	Mean	Standard Deviation	Mean	Standard Deviation	Absolute Difference	Standardized Difference
CHA ₂ DS ₂ -VASc	4.4	1.4	4.5	1.5	-0.007	-0.005
	Number	Percent	Number	Percent		
0-1	-	0.0%	-	1.5	0.000	-
2	2,757	5.3%	1,971	5.3%	0.003	0.000
3	11,826	22.8%	8,458	22.8%	0.005	0.000
4	15,316	29.5%	10,956	29.5%	0.004	0.000

Table 1x. Baseline Characteristics of Female Rivaroxaban and Apixaban Users (Inverse Probability of Treatment Weighted, Trimmed), Weight: Average Treatment Effect, Stabilized (ATES) in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

	Female Rivaroxaban Users		Female Apixaban Users		Covariate Balance	
5	10,123	19.5%	7,244	19.5%	-0.005	-0.000
>= 6	11,875	22.9%	8,498	22.9%	-0.006	-0.000
	Mean	Standard Deviation	Mean	Standard Deviation		
HAS-BLED	2.5	0.9	2.5	0.9	0.000	0.000
	Number	Percent	Number	Percent		
0-1	4,454	8.6%	3,183	8.6%	0.010	0.000
2	23,371	45.0%	16,722	45.0%	-0.005	-0.000
3	16,669	32.1%	11,923	32.1%	0.005	0.000
>= 4	7,402	14.3%	5,299	14.3%	-0.009	-0.000
Baseline Medical Conditions -183 to -1 days:						
Acute myocardial infarction (Past 0-30 days)	703	1.4%	506	1.4%	-0.007	-0.001
Acute myocardial infarction (Past 31-183 days)	464	0.9%	332	0.9%	-0.001	-0.000
Cardioablation	916	1.8%	654	1.8%	0.003	0.000
Cardioversion	4,430	8.5%	3,169	8.5%	0.001	0.000
Coronary revascularization	5,019	9.7%	3,596	9.7%	-0.014	-0.000
Diabetes	16,163	31.1%	11,561	31.1%	0.005	0.000
Falls	3,136	6.0%	2,244	6.0%	-0.002	-0.000
Fractures	860	1.7%	615	1.7%	0.003	0.000
Heart failure (hospitalized)	7,367	14.2%	5,275	14.2%	-0.012	-0.000
Heart failure (outpatient)	12,110	23.3%	8,665	23.3%	-0.005	-0.000
Hypercholesterolemia	18,852	36.3%	13,493	36.3%	-0.017	-0.000
Hypertension	45,560	87.8%	32,597	87.8%	-0.009	-0.000
Kidney failure (acute)	2,707	5.2%	1,935	5.2%	0.004	0.000
	Number	Percent	Number	Percent	Absolute Difference	Standardized Difference
Kidney failure (chronic)	5,067	9.8%	3,626	9.8%	-0.003	-0.000
Nicotine dependency	9,717	18.7%	6,952	18.7%	-0.002	-0.000
Obesity	9,520	18.3%	6,814	18.4%	-0.009	-0.000
Other ischemic heart disease	19,331	37.2%	13,833	37.3%	-0.009	-0.000
Peptic ulcer disease	233	0.4%	166	0.4%	0.003	0.000
Prior hospitalized bleeding	393	0.8%	281	0.8%	-0.000	-0.000
Stroke (past 0-30 days)	960	1.9%	689	1.9%	-0.004	-0.000
Stroke (past 31-183 days)	813	1.6%	582	1.6%	-0.002	-0.000

Table 1x. Baseline Characteristics of Female Rivaroxaban and Apixaban Users (Inverse Probability of Treatment Weighted, Trimmed), Weight: Average Treatment Effect, Stabilized (ATES) in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

	Female Rivaroxaban Users		Female Apixaban Users		Covariate Balance	
Syncope	5,202	10.0%	3,727	10.0%	-0.014	-0.000
Transient ischemic attack	3,651	7.0%	2,612	7.0%	-0.000	-0.000
Walker use	-	0.0%	-	0.0%	0.000	-
Baseline Use (-183 to -1 days)						
ACEI/ARB	30,287	58.4%	21,677	58.4%	-0.027	-0.001
Amiodarone	5,367	10.3%	3,838	10.3%	0.006	0.000
Anti-coagulant (injectable)	4,774	9.2%	3,423	9.2%	-0.020	-0.001
Antiarrhythmics	8,048	15.5%	5,761	15.5%	-0.008	-0.000
Antiplatelets	6,647	12.8%	4,753	12.8%	0.006	0.000
Beta blockers	38,509	74.2%	27,550	74.2%	-0.001	-0.000
Calcium channel blockers	24,269	46.8%	17,353	46.7%	0.023	0.000
Digoxin	5,817	11.2%	4,159	11.2%	0.006	0.000
Diuretics (loop)	13,612	26.2%	9,740	26.2%	-0.005	-0.000
Diuretics (potassium sparing)	4,776	9.2%	3,422	9.2%	-0.013	-0.000
Diuretics (thiazide)	16,757	32.3%	11,987	32.3%	0.001	0.000
Dronedarone	2,229	4.3%	1,596	4.3%	-0.004	-0.000
Estrogen	2,283	4.4%	1,637	4.4%	-0.011	-0.001
Fibrates	1,923	3.7%	1,375	3.7%	0.003	0.000
H2-antagonist	3,341	6.4%	2,391	6.4%	-0.003	-0.000
Insulin	3,307	6.4%	2,369	6.4%	-0.009	-0.000
	Number	Percent	Number	Percent	Absolute Difference	Standardized Difference
Metformin	7,253	14.0%	5,191	14.0%	-0.005	-0.000
Nonsteroidal Anti-Inflammatory Drug (NSAIDs)	8,734	16.8%	6,258	16.9%	-0.027	-0.001
Nitrates	4,503	8.7%	3,224	8.7%	-0.007	-0.000
Other diabetes medications	2,794	5.4%	2,002	5.4%	-0.008	-0.000
Proton pump inhibitors	16,579	31.9%	11,856	31.9%	0.011	0.000
SSRI antidepressants	9,650	18.6%	6,906	18.6%	-0.006	-0.000
Statins	28,714	55.3%	20,550	55.4%	-0.021	-0.000
Sulfonyureas	3,841	7.4%	2,748	7.4%	0.000	0.000

Table 1x. Baseline Characteristics of Female Rivaroxaban and Apixaban Users (Inverse Probability of Treatment Weighted, Trimmed), Weight: Average Treatment Effect, Stabilized (ATES) in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

Health Service Utilization Intensity:	Female Rivaroxaban Users		Female Apixaban Users		Covariate Balance	
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of ambulatory encounters	12.8	9.2	12.8	8.9	-0.002	-0.000
Mean number of emergency room encounters	0.4	0.8	0.4	0.8	-0.000	-0.000
Mean number of inpatient hospital encounters	0.5	0.7	0.5	0.7	-0.000	-0.000
Mean number of generics	10.3	5.1	10.3	5.0	-0.003	-0.001

¹Weighted patient characteristics tables facilitate the assessment of covariate balance after inverse probability weighting and should not be interpreted as a description of the unweighted population. Treated patients are weighted by the proportion of treated patients in the trimmed population divided by the inverse of their propensity score. Reference patients are weighted by 1 minus the proportion of treated patients in the trimmed population divided by 1 minus their propensity score.

²Covariates in blue show a standardized difference greater than 0.1

³Characteristics in italics were not included in the propensity score logistic regression model.

Table 1y. Baseline Characteristics of Male Rivaroxaban and Apixaban Users (Unadjusted) in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

Characteristic ¹	Male Rivaroxaban Users		Male Apixaban Users		Covariate Balance	
	Number	Percent	Number	Percent	Absolute Difference	Standardized Difference
Patients	59,919	100.0%	40,104	100.0%	-	-
Demographics	Mean	Standard Deviation	Mean	Standard Deviation		
Mean Age (Years)	74.7	6.1	75.2	6.2	-0.484	-0.079
Age (Years)	Number	Percent	Number	Percent		
65-74	33,676	56.2%	21,214	52.9%	3.305	0.066
75-84	22,375	37.3%	15,710	39.2%	-1.831	-0.038
85+	3,868	6.5%	3,180	7.9%	-1.474	-0.057
Sex						
Male	59,919	100.0%	40,104	100.0%	0.000	-
Race						
American Indian or Alaska Native	151	0.3%	81	0.2%	0.050	0.011
Asian	726	1.2%	387	1.0%	0.247	0.024
Black or African American	1,733	2.9%	1,209	3.0%	-0.122	-0.007
Unknown	2,067	3.4%	1,274	3.2%	0.273	0.015
White	55,242	92.2%	37,153	92.6%	-0.447	-0.017
Ethnicity						
Hispanic Origin	625	1.0%	301	0.8%	0.293	0.031
Year						
2010	-	0.0%	-	0.0%	0.000	-
2011	90	0.2%	-	0.0%	0.150	-
2012	7,222	12.1%	-	0.0%	12.053	-
2013	16,828	28.1%	4,637	11.6%	16.522	0.424
2014	21,155	35.3%	15,801	39.4%	-4.094	-0.085
2015	14,624	24.4%	19,666	49.0%	-24.631	-0.529
	Mean	Standard Deviation	Mean	Standard Deviation	Absolute Difference	Standardized Difference
CHA ₂ DS ₂ -VASc	3.3	1.4	3.4	1.5	-0.134	-0.093
	Number	Percent	Number	Percent		
0-1	3,843	6.4%	2,078	5.2%	1.232	0.053
2	16,105	26.9%	9,804	24.4%	2.432	0.056
3	15,944	26.6%	10,689	26.7%	-0.044	-0.001
4	11,719	19.6%	8,115	20.2%	-0.677	-0.017

Table 1y. Baseline Characteristics of Male Rivaroxaban and Apixaban Users (Unadjusted) in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

	Male Rivaroxaban Users		Male Apixaban Users		Covariate Balance	
5	7,733	12.9%	5,820	14.5%	-1.607	-0.047
>= 6	4,575	7.6%	3,598	9.0%	-1.336	-0.048
	Mean	Standard Deviation	Mean	Standard Deviation		
HAS-BLED	2.5	0.9	2.6	0.9	-0.104	-0.112
	Number	Percent	Number	Percent		
0-1	6,238	10.4%	3,521	8.8%	1.631	0.055
2	27,239	45.5%	17,075	42.6%	2.883	0.058
3	18,599	31.0%	12,962	32.3%	-1.281	-0.028
>= 4	7,843	13.1%	6,546	16.3%	-3.233	-0.091
Baseline Medical Conditions -183 to -1 days:						
Acute myocardial infarction (Past 0-30 days)	917	1.5%	659	1.6%	-0.113	-0.009
Acute myocardial infarction (Past 31-183 days)	482	0.8%	471	1.2%	-0.370	-0.037
Cardioablation	1,554	2.6%	1,123	2.8%	-0.207	-0.013
Cardioversion	6,149	10.3%	4,760	11.9%	-1.607	-0.051
Coronary revascularization	11,809	19.7%	8,876	22.1%	-2.424	-0.060
Diabetes	20,285	33.9%	14,332	35.7%	-1.883	-0.040
Falls	2,215	3.7%	1,509	3.8%	-0.066	-0.003
Fractures	607	1.0%	410	1.0%	-0.009	-0.001
Heart failure (hospitalized)	7,136	11.9%	5,249	13.1%	-1.179	-0.036
Heart failure (outpatient)	13,122	21.9%	9,778	24.4%	-2.482	-0.059
Hypercholesterolemia	23,450	39.1%	15,838	39.5%	-0.356	-0.007
Hypertension	50,951	85.0%	34,840	86.9%	-1.841	-0.053
Kidney failure (acute)	3,111	5.2%	2,989	7.5%	-2.261	-0.093
	Number	Percent	Number	Percent	Absolute Difference	Standardized Difference
Kidney failure (chronic)	5,727	9.6%	5,999	15.0%	-5.401	-0.165
Nicotine dependency	15,121	25.2%	10,991	27.4%	-2.171	-0.049
Obesity	9,329	15.6%	6,951	17.3%	-1.763	-0.048
Other ischemic heart disease	30,551	51.0%	22,101	55.1%	-4.122	-0.083
Peptic ulcer disease	217	0.4%	152	0.4%	-0.017	-0.003
Prior hospitalized bleeding	363	0.6%	269	0.7%	-0.065	-0.008
Stroke (past 0-30 days)	905	1.5%	671	1.7%	-0.163	-0.013
Stroke (past 31-183 days)	606	1.0%	531	1.3%	-0.313	-0.029

Table 1y. Baseline Characteristics of Male Rivaroxaban and Apixaban Users (Unadjusted) in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

	Male Rivaroxaban Users		Male Apixaban Users		Covariate Balance	
Syncope	4,990	8.3%	3,491	8.7%	-0.377	-0.014
Transient ischemic attack	3,276	5.5%	2,402	6.0%	-0.522	-0.022
Walker use	-	0.0%	-	0.0%	0.000	-
Baseline Use (-183 to -1 days)						
ACEI/ARB	36,425	60.8%	25,235	62.9%	-2.133	-0.044
Amiodarone	6,570	11.0%	4,850	12.1%	-1.129	-0.035
Anti-coagulant (injectable)	5,397	9.0%	3,993	10.0%	-0.949	-0.032
Antiarrhythmics	7,289	12.2%	5,095	12.7%	-0.540	-0.016
Antiplatelets	9,911	16.5%	7,554	18.8%	-2.295	-0.060
Beta blockers	41,743	69.7%	29,116	72.6%	-2.936	-0.065
Calcium channel blockers	23,414	39.1%	15,655	39.0%	0.040	0.001
Digoxin	5,896	9.8%	3,460	8.6%	1.212	0.042
Diuretics (loop)	12,926	21.6%	9,824	24.5%	-2.924	-0.069
Diuretics (potassium sparing)	4,230	7.1%	3,092	7.7%	-0.650	-0.025
Diuretics (thiazide)	15,236	25.4%	10,304	25.7%	-0.266	-0.006
Dronedarone	2,256	3.8%	1,512	3.8%	-0.005	-0.000
Estrogen	*****	0.0%	*****	0.0%	-0.002	-0.002
Fibrates	2,950	4.9%	2,142	5.3%	-0.418	-0.019
H2-antagonist	2,670	4.5%	1,985	4.9%	-0.494	-0.023
Insulin	3,789	6.3%	3,097	7.7%	-1.399	-0.055
	Number	Percent	Number	Percent	Absolute Difference	Standardized Difference
Metformin	10,285	17.2%	7,107	17.7%	-0.557	-0.015
Nonsteroidal Anti-Inflammatory Drug (NSAIDs)	8,306	13.9%	5,334	13.3%	0.562	0.016
Nitrates	5,806	9.7%	4,477	11.2%	-1.474	-0.048
Other diabetes medications	3,890	6.5%	2,895	7.2%	-0.727	-0.029
Proton pump inhibitors	15,176	25.3%	10,997	27.4%	-2.094	-0.048
SSRI antidepressants	5,595	9.3%	3,921	9.8%	-0.439	-0.015
Statins	37,672	62.9%	26,696	66.6%	-3.695	-0.077
Sulfonyureas	5,654	9.4%	3,938	9.8%	-0.383	-0.013

Table 1y. Baseline Characteristics of Male Rivaroxaban and Apixaban Users (Unadjusted) in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

Health Service Utilization Intensity:	Male Rivaroxaban Users		Male Apixaban Users		Covariate Balance	
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of ambulatory encounters	12.0	9.2	12.8	9.4	-0.842	-0.091
Mean number of emergency room encounters	0.3	0.8	0.4	0.8	-0.013	-0.016
Mean number of inpatient hospital encounters	0.4	0.7	0.5	0.7	-0.003	-0.004
Mean number of generics	9.2	4.6	9.6	4.7	-0.429	-0.092

¹Covariates in blue show a standardized difference greater than 0.1

*****Data are not presented in these cells due to a small sample size or to assure a small cell cannot be recalculated through the cells presented.

Table 1z. Baseline Characteristics of Male Rivaroxaban and Apixaban Users (Unadjusted, Trimmed, Unweighted) in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

Characteristic ¹	Male Rivaroxaban Users		Male Apixaban Users		Covariate Balance	
	Number	Percent	Number	Percent	Absolute Difference	Standardized Difference
Patients	59,914	100.0%	40,104	100.0%	-	-
Demographics	Mean	Standard Deviation	Mean	Standard Deviation		
Mean Age (Years)	74.7	6.1	75.2	6.2	-0.484	-0.079
Age (Years)	Number	Percent	Number	Percent		
65-74	33,672	56.2%	21,214	52.9%	3.303	0.066
75-84	22,374	37.3%	15,710	39.2%	-1.830	-0.038
85+	3,868	6.5%	3,180	7.9%	-1.473	-0.057
Sex						
Male	59,914	100.0%	40,104	100.0%	0.000	-
Race						
American Indian or Alaska Native	150	0.3%	81	0.2%	0.048	0.010
Asian	726	1.2%	387	1.0%	0.247	0.024
Black or African American	1,733	2.9%	1,209	3.0%	-0.122	-0.007
Unknown	2,067	3.4%	1,274	3.2%	0.273	0.015
White	55,238	92.2%	37,153	92.6%	-0.446	-0.017
Ethnicity						
Hispanic Origin	625	1.0%	301	0.8%	0.293	0.031
Year						
2010	-	0.0%	-	0.0%	0.000	-
2011	90	0.2%	-	0.0%	0.150	-
2012	7,221	12.1%	-	0.0%	12.052	-
2013	16,828	28.1%	4,637	11.6%	16.524	0.424
2014	21,153	35.3%	15,801	39.4%	-4.094	-0.085
2015	14,622	24.4%	19,666	49.0%	-24.633	-0.529
	Mean	Standard Deviation	Mean	Standard Deviation	Absolute Difference	Standardized Difference
CHA ₂ DS ₂ -VASc	3.3	1.4	3.4	1.5	-0.135	-0.093
	Number	Percent	Number	Percent		
0-1	3,843	6.4%	2,078	5.2%	1.233	0.053
2	16,105	26.9%	9,804	24.4%	2.434	0.056
3	15,944	26.6%	10,689	26.7%	-0.042	-0.001
4	11,717	19.6%	8,115	20.2%	-0.679	-0.017

Table 1z. Baseline Characteristics of Male Rivaroxaban and Apixaban Users (Unadjusted, Trimmed, Unweighted) in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

	Male Rivaroxaban Users		Male Apixaban Users		Covariate Balance	
5	7,731	12.9%	5,820	14.5%	-1.609	-0.047
>= 6	4,574	7.6%	3,598	9.0%	-1.337	-0.048
	Mean	Standard Deviation	Mean	Standard Deviation		
HAS-BLED	2.5	0.9	2.6	0.9	-0.104	-0.112
	Number	Percent	Number	Percent		
0-1	6,238	10.4%	3,521	8.8%	1.632	0.055
2	27,238	45.5%	17,075	42.6%	2.885	0.058
3	18,599	31.0%	12,962	32.3%	-1.278	-0.027
>= 4	7,839	13.1%	6,546	16.3%	-3.239	-0.092
Baseline Medical Conditions -183 to -1 days:						
Acute myocardial infarction (Past 0-30 days)	917	1.5%	659	1.6%	-0.113	-0.009
Acute myocardial infarction (Past 31-183 days)	482	0.8%	471	1.2%	-0.370	-0.037
Cardioablation	1,554	2.6%	1,123	2.8%	-0.207	-0.013
Cardioversion	6,149	10.3%	4,760	11.9%	-1.606	-0.051
Coronary revascularization	11,806	19.7%	8,876	22.1%	-2.428	-0.060
Diabetes	20,282	33.9%	14,332	35.7%	-1.885	-0.040
Falls	2,212	3.7%	1,509	3.8%	-0.071	-0.004
Fractures	606	1.0%	410	1.0%	-0.011	-0.001
Heart failure (hospitalized)	7,133	11.9%	5,249	13.1%	-1.183	-0.036
Heart failure (outpatient)	13,119	21.9%	9,778	24.4%	-2.485	-0.059
Hypercholesterolemia	23,449	39.1%	15,838	39.5%	-0.355	-0.007
Hypertension	50,946	85.0%	34,840	86.9%	-1.842	-0.053
Kidney failure (acute)	3,109	5.2%	2,989	7.5%	-2.264	-0.093
	Number	Percent	Number	Percent	Absolute Difference	Standardized Difference
Kidney failure (chronic)	5,726	9.6%	5,999	15.0%	-5.402	-0.165
Nicotine dependency	15,116	25.2%	10,991	27.4%	-2.177	-0.049
Obesity	9,325	15.6%	6,951	17.3%	-1.768	-0.048
Other ischemic heart disease	30,546	51.0%	22,101	55.1%	-4.126	-0.083
Peptic ulcer disease	216	0.4%	152	0.4%	-0.018	-0.003
Prior hospitalized bleeding	363	0.6%	269	0.7%	-0.065	-0.008
Stroke (past 0-30 days)	905	1.5%	671	1.7%	-0.163	-0.013
Stroke (past 31-183 days)	606	1.0%	531	1.3%	-0.313	-0.029

Table 1z. Baseline Characteristics of Male Rivaroxaban and Apixaban Users (Unadjusted, Trimmed, Unweighted) in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

	Male Rivaroxaban Users		Male Apixaban Users		Covariate Balance	
Syncope	4,988	8.3%	3,491	8.7%	-0.380	-0.014
Transient ischemic attack	3,276	5.5%	2,402	6.0%	-0.522	-0.022
Walker use	-	0.0%	-	0.0%	0.000	-
Baseline Use (-183 to -1 days)						
ACEI/ARB	36,423	60.8%	25,235	62.9%	-2.132	-0.044
Amiodarone	6,569	11.0%	4,850	12.1%	-1.130	-0.035
Anti-coagulant (injectable)	5,394	9.0%	3,993	10.0%	-0.954	-0.033
Antiarrhythmics	7,289	12.2%	5,095	12.7%	-0.539	-0.016
Antiplatelets	9,910	16.5%	7,554	18.8%	-2.296	-0.060
Beta blockers	41,739	69.7%	29,116	72.6%	-2.936	-0.065
Calcium channel blockers	23,410	39.1%	15,655	39.0%	0.037	0.001
Digoxin	5,893	9.8%	3,460	8.6%	1.208	0.042
Diuretics (loop)	12,924	21.6%	9,824	24.5%	-2.925	-0.070
Diuretics (potassium sparing)	4,230	7.1%	3,092	7.7%	-0.650	-0.025
Diuretics (thiazide)	15,236	25.4%	10,304	25.7%	-0.263	-0.006
Dronedarone	2,256	3.8%	1,512	3.8%	-0.005	-0.000
Estrogen	*****	0.0%	*****	0.0%	-0.002	-0.002
Fibrates	2,950	4.9%	2,142	5.3%	-0.417	-0.019
H2-antagonist	2,670	4.5%	1,985	4.9%	-0.493	-0.023
Insulin	3,788	6.3%	3,097	7.7%	-1.400	-0.055
	Number	Percent	Number	Percent	Absolute Difference	Standardized Difference
Metformin	10,284	17.2%	7,107	17.7%	-0.557	-0.015
Nonsteroidal Anti-Inflammatory Drug (NSAIDs)	8,306	13.9%	5,334	13.3%	0.563	0.016
Nitrates	5,804	9.7%	4,477	11.2%	-1.476	-0.048
Other diabetes medications	3,890	6.5%	2,895	7.2%	-0.726	-0.029
Proton pump inhibitors	15,173	25.3%	10,997	27.4%	-2.097	-0.048
SSRI antidepressants	5,592	9.3%	3,921	9.8%	-0.444	-0.015
Statins	37,669	62.9%	26,696	66.6%	-3.695	-0.077
Sulfonyureas	5,652	9.4%	3,938	9.8%	-0.386	-0.013

Table 1z. Baseline Characteristics of Male Rivaroxaban and Apixaban Users (Unadjusted, Trimmed, Unweighted) in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

Health Service Utilization Intensity:	Male Rivaroxaban Users		Male Apixaban Users		Covariate Balance	
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of ambulatory encounters	12.0	9.2	12.8	9.4	-0.844	-0.091
Mean number of emergency room encounters	0.3	0.8	0.4	0.8	-0.013	-0.017
Mean number of inpatient hospital encounters	0.4	0.7	0.5	0.7	-0.004	-0.005
Mean number of generics	9.2	4.6	9.6	4.7	-0.430	-0.092

¹Covariates in blue show a standardized difference greater than 0.1

*****Data are not presented in these cells due to a small sample size or to assure a small cell cannot be recalculated through the cells presented.

Table 1aa. Baseline Characteristics of Male Rivaroxaban and Apixaban Users (Inverse Probability of Treatment Weighted, Trimmed), Weight: Average Treatment Effect, Stabilized (ATES) in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

Characteristic ^{1, 2, 3}	Male Rivaroxaban Users		Male Apixaban Users		Covariate Balance	
	Number	Percent	Number	Percent	Absolute Difference	Standardized Difference
Patients	59,916	-	40,106	-	-	-
Demographics	Mean	Standard Deviation	Mean	Standard Deviation		
Mean Age (Years)	74.9	6.1	74.9	6.1	0.003	0.001
Age (Years)	Number	Percent	Number	Percent		
65-74	32,870	54.9%	22,009	54.9%	-0.018	-0.000
75-84	22,922	38.3%	15,192	37.9%	0.378	0.008
85+	4,125	6.9%	2,905	7.2%	-0.360	-0.014
Sex						
Male	59,916	100.0%	40,106	100.0%	0.000	-
Race						
American Indian or Alaska Native	139	0.2%	94	0.2%	-0.003	-0.001
Asian	667	1.1%	449	1.1%	-0.005	-0.000
Black or African American	1,763	2.9%	1,182	2.9%	-0.006	-0.000
Unknown	2,006	3.3%	1,346	3.4%	-0.007	-0.000
White	55,341	92.4%	37,036	92.3%	0.021	0.001
Ethnicity	624	1.0%	301	0.8%	0.291	0.031
Hispanic Origin						
Year						
2010	-	0.0%	-	0.0%	0.000	-
2011	89	0.1%	-	0.0%	0.149	-
2012	7,175	12.0%	-	0.0%	11.975	-
2013	16,772	28.0%	4,673	11.7%	16.343	0.419
2014	21,183	35.4%	15,817	39.4%	-4.082	-0.084
2015	14,696	24.5%	19,617	48.9%	-24.385	-0.523
	Mean	Standard Deviation	Mean	Standard Deviation	Absolute Difference	Standardized Difference
CHA ₂ DS ₂ -VASc	3.4	1.4	3.4	1.4	0.001	0.001
	Number	Percent	Number	Percent		
0-1	3,551	5.9%	2,382	1.5	-0.013	-0.001
2	15,525	25.9%	10,396	25.9%	-0.010	-0.000
3	15,941	26.6%	10,662	26.6%	0.021	0.000
4	11,883	19.8%	7,954	19.8%	-0.000	-0.000

Table 1aa. Baseline Characteristics of Male Rivaroxaban and Apixaban Users (Inverse Probability of Treatment Weighted, Trimmed), Weight: Average Treatment Effect, Stabilized (ATES) in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

	Male Rivaroxaban Users		Male Apixaban Users		Covariate Balance	
5	8,117	13.5%	5,431	13.5%	0.007	0.000
>= 6	4,899	8.2%	3,281	8.2%	-0.004	-0.000
	Mean	Standard Deviation	Mean	Standard Deviation		
HAS-BLED	2.5	0.9	2.5	0.9	0.002	0.002
	Number	Percent	Number	Percent		
0-1	5,851	9.8%	3,922	9.8%	-0.015	-0.000
2	26,538	44.3%	17,758	44.3%	0.016	0.000
3	18,909	31.6%	12,661	31.6%	-0.010	-0.000
>= 4	8,618	14.4%	5,765	14.4%	0.009	0.000
Baseline Medical Conditions -183 to -1 days:						
Acute myocardial infarction (Past 0-30 days)	940	1.6%	628	1.6%	0.004	0.000
Acute myocardial infarction (Past 31-183 days)	574	1.0%	384	1.0%	-0.000	-0.000
Cardioablation	1,605	2.7%	1,075	2.7%	-0.000	-0.000
Cardioversion	6,541	10.9%	4,376	10.9%	0.005	0.000
Coronary revascularization	12,402	20.7%	8,306	20.7%	-0.011	-0.000
Diabetes	20,730	34.6%	13,876	34.6%	0.001	0.000
Falls	2,230	3.7%	1,494	3.7%	-0.005	-0.000
Fractures	606	1.0%	404	1.0%	0.004	0.000
Heart failure (hospitalized)	7,403	12.4%	4,956	12.4%	-0.003	-0.000
Heart failure (outpatient)	13,706	22.9%	9,173	22.9%	0.005	0.000
Hypercholesterolemia	23,546	39.3%	15,769	39.3%	-0.020	-0.000
Hypertension	51,384	85.8%	34,388	85.7%	0.018	0.001
Kidney failure (acute)	3,662	6.1%	2,454	6.1%	-0.007	-0.000
	Number	Percent	Number	Percent	Absolute Difference	Standardized Difference
Kidney failure (chronic)	7,029	11.7%	4,701	11.7%	0.011	0.000
Nicotine dependency	15,649	26.1%	10,482	26.1%	-0.018	-0.000
Obesity	9,764	16.3%	6,539	16.3%	-0.007	-0.000
Other ischemic heart disease	31,535	52.6%	21,104	52.6%	0.011	0.000
Peptic ulcer disease	225	0.4%	152	0.4%	-0.005	-0.001
Prior hospitalized bleeding	384	0.6%	259	0.6%	-0.005	-0.001
Stroke (past 0-30 days)	948	1.6%	636	1.6%	-0.003	-0.000
Stroke (past 31-183 days)	686	1.1%	459	1.1%	0.002	0.000

Table 1aa. Baseline Characteristics of Male Rivaroxaban and Apixaban Users (Inverse Probability of Treatment Weighted, Trimmed), Weight: Average Treatment Effect, Stabilized (ATES) in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

	Male Rivaroxaban Users		Male Apixaban Users		Covariate Balance	
Syncope	5,087	8.5%	3,405	8.5%	0.000	0.000
Transient ischemic attack	3,407	5.7%	2,281	5.7%	-0.001	-0.000
Walker use	-	0.0%	-	0.0%	0.000	-
Baseline Use (-183 to -1 days)						
ACEI/ARB	36,951	61.7%	24,737	61.7%	-0.008	-0.000
Amiodarone	6,827	11.4%	4,568	11.4%	0.006	0.000
Anti-coagulant (injectable)	5,635	9.4%	3,780	9.4%	-0.020	-0.001
Antiarrhythmics	7,446	12.4%	4,991	12.4%	-0.017	-0.001
Antiplatelets	10,474	17.5%	7,012	17.5%	-0.002	-0.000
Beta blockers	42,438	70.8%	28,407	70.8%	0.001	0.000
Calcium channel blockers	23,378	39.0%	15,633	39.0%	0.039	0.001
Digoxin	5,608	9.4%	3,765	9.4%	-0.027	-0.001
Diuretics (loop)	13,618	22.7%	9,111	22.7%	0.010	0.000
Diuretics (potassium sparing)	4,378	7.3%	2,931	7.3%	-0.000	-0.000
Diuretics (thiazide)	15,305	25.5%	10,244	25.5%	0.002	0.000
Dronedarone	2,259	3.8%	1,512	3.8%	-0.001	-0.000
Estrogen	*****	0.0%	*****	0.0%	-0.000	-0.000
Fibrates	3,051	5.1%	2,041	5.1%	0.002	0.000
H2-antagonist	2,792	4.7%	1,871	4.7%	-0.006	-0.000
Insulin	4,118	6.9%	2,755	6.9%	0.004	0.000
	Number	Percent	Number	Percent	Absolute Difference	Standardized Difference
Metformin	10,431	17.4%	6,986	17.4%	-0.009	-0.000
Nonsteroidal Anti-Inflammatory Drug (NSAIDs)	8,179	13.7%	5,478	13.7%	-0.009	-0.000
Nitrates	6,162	10.3%	4,124	10.3%	0.002	0.000
Other diabetes medications	4,065	6.8%	2,721	6.8%	0.001	0.000
Proton pump inhibitors	15,696	26.2%	10,514	26.2%	-0.018	-0.000
SSRI antidepressants	5,709	9.5%	3,825	9.5%	-0.008	-0.000
Statins	38,549	64.3%	25,804	64.3%	0.001	0.000
Sulfonyureas	5,740	9.6%	3,836	9.6%	0.015	0.001

Table 1aa. Baseline Characteristics of Male Rivaroxaban and Apixaban Users (Inverse Probability of Treatment Weighted, Trimmed), Weight: Average Treatment Effect, Stabilized (ATES) in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

Health Service Utilization Intensity:	Male Rivaroxaban Users		Male Apixaban Users		Covariate Balance	
	Mean	Standard Deviation	Mean	Standard Deviation		
Mean number of ambulatory encounters	12.4	9.5	12.4	9.0	-0.013	-0.001
Mean number of emergency room encounters	0.3	0.8	0.3	0.8	-0.001	-0.002
Mean number of inpatient hospital encounters	0.4	0.7	0.5	0.7	-0.001	-0.002
Mean number of generics	9.4	4.7	9.4	4.6	-0.004	-0.001

¹Weighted patient characteristics tables facilitate the assessment of covariate balance after inverse probability weighting and should not be interpreted as a description of the unweighted population. Treated patients are weighted by the proportion of treated patients in the trimmed population divided by the inverse of their propensity score. Reference patients are weighted by 1 minus the proportion of treated patients in the trimmed population divided by 1 minus their propensity score.

²Covariates in blue show a standardized difference greater than 0.1

³Characteristics in italics were not included in the propensity score logistic regression model.

Table 2. Risk of Thromboembolic Stroke in Rivaroxaban Users Compared to Dabigatran Users by Analysis Type in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

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% CI)	Wald P-Value
Unadjusted Analysis, Unweighted											
Rivaroxaban Users	110,113	37,140.10	123.2	0.34	292	7.86	2.65	-1.29	-0.25	0.87 (0.74, 1.03)	0.116
Dabigatran Users	84,473	26,783.01	115.81	0.32	245	9.15	2.9				
Inverse Probability of Treatment Weighted Analysis; Unweighted; Trimmed											
Rivaroxaban Users	110,112	37,140.01	123.2	0.34	292	7.86	2.65	-1.29	-0.25		
Dabigatran Users	84,471	26,782.83	115.81	0.32	245	9.15	2.9				
Inverse Probability of Treatment Weighted Analysis; Weight = ATEs^{1, 2}											
Rivaroxaban Users	110,111	37,119.03	123.13	0.34	295	7.95	2.68	-1.06	-0.18	0.90 (0.76, 1.06)	-
Dabigatran Users	84,481	26,791.17	115.83	0.32	241	9.01	2.86				

¹All values in this section are weighted

²ATES = Average Treatment Effect, Stabilized

Table 3. Risk of Thromboembolic Stroke in Female Rivaroxaban Users Compared to Female Dabigatran Users by Analysis Type in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

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% CI)	Wald P-Value
Unadjusted Analysis, Unweighted											
Female Rivaroxaban Users	51,156	17,634.60	125.91	0.34	161	9.13	3.15	-1.2	-0.16	0.91 (0.72, 1.14)	0.397
Female Dabigatran Users	40,824	13,074.70	116.98	0.32	135	10.33	3.31				
Inverse Probability of Treatment Weighted Analysis; Unweighted; Trimmed											
Female Rivaroxaban Users	51,155	17,634.33	125.91	0.34	161	9.13	3.15	-1.2	-0.16		
Female Dabigatran Users	40,822	13,074.56	116.98	0.32	135	10.33	3.31				
Inverse Probability of Treatment Weighted Analysis; Weight = ATEs^{1, 2}											
Female Rivaroxaban Users	51,156	17,584.64	125.55	0.34	164	9.3	3.2	-0.62	0.02	0.96 (0.76, 1.21)	-
Female Dabigatran Users	40,827	13,095.05	117.15	0.32	130	9.92	3.18				

¹All values in this section are weighted

²ATES = Average Treatment Effect, Stabilized

Table 4. Risk of Thromboembolic Stroke in Male Rivaroxaban Users Compared to Male Dabigatran Users by Analysis Type in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

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% CI)	Wald P-Value
Unadjusted Analysis, Unweighted											
Male Rivaroxaban Users	58,957	19,505.50	120.84	0.33	131	6.72	2.22	-1.31	-0.3	0.84 (0.65, 1.08)	0.183
Male Dabigatran Users	43,649	13,708.31	114.71	0.31	110	8.02	2.52				
Inverse Probability of Treatment Weighted Analysis; Unweighted; Trimmed											
Male Rivaroxaban Users	58,956	19,505.42	120.84	0.33	131	6.72	2.22	-1.31	-0.3		
Male Dabigatran Users	43,648	13,708.22	114.71	0.31	110	8.02	2.52				
Inverse Probability of Treatment Weighted Analysis; Weight = ATEs^{1, 2}											
Male Rivaroxaban Users	58,956	19,517.87	120.92	0.33	131	6.72	2.23	-1.44	-0.34	0.83 (0.64, 1.07)	-
Male Dabigatran Users	43,651	13,702.48	114.65	0.31	112	8.16	2.56				

¹All values in this section are weighted

²ATES = Average Treatment Effect, Stabilized

Table 5. Risk of Major Extracranial Bleeding in Rivaroxaban Users Compared to Dabigatran Users by Analysis Type in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

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% CI)	Wald P-Value
Unadjusted Analysis, Unweighted											
Rivaroxaban Users	110,113	37,140.10	123.2	0.34	1,681	45.26	15.27	4.97	2.49	1.14 (1.05, 1.23)	0.001
Dabigatran Users	84,473	26,783.01	115.81	0.32	1,079	40.29	12.77				
Inverse Probability of Treatment Weighted Analysis; Unweighted; Trimmed											
Rivaroxaban Users	110,112	37,140.01	123.2	0.34	1,681	45.26	15.27	4.97	2.49		
Dabigatran Users	84,471	26,782.83	115.81	0.32	1,079	40.29	12.77				
Inverse Probability of Treatment Weighted Analysis; Weight = ATEs^{1, 2}											
Rivaroxaban Users	110,111	37,119.03	123.13	0.34	1,712	46.12	15.55	7.35	3.25	1.20 (1.11, 1.30)	-
Dabigatran Users	84,481	26,791.17	115.83	0.32	1,039	38.77	12.29				

¹All values in this section are weighted

²ATES = Average Treatment Effect, Stabilized

Table 6. Risk of Major Extracranial Bleeding in Female Rivaroxaban Users Compared to Female Dabigatran Users by Analysis Type in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

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% CI)	Wald P-Value
Unadjusted Analysis, Unweighted											
Female Rivaroxaban Users	51,156	17,634.60	125.91	0.34	921	52.23	18	4.58	2.74	1.11 (1.00, 1.23)	0.051
Female Dabigatran Users	40,824	13,074.70	116.98	0.32	623	47.65	15.26				
Inverse Probability of Treatment Weighted Analysis; Unweighted; Trimmed											
Female Rivaroxaban Users	51,155	17,634.33	125.91	0.34	921	52.23	18	4.65	2.77		
Female Dabigatran Users	40,822	13,074.56	116.98	0.32	622	47.57	15.24				
Inverse Probability of Treatment Weighted Analysis; Weight = ATEs^{1, 2}											
Female Rivaroxaban Users	51,156	17,584.64	125.55	0.34	951	54.09	18.59	8.86	4.08	1.21 (1.09, 1.34)	-
Female Dabigatran Users	40,827	13,095.05	117.15	0.32	592	45.23	14.51				

¹All values in this section are weighted

²ATES = Average Treatment Effect, Stabilized

Table 7. Risk of Major Extracranial Bleeding in Male Rivaroxaban Users Compared to Male Dabigatran Users by Analysis Type in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

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% CI)	Wald P-Value
Unadjusted Analysis, Unweighted											
Male Rivaroxaban Users	58,957	19,505.50	120.84	0.33	760	38.96	12.89	5.7	2.44	1.19 (1.06, 1.33)	0.004
Male Dabigatran Users	43,649	13,708.31	114.71	0.31	456	33.26	10.45				
Inverse Probability of Treatment Weighted Analysis; Unweighted; Trimmed											
Male Rivaroxaban Users	58,956	19,505.42	120.84	0.33	760	38.96	12.89	5.7	2.44		
Male Dabigatran Users	43,648	13,708.22	114.71	0.31	456	33.26	10.45				
Inverse Probability of Treatment Weighted Analysis; Weight = ATEs^{1, 2}											
Male Rivaroxaban Users	58,956	19,517.87	120.92	0.33	759	38.86	12.87	5.99	2.55	1.20 (1.07, 1.35)	-
Male Dabigatran Users	43,651	13,702.48	114.65	0.31	450	32.87	10.32				

¹All values in this section are weighted

²ATES = Average Treatment Effect, Stabilized

Table 8. Risk of Gastrointestinal Hemorrhage in Rivaroxaban Users Compared to Dabigatran Users by Analysis Type in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

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% CI)	Wald P-Value
Unadjusted Analysis, Unweighted											
Rivaroxaban Users	110,113	37,140.10	123.2	0.34	1,505	40.52	13.67	3.11	1.81	1.09 (1.01, 1.19)	0.027
Dabigatran Users	84,473	26,783.01	115.81	0.32	1,002	37.41	11.86				
Inverse Probability of Treatment Weighted Analysis; Unweighted; Trimmed											
Rivaroxaban Users	110,112	37,140.01	123.2	0.34	1,505	40.52	13.67	3.11	1.81		
Dabigatran Users	84,471	26,782.83	115.81	0.32	1,002	37.41	11.86				
Inverse Probability of Treatment Weighted Analysis; Weight = ATEs^{1, 2}											
Rivaroxaban Users	110,111	37,119.03	123.13	0.34	1,531	41.25	13.91	5.22	2.48	1.16 (1.07, 1.25)	-
Dabigatran Users	84,481	26,791.17	115.83	0.32	965	36.04	11.43				

¹All values in this section are weighted

²ATES = Average Treatment Effect, Stabilized

Table 9. Risk of Gastrointestinal Hemorrhage in Female Rivaroxaban Users Compared to Female Dabigatran Users by Analysis Type in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

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% CI)	Wald P-Value
Unadjusted Analysis, Unweighted											
Female Rivaroxaban Users	51,156	17,634.60	125.91	0.34	823	46.67	16.09	2.92	2.08	1.08 (0.97, 1.20)	0.18
Female Dabigatran Users	40,824	13,074.70	116.98	0.32	572	43.75	14.01				
Inverse Probability of Treatment Weighted Analysis; Unweighted; Trimmed											
Female Rivaroxaban Users	51,155	17,634.33	125.91	0.34	823	46.67	16.09	3	2.1		
Female Dabigatran Users	40,822	13,074.56	116.98	0.32	571	43.67	13.99				
Inverse Probability of Treatment Weighted Analysis; Weight = ATEs^{1, 2}											
Female Rivaroxaban Users	51,156	17,584.64	125.55	0.34	849	48.28	16.6	6.75	3.28	1.17 (1.05, 1.30)	-
Female Dabigatran Users	40,827	13,095.05	117.15	0.32	544	41.53	13.32				

¹All values in this section are weighted

²ATES = Average Treatment Effect, Stabilized

Table 10. Risk of Gastrointestinal Hemorrhage in Male Rivaroxaban Users Compared to Male Dabigatran Users by Analysis Type in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

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% CI)	Wald P-Value
Unadjusted Analysis, Unweighted											
Male Rivaroxaban Users	58,957	19,505.50	120.84	0.33	682	34.96	11.57	3.6	1.72	1.13 (1.00, 1.28)	0.048
Male Dabigatran Users	43,649	13,708.31	114.71	0.31	430	31.37	9.85				
Inverse Probability of Treatment Weighted Analysis; Unweighted; Trimmed											
Male Rivaroxaban Users	58,956	19,505.42	120.84	0.33	682	34.96	11.57	3.6	1.72		
Male Dabigatran Users	43,648	13,708.22	114.71	0.31	430	31.37	9.85				
Inverse Probability of Treatment Weighted Analysis; Weight = ATEs^{1, 2}											
Male Rivaroxaban Users	58,956	19,517.87	120.92	0.33	680	34.84	11.53	3.82	1.8	1.14 (1.01, 1.29)	-
Male Dabigatran Users	43,651	13,702.48	114.65	0.31	425	31.02	9.74				

¹All values in this section are weighted

²ATES = Average Treatment Effect, Stabilized

Table 11. Risk of Intracranial Hemorrhage in Rivaroxaban Users Compared to Dabigatran Users by Analysis Type in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

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% CI)	Wald P-Value
Unadjusted Analysis, Unweighted											
Rivaroxaban Users	110,113	37,140.10	123.2	0.34	193	5.2	1.75	1.72	0.65	1.51 (1.18, 1.94)	0.001
Dabigatran Users	84,473	26,783.01	115.81	0.32	93	3.47	1.1				
Inverse Probability of Treatment Weighted Analysis; Unweighted; Trimmed											
Rivaroxaban Users	110,112	37,140.01	123.2	0.34	193	5.2	1.75	1.72	0.65		
Dabigatran Users	84,471	26,782.83	115.81	0.32	93	3.47	1.1				
Inverse Probability of Treatment Weighted Analysis; Weight = ATE^{1, 2}											
Rivaroxaban Users	110,111	37,119.03	123.13	0.34	197	5.29	1.78	1.92	0.71	1.58 (1.23, 2.03)	-
Dabigatran Users	84,481	26,791.17	115.83	0.32	90	3.37	1.07				

¹All values in this section are weighted

²ATES = Average Treatment Effect, Stabilized

Table 12. Risk of Gastrointestinal Hemorrhage in Female Rivaroxaban Users Compared to Female Dabigatran Users by Analysis Type in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

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% CI)	Wald P-Value
Unadjusted Analysis, Unweighted											
Female Rivaroxaban Users	51,156	17,634.60	125.91	0.34	84	4.76	1.64	1.32	0.54	1.42 (0.98, 2.04)	0.062
Female Dabigatran Users	40,824	13,074.70	116.98	0.32	45	3.44	1.1				
Inverse Probability of Treatment Weighted Analysis; Unweighted; Trimmed											
Female Rivaroxaban Users	51,155	17,634.33	125.91	0.34	84	4.76	1.64	1.32	0.54		
Female Dabigatran Users	40,822	13,074.56	116.98	0.32	45	3.44	1.1				
Inverse Probability of Treatment Weighted Analysis; Weight = ATEs^{1, 2}											
Female Rivaroxaban Users	51,156	17,584.64	125.55	0.34	86	4.91	1.69	1.66	0.65	1.55 (1.07, 2.23)	-
Female Dabigatran Users	40,827	13,095.05	117.15	0.32	43	3.25	1.04				

¹All values in this section are weighted

²ATES = Average Treatment Effect, Stabilized

Table 13. Risk of Gastrointestinal Hemorrhage in Male Rivaroxaban Users Compared to Male Dabigatran Users by Analysis Type in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

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% CI)	Wald P-Value
Unadjusted Analysis, Unweighted											
Male Rivaroxaban Users	58,957	19,505.50	120.84	0.33	109	5.59	1.85	2.09	0.75	1.59 (1.13, 2.24)	0.007
Male Dabigatran Users	43,649	13,708.31	114.71	0.31	48	3.5	1.1				
Inverse Probability of Treatment Weighted Analysis; Unweighted; Trimmed											
Male Rivaroxaban Users	58,956	19,505.42	120.84	0.33	109	5.59	1.85	2.09	0.75		
Male Dabigatran Users	43,648	13,708.22	114.71	0.31	48	3.5	1.1				
Inverse Probability of Treatment Weighted Analysis; Weight = ATEs^{1, 2}											
Male Rivaroxaban Users	58,956	19,517.87	120.92	0.33	110	5.65	1.87	2.18	0.78	1.62 (1.16, 2.28)	-
Male Dabigatran Users	43,651	13,702.48	114.65	0.31	48	3.47	1.09				

¹All values in this section are weighted

²ATES = Average Treatment Effect, Stabilized

Table 14. Risk of Thromboembolic Stroke in Dabigatran Users Compared to Apixaban Users by Analysis Type in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

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% CI)	Wald P-Value
Unadjusted Analysis, Unweighted											
Dabigatran Users	84,563	26,801.82	115.76	0.32	246	9.18	2.91	0.1	0.44	1.11 (0.91, 1.34)	0.296
Apixaban Users	76,887	20,933.60	99.44	0.27	190	9.08	2.47				
Inverse Probability of Treatment Weighted Analysis; Unweighted; Trimmed											
Dabigatran Users	84,561	26,801.69	115.77	0.32	246	9.18	2.91	0.1	0.44		
Apixaban Users	76,886	20,933.57	99.45	0.27	190	9.08	2.47				
Inverse Probability of Treatment Weighted Analysis; Weight = ATEs^{1, 2}											
Dabigatran Users	84,600	26,686.01	115.21	0.32	249	9.31	2.94	0.34	0.48	1.13 (0.93, 1.37)	-
Apixaban Users	76,863	21,048.50	100.02	0.27	189	8.97	2.46				

¹All values in this section are weighted

²ATES = Average Treatment Effect, Stabilized

Table 15. Risk of Thromboembolic Stroke in Female Dabigatran Users Compared to Female Apixaban Users by Analysis Type in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

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% CI)	Wald P-Value
Unadjusted Analysis, Unweighted											
Female Dabigatran Users	40,870	13,084.35	116.93	0.32	136	10.39	3.33	0.2	0.55	1.12 (0.86, 1.45)	0.393
Female Apixaban Users	37,025	10,105.65	99.69	0.27	103	10.19	2.78				
Inverse Probability of Treatment Weighted Analysis; Unweighted; Trimmed											
Female Dabigatran Users	40,853	13,081.88	116.96	0.32	136	10.4	3.33	0.2	0.55		
Female Apixaban Users	37,024	10,105.62	99.69	0.27	103	10.19	2.78				
Inverse Probability of Treatment Weighted Analysis; Weight = ATEs^{1, 2}											
Female Dabigatran Users	40,884	13,023.42	116.35	0.32	133	10.18	3.24	-0.18	0.4	1.07 (0.82, 1.39)	-
Female Apixaban Users	37,009	10,146.87	100.14	0.27	105	10.36	2.84				

¹All values in this section are weighted

²ATES = Average Treatment Effect, Stabilized

Table 16. Risk of Thromboembolic Stroke in Male Dabigatran Users Compared to Male Apixaban Users by Analysis Type in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

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% CI)	Wald P-Value
Unadjusted Analysis, Unweighted											
Male Dabigatran Users	43,693	13,717.47	114.67	0.31	110	8.02	2.52	-0.02	0.34	1.09 (0.82, 1.45)	0.543
Male Apixaban Users	39,862	10,827.95	99.22	0.27	87	8.03	2.18				
Inverse Probability of Treatment Weighted Analysis; Unweighted; Trimmed											
Male Dabigatran Users	43,693	13,717.47	114.67	0.31	110	8.02	2.52	-0.02	0.34		
Male Apixaban Users	39,862	10,827.95	99.22	0.27	87	8.03	2.18				
Inverse Probability of Treatment Weighted Analysis; Weight = ATEs^{1, 2}											
Male Dabigatran Users	43,710	13,667.17	114.21	0.31	115	8.43	2.64	0.51	0.47	1.16 (0.87, 1.55)	-
Male Apixaban Users	39,854	10,887.90	99.78	0.27	86	7.92	2.16				

¹All values in this section are weighted

²ATES = Average Treatment Effect, Stabilized

Table 17. Risk of Major Extracranial Bleeding in Dabigatran Users Compared to Apixaban Users by Analysis Type in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

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% CI)	Wald P-Value
Unadjusted Analysis, Unweighted											
Dabigatran Users	84,563	26,801.82	115.76	0.32	1,079	40.26	12.76	16.47	6.28	1.84 (1.65, 2.05)	<0.001
Apixaban Users	76,887	20,933.60	99.44	0.27	498	23.79	6.48				
Inverse Probability of Treatment Weighted Analysis; Unweighted; Trimmed											
Dabigatran Users	84,561	26,801.69	115.77	0.32	1,079	40.26	12.76	16.47	6.28		
Apixaban Users	76,886	20,933.57	99.45	0.27	498	23.79	6.48				
Inverse Probability of Treatment Weighted Analysis; Weight = ATEs^{1, 2}											
Dabigatran Users	84,600	26,686.01	115.21	0.32	1,102	41.29	13.03	18.15	6.69	1.93 (1.73, 2.15)	-
Apixaban Users	76,863	21,048.50	100.02	0.27	487	23.15	6.34				

¹All values in this section are weighted

²ATES = Average Treatment Effect, Stabilized

Table 18. Risk of Major Extracranial Bleeding in Female Dabigatran Users Compared to Female Apixaban Users by Analysis Type in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

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% CI)	Wald P-Value
Unadjusted Analysis, Unweighted											
Female Dabigatran Users	40,870	13,084.35	116.93	0.32	623	47.61	15.24	19.81	7.65	1.89 (1.64, 2.18)	<0.001
Female Apixaban Users	37,025	10,105.65	99.69	0.27	281	27.81	7.59				
Inverse Probability of Treatment Weighted Analysis; Unweighted; Trimmed											
Female Dabigatran Users	40,853	13,081.88	116.96	0.32	623	47.62	15.25	19.82	7.66		
Female Apixaban Users	37,024	10,105.62	99.69	0.27	281	27.81	7.59				
Inverse Probability of Treatment Weighted Analysis; Weight = ATEs^{1, 2}											
Female Dabigatran Users	40,884	13,023.42	116.35	0.32	623	47.81	15.23	20.23	7.67	1.91 (1.65, 2.21)	-
Female Apixaban Users	37,009	10,146.87	100.14	0.27	280	27.57	7.56				

¹All values in this section are weighted

²ATES = Average Treatment Effect, Stabilized

Table 19. Risk of Major Extracranial Bleeding in Male Dabigatran Users Compared to Male Apixaban Users by Analysis Type in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

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% CI)	Wald P-Value
Unadjusted Analysis, Unweighted											
Male Dabigatran Users	43,693	13,717.47	114.67	0.31	456	33.24	10.44	13.2	4.99	1.77 (1.51, 2.09)	<0.001
Male Apixaban Users	39,862	10,827.95	99.22	0.27	217	20.04	5.44				
Inverse Probability of Treatment Weighted Analysis; Unweighted; Trimmed											
Male Dabigatran Users	43,693	13,717.47	114.67	0.31	456	33.24	10.44	13.2	4.99		
Male Apixaban Users	39,862	10,827.95	99.22	0.27	217	20.04	5.44				
Inverse Probability of Treatment Weighted Analysis; Weight = ATEs^{1, 2}											
Male Dabigatran Users	43,710	13,667.17	114.21	0.31	480	35.12	10.98	15.92	5.74	1.94 (1.64, 2.29)	-
Male Apixaban Users	39,854	10,887.90	99.78	0.27	209	19.19	5.24				

¹All values in this section are weighted

²ATES = Average Treatment Effect, Stabilized

Table 20. Risk of Gastrointestinal Hemorrhage in Dabigatran Users Compared to Apixaban Users by Analysis Type in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

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% CI)	Wald P-Value
Unadjusted Analysis, Unweighted											
Dabigatran Users	84,563	26,801.82	115.76	0.32	1,002	37.39	11.85	16.18	6.07	1.91 (1.71, 2.14)	<0.001
Apixaban Users	76,887	20,933.60	99.44	0.27	444	21.21	5.77				
Inverse Probability of Treatment Weighted Analysis; Unweighted; Trimmed											
Dabigatran Users	84,561	26,801.69	115.77	0.32	1,002	37.39	11.85	16.18	6.07		
Apixaban Users	76,886	20,933.57	99.45	0.27	444	21.21	5.77				
Inverse Probability of Treatment Weighted Analysis; Weight = ATEs^{1, 2}											
Dabigatran Users	84,600	26,686.01	115.21	0.32	1,024	38.39	12.11	17.8	6.47	2.01 (1.79, 2.26)	-
Apixaban Users	76,863	21,048.50	100.02	0.27	433	20.59	5.64				

¹All values in this section are weighted

²ATES = Average Treatment Effect, Stabilized

Table 21. Risk of Gastrointestinal Hemorrhage in Female Dabigatran Users Compared to Female Apixaban Users by Analysis Type in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

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% CI)	Wald P-Value
Unadjusted Analysis, Unweighted											
Female Dabigatran Users	40,870	13,084.35	116.93	0.32	572	43.72	14	19.08	7.27	1.96 (1.69, 2.27)	<0.001
Female Apixaban Users	37,025	10,105.65	99.69	0.27	249	24.64	6.73				
Inverse Probability of Treatment Weighted Analysis; Unweighted; Trimmed											
Female Dabigatran Users	40,853	13,081.88	116.96	0.32	572	43.72	14	19.08	7.28		
Female Apixaban Users	37,024	10,105.62	99.69	0.27	249	24.64	6.73				
Inverse Probability of Treatment Weighted Analysis; Weight = ATEs^{1, 2}											
Female Dabigatran Users	40,884	13,023.42	116.35	0.32	571	43.84	13.96	19.35	7.25	1.97 (1.69, 2.30)	-
Female Apixaban Users	37,009	10,146.87	100.14	0.27	248	24.49	6.71				

¹All values in this section are weighted

²ATES = Average Treatment Effect, Stabilized

Table 22. Risk of Gastrointestinal Hemorrhage in Male Dabigatran Users Compared to Male Apixaban Users by Analysis Type in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

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% CI)	Wald P-Value
Unadjusted Analysis, Unweighted											
Male Dabigatran Users	43,693	13,717.47	114.67	0.31	430	31.35	9.84	13.34	4.95	1.86 (1.57, 2.20)	<0.001
Male Apixaban Users	39,862	10,827.95	99.22	0.27	195	18.01	4.89				
Inverse Probability of Treatment Weighted Analysis; Unweighted; Trimmed											
Male Dabigatran Users	43,693	13,717.47	114.67	0.31	430	31.35	9.84	13.34	4.95		
Male Apixaban Users	39,862	10,827.95	99.22	0.27	195	18.01	4.89				
Inverse Probability of Treatment Weighted Analysis; Weight = ATEs^{1, 2}											
Male Dabigatran Users	43,710	13,667.17	114.21	0.31	454	33.2	10.38	16.06	5.7	2.05 (1.72, 2.44)	-
Male Apixaban Users	39,854	10,887.90	99.78	0.27	187	17.14	4.68				

¹All values in this section are weighted

²ATES = Average Treatment Effect, Stabilized

Table 23. Risk of Intracranial Hemorrhage in Dabigatran Users Compared to Apixaban Users by Analysis Type in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

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% CI)	Wald P-Value
Unadjusted Analysis, Unweighted											
Dabigatran Users	84,563	26,801.82	115.76	0.32	93	3.47	1.1	-0.97	-0.11	0.78 (0.58, 1.04)	0.09
Apixaban Users	76,887	20,933.60	99.44	0.27	93	4.44	1.21				
Inverse Probability of Treatment Weighted Analysis; Unweighted; Trimmed											
Dabigatran Users	84,561	26,801.69	115.77	0.32	93	3.47	1.1	-0.97	-0.11		
Apixaban Users	76,886	20,933.57	99.45	0.27	93	4.44	1.21				
Inverse Probability of Treatment Weighted Analysis; Weight = ATEs^{1, 2}											
Dabigatran Users	84,600	26,686.01	115.21	0.32	91	3.39	1.07	-1.13	-0.17	0.74 (0.55, 1.00)	-
Apixaban Users	76,863	21,048.50	100.02	0.27	95	4.53	1.24				

¹All values in this section are weighted

²ATES = Average Treatment Effect, Stabilized

Table 24. Risk of Intracranial Hemorrhage in Female Dabigatran Users Compared to Female Apixaban Users by Analysis Type in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

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% CI)	Wald P-Value
Unadjusted Analysis, Unweighted											
Female Dabigatran Users	40,870	13,084.35	116.93	0.32	45	3.44	1.1	-0.62	-0.01	0.84 (0.55, 1.29)	0.43
Female Apixaban Users	37,025	10,105.65	99.69	0.27	41	4.06	1.11				
Inverse Probability of Treatment Weighted Analysis; Unweighted; Trimmed											
Female Dabigatran Users	40,853	13,081.88	116.96	0.32	45	3.44	1.1	-0.62	-0.01		
Female Apixaban Users	37,024	10,105.62	99.69	0.27	41	4.06	1.11				
Inverse Probability of Treatment Weighted Analysis; Weight = ATE^{1, 2}											
Female Dabigatran Users	40,884	13,023.42	116.35	0.32	42	3.23	1.03	-1.14	-0.17	0.74 (0.48, 1.14)	-
Female Apixaban Users	37,009	10,146.87	100.14	0.27	44	4.36	1.2				

¹All values in this section are weighted

²ATES = Average Treatment Effect, Stabilized

Table 25. Risk of Intracranial Hemorrhage in Male Dabigatran Users Compared to Male Apixaban Users by Analysis Type in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

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% CI)	Wald P-Value
Unadjusted Analysis, Unweighted											
Male Dabigatran Users	43,693	13,717.47	114.67	0.31	48	3.5	1.1	-1.3	-0.21	0.73 (0.49, 1.08)	0.119
Male Apixaban Users	39,862	10,827.95	99.22	0.27	52	4.8	1.3				
Inverse Probability of Treatment Weighted Analysis; Unweighted; Trimmed											
Male Dabigatran Users	43,693	13,717.47	114.67	0.31	48	3.5	1.1	-1.3	-0.21		
Male Apixaban Users	39,862	10,827.95	99.22	0.27	52	4.8	1.3				
Inverse Probability of Treatment Weighted Analysis; Weight = ATEs^{1, 2}											
Male Dabigatran Users	43,710	13,667.17	114.21	0.31	47	3.45	1.08	-1.26	-0.21	0.72 (0.47, 1.09)	-
Male Apixaban Users	39,854	10,887.90	99.78	0.27	51	4.72	1.29				

¹All values in this section are weighted

²ATES = Average Treatment Effect, Stabilized

Table 26. Risk of Thromboembolic Stroke in Rivaroxaban Users Compared to Apixaban Users by Analysis Type in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

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% CI)	Wald P-Value
Unadjusted Analysis, Unweighted											
Rivaroxaban Users	111,817	37,643.75	122.96	0.34	298	7.92	2.67	-1.29	0.15	0.94 (0.79, 1.13)	0.529
Apixaban Users	77,233	21,068.22	99.64	0.27	194	9.21	2.51				
Inverse Probability of Treatment Weighted Analysis; Unweighted; Trimmed											
Rivaroxaban Users	111,814	37,642.92	122.96	0.34	298	7.92	2.67	-1.29	0.15		
Apixaban Users	77,231	21,067.78	99.64	0.27	194	9.21	2.51				
Inverse Probability of Treatment Weighted Analysis; Weight = ATEs^{1, 2}											
Rivaroxaban Users	111,814	37,381.05	122.11	0.33	302	8.09	2.7	-0.86	0.25	0.99 (0.82, 1.19)	-
Apixaban Users	77,234	21,195.16	100.23	0.27	190	8.95	2.45				

¹All values in this section are weighted

²ATES = Average Treatment Effect, Stabilized

Table 27. Risk of Thromboembolic Stroke in Female Rivaroxaban Users Compared to Female Apixaban Users by Analysis Type in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

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% CI)	Wald P-Value
Unadjusted Analysis, Unweighted											
Female Rivaroxaban Users	51,898	17,863.19	125.72	0.34	163	9.12	3.14	-1.03	0.37	0.99 (0.77, 1.27)	0.934
Female Apixaban Users	37,129	10,144.51	99.79	0.27	103	10.15	2.77				
Inverse Probability of Treatment Weighted Analysis; Unweighted; Trimmed											
Female Rivaroxaban Users	51,898	17,863.19	125.72	0.34	163	9.12	3.14	-1.03	0.37		
Female Apixaban Users	37,125	10,143.80	99.8	0.27	103	10.15	2.77				
Inverse Probability of Treatment Weighted Analysis; Weight = ATEs^{1, 2}											
Female Rivaroxaban Users	51,896	17,730.89	124.79	0.34	165	9.31	3.18	-0.59	0.46	1.03 (0.80, 1.33)	-
Female Apixaban Users	37,127	10,209.61	100.44	0.27	101	9.9	2.72				

¹All values in this section are weighted

²ATES = Average Treatment Effect, Stabilized

Table 28. Risk of Thromboembolic Stroke in Male Rivaroxaban Users Compared to Male Apixaban Users by Analysis Type in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

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% CI)	Wald P-Value
Unadjusted Analysis, Unweighted											
Male Rivaroxaban Users	59,919	19,780.55	120.58	0.33	135	6.82	2.25	-1.51	-0.02	0.90 (0.69, 1.17)	0.428
Male Apixaban Users	40,104	10,923.71	99.49	0.27	91	8.33	2.27				
Inverse Probability of Treatment Weighted Analysis; Unweighted; Trimmed											
Male Rivaroxaban Users	59,914	19,779.63	120.58	0.33	135	6.83	2.25	-1.51	-0.02		
Male Apixaban Users	40,104	10,923.71	99.49	0.27	91	8.33	2.27				
Inverse Probability of Treatment Weighted Analysis; Weight = ATEs^{1, 2}											
Male Rivaroxaban Users	59,916	19,644.29	119.75	0.33	137	6.95	2.28	-1.33	0.01	0.92 (0.70, 1.20)	-
Male Apixaban Users	40,106	10,981.80	100.01	0.27	91	8.28	2.27				

¹All values in this section are weighted

²ATES = Average Treatment Effect, Stabilized

Table 29. Risk of Major Extracranial Bleeding in Rivaroxaban Users Compared to Apixaban Users by Analysis Type in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

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% CI)	Wald P-Value
Unadjusted Analysis, Unweighted											
Rivaroxaban Users	111,817	37,643.75	122.96	0.34	1,699	45.13	15.19	21.5	8.75	2.09 (1.89, 2.31)	<0.001
Apixaban Users	77,233	21,068.22	99.64	0.27	498	23.64	6.45				
Inverse Probability of Treatment Weighted Analysis; Unweighted; Trimmed											
Rivaroxaban Users	111,814	37,642.92	122.96	0.34	1,699	45.13	15.19	21.5	8.75		
Apixaban Users	77,231	21,067.78	99.64	0.27	498	23.64	6.45				
Inverse Probability of Treatment Weighted Analysis; Weight = ATEs^{1, 2}											
Rivaroxaban Users	111,814	37,381.05	122.11	0.33	1,774	47.44	15.86	25.23	9.77	2.33 (2.11, 2.58)	-
Apixaban Users	77,234	21,195.16	100.23	0.27	471	22.21	6.1				

¹All values in this section are weighted

²ATES = Average Treatment Effect, Stabilized

Table 30. Risk of Major Extracranial Bleeding in Female Rivaroxaban Users Compared to Female Apixaban Users by Analysis Type in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

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% CI)	Wald P-Value
Unadjusted Analysis, Unweighted											
Female Rivaroxaban Users	51,898	17,863.19	125.72	0.34	929	52.01	17.9	24.21	10.31	2.08 (1.82, 2.38)	<0.001
Female Apixaban Users	37,129	10,144.51	99.79	0.27	282	27.8	7.6				
Inverse Probability of Treatment Weighted Analysis; Unweighted; Trimmed											
Female Rivaroxaban Users	51,898	17,863.19	125.72	0.34	929	52.01	17.9	24.21	10.3		
Female Apixaban Users	37,125	10,143.80	99.8	0.27	282	27.8	7.6				
Inverse Probability of Treatment Weighted Analysis; Weight = ATEs^{1, 2}											
Female Rivaroxaban Users	51,896	17,730.89	124.79	0.34	966	54.51	18.62	28.18	11.38	2.29 (2.00, 2.62)	-
Female Apixaban Users	37,127	10,209.61	100.44	0.27	269	26.32	7.24				

¹All values in this section are weighted

²ATES = Average Treatment Effect, Stabilized

Table 31. Risk of Major Extracranial Bleeding in Male Rivaroxaban Users Compared to Male Apixaban Users by Analysis Type in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

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% CI)	Wald P-Value
Unadjusted Analysis, Unweighted											
Male Rivaroxaban Users	59,919	19,780.55	120.58	0.33	770	38.93	12.85	19.15	7.46	2.13 (1.83, 2.48)	<0.001
Male Apixaban Users	40,104	10,923.71	99.49	0.27	216	19.77	5.39				
Inverse Probability of Treatment Weighted Analysis; Unweighted; Trimmed											
Male Rivaroxaban Users	59,914	19,779.63	120.58	0.33	770	38.93	12.85	19.16	7.47		
Male Apixaban Users	40,104	10,923.71	99.49	0.27	216	19.77	5.39				
Inverse Probability of Treatment Weighted Analysis; Weight = ATEs^{1, 2}											
Male Rivaroxaban Users	59,916	19,644.29	119.75	0.33	802	40.82	13.38	22.23	8.29	2.37 (2.03, 2.76)	-
Male Apixaban Users	40,106	10,981.80	100.01	0.27	204	18.59	5.09				

¹All values in this section are weighted

²ATES = Average Treatment Effect, Stabilized

Table 32. Risk of Gastrointestinal Hemorrhage in Rivaroxaban Users Compared to Apixaban Users by Analysis Type in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

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% CI)	Wald P-Value
Unadjusted Analysis, Unweighted											
Rivaroxaban Users	111,817	37,643.75	122.96	0.34	1,522	40.43	13.61	19.36	7.86	2.11 (1.89, 2.34)	<0.001
Apixaban Users	77,233	21,068.22	99.64	0.27	444	21.07	5.75				
Inverse Probability of Treatment Weighted Analysis; Unweighted; Trimmed											
Rivaroxaban Users	111,814	37,642.92	122.96	0.34	1,522	40.43	13.61	19.36	7.86		
Apixaban Users	77,231	21,067.78	99.64	0.27	444	21.07	5.75				
Inverse Probability of Treatment Weighted Analysis; Weight = ATEs^{1, 2}											
Rivaroxaban Users	111,814	37,381.05	122.11	0.33	1,590	42.53	14.22	22.72	8.78	2.35 (2.11, 2.61)	-
Apixaban Users	77,234	21,195.16	100.23	0.27	420	19.81	5.44				

¹All values in this section are weighted

²ATES = Average Treatment Effect, Stabilized

Table 33. Risk of Gastrointestinal Hemorrhage in Female Rivaroxaban Users Compared to Female Apixaban Users by Analysis Type in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

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% CI)	Wald P-Value
Unadjusted Analysis, Unweighted											
Female Rivaroxaban Users	51,898	17,863.19	125.72	0.34	830	46.46	15.99	21.82	9.26	2.10 (1.82, 2.42)	<0.001
Female Apixaban Users	37,129	10,144.51	99.79	0.27	250	24.64	6.73				
Inverse Probability of Treatment Weighted Analysis; Unweighted; Trimmed											
Female Rivaroxaban Users	51,898	17,863.19	125.72	0.34	830	46.46	15.99	21.82	9.26		
Female Apixaban Users	37,125	10,143.80	99.8	0.27	250	24.65	6.73				
Inverse Probability of Treatment Weighted Analysis; Weight = ATEs^{1, 2}											
Female Rivaroxaban Users	51,896	17,730.89	124.79	0.34	864	48.71	16.64	25.35	10.22	2.31 (2.00, 2.67)	-
Female Apixaban Users	37,127	10,209.61	100.44	0.27	238	23.35	6.42				

¹All values in this section are weighted

²ATES = Average Treatment Effect, Stabilized

Table 34. Risk of Gastrointestinal Hemorrhage in Male Rivaroxaban Users Compared to Male Apixaban Users by Analysis Type in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

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% CI)	Wald P-Value
Unadjusted Analysis, Unweighted											
Male Rivaroxaban Users	59,919	19,780.55	120.58	0.33	692	34.98	11.55	17.22	6.71	2.14 (1.82, 2.51)	<0.001
Male Apixaban Users	40,104	10,923.71	99.49	0.27	194	17.76	4.84				
Inverse Probability of Treatment Weighted Analysis; Unweighted; Trimmed											
Male Rivaroxaban Users	59,914	19,779.63	120.58	0.33	692	34.99	11.55	17.23	6.71		
Male Apixaban Users	40,104	10,923.71	99.49	0.27	194	17.76	4.84				
Inverse Probability of Treatment Weighted Analysis; Weight = ATEs^{1, 2}											
Male Rivaroxaban Users	59,916	19,644.29	119.75	0.33	722	36.74	12.05	20.05	7.48	2.38 (2.02, 2.80)	-
Male Apixaban Users	40,106	10,981.80	100.01	0.27	183	16.69	4.57				

¹All values in this section are weighted

²ATES = Average Treatment Effect, Stabilized

Table 35. Risk of Intracranial Hemorrhage in Rivaroxaban Users Compared to Apixaban Users by Analysis Type in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

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% CI)	Wald P-Value
Unadjusted Analysis, Unweighted											
Rivaroxaban Users	111,817	37,643.75	122.96	0.34	195	5.18	1.74	0.77	0.54	1.18 (0.92, 1.51)	0.19
Apixaban Users	77,233	21,068.22	99.64	0.27	93	4.41	1.2				
Inverse Probability of Treatment Weighted Analysis; Unweighted; Trimmed											
Rivaroxaban Users	111,814	37,642.92	122.96	0.34	195	5.18	1.74	0.77	0.54		
Apixaban Users	77,231	21,067.78	99.64	0.27	93	4.41	1.2				
Inverse Probability of Treatment Weighted Analysis; Weight = ATEs^{1, 2}											
Rivaroxaban Users	111,814	37,381.05	122.11	0.33	199	5.33	1.78	0.97	0.58	1.23 (0.96, 1.58)	-
Apixaban Users	77,234	21,195.16	100.23	0.27	92	4.36	1.2				

¹All values in this section are weighted

²ATES = Average Treatment Effect, Stabilized

Table 36. Risk of Intracranial Hemorrhage in Female Rivaroxaban Users Compared to Female Apixaban Users by Analysis Type in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

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% CI)	Wald P-Value
Unadjusted Analysis, Unweighted											
Female Rivaroxaban Users	51,898	17,863.19	125.72	0.34	85	4.76	1.64	0.72	0.53	1.19 (0.82, 1.73)	0.365
Female Apixaban Users	37,129	10,144.51	99.79	0.27	41	4.04	1.1				
Inverse Probability of Treatment Weighted Analysis; Unweighted; Trimmed											
Female Rivaroxaban Users	51,898	17,863.19	125.72	0.34	85	4.76	1.64	0.72	0.53		
Female Apixaban Users	37,125	10,143.80	99.8	0.27	41	4.04	1.1				
Inverse Probability of Treatment Weighted Analysis; Weight = ATEs^{1, 2}											
Female Rivaroxaban Users	51,896	17,730.89	124.79	0.34	85	4.79	1.64	0.61	0.49	1.16 (0.80, 1.70)	-
Female Apixaban Users	37,127	10,209.61	100.44	0.27	43	4.18	1.15				

¹All values in this section are weighted

²ATES = Average Treatment Effect, Stabilized

Table 37. Risk of Intracranial Hemorrhage in Male Rivaroxaban Users Compared to Male Apixaban Users by Analysis Type in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

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% CI)	Wald P-Value
Unadjusted Analysis, Unweighted											
Male Rivaroxaban Users	59,919	19,780.55	120.58	0.33	110	5.56	1.84	0.8	0.54	1.17 (0.84, 1.63)	0.352
Male Apixaban Users	40,104	10,923.71	99.49	0.27	52	4.76	1.3				
Inverse Probability of Treatment Weighted Analysis; Unweighted; Trimmed											
Male Rivaroxaban Users	59,914	19,779.63	120.58	0.33	110	5.56	1.84	0.8	0.54		
Male Apixaban Users	40,104	10,923.71	99.49	0.27	52	4.76	1.3				
Inverse Probability of Treatment Weighted Analysis; Weight = ATEs^{1, 2}											
Male Rivaroxaban Users	59,916	19,644.29	119.75	0.33	114	5.8	1.9	1.21	0.65	1.26 (0.90, 1.77)	-
Male Apixaban Users	40,106	10,981.80	100.01	0.27	50	4.59	1.26				

¹All values in this section are weighted

²ATES = Average Treatment Effect, Stabilized

Figure 1a. Aggregated Propensity Score Distributions Before and After Adjustment, Rivaroxaban and Dabigatran Users, Unweighted Propensity Score Distribution Before Trimming in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

Unweighted Propensity Score Distribution Before Trimming

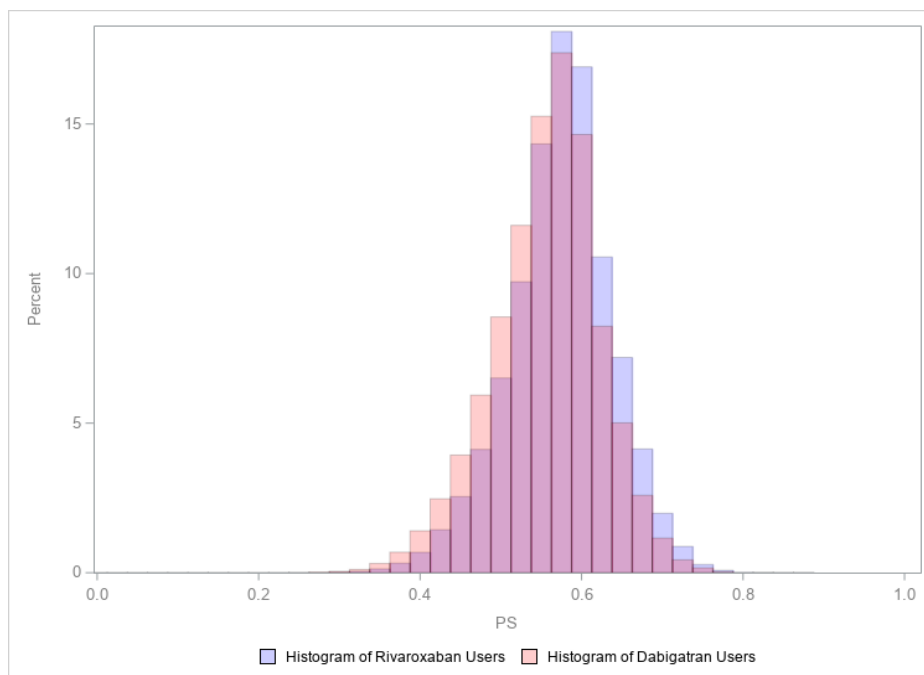


Figure 1b. Aggregated Propensity Score Distributions Before and After Adjustment, Rivaroxaban and Dabigatran Users, Unweighted Propensity Score Distribution After Trimming in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

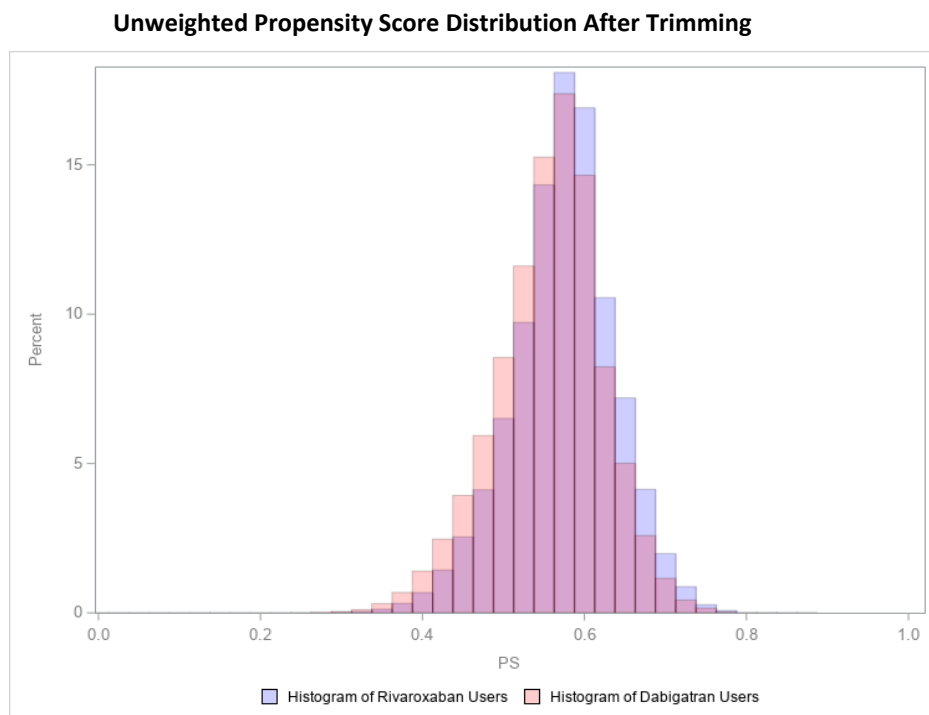


Figure 1c. Aggregated Propensity Score Distributions Before and After Adjustment, Rivaroxaban and Dabigatran Users, Weighted Propensity Score Distribution After Trimming, Inverse Probability of Treatment Weighted, Average Treatment Effect Stabilized (ATES) in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

Weighted Propensity Score Distribution After Trimming, Inverse Probability of Treatment Weighted, Average Treatment Effect Stabilized (ATES)

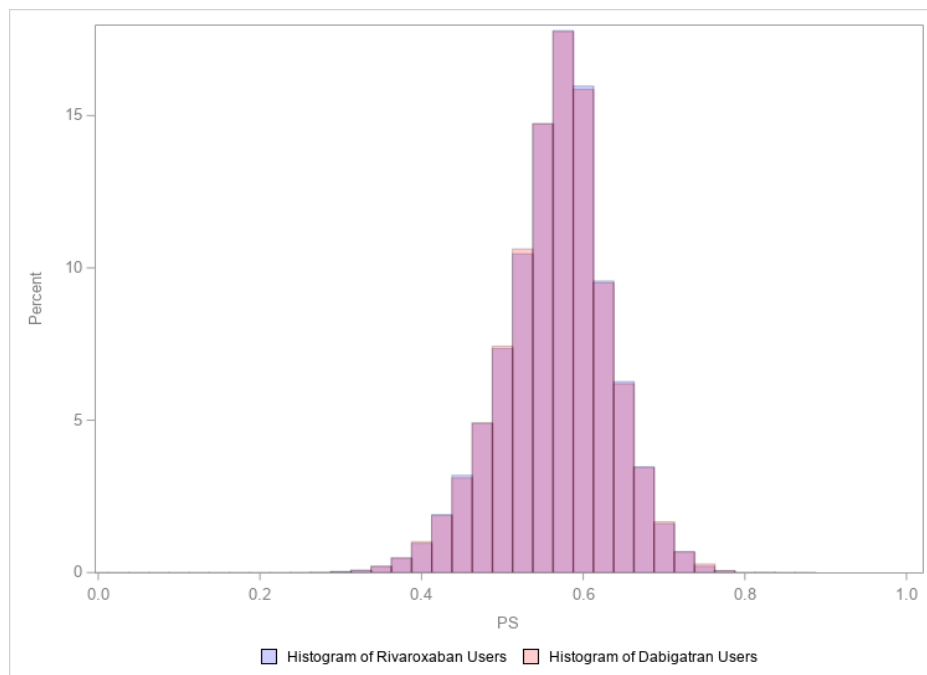


Figure 1d. Aggregated Propensity Score Distributions Before and After Adjustment, Female Rivaroxaban and Dabigatran Users, Unweighted Propensity Score Distribution Before Trimming in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

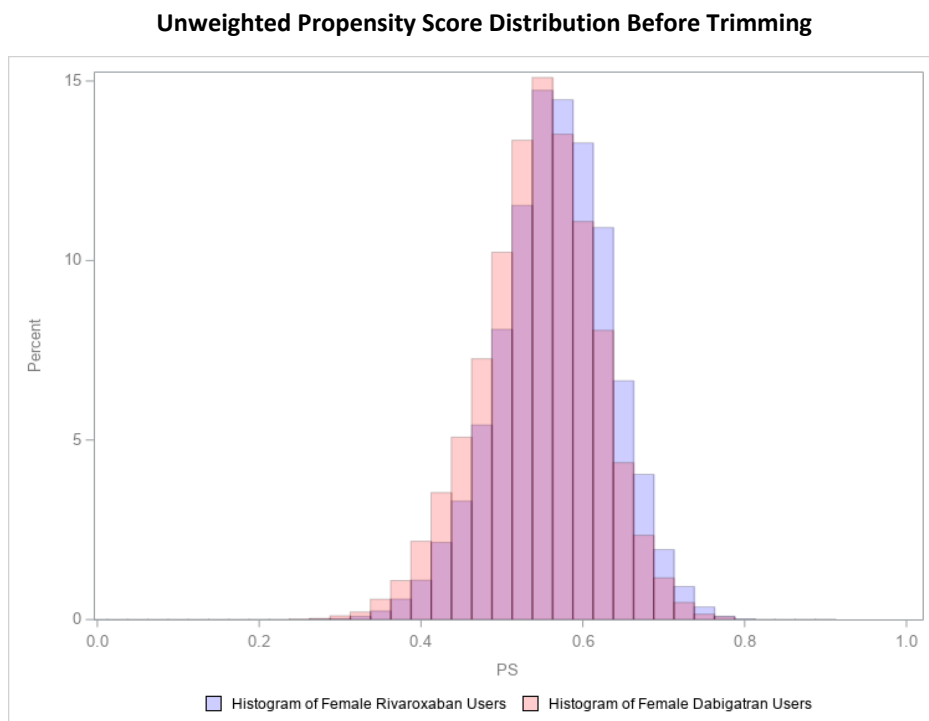


Figure 1e. Aggregated Propensity Score Distributions Before and After Adjustment, Female Rivaroxaban and Dabigatran Users, Unweighted Propensity Score Distribution After Trimming in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

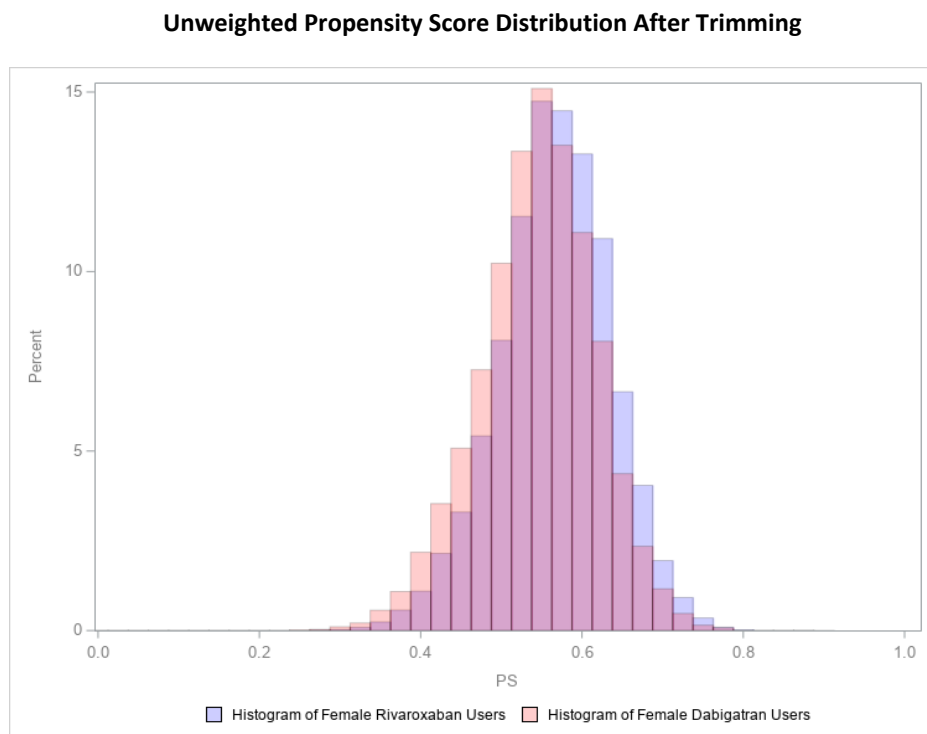


Figure 1f. Aggregated Propensity Score Distributions Before and After Adjustment, Female Rivaroxaban and Dabigatran Users, Weighted Propensity Score Distribution After Trimming, Inverse Probability of Treatment Weighted, Average Treatment Effect Stabilized (ATES) in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

Weighted Propensity Score Distribution After Trimming, Inverse Probability of Treatment Weighted, Average Treatment Effect Stabilized (ATES)

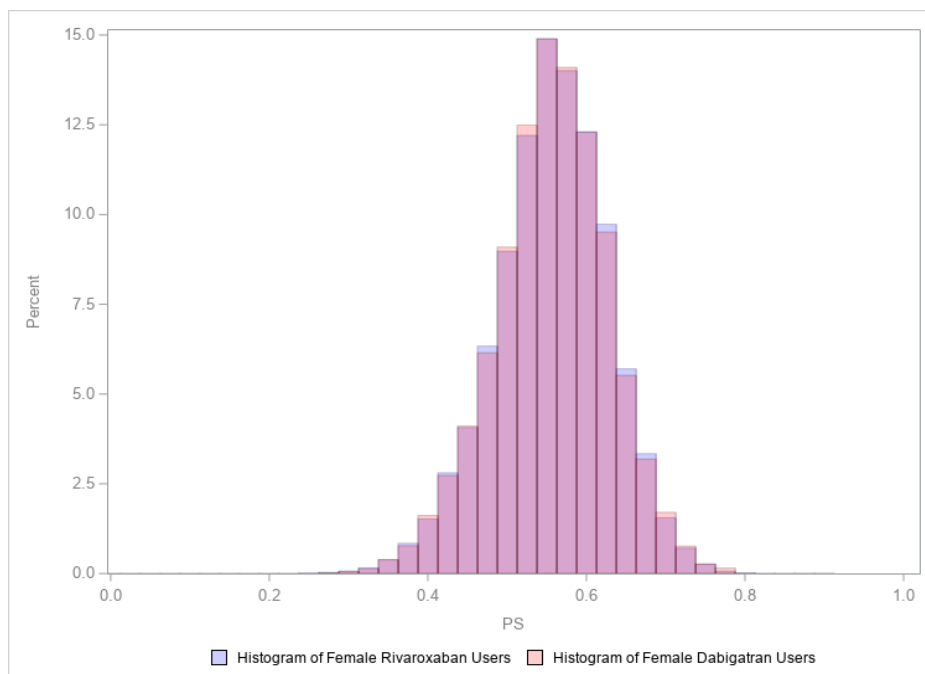


Figure 1g. Aggregated Propensity Score Distributions Before and After Adjustment, Male Rivaroxaban and Dabigatran Users, Unweighted Propensity Score Distribution Before Trimming in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

Unweighted Propensity Score Distribution Before Trimming

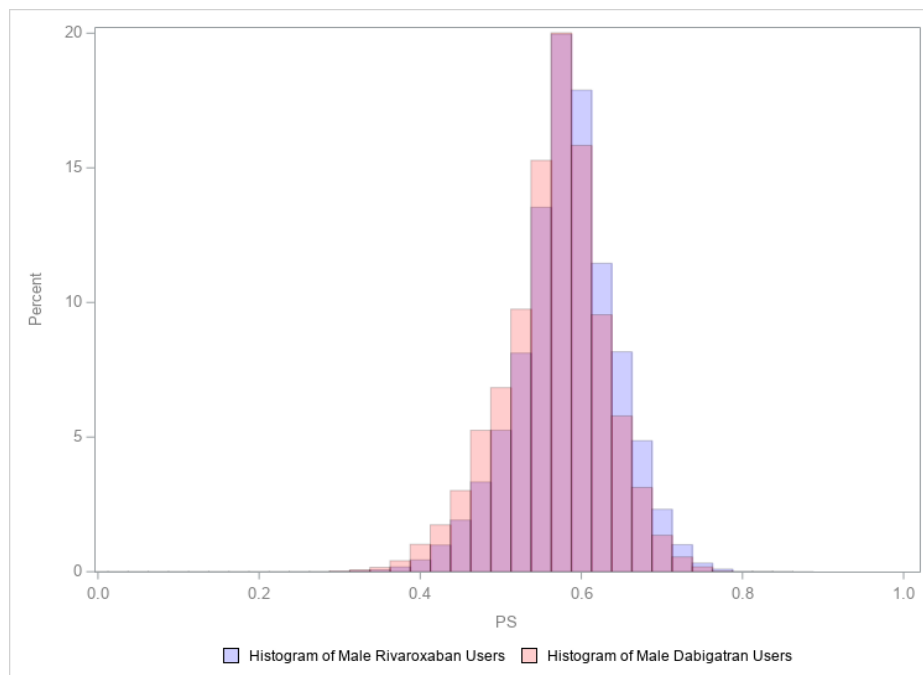


Figure 1h. Aggregated Propensity Score Distributions Before and After Adjustment, Male Rivaroxaban and Dabigatran Users, Unweighted Propensity Score Distribution After Trimming in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

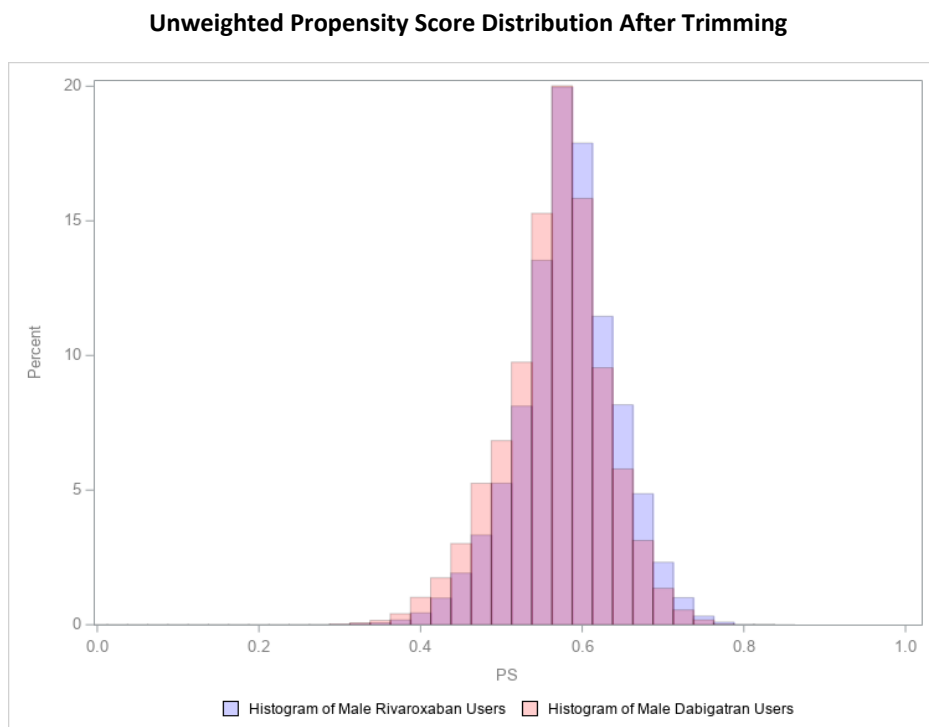


Figure 1i. Aggregated Propensity Score Distributions Before and After Adjustment, Male Rivaroxaban and Dabigatran Users, Weighted Propensity Score Distribution After Trimming, Inverse Probability of Treatment Weighted, Average Treatment Effect Stabilized (ATES) in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

Weighted Propensity Score Distribution After Trimming, Inverse Probability of Treatment Weighted, Average Treatment Effect Stabilized (ATES)

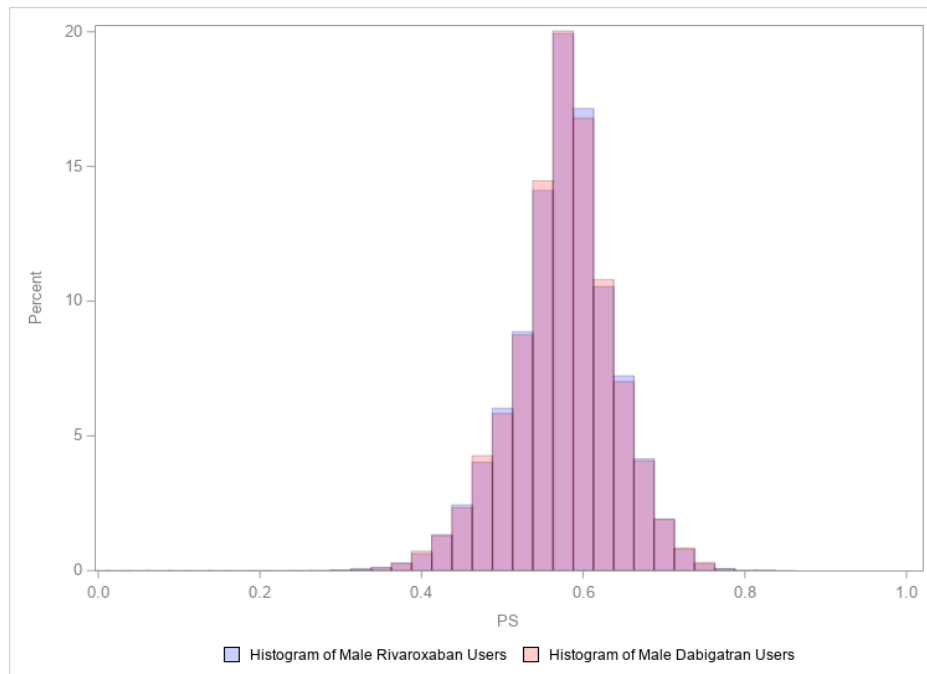


Figure 1j. Aggregated Propensity Score Distributions Before and After Adjustment, Dabigatran and Apixaban Users, Unweighted Propensity Score Distribution Before Trimming in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

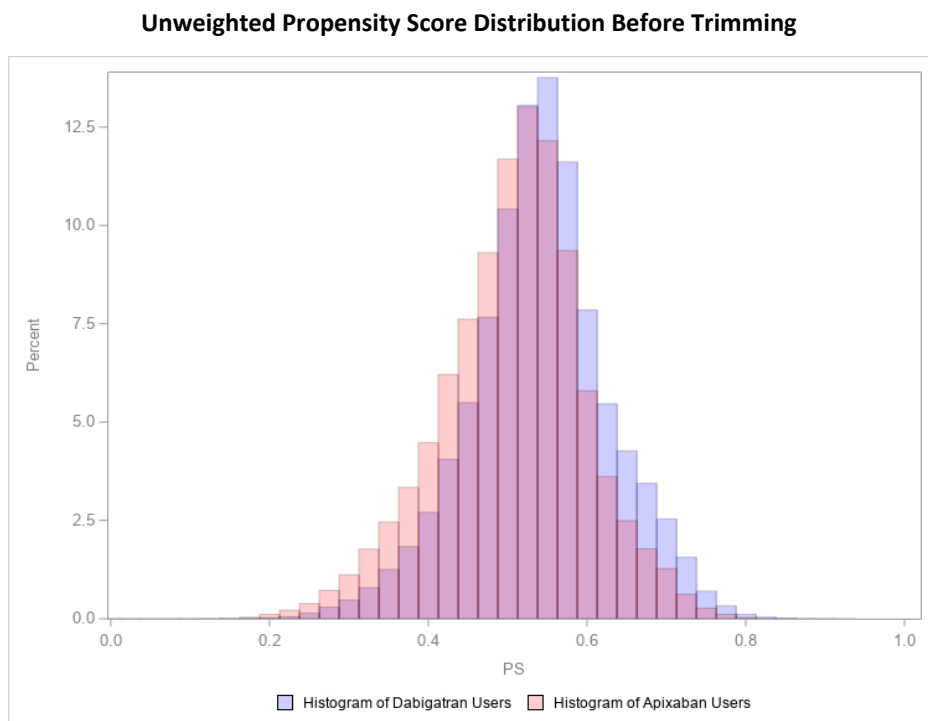


Figure 1k. Aggregated Propensity Score Distributions Before and After Adjustment, Dabigatran and Apixaban Users, Unweighted Propensity Score Distribution After Trimming in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

Unweighted Propensity Score Distribution After Trimming

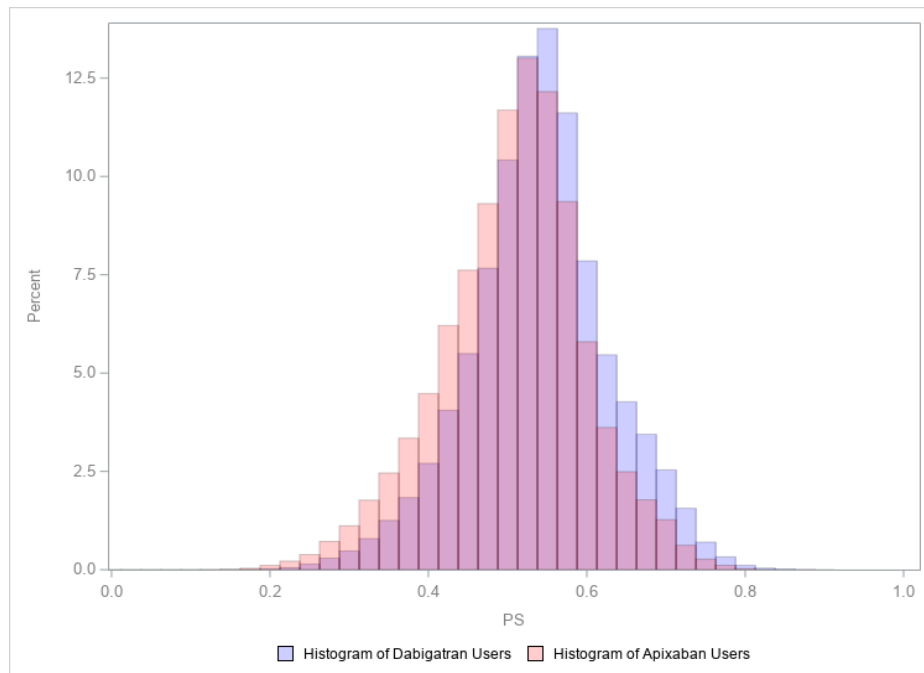


Figure 11. Aggregated Propensity Score Distributions Before and After Adjustment, Dabigatran and Apixaban Users, Weighted Propensity Score Distribution After Trimming, Inverse Probability of Treatment Weighted, Average Treatment Effect Stabilized (ATES) in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

Weighted Propensity Score Distribution After Trimming, Inverse Probability of Treatment Weighted, Average Treatment Effect Stabilized (ATES)

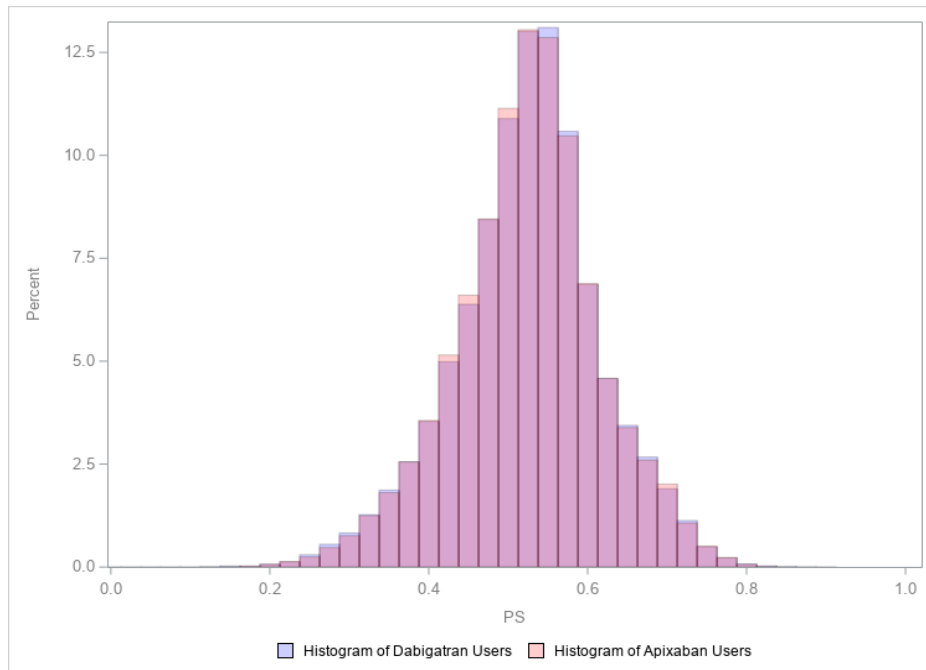


Figure 1m. Aggregated Propensity Score Distributions Before and After Adjustment, Female Dabigatran and Apixaban Users, Unweighted Propensity Score Distribution Before Trimming in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

Unweighted Propensity Score Distribution Before Trimming

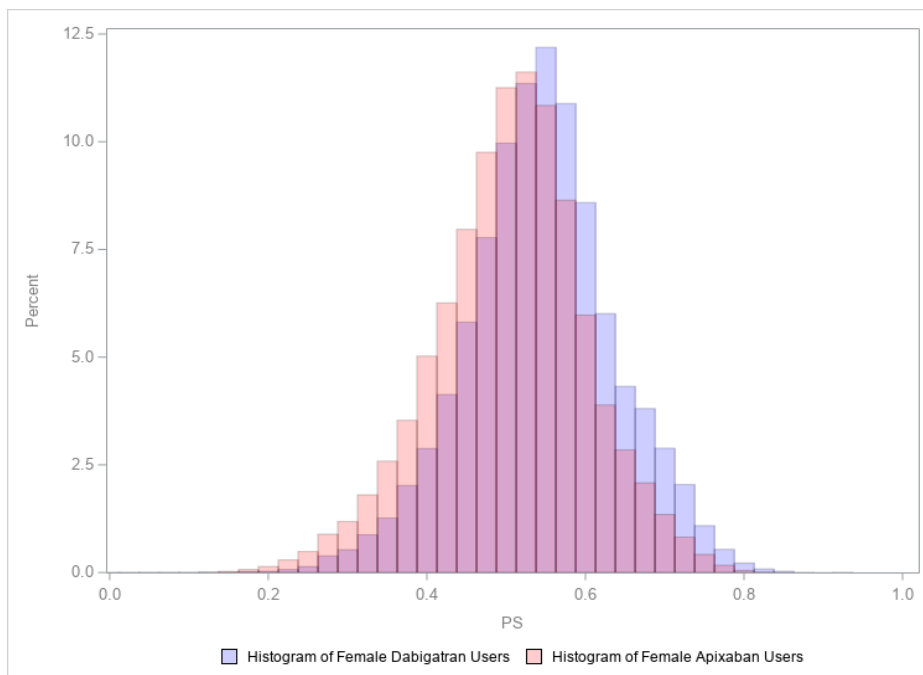


Figure 1n. Aggregated Propensity Score Distributions Before and After Adjustment, Female Dabigatran and Apixaban Users, Unweighted Propensity Score Distribution After Trimming in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

Unweighted Propensity Score Distribution After Trimming

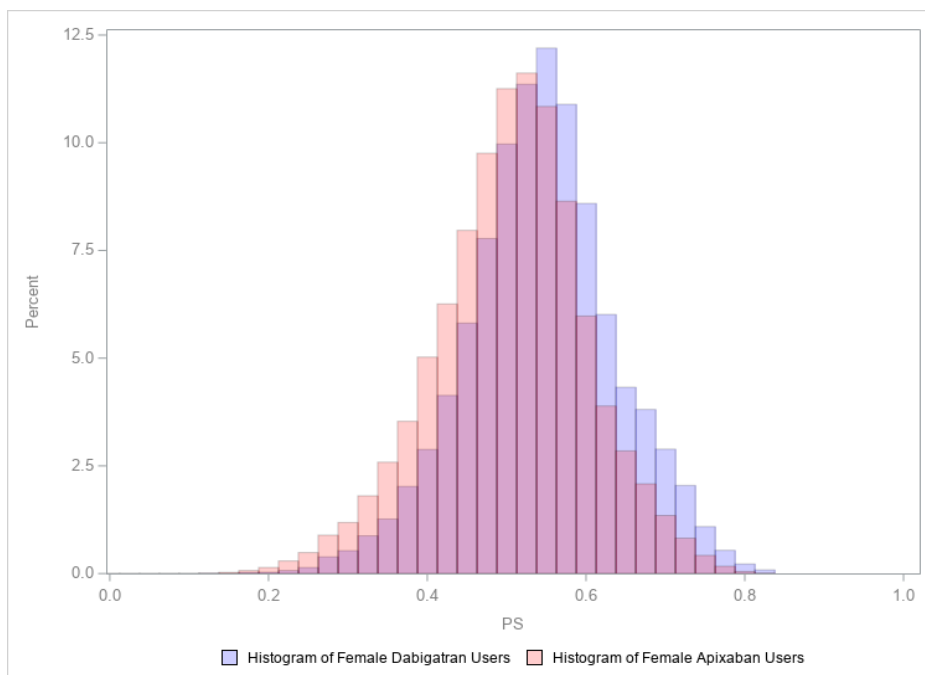


Figure 1o. Aggregated Propensity Score Distributions Before and After Adjustment, Female Dabigatran and Apixaban Users, Weighted Propensity Score Distribution After Trimming, Inverse Probability of Treatment Weighted, Average Treatment Effect Stabilized (ATES) in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

Weighted Propensity Score Distribution After Trimming, Inverse Probability of Treatment Weighted, Average Treatment Effect Stabilized (ATES)

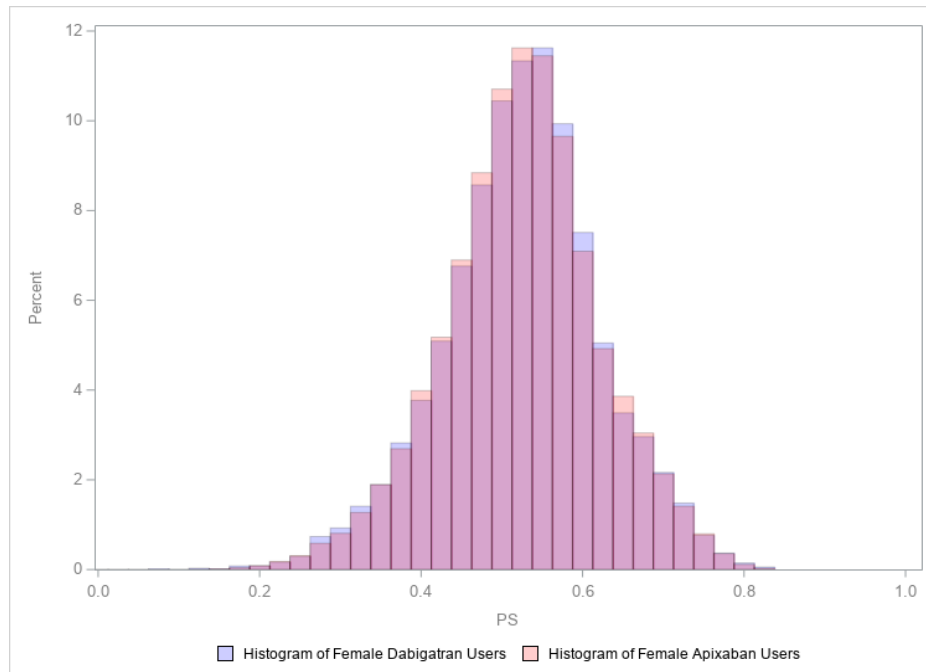


Figure 1p. Aggregated Propensity Score Distributions Before and After Adjustment, Male Dabigatran and Apixaban Users, Unweighted Propensity Score Distribution Before Trimming in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

Unweighted Propensity Score Distribution Before Trimming

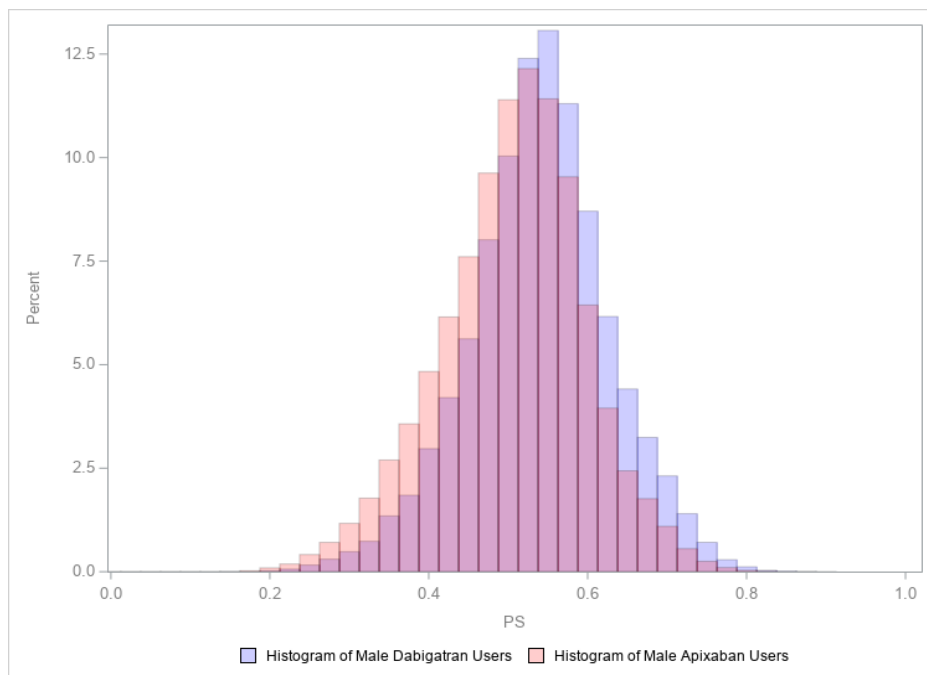


Figure 1q. Aggregated Propensity Score Distributions Before and After Adjustment, Male Dabigatran and Apixaban Users, Unweighted Propensity Score Distribution After Trimming in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

Unweighted Propensity Score Distribution After Trimming

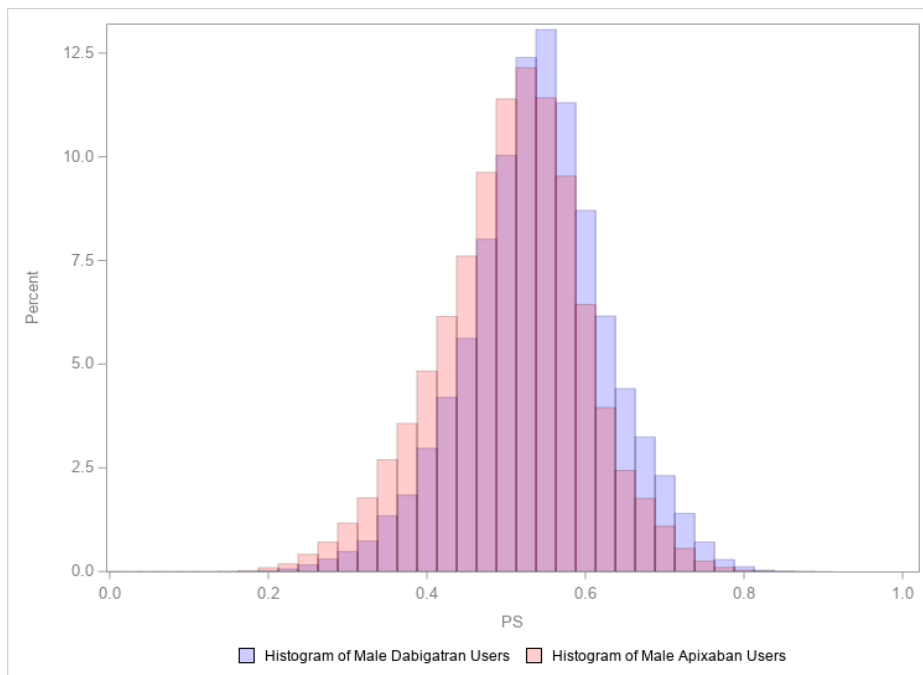


Figure 1r. Aggregated Propensity Score Distributions Before and After Adjustment, Male Dabigatran and Apixaban Users, Weighted Propensity Score Distribution After Trimming, Inverse Probability of Treatment Weighted, Average Treatment Effect Stabilized (ATES) in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

Weighted Propensity Score Distribution After Trimming, Inverse Probability of Treatment Weighted, Average Treatment Effect Stabilized (ATES)

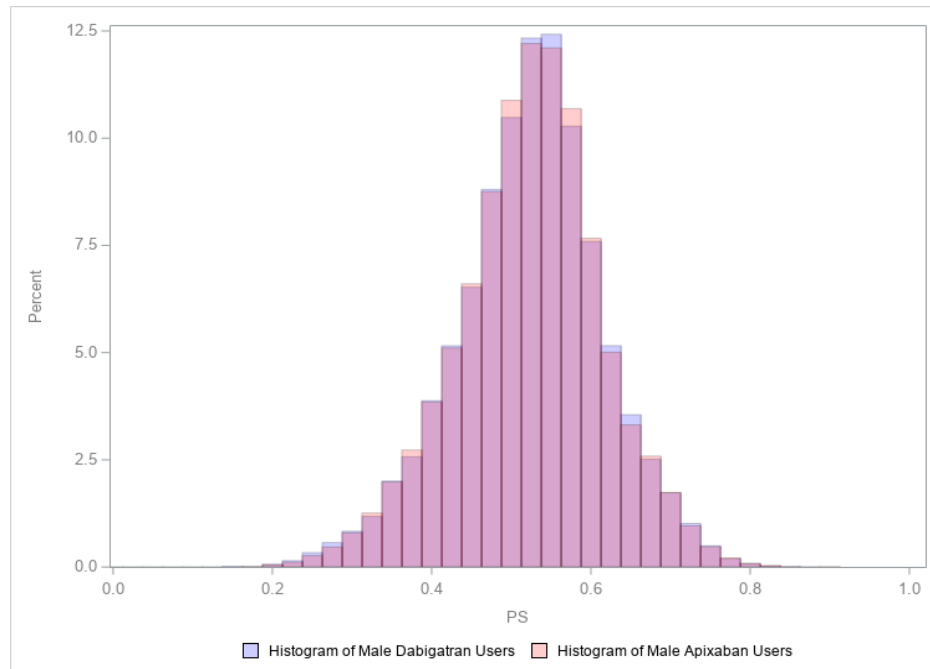


Figure 1s. Aggregated Propensity Score Distributions Before and After Adjustment, Rivaroxaban and Apixaban Users, Unweighted Propensity Score Distribution Before Trimming in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

Unweighted Propensity Score Distribution Before Trimming

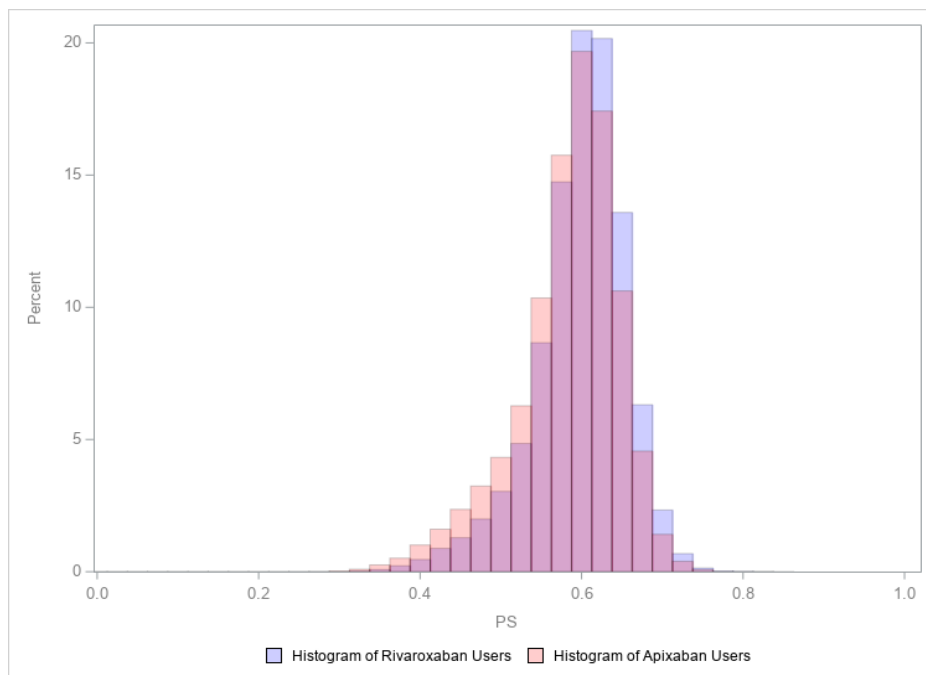


Figure 1t. Aggregated Propensity Score Distributions Before and After Adjustment, Rivaroxaban and Apixaban Users, Unweighted Propensity Score Distribution After Trimming in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

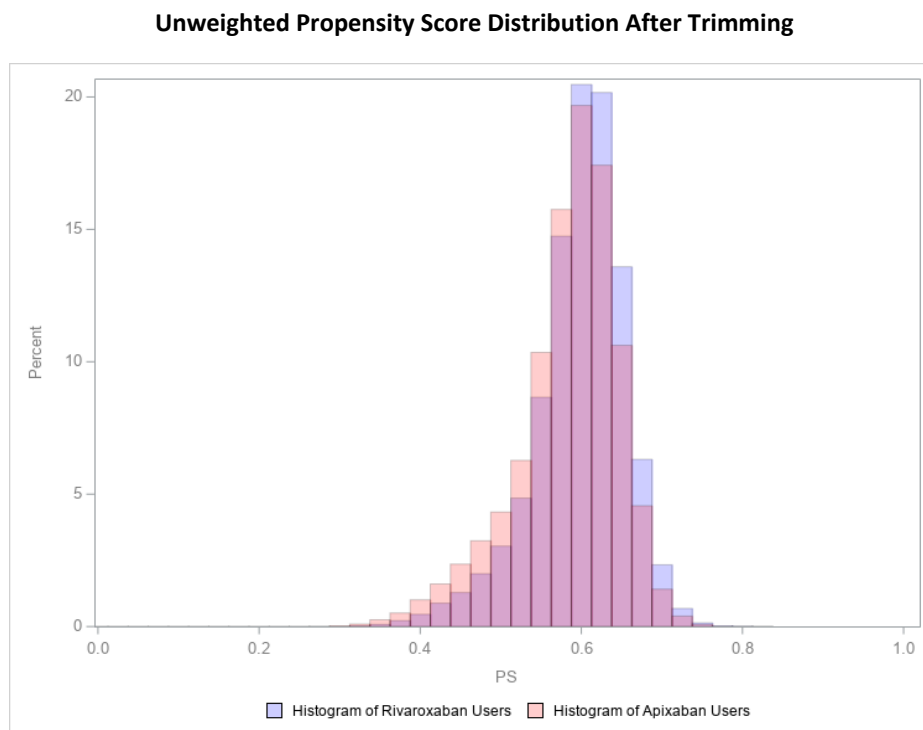


Figure 1u. Aggregated Propensity Score Distributions Before and After Adjustment, Rivaroxaban and Apixaban Users, Weighted Propensity Score Distribution After Trimming, Inverse Probability of Treatment Weighted, Average Treatment Effect Stabilized (ATES) in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

Weighted Propensity Score Distribution After Trimming, Inverse Probability of Treatment Weighted, Average Treatment Effect Stabilized (ATES)

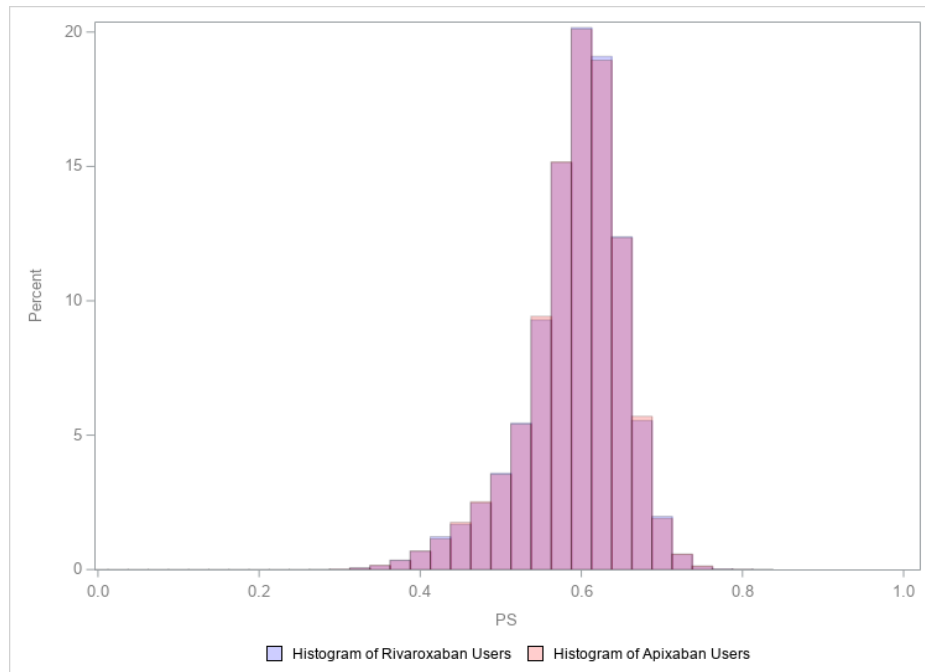


Figure 1v. Aggregated Propensity Score Distributions Before and After Adjustment, Female Rivaroxaban and Apixaban Users, Unweighted Propensity Score Distribution Before Trimming in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

Unweighted Propensity Score Distribution Before Trimming

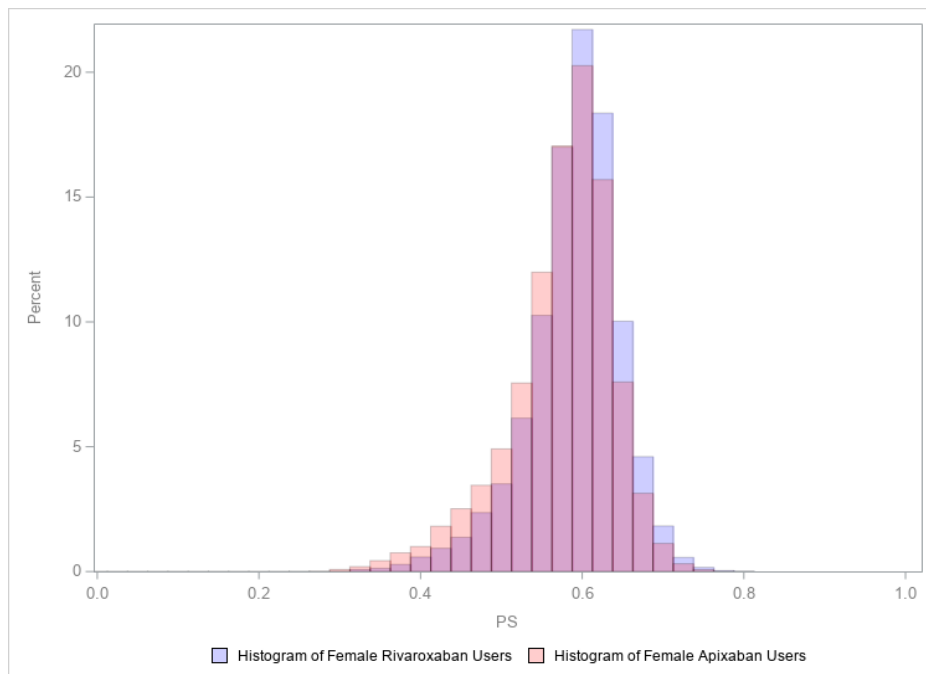


Figure 1w. Aggregated Propensity Score Distributions Before and After Adjustment, Female Rivaroxaban and Apixaban Users, Unweighted Propensity Score Distribution After Trimming in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

Unweighted Propensity Score Distribution After Trimming

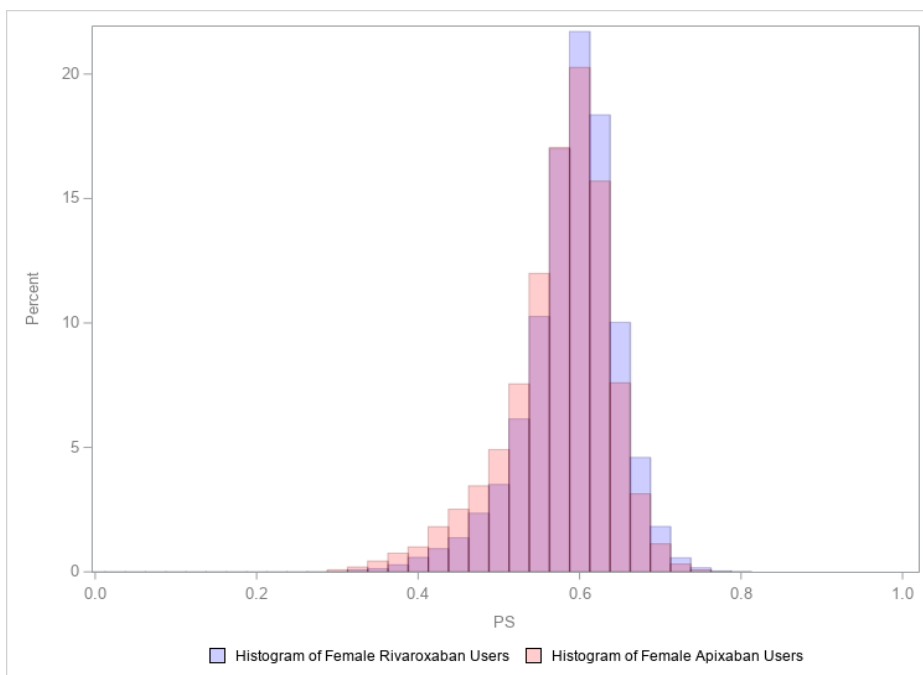


Figure 1x. Aggregated Propensity Score Distributions Before and After Adjustment, Female Rivaroxaban and Apixaban Users, Weighted Propensity Score Distribution After Trimming, Inverse Probability of Treatment Weighted, Average Treatment Effect Stabilized (ATES) in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

Weighted Propensity Score Distribution After Trimming, Inverse Probability of Treatment Weighted, Average Treatment Effect Stabilized (ATES)

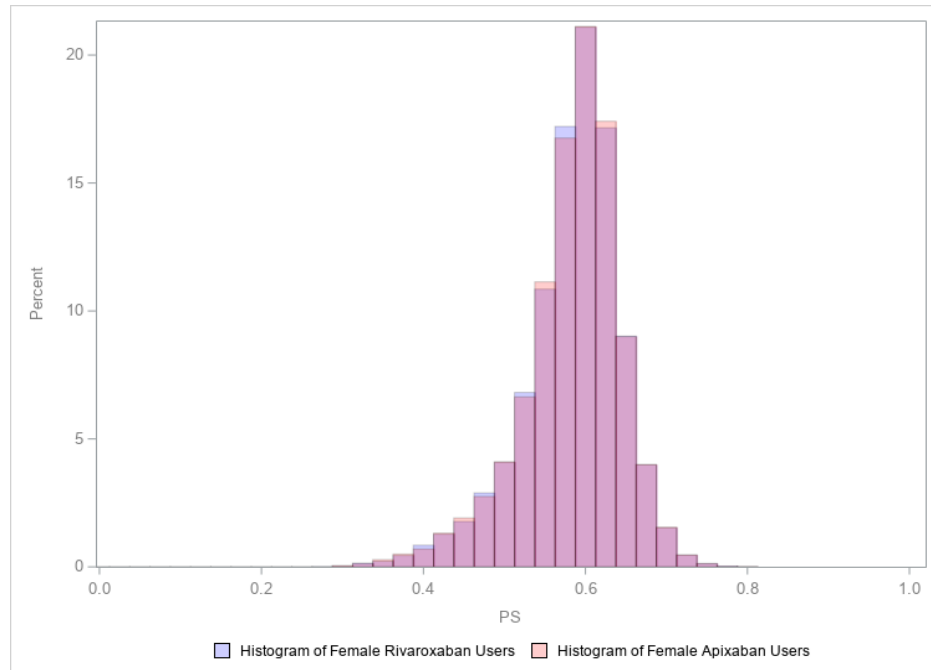


Figure 1y. Aggregated Propensity Score Distributions Before and After Adjustment, Male Rivaroxaban and Apixaban Users, Unweighted Propensity Score Distribution Before Trimming in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

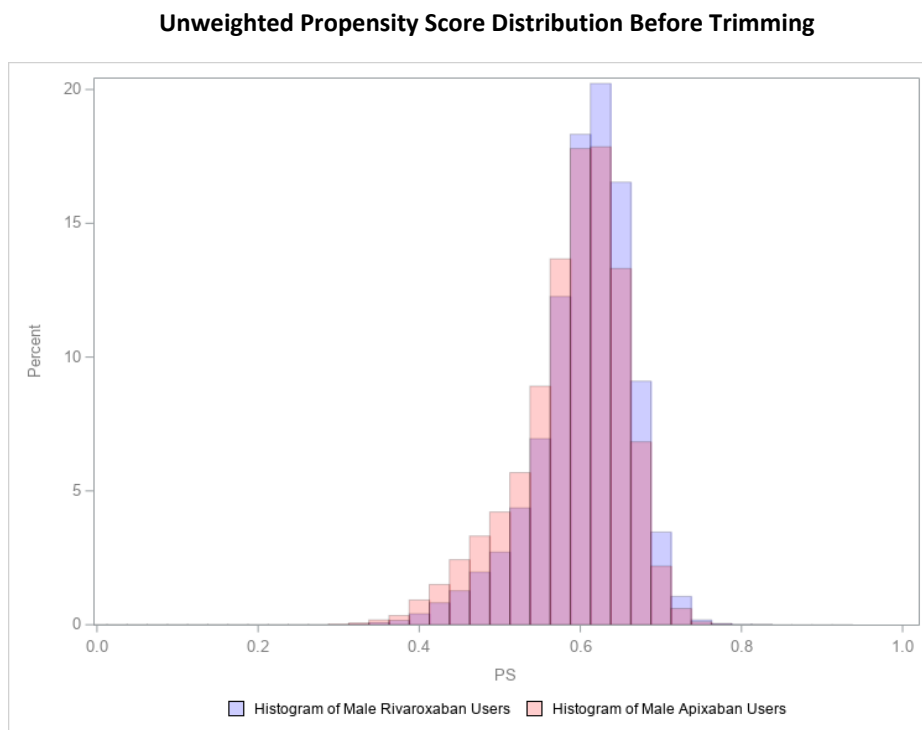


Figure 1z. Aggregated Propensity Score Distributions Before and After Adjustment, Male Rivaroxaban and Apixaban Users, Unweighted Propensity Score Distribution After Trimming in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

Unweighted Propensity Score Distribution After Trimming

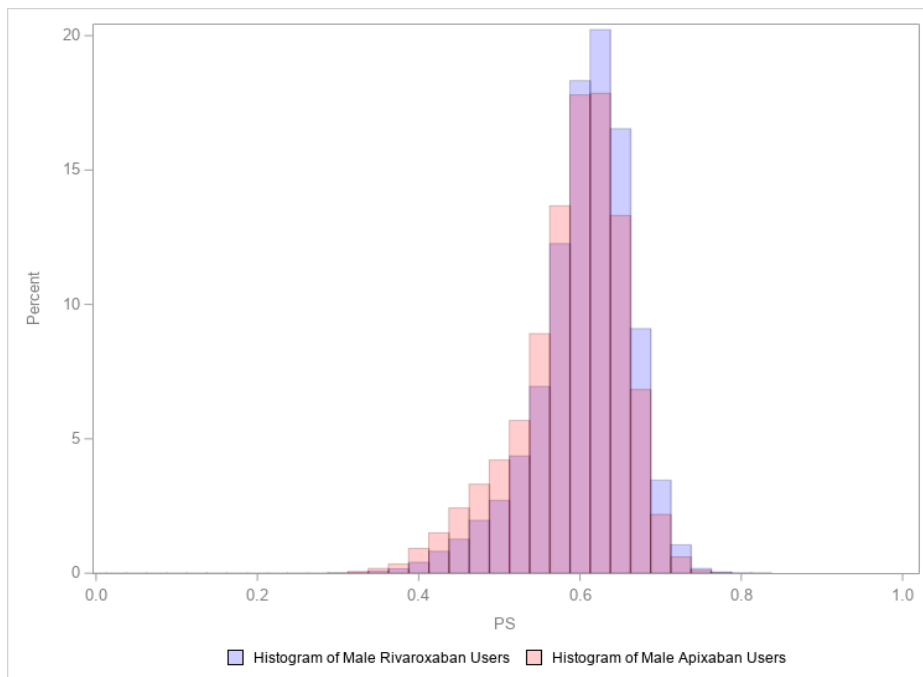


Figure 1aa. Aggregated Propensity Score Distributions Before and After Adjustment, Male Rivaroxaban and Apixaban Users, Weighted Propensity Score Distribution After Trimming, Inverse Probability of Treatment Weighted, Average Treatment Effect Stabilized (ATES) in One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

Weighted Propensity Score Distribution After Trimming, Inverse Probability of Treatment Weighted, Average Treatment Effect Stabilized (ATES)

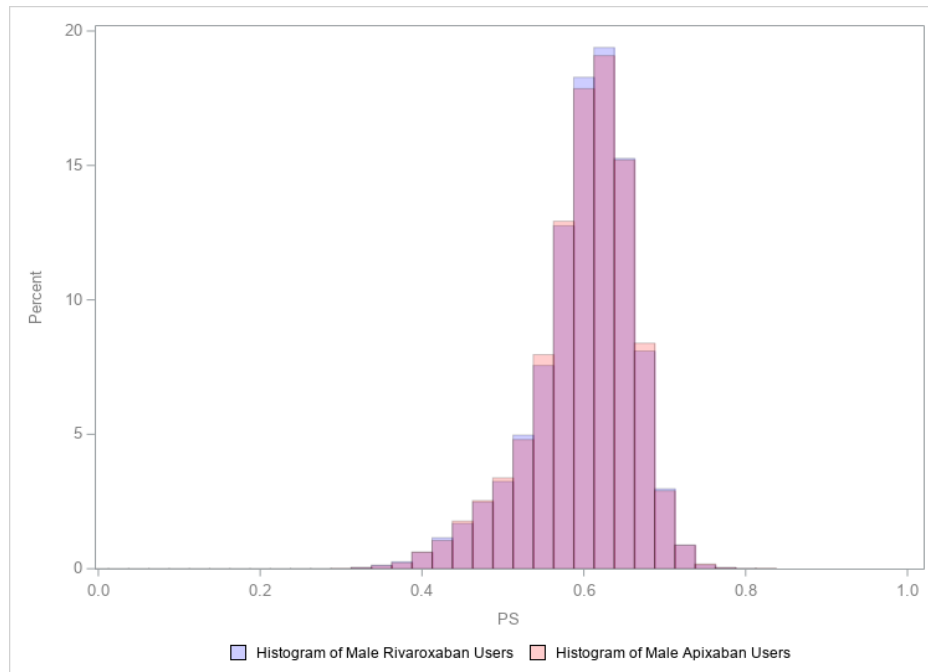


Figure 2a. Forest Plot of Hazard Ratios (HR) and 95% Confidence Intervals (CI) for Unadjusted Analyses, Rivaroxaban vs Dabigatran from One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

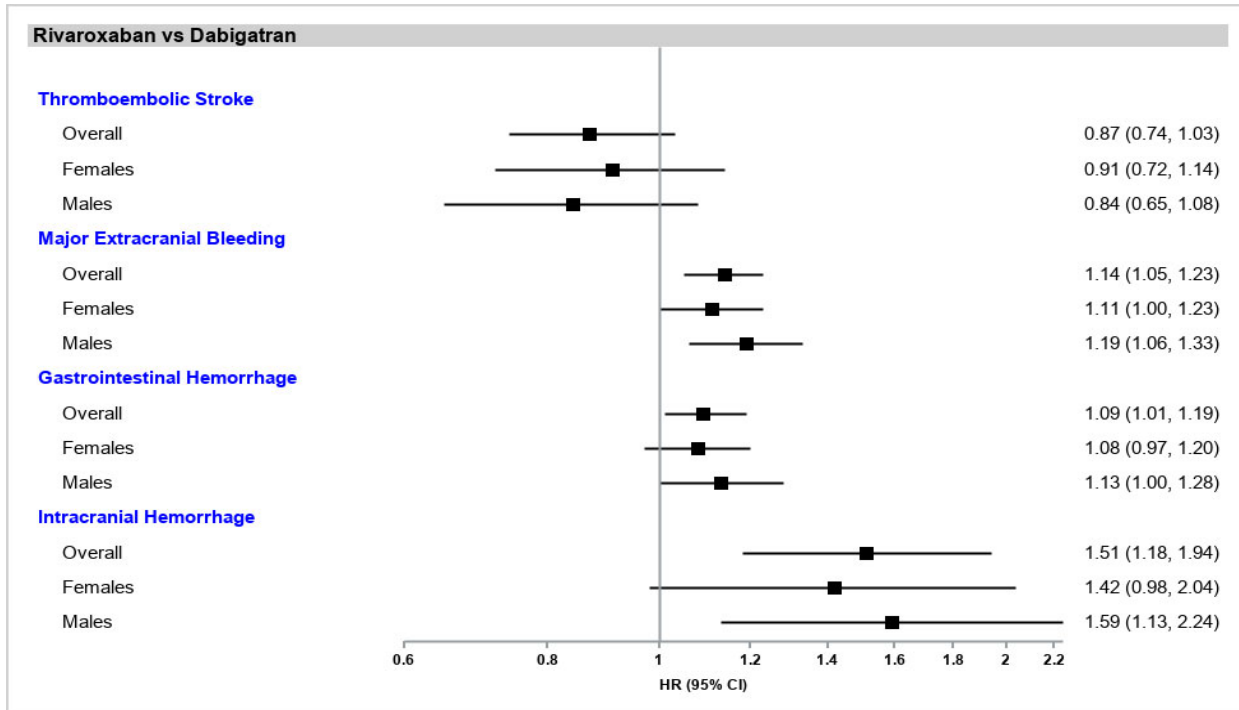


Figure 2b. Forest Plot of Hazard Ratios (HR) and 95% Confidence Intervals (CI) for Unadjusted Analyses, Dabigatran vs Apixaban from One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

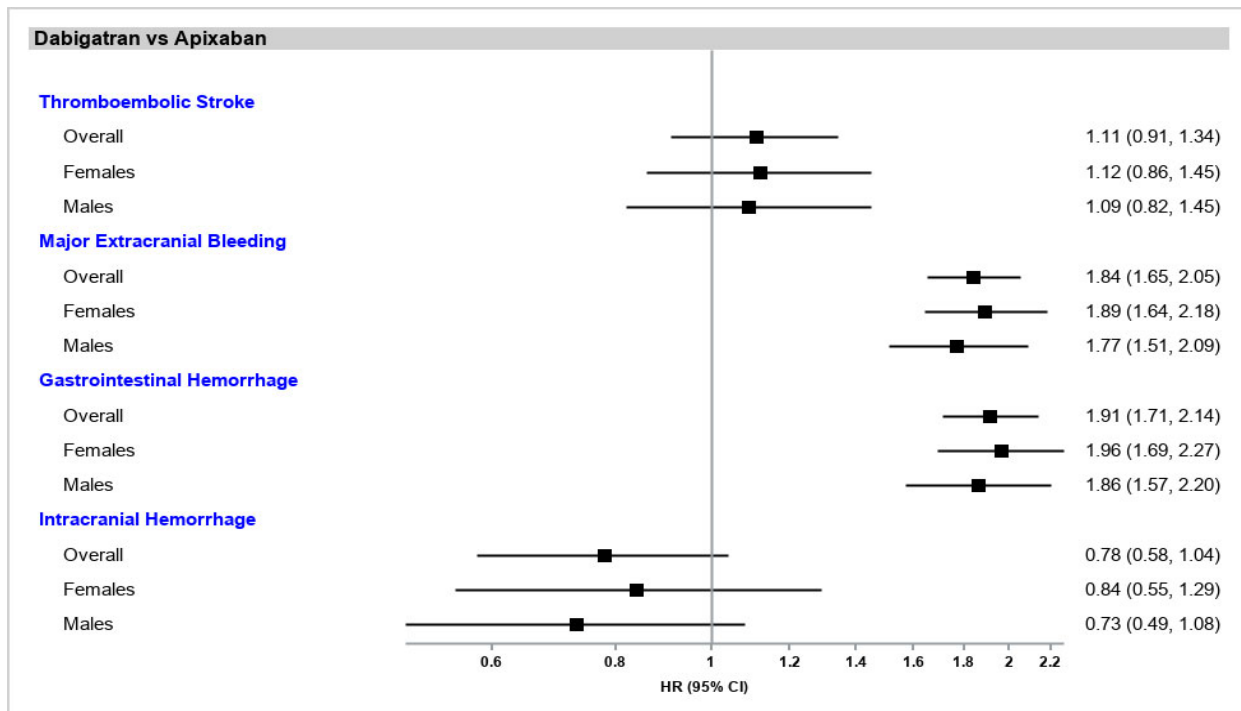


Figure 2c. Forest Plot of Hazard Ratios (HR) and 95% Confidence Intervals (CI) for Unadjusted Analyses, Rivaroxaban vs. Apixaban from One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

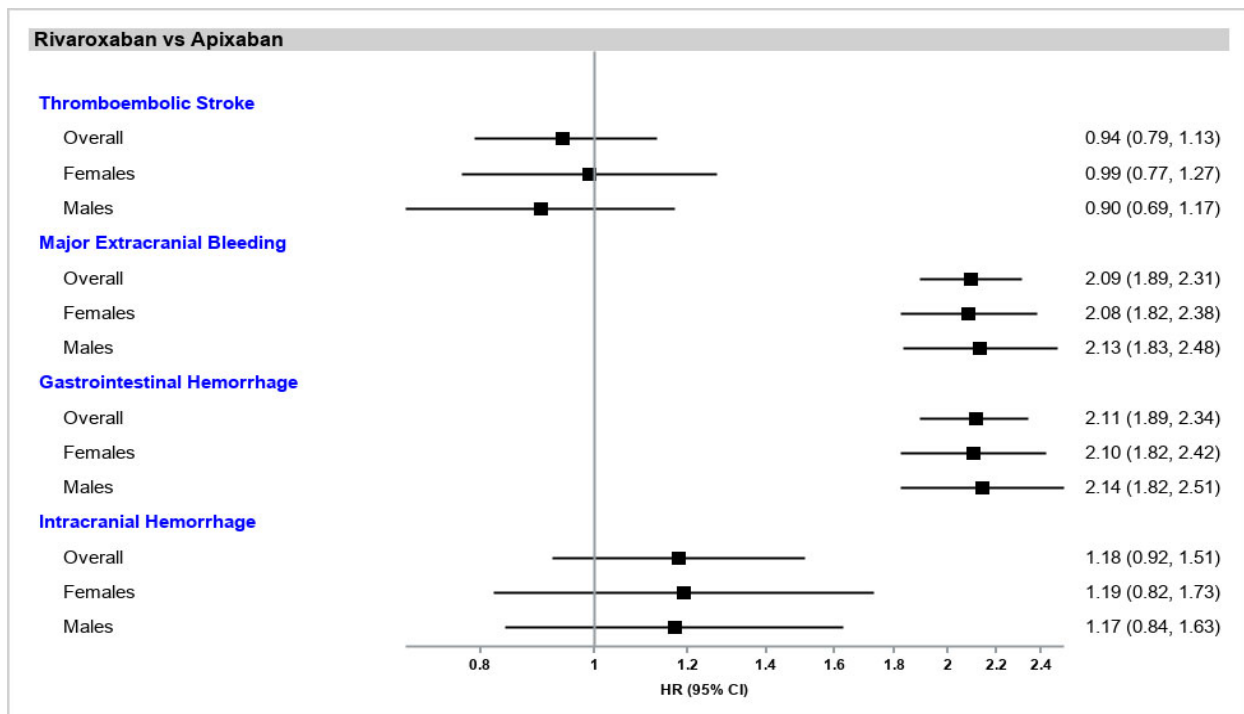


Figure 2d. Forest Plot of Hazard Ratios (HR) and 95% Confidence Intervals (CI) for Inverse Probability of Treatment Weighted Analyses, Rivaroxaban vs Dabigatran from One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

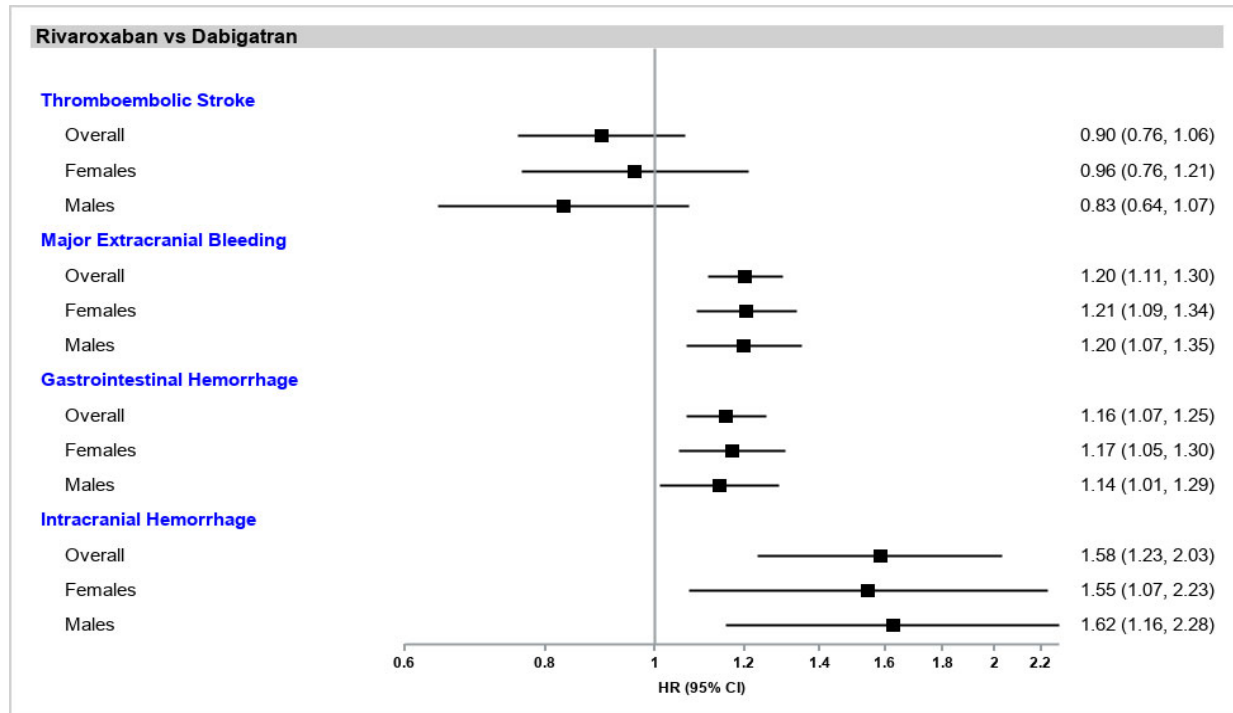


Figure 2e. Forest Plot of Hazard Ratios (HR) and 95% Confidence Intervals (CI) for Inverse Probability of Treatment Weighted Analyses, Dabigatran vs Apixaban from One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015

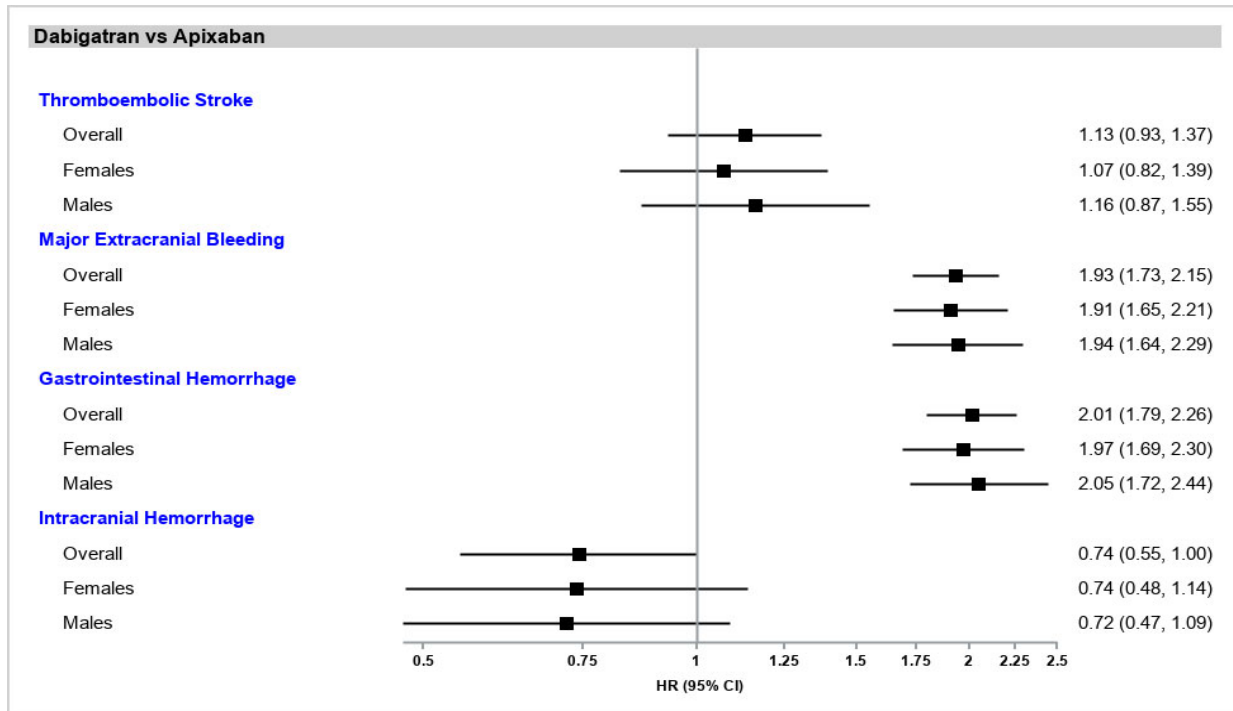
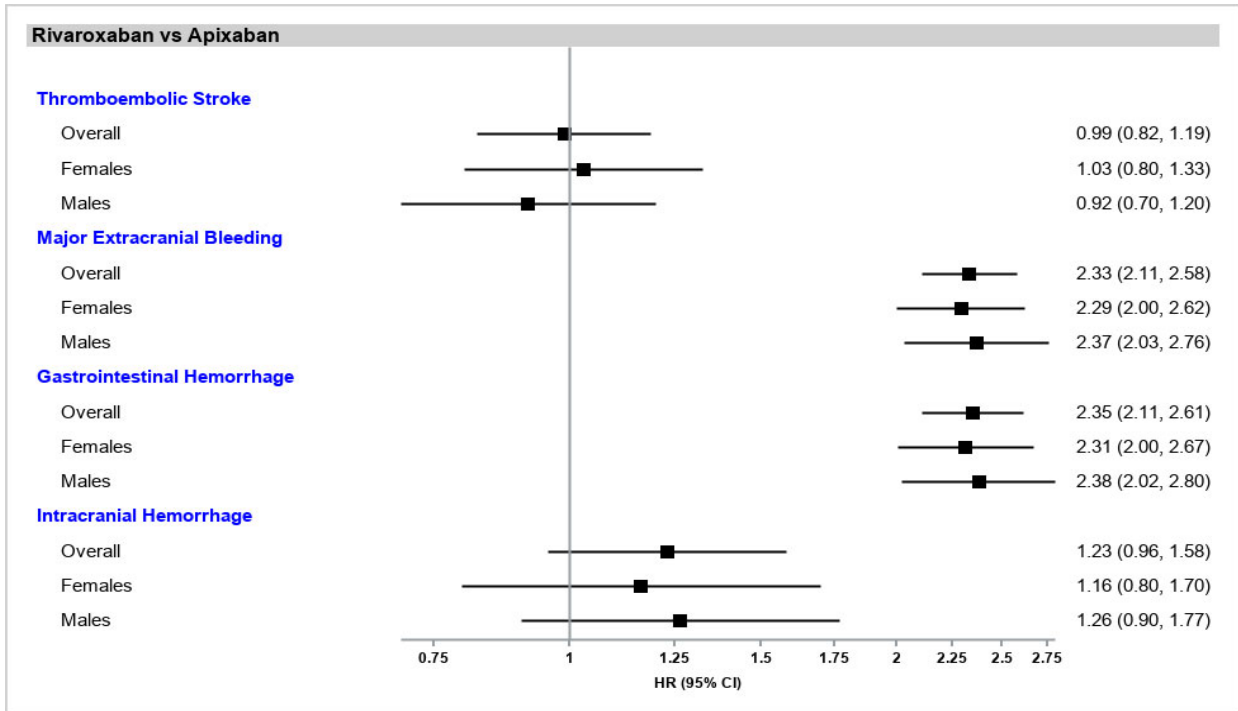


Figure 2f. Forest Plot of Hazard Ratios (HR) and 95% Confidence Intervals (CI) for Inverse Probability of Treatment Weighted Analyses, Rivaroxaban vs Apixaban from One Partner of the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015



Appendix A. Start and End Dates for Each Data Partner (DP) up to Request End Date (September 30, 2015)

DP ID	Start Date ¹	End Date ¹
DPO1	01/01/2010	09/30/2015

¹The 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 B1. Distribution of Inverse Probability of Treatment Weights for Rivaroxaban and Dabigatran Users, by Data Partner, Weight: Average Treatment Effect, Stabilized (ATES)

Data Partner (Masked)	Number of Patients	Minimum	Maximum	Mean	Standard Deviation	95th Percentile	97.5th Percentile	99th Percentile
DP01	194,583	0.5746402	3.6210897	1.000042	0.1362317	1.2485708	1.3222384	1.4244585
Aggregated	194,583	0.5746402	3.6210897	1.000042	0.1362317	1.2485708	1.3222384	1.4244585

Appendix B2. Distribution of Inverse Probability of Treatment Weights for Female Rivaroxaban and Dabigatran Users, by Data Partner, Weight: Average Treatment Effect, Stabilized (ATES)

Data Partner (Masked)	Number of Patients	Minimum	Maximum	Mean	Standard Deviation	95th Percentile	97.5th Percentile	99th Percentile
DP01	91,977	0.5862848	3.9943382	1.0000654	0.1485794	1.2699931	1.3516859	1.4599658
Aggregated	91,977	0.5862848	3.9943382	1.0000654	0.1485794	1.2699931	1.3516859	1.4599658

Appendix B3. Distribution of Inverse Probability of Treatment Weights for Male Rivaroxaban and Dabigatran Users, by Data Partner, Weight: Average Treatment Effect, Stabilized (ATES)

Data Partner (Masked)	Number of Patients	Minimum	Maximum	Mean	Standard Deviation	95th Percentile	97.5th Percentile	99th Percentile
DP01	102,604	0.5791665	2.8100645	1.000037	0.1298797	1.2364673	1.3090918	1.4058322
Aggregated	102,604	0.5791665	2.8100645	1.000037	0.1298797	1.2364673	1.3090918	1.4058322

Appendix B4. Distribution of Inverse Probability of Treatment Weights for Dabigatran and Apixaban Users, by Data Partner, Weight: Average Treatment Effect, Stabilized (ATES)

Data Partner (Masked)	Number of Patients	Minimum	Maximum	Mean	Standard Deviation	95th Percentile	97.5th Percentile	99th Percentile
DP01	161,447	0.5418451	4.7254208	1.0001033	0.1954288	1.3585458	1.4964388	1.669595
Aggregated	161,447	0.5418451	4.7254208	1.0001033	0.1954288	1.3585458	1.4964388	1.669595

Appendix B5. Distribution of Inverse Probability of Treatment Weights for Female Dabigatran and Apixaban Users, by Data Partner, Weight: Average Treatment Effect, Stabilized (ATES)

Data Partner (Masked)	Number of Patients	Minimum	Maximum	Mean	Standard Deviation	95th Percentile	97.5th Percentile	99th Percentile
DP01	77,877	0.5356591	6.302663	1.0002003	0.2098833	1.3853353	1.5302964	1.7239429
Aggregated	77,877	0.5356591	6.302663	1.0002003	0.2098833	1.3853353	1.5302964	1.7239429

Appendix B6. Distribution of Inverse Probability of Treatment Weights for Male Dabigatran and Apixaban Users, by Data Partner, Weight: Average Treatment Effect, Stabilized (ATES)

Data Partner (Masked)	Number of Patients	Minimum	Maximum	Mean	Standard Deviation	95th Percentile	97.5th Percentile	99th Percentile
DP01	83,555	0.5621979	4.6629976	1.0001065	0.1958911	1.3543129	1.4898124	1.6660234
Aggregated	83,555	0.5621979	4.6629976	1.0001065	0.1958911	1.3543129	1.4898124	1.6660234

Appendix B7. Distribution of Inverse Probability of Treatment Weights for Rivaroxaban and Apixaban Users, by Data Partner, Weight: Average Treatment Effect, Stabilized (ATES)

Data Partner (Masked)	Number of Patients	Minimum	Maximum	Mean	Standard Deviation	95th Percentile	97.5th Percentile	99th Percentile
DP01	189,045	0.5668223	2.2622767	1.0000162	0.125245	1.2228888	1.2936832	1.3889808
Aggregated	189,045	0.5668223	2.2622767	1.0000162	0.125245	1.2228888	1.2936832	1.3889808

Appendix B8. Distribution of Inverse Probability of Treatment Weights for Female Rivaroxaban and Apixaban Users, by Data Partner, Weight: Average Treatment Effect, Stabilized (ATES)

Data Partner (Masked)	Number of Patients	Minimum	Maximum	Mean	Standard Deviation	95th Percentile	97.5th Percentile	99th Percentile
DP01	89,023	0.5818538	2.2075208	1.0000029	0.1264267	1.2201088	1.2968375	1.4005577
Aggregated	89,023	0.5818538	2.2075208	1.0000029	0.1264267	1.2201088	1.2968375	1.4005577

Appendix B9. Distribution of Inverse Probability of Treatment Weights for Male Rivaroxaban and Apixaban Users, by Data Partner, Weight: Average Treatment Effect, Stabilized (ATES)

Data Partner (Masked)	Number of Patients	Minimum	Maximum	Mean	Standard Deviation	95th Percentile	97.5th Percentile	99th Percentile
DP01	100,018	0.5720102	2.3711476	1.0000443	0.1293337	1.2332058	1.3006863	1.3955053
Aggregated	100,018	0.5720102	2.3711476	1.0000443	0.1293337	1.2332058	1.3006863	1.3955053

Appendix C. List of Generic and Brand Names of Medical Products Used to Define Exposures in this Request

Generic Name	Brand Name
Apixaban	
apixaban	Eliquis
apixaban	Eliquis DVT-PE Treat 30D Start
Dabigatran	
dabigatran etexilate mesylate	Pradaxa
Rivaroxaban	
rivaroxaban	Xarelto

Appendix D. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes Used to Define Outcomes and Censoring Criteria in this Request

Code	Description	Code Type	Code Category
Ischemic Stroke			
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
Intracranial Hemorrhage			
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
852.0	Subarachnoid hemorrhage following injury without mention of open intracranial wound	ICD-9-CM	Diagnosis
852.00	Subarachnoid hemorrhage following injury, without mention of open intracranial wound, unspecified state of consciousness	ICD-9-CM	Diagnosis
852.01	Subarachnoid hemorrhage following injury, without mention of open intracranial wound, no loss of consciousness	ICD-9-CM	Diagnosis
852.02	Subarachnoid hemorrhage following injury, without mention of open intracranial wound, brief (less than 1 hour) loss of consciousness	ICD-9-CM	Diagnosis
852.03	Subarachnoid hemorrhage following injury, without mention of open intracranial wound, moderate (1-24 hours) loss of consciousness	ICD-9-CM	Diagnosis
852.04	Subarachnoid hemorrhage following injury, without mention of open intracranial wound, prolonged (more than 24 hours) loss of consciousness and return to pre-existing conscious level	ICD-9-CM	Diagnosis
852.05	Subarachnoid hemorrhage following injury, without mention of open intracranial wound, prolonged (more than 24 hours) loss of consciousness, without return to pre-existing conscious level	ICD-9-CM	Diagnosis
852.06	Subarachnoid hemorrhage following injury, without mention of open intracranial wound, loss of consciousness of unspecified duration	ICD-9-CM	Diagnosis
852.09	Subarachnoid hemorrhage following injury, without mention of open intracranial wound, unspecified concussion	ICD-9-CM	Diagnosis
852.2	Subdural hemorrhage following injury without mention of open intracranial wound	ICD-9-CM	Diagnosis
852.20	Subdural hemorrhage following injury, without mention of open intracranial wound, unspecified state of consciousness	ICD-9-CM	Diagnosis
852.21	Subdural hemorrhage following injury, without mention of open intracranial wound, no loss of consciousness	ICD-9-CM	Diagnosis
852.22	Subdural hemorrhage following injury, without mention of open intracranial wound, brief (less than one hour) loss of consciousness	ICD-9-CM	Diagnosis
852.23	Subdural hemorrhage following injury, without mention of open intracranial wound, moderate (1-24 hours) loss of consciousness	ICD-9-CM	Diagnosis
852.24	Subdural hemorrhage following injury, without mention of open intracranial wound, prolonged (more than 24 hours) loss of consciousness and return to pre-existing conscious level	ICD-9-CM	Diagnosis

Appendix D. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes Used to Define Outcomes and Censoring Criteria in this Request

Code	Description	Code Type	Code Category
852.25	Subdural hemorrhage following injury, without mention of open intracranial wound, prolonged (more than 24 hours) loss of consciousness, without return to pre-existing conscious level	ICD-9-CM	Diagnosis
852.26	Subdural hemorrhage following injury, without mention of open intracranial wound, loss of consciousness of unspecified duration	ICD-9-CM	Diagnosis
852.29	Subdural hemorrhage following injury, without mention of open intracranial wound, unspecified concussion	ICD-9-CM	Diagnosis
852.4	Extradural hemorrhage following injury without mention of open intracranial wound	ICD-9-CM	Diagnosis
852.40	Extradural hemorrhage following injury, without mention of open intracranial wound, unspecified state of consciousness	ICD-9-CM	Diagnosis
852.41	Extradural hemorrhage following injury, without mention of open intracranial wound, no loss of consciousness	ICD-9-CM	Diagnosis
852.42	Extradural hemorrhage following injury, without mention of open intracranial wound, brief (less than 1 hour) loss of consciousness	ICD-9-CM	Diagnosis
852.43	Extradural hemorrhage following injury, without mention of open intracranial wound, moderate (1-24 hours) loss of consciousness	ICD-9-CM	Diagnosis
852.44	Extradural hemorrhage following injury, without mention of open intracranial wound, prolonged (more than 24 hours) loss of consciousness and return to pre-existing conscious level	ICD-9-CM	Diagnosis
852.45	Extradural hemorrhage following injury, without mention of open intracranial wound, prolonged (more than 24 hours) loss of consciousness, without return to pre-existing conscious level	ICD-9-CM	Diagnosis
852.46	Extradural hemorrhage following injury, without mention of open intracranial wound, loss of consciousness of unspecified duration	ICD-9-CM	Diagnosis
852.49	Extradural hemorrhage following injury, without mention of open intracranial wound, unspecified concussion	ICD-9-CM	Diagnosis
853.0	Other and unspecified intracranial hemorrhage following injury, without mention of open intracranial wound	ICD-9-CM	Diagnosis
853.00	Other and unspecified intracranial hemorrhage following injury, without mention of open intracranial wound, unspecified state of consciousness	ICD-9-CM	Diagnosis
853.01	Other and unspecified intracranial hemorrhage following injury, without mention of open intracranial wound, no loss of consciousness	ICD-9-CM	Diagnosis
853.02	Other and unspecified intracranial hemorrhage following injury, without mention of open intracranial wound, brief (less than 1 hour) loss of consciousness	ICD-9-CM	Diagnosis
853.03	Other and unspecified intracranial hemorrhage following injury, without mention of open intracranial wound, moderate (1-24 hours) loss of consciousness	ICD-9-CM	Diagnosis
853.04	Other and unspecified intracranial hemorrhage following injury, without mention of open intracranial wound, prolonged (more than 24 hours) loss of consciousness and return to pre-existing conscious level	ICD-9-CM	Diagnosis
853.05	Other and unspecified intracranial hemorrhage following injury. Without mention of open intracranial wound, prolonged (more than 24 hours) loss of consciousness, without return to pre-existing conscious level	ICD-9-CM	Diagnosis
853.06	Other and unspecified intracranial hemorrhage following injury, without mention of open intracranial wound, loss of consciousness of unspecified duration	ICD-9-CM	Diagnosis
853.09	Other and unspecified intracranial hemorrhage following injury, without mention of open intracranial wound, unspecified concussion	ICD-9-CM	Diagnosis
Gastrointestinal Bleeding - List 1			
455.2	Internal hemorrhoids with other complication	ICD-9-CM	Diagnosis
455.5	External hemorrhoids with other complication	ICD-9-CM	Diagnosis
455.8	Unspecified hemorrhoids with other complication	ICD-9-CM	Diagnosis
456.0	Esophageal varices with bleeding	ICD-9-CM	Diagnosis
456.20	Esophageal varices with bleeding in diseases classified elsewhere	ICD-9-CM	Diagnosis

Appendix D. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes Used to Define Outcomes and Censoring Criteria in this Request

Code	Description	Code Type	Code Category
459.0	Unspecified hemorrhage	ICD-9-CM	Diagnosis
530.7	Gastroesophageal laceration-hemorrhage syndrome	ICD-9-CM	Diagnosis
530.82	Esophageal hemorrhage	ICD-9-CM	Diagnosis
531.00	Acute gastric ulcer with hemorrhage, without mention of obstruction	ICD-9-CM	Diagnosis
531.01	Acute gastric ulcer with hemorrhage and obstruction	ICD-9-CM	Diagnosis
531.20	Acute gastric ulcer with hemorrhage and perforation, without mention of obstruction	ICD-9-CM	Diagnosis
531.21	Acute gastric ulcer with hemorrhage, perforation, and obstruction	ICD-9-CM	Diagnosis
531.40	Chronic or unspecified gastric ulcer with hemorrhage, without mention of obstruction	ICD-9-CM	Diagnosis
531.41	Chronic or unspecified gastric ulcer with hemorrhage and obstruction	ICD-9-CM	Diagnosis
531.60	Chronic or unspecified gastric ulcer with hemorrhage and perforation	ICD-9-CM	Diagnosis
531.61	Chronic or unspecified gastric ulcer with hemorrhage, perforation, and obstruction	ICD-9-CM	Diagnosis
532.00	Acute duodenal ulcer with hemorrhage, without mention of obstruction	ICD-9-CM	Diagnosis
532.01	Acute duodenal ulcer with hemorrhage and obstruction	ICD-9-CM	Diagnosis
532.20	Acute duodenal ulcer with hemorrhage and perforation, without mention of obstruction	ICD-9-CM	Diagnosis
532.21	Acute duodenal ulcer with hemorrhage, perforation, and obstruction	ICD-9-CM	Diagnosis
532.40	Duodenal ulcer, chronic or unspecified, with hemorrhage, without mention of obstruction		
532.41	Chronic or unspecified duodenal ulcer with hemorrhage and obstruction	ICD-9-CM	Diagnosis
	Chronic or unspecified duodenal ulcer with hemorrhage and perforation, without mention of obstruction	ICD-9-CM	Diagnosis
532.60	Chronic or unspecified duodenal ulcer with hemorrhage, perforation, and obstruction	ICD-9-CM	Diagnosis
533.00	Acute peptic ulcer, unspecified site, with hemorrhage, without mention of obstruction	ICD-9-CM	Diagnosis
533.01	Acute peptic ulcer, unspecified site, with hemorrhage and obstruction	ICD-9-CM	Diagnosis
	Acute peptic ulcer, unspecified site, with hemorrhage and perforation, without mention of obstruction	ICD-9-CM	Diagnosis
533.20	Acute peptic ulcer, unspecified site, with hemorrhage, perforation, and obstruction	ICD-9-CM	Diagnosis
	Chronic or unspecified peptic ulcer, unspecified site, with hemorrhage, without mention of obstruction	ICD-9-CM	Diagnosis
533.40	Chronic or unspecified peptic ulcer, unspecified site, with hemorrhage and obstruction	ICD-9-CM	Diagnosis
	Chronic or unspecified peptic ulcer, unspecified site, with hemorrhage and perforation, without mention of obstruction	ICD-9-CM	Diagnosis
533.60	Chronic or unspecified peptic ulcer, unspecified site, with hemorrhage, perforation, and obstruction	ICD-9-CM	Diagnosis
534.00	Acute gastrojejunal ulcer with hemorrhage, without mention of obstruction	ICD-9-CM	Diagnosis
534.01	Acute gastrojejunal ulcer, with hemorrhage and obstruction	ICD-9-CM	Diagnosis
	Acute gastrojejunal ulcer with hemorrhage and perforation, without mention of obstruction	ICD-9-CM	Diagnosis
534.20	Acute gastrojejunal ulcer with hemorrhage and perforation, without mention of obstruction	ICD-9-CM	Diagnosis
534.21	Acute gastrojejunal ulcer with hemorrhage, perforation, and obstruction	ICD-9-CM	Diagnosis
534.40	Chronic or unspecified gastrojejunal ulcer with hemorrhage, without mention of obstruction		
534.41	Chronic or unspecified gastrojejunal ulcer, with hemorrhage and obstruction	ICD-9-CM	Diagnosis
	Chronic or unspecified gastrojejunal ulcer with hemorrhage and perforation, without mention of obstruction	ICD-9-CM	Diagnosis
534.60	Chronic or unspecified gastrojejunal ulcer with hemorrhage, perforation, and obstruction	ICD-9-CM	Diagnosis
535.01	Acute gastritis with hemorrhage	ICD-9-CM	Diagnosis
535.11	Atrophic gastritis with hemorrhage	ICD-9-CM	Diagnosis
535.21	Gastric mucosal hypertrophy with hemorrhage	ICD-9-CM	Diagnosis
535.31	Alcoholic gastritis with hemorrhage	ICD-9-CM	Diagnosis
535.41	Other specified gastritis with hemorrhage	ICD-9-CM	Diagnosis
535.51	Unspecified gastritis and gastroduodenitis with hemorrhage	ICD-9-CM	Diagnosis
535.61	Duodenitis with hemorrhage	ICD-9-CM	Diagnosis

Appendix D. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes Used to Define Outcomes and Censoring Criteria in this Request

Code	Description	Code Type	Code Category
537.83	Angiodysplasia of stomach and duodenum with hemorrhage	ICD-9-CM	Diagnosis
562.02	Diverticulosis of small intestine with hemorrhage	ICD-9-CM	Diagnosis
562.03	Diverticulitis of small intestine with hemorrhage	ICD-9-CM	Diagnosis
562.12	Diverticulosis of colon with hemorrhage	ICD-9-CM	Diagnosis
562.13	Diverticulitis of colon with hemorrhage	ICD-9-CM	Diagnosis
568.81	Hemoperitoneum (nontraumatic)	ICD-9-CM	Diagnosis
569.3	Hemorrhage of rectum and anus	ICD-9-CM	Diagnosis
569.85	Angiodysplasia of intestine with hemorrhage	ICD-9-CM	Diagnosis
578.0	Hematemesis	ICD-9-CM	Diagnosis
578.1	Blood in stool	ICD-9-CM	Diagnosis
578.9	Hemorrhage of gastrointestinal tract, unspecified	ICD-9-CM	Diagnosis
Gastrointestinal Bleeding - List 2			
455.0	Internal hemorrhoids without mention of complication	ICD-9-CM	Diagnosis
455.1	Internal thrombosed hemorrhoids	ICD-9-CM	Diagnosis
455.3	External hemorrhoids without mention of complication	ICD-9-CM	Diagnosis
455.4	External thrombosed hemorrhoids	ICD-9-CM	Diagnosis
455.6	Unspecified hemorrhoids without mention of complication	ICD-9-CM	Diagnosis
455.7	Unspecified thrombosed hemorrhoids	ICD-9-CM	Diagnosis
531.1	Acute gastric ulcer with perforation	ICD-9-CM	Diagnosis
531.3	Acute gastric ulcer without mention of hemorrhage or perforation	ICD-9-CM	Diagnosis
531.5	Chronic or unspecified gastric ulcer with perforation	ICD-9-CM	Diagnosis
531.7	Chronic gastric ulcer without mention of hemorrhage or perforation	ICD-9-CM	Diagnosis
531.9	Gastric ulcer, unspecified as acute or chronic, without mention of hemorrhage or perforation	ICD-9-CM	Diagnosis
532.1	Acute duodenal ulcer with perforation	ICD-9-CM	Diagnosis
532.3	Acute duodenal ulcer without mention of hemorrhage or perforation	ICD-9-CM	Diagnosis
532.5	Chronic or unspecified duodenal ulcer with perforation	ICD-9-CM	Diagnosis
532.7	Chronic duodenal ulcer without mention of hemorrhage or perforation	ICD-9-CM	Diagnosis
532.9	Duodenal ulcer, unspecified as acute or chronic, without mention of hemorrhage or perforation	ICD-9-CM	Diagnosis
533.1	Acute peptic ulcer, unspecified site, with perforation	ICD-9-CM	Diagnosis
533.3	Acute peptic ulcer, unspecified site, without mention of hemorrhage and perforation	ICD-9-CM	Diagnosis
533.5	Chronic or unspecified peptic ulcer, unspecified site, with perforation	ICD-9-CM	Diagnosis
533.7	Chronic peptic ulcer, unspecified site, without mention of hemorrhage or perforation	ICD-9-CM	Diagnosis
533.9	Peptic ulcer, unspecified site, unspecified as acute or chronic, without mention of hemorrhage or perforation	ICD-9-CM	Diagnosis
534.1	Acute gastrojejunal ulcer with perforation	ICD-9-CM	Diagnosis
534.3	Acute gastrojejunal ulcer without mention of hemorrhage or perforation	ICD-9-CM	Diagnosis
534.5	Chronic or unspecified gastrojejunal ulcer with perforation	ICD-9-CM	Diagnosis
534.7	Chronic gastrojejunal ulcer without mention of hemorrhage or perforation	ICD-9-CM	Diagnosis
534.9	Gastrojejunal ulcer, unspecified as acute or chronic, without mention of hemorrhage or perforation	ICD-9-CM	Diagnosis
535.00	Acute gastritis without mention of hemorrhage	ICD-9-CM	Diagnosis
535.10	Atrophic gastritis without mention of hemorrhage	ICD-9-CM	Diagnosis
535.20	Gastric mucosal hypertrophy without mention of hemorrhage	ICD-9-CM	Diagnosis
535.30	Alcoholic gastritis without mention of hemorrhage	ICD-9-CM	Diagnosis
535.40	Other specified gastritis without mention of hemorrhage	ICD-9-CM	Diagnosis
535.50	Unspecified gastritis and gastroduodenitis without mention of hemorrhage	ICD-9-CM	Diagnosis
535.60	Duodenitis without mention of hemorrhage	ICD-9-CM	Diagnosis
562.00	Diverticulosis of small intestine (without mention of hemorrhage)	ICD-9-CM	Diagnosis
562.01	Diverticulitis of small intestine (without mention of hemorrhage)	ICD-9-CM	Diagnosis
562.10	Diverticulosis of colon (without mention of hemorrhage)	ICD-9-CM	Diagnosis

Appendix D. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes Used to Define Outcomes and Censoring Criteria in this Request

Code	Description	Code Type	Code Category
562.11	Diverticulitis of colon (without mention of hemorrhage)	ICD-9-CM	Diagnosis
530.1	Esophagitis	ICD-9-CM	Diagnosis
Major Extracranial Bleeding - List 1			
423.0	Hemopericardium	ICD-9-CM	Diagnosis
455.2	Internal hemorrhoids with other complication	ICD-9-CM	Diagnosis
455.5	External hemorrhoids with other complication	ICD-9-CM	Diagnosis
455.8	Unspecified hemorrhoids with other complication	ICD-9-CM	Diagnosis
456.0	Esophageal varices with bleeding	ICD-9-CM	Diagnosis
456.20	Esophageal varices with bleeding in diseases classified elsewhere	ICD-9-CM	Diagnosis
459.0	Unspecified hemorrhage	ICD-9-CM	Diagnosis
530.7	Gastroesophageal laceration-hemorrhage syndrome	ICD-9-CM	Diagnosis
530.82	Esophageal hemorrhage	ICD-9-CM	Diagnosis
531.0	Acute gastric ulcer with hemorrhage	ICD-9-CM	Diagnosis
531.00	Acute gastric ulcer with hemorrhage, without mention of obstruction	ICD-9-CM	Diagnosis
531.01	Acute gastric ulcer with hemorrhage and obstruction	ICD-9-CM	Diagnosis
531.2	Acute gastric ulcer with hemorrhage and perforation	ICD-9-CM	Diagnosis
531.20	Acute gastric ulcer with hemorrhage and perforation, without mention of obstruction	ICD-9-CM	Diagnosis
531.21	Acute gastric ulcer with hemorrhage, perforation, and obstruction	ICD-9-CM	Diagnosis
531.4	Chronic or unspecified gastric ulcer with hemorrhage	ICD-9-CM	Diagnosis
531.40	Chronic or unspecified gastric ulcer with hemorrhage, without mention of obstruction	ICD-9-CM	Diagnosis
531.41	Chronic or unspecified gastric ulcer with hemorrhage and obstruction	ICD-9-CM	Diagnosis
531.6	Chronic or unspecified gastric ulcer with hemorrhage and perforation	ICD-9-CM	Diagnosis
531.60	Chronic or unspecified gastric ulcer with hemorrhage and perforation, without mention of obstruction	ICD-9-CM	Diagnosis
531.61	Chronic or unspecified gastric ulcer with hemorrhage, perforation, and obstruction	ICD-9-CM	Diagnosis
532.0	Acute duodenal ulcer with hemorrhage	ICD-9-CM	Diagnosis
532.00	Acute duodenal ulcer with hemorrhage, without mention of obstruction	ICD-9-CM	Diagnosis
532.01	Acute duodenal ulcer with hemorrhage and obstruction	ICD-9-CM	Diagnosis
532.2	Acute duodenal ulcer with hemorrhage and perforation	ICD-9-CM	Diagnosis
532.20	Acute duodenal ulcer with hemorrhage and perforation, without mention of obstruction	ICD-9-CM	Diagnosis
532.21	Acute duodenal ulcer with hemorrhage, perforation, and obstruction	ICD-9-CM	Diagnosis
532.4	Chronic or unspecified duodenal ulcer with hemorrhage	ICD-9-CM	Diagnosis
532.40	Duodenal ulcer, chronic or unspecified, with hemorrhage, without mention of obstruction	ICD-9-CM	Diagnosis
532.41	Chronic or unspecified duodenal ulcer with hemorrhage and obstruction	ICD-9-CM	Diagnosis
532.6	Chronic or unspecified duodenal ulcer with hemorrhage and perforation	ICD-9-CM	Diagnosis
532.60	Chronic or unspecified duodenal ulcer with hemorrhage and perforation, without mention of obstruction	ICD-9-CM	Diagnosis
532.61	Chronic or unspecified duodenal ulcer with hemorrhage, perforation, and obstruction	ICD-9-CM	Diagnosis
533.0	Acute peptic ulcer, unspecified site, with hemorrhage	ICD-9-CM	Diagnosis
533.00	Acute peptic ulcer, unspecified site, with hemorrhage, without mention of obstruction	ICD-9-CM	Diagnosis
533.01	Acute peptic ulcer, unspecified site, with hemorrhage and obstruction	ICD-9-CM	Diagnosis
533.2	Acute peptic ulcer, unspecified site, with hemorrhage and perforation	ICD-9-CM	Diagnosis
533.20	Acute peptic ulcer, unspecified site, with hemorrhage and perforation, without mention of obstruction	ICD-9-CM	Diagnosis
533.21	Acute peptic ulcer, unspecified site, with hemorrhage, perforation, and obstruction	ICD-9-CM	Diagnosis
533.4	Chronic or unspecified peptic ulcer, unspecified site, with hemorrhage	ICD-9-CM	Diagnosis
533.40	Chronic or unspecified peptic ulcer, unspecified site, with hemorrhage, without mention of obstruction	ICD-9-CM	Diagnosis
533.41	Chronic or unspecified peptic ulcer, unspecified site, with hemorrhage and obstruction	ICD-9-CM	Diagnosis
533.6	Chronic or unspecified peptic ulcer, unspecified site, with hemorrhage and perforation	ICD-9-CM	Diagnosis

Appendix D. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes Used to Define Outcomes and Censoring Criteria in this Request

Code	Description	Code Type	Code Category
533.60	Chronic or unspecified peptic ulcer, unspecified site, with hemorrhage and perforation, without mention of obstruction	ICD-9-CM	Diagnosis
533.61	Chronic or unspecified peptic ulcer, unspecified site, with hemorrhage, perforation, and obstruction	ICD-9-CM	Diagnosis
534.0	Acute gastrojejunal ulcer with hemorrhage	ICD-9-CM	Diagnosis
534.00	Acute gastrojejunal ulcer with hemorrhage, without mention of obstruction	ICD-9-CM	Diagnosis
534.01	Acute gastrojejunal ulcer, with hemorrhage and obstruction	ICD-9-CM	Diagnosis
534.2	Acute gastrojejunal ulcer with hemorrhage and perforation	ICD-9-CM	Diagnosis
534.20	Acute gastrojejunal ulcer with hemorrhage and perforation, without mention of obstruction	ICD-9-CM	Diagnosis
534.21	Acute gastrojejunal ulcer with hemorrhage, perforation, and obstruction	ICD-9-CM	Diagnosis
534.4	Chronic or unspecified gastrojejunal ulcer with hemorrhage	ICD-9-CM	Diagnosis
534.40	Chronic or unspecified gastrojejunal ulcer with hemorrhage, without mention of obstruction	ICD-9-CM	Diagnosis
534.41	Chronic or unspecified gastrojejunal ulcer, with hemorrhage and obstruction	ICD-9-CM	Diagnosis
534.6	Chronic or unspecified gastrojejunal ulcer with hemorrhage and perforation	ICD-9-CM	Diagnosis
534.60	Chronic or unspecified gastrojejunal ulcer with hemorrhage and perforation, without mention of obstruction	ICD-9-CM	Diagnosis
534.61	Chronic or unspecified gastrojejunal ulcer with hemorrhage, perforation, and obstruction	ICD-9-CM	Diagnosis
535.01	Acute gastritis with hemorrhage	ICD-9-CM	Diagnosis
535.11	Atrophic gastritis with hemorrhage	ICD-9-CM	Diagnosis
535.21	Gastric mucosal hypertrophy with hemorrhage	ICD-9-CM	Diagnosis
535.31	Alcoholic gastritis with hemorrhage	ICD-9-CM	Diagnosis
535.41	Other specified gastritis with hemorrhage	ICD-9-CM	Diagnosis
535.51	Unspecified gastritis and gastroduodenitis with hemorrhage	ICD-9-CM	Diagnosis
535.61	Duodenitis with hemorrhage	ICD-9-CM	Diagnosis
537.83	Angiodysplasia of stomach and duodenum with hemorrhage	ICD-9-CM	Diagnosis
562.02	Diverticulosis of small intestine with hemorrhage	ICD-9-CM	Diagnosis
562.03	Diverticulitis of small intestine with hemorrhage	ICD-9-CM	Diagnosis
562.12	Diverticulosis of colon with hemorrhage	ICD-9-CM	Diagnosis
562.13	Diverticulitis of colon with hemorrhage	ICD-9-CM	Diagnosis
568.81	Hemoperitoneum (nontraumatic)	ICD-9-CM	Diagnosis
569.3	Hemorrhage of rectum and anus	ICD-9-CM	Diagnosis
569.85	Angiodysplasia of intestine with hemorrhage	ICD-9-CM	Diagnosis
578.0	Hematemesis	ICD-9-CM	Diagnosis
578.1	Blood in stool	ICD-9-CM	Diagnosis
578.9	Hemorrhage of gastrointestinal tract, unspecified	ICD-9-CM	Diagnosis
593.81	Vascular disorders of kidney	ICD-9-CM	Diagnosis
599.7	Hematuria	ICD-9-CM	Diagnosis
623.8	Other specified noninflammatory disorder of vagina	ICD-9-CM	Diagnosis
626.2	Excessive or frequent menstruation	ICD-9-CM	Diagnosis
626.6	Metrorrhagia	ICD-9-CM	Diagnosis
719.1	Hemarthrosis	ICD-9-CM	Diagnosis
719.10	Hemarthrosis, site unspecified	ICD-9-CM	Diagnosis
719.11	Hemarthrosis, shoulder region	ICD-9-CM	Diagnosis
719.12	Hemarthrosis, upper arm	ICD-9-CM	Diagnosis
719.13	Hemarthrosis, forearm	ICD-9-CM	Diagnosis
719.14	Hemarthrosis, hand	ICD-9-CM	Diagnosis
719.15	Hemarthrosis, pelvic region and thigh	ICD-9-CM	Diagnosis
719.16	Hemarthrosis, lower leg	ICD-9-CM	Diagnosis
719.17	Hemarthrosis, ankle and foot	ICD-9-CM	Diagnosis

Appendix D. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes Used to Define Outcomes and Censoring Criteria in this Request

Code	Description	Code Type	Code Category
719.18	Hemarthrosis, other specified site	ICD-9-CM	Diagnosis
719.19	Hemarthrosis, multiple sites	ICD-9-CM	Diagnosis
784.7	Epistaxis	ICD-9-CM	Diagnosis
784.8	Hemorrhage from throat	ICD-9-CM	Diagnosis
786.3	Hemoptysis	ICD-9-CM	Diagnosis
531.60	Chronic or unspecified gastric ulcer with hemorrhage and perforation	ICD-9-CM	Diagnosis
Major Extracranial Bleeding - List 2			
280.0	Iron deficiency anemia secondary to blood loss (chronic)	ICD-9-CM	Diagnosis
285.1	Acute posthemorrhagic anemia	ICD-9-CM	Diagnosis
285.9	Unspecified anemia	ICD-9-CM	Diagnosis
455.0	Internal hemorrhoids without mention of complication	ICD-9-CM	Diagnosis
455.1	Internal thrombosed hemorrhoids	ICD-9-CM	Diagnosis
455.2	Internal hemorrhoids with other complication	ICD-9-CM	Diagnosis
455.3	External hemorrhoids without mention of complication	ICD-9-CM	Diagnosis
455.4	External thrombosed hemorrhoids	ICD-9-CM	Diagnosis
455.5	External hemorrhoids with other complication	ICD-9-CM	Diagnosis
455.6	Unspecified hemorrhoids without mention of complication	ICD-9-CM	Diagnosis
455.7	Unspecified thrombosed hemorrhoids	ICD-9-CM	Diagnosis
455.8	Unspecified hemorrhoids with other complication	ICD-9-CM	Diagnosis
455.9	Residual hemorrhoidal skin tags	ICD-9-CM	Diagnosis
530.1	Esophagitis	ICD-9-CM	Diagnosis
531.1	Acute gastric ulcer with perforation	ICD-9-CM	Diagnosis
531.3	Acute gastric ulcer without mention of hemorrhage or perforation	ICD-9-CM	Diagnosis
531.5	Chronic or unspecified gastric ulcer with perforation	ICD-9-CM	Diagnosis
531.7	Chronic gastric ulcer without mention of hemorrhage or perforation	ICD-9-CM	Diagnosis
531.9	Gastric ulcer, unspecified as acute or chronic, without mention of hemorrhage or perforation	ICD-9-CM	Diagnosis
532.1	Acute duodenal ulcer with perforation	ICD-9-CM	Diagnosis
532.3	Acute duodenal ulcer without mention of hemorrhage or perforation	ICD-9-CM	Diagnosis
532.5	Chronic or unspecified duodenal ulcer with perforation	ICD-9-CM	Diagnosis
532.7	Chronic duodenal ulcer without mention of hemorrhage or perforation	ICD-9-CM	Diagnosis
532.9	Duodenal ulcer, unspecified as acute or chronic, without mention of hemorrhage or perforation	ICD-9-CM	Diagnosis
533.1	Acute peptic ulcer, unspecified site, with perforation	ICD-9-CM	Diagnosis
533.3	Acute peptic ulcer, unspecified site, without mention of hemorrhage and perforation	ICD-9-CM	Diagnosis
533.5	Chronic or unspecified peptic ulcer, unspecified site, with perforation	ICD-9-CM	Diagnosis
533.7	Chronic peptic ulcer, unspecified site, without mention of hemorrhage or perforation	ICD-9-CM	Diagnosis
533.9	Peptic ulcer, unspecified site, unspecified as acute or chronic, without mention of hemorrhage or perforation	ICD-9-CM	Diagnosis
534.1	Acute gastrojejunal ulcer with perforation	ICD-9-CM	Diagnosis
534.3	Acute gastrojejunal ulcer without mention of hemorrhage or perforation	ICD-9-CM	Diagnosis
534.5	Chronic or unspecified gastrojejunal ulcer with perforation	ICD-9-CM	Diagnosis
534.7	Chronic gastrojejunal ulcer without mention of hemorrhage or perforation	ICD-9-CM	Diagnosis
534.9	Gastrojejunal ulcer, unspecified as acute or chronic, without mention of hemorrhage or perforation	ICD-9-CM	Diagnosis
535.00	Acute gastritis without mention of hemorrhage	ICD-9-CM	Diagnosis
535.10	Atrophic gastritis without mention of hemorrhage	ICD-9-CM	Diagnosis
535.20	Gastric mucosal hypertrophy without mention of hemorrhage	ICD-9-CM	Diagnosis
535.30	Alcoholic gastritis without mention of hemorrhage	ICD-9-CM	Diagnosis
535.40	Other specified gastritis without mention of hemorrhage	ICD-9-CM	Diagnosis
535.50	Unspecified gastritis and gastroduodenitis without mention of hemorrhage	ICD-9-CM	Diagnosis
535.60	Duodenitis without mention of hemorrhage	ICD-9-CM	Diagnosis

Appendix D. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes Used to Define Outcomes and Censoring Criteria in this Request

Code	Description	Code Type	Code Category
562.00	Diverticulosis of small intestine (without mention of hemorrhage)	ICD-9-CM	Diagnosis
562.01	Diverticulitis of small intestine (without mention of hemorrhage)	ICD-9-CM	Diagnosis
562.10	Diverticulosis of colon (without mention of hemorrhage)	ICD-9-CM	Diagnosis
562.11	Diverticulitis of colon (without mention of hemorrhage)	ICD-9-CM	Diagnosis
790.92	Abnormal coagulation profile	ICD-9-CM	Diagnosis
Major Extracranial Bleeding - List 3			
62000	Elevation of depressed skull fracture; simple, extradural	CPT-4	Procedure
62005	Elevation of depressed skull fracture; compound or comminuted, extradural	CPT-4	Procedure
62010	Elevation of depressed skull fracture; with repair of dura and/or debridement of brain	CPT-4	Procedure
800	Fracture of vault of skull	ICD-9-CM	Diagnosis
800.0	Closed fracture of vault of skull without mention of intracranial injury	ICD-9-CM	Diagnosis
800.00	Closed fracture of vault of skull without mention of intracranial injury, unspecified state of consciousness	ICD-9-CM	Diagnosis
800.01	Closed fracture of vault of skull without mention of intracranial injury, no loss of consciousness	ICD-9-CM	Diagnosis
800.02	Closed fracture of vault of skull without mention of intracranial injury, brief (less than one hour) loss of consciousness	ICD-9-CM	Diagnosis
800.03	Closed fracture of vault of skull without mention of intracranial injury, moderate (1-24 hours) loss of consciousness	ICD-9-CM	Diagnosis
800.04	Closed fracture of vault of skull without mention of intracranial injury, prolonged (more than 24 hours) loss of consciousness and return to pre-existing conscious level	ICD-9-CM	Diagnosis
800.05	Closed fracture of vault of skull without mention of intracranial injury, prolonged (more than 24 hours) loss of consciousness, without return to pre-existing conscious level	ICD-9-CM	Diagnosis
800.06	Closed fracture of vault of skull without mention of intracranial injury, loss of consciousness of unspecified duration	ICD-9-CM	Diagnosis
800.09	Closed fracture of vault of skull without mention of intracranial injury, unspecified concussion	ICD-9-CM	Diagnosis
800.1	Closed fracture of vault of skull with cerebral laceration and contusion	ICD-9-CM	Diagnosis
800.10	Closed fracture of vault of skull with cerebral laceration and contusion, unspecified state of consciousness	ICD-9-CM	Diagnosis
800.11	Closed fracture of vault of skull with cerebral laceration and contusion, no loss of consciousness	ICD-9-CM	Diagnosis
800.12	Closed fracture of vault of skull with cerebral laceration and contusion, brief (less than one hour) loss of consciousness	ICD-9-CM	Diagnosis
800.13	Closed fracture of vault of skull with cerebral laceration and contusion, moderate (1-24 hours) loss of consciousness	ICD-9-CM	Diagnosis
800.14	Closed fracture of vault of skull with cerebral laceration and contusion, prolonged (more than 24 hours) loss of consciousness and return to pre-existing conscious level	ICD-9-CM	Diagnosis
800.15	Closed fracture of vault of skull with cerebral laceration and contusion, prolonged (more than 24 hours) loss of consciousness, without return to pre-existing conscious level	ICD-9-CM	Diagnosis
800.16	Closed fracture of vault of skull with cerebral laceration and contusion, loss of consciousness of unspecified duration	ICD-9-CM	Diagnosis
800.19	Closed fracture of vault of skull with cerebral laceration and contusion, unspecified concussion	ICD-9-CM	Diagnosis
800.2	Closed fracture of vault of skull with subarachnoid, subdural, and extradural hemorrhage	ICD-9-CM	Diagnosis
800.20	Closed fracture of vault of skull with subarachnoid, subdural, and extradural hemorrhage, unspecified state of consciousness	ICD-9-CM	Diagnosis
800.21	Closed fracture of vault of skull with subarachnoid, subdural, and extradural hemorrhage, no loss of consciousness	ICD-9-CM	Diagnosis

Appendix D. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes Used to Define Outcomes and Censoring Criteria in this Request

Code	Description	Code Type	Code Category
800.22	Closed fracture of vault of skull with subarachnoid, subdural, and extradural hemorrhage, brief (less than one hour) loss of consciousness	ICD-9-CM	Diagnosis
800.23	Closed fracture of vault of skull with subarachnoid, subdural, and extradural hemorrhage, moderate (1-24 hours) loss of consciousness	ICD-9-CM	Diagnosis
800.24	Closed fracture of vault of skull with subarachnoid, subdural, and extradural hemorrhage, prolonged (more than 24 hours) loss of consciousness and return to pre-existing conscious level	ICD-9-CM	Diagnosis
800.25	Closed fracture of vault of skull with subarachnoid, subdural, and extradural hemorrhage, prolonged (more than 24 hours) loss of consciousness, without return to pre-existing conscious level	ICD-9-CM	Diagnosis
800.26	Closed fracture of vault of skull with subarachnoid, subdural, and extradural hemorrhage, loss of consciousness of unspecified duration	ICD-9-CM	Diagnosis
800.29	Closed fracture of vault of skull with subarachnoid, subdural, and extradural hemorrhage, unspecified concussion	ICD-9-CM	Diagnosis
800.3	Closed fracture of vault of skull with other and unspecified intracranial hemorrhage	ICD-9-CM	Diagnosis
800.30	Closed fracture of vault of skull with other and unspecified intracranial hemorrhage, unspecified state of consciousness	ICD-9-CM	Diagnosis
800.31	Closed fracture of vault of skull with other and unspecified intracranial hemorrhage, no loss of consciousness	ICD-9-CM	Diagnosis
800.32	Closed fracture of vault of skull with other and unspecified intracranial hemorrhage, brief (less than one hour) loss of consciousness	ICD-9-CM	Diagnosis
800.33	Closed fracture of vault of skull with other and unspecified intracranial hemorrhage, moderate (1-24 hours) loss of consciousness	ICD-9-CM	Diagnosis
800.34	Closed fracture of vault of skull with other and unspecified intracranial hemorrhage, prolonged (more than 24 hours) loss of consciousness and return to pre-existing conscious level	ICD-9-CM	Diagnosis
800.35	Closed fracture of vault of skull with other and unspecified intracranial hemorrhage, prolonged (more than 24 hours) loss of consciousness, without return to pre-existing conscious level	ICD-9-CM	Diagnosis
800.36	Closed fracture of vault of skull with other and unspecified intracranial hemorrhage, loss of consciousness of unspecified duration	ICD-9-CM	Diagnosis
800.39	Closed fracture of vault of skull with other and unspecified intracranial hemorrhage, unspecified concussion	ICD-9-CM	Diagnosis
800.4	Closed fracture of vault of skull with intercranial injury of other and unspecified nature	ICD-9-CM	Diagnosis
800.40	Closed fracture of vault of skull with intracranial injury of other and unspecified nature, unspecified state of consciousness	ICD-9-CM	Diagnosis
800.41	Closed fracture of vault of skull with intracranial injury of other and unspecified nature, no loss of consciousness	ICD-9-CM	Diagnosis
800.42	Closed fracture of vault of skull with intracranial injury of other and unspecified nature, brief (less than one hour) loss of consciousness	ICD-9-CM	Diagnosis
800.43	Closed fracture of vault of skull with intracranial injury of other and unspecified nature, moderate (1-24 hours) loss of consciousness	ICD-9-CM	Diagnosis
800.44	Closed fracture of vault of skull with intracranial injury of other and unspecified nature, prolonged (more than 24 hours) loss of consciousness and return to pre-existing conscious level	ICD-9-CM	Diagnosis
800.45	Closed fracture of vault of skull with intracranial injury of other and unspecified nature, prolonged (more than 24 hours) loss of consciousness, without return to pre-existing conscious level	ICD-9-CM	Diagnosis
800.46	Closed fracture of vault of skull with intracranial injury of other and unspecified nature, loss of consciousness of unspecified duration	ICD-9-CM	Diagnosis

Appendix D. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes Used to Define Outcomes and Censoring Criteria in this Request

Code	Description	Code Type	Code Category
800.49	Closed fracture of vault of skull with intracranial injury of other and unspecified nature, unspecified concussion	ICD-9-CM	Diagnosis
800.5	Open fracture of vault of skull without mention of intracranial injury	ICD-9-CM	Diagnosis
800.50	Open fracture of vault of skull without mention of intracranial injury, unspecified state of consciousness	ICD-9-CM	Diagnosis
800.51	Open fracture of vault of skull without mention of intracranial injury, no loss of consciousness	ICD-9-CM	Diagnosis
800.52	Open fracture of vault of skull without mention of intracranial injury, brief (less than one hour) loss of consciousness	ICD-9-CM	Diagnosis
800.53	Open fracture of vault of skull without mention of intracranial injury, moderate (1-24 hours) loss of consciousness	ICD-9-CM	Diagnosis
800.54	Open fracture of vault of skull without mention of intracranial injury, prolonged (more than 24 hours) loss of consciousness and return to pre-existing conscious level	ICD-9-CM	Diagnosis
800.55	Open fracture of vault of skull without mention of intracranial injury, prolonged (more than 24 hours) loss of consciousness, without return to pre-existing conscious level	ICD-9-CM	Diagnosis
800.56	Open fracture of vault of skull without mention of intracranial injury, loss of consciousness of unspecified duration	ICD-9-CM	Diagnosis
800.59	Open fracture of vault of skull without mention of intracranial injury, unspecified concussion	ICD-9-CM	Diagnosis
800.6	Open fracture of vault of skull with cerebral laceration and contusion	ICD-9-CM	Diagnosis
800.60	Open fracture of vault of skull with cerebral laceration and contusion, unspecified state of consciousness	ICD-9-CM	Diagnosis
800.61	Open fracture of vault of skull with cerebral laceration and contusion, no loss of consciousness	ICD-9-CM	Diagnosis
800.62	Open fracture of vault of skull with cerebral laceration and contusion, brief (less than one hour) loss of consciousness	ICD-9-CM	Diagnosis
800.63	Open fracture of vault of skull with cerebral laceration and contusion, moderate (1-24 hours) loss of consciousness	ICD-9-CM	Diagnosis
800.64	Open fracture of vault of skull with cerebral laceration and contusion, prolonged (more than 24 hours) loss of consciousness and return to pre-existing conscious level	ICD-9-CM	Diagnosis
800.65	Open fracture of vault of skull with cerebral laceration and contusion, prolonged (more than 24 hours) loss of consciousness, without return to pre-existing conscious level	ICD-9-CM	Diagnosis
800.66	Open fracture of vault of skull with cerebral laceration and contusion, loss of consciousness of unspecified duration	ICD-9-CM	Diagnosis
800.69	Open fracture of vault of skull with cerebral laceration and contusion, unspecified concussion	ICD-9-CM	Diagnosis
800.7	Open fracture of vault of skull with subarachnoid, subdural, and extradural hemorrhage	ICD-9-CM	Diagnosis
800.70	Open fracture of vault of skull with subarachnoid, subdural, and extradural hemorrhage, unspecified state of consciousness	ICD-9-CM	Diagnosis
800.71	Open fracture of vault of skull with subarachnoid, subdural, and extradural hemorrhage, no loss of consciousness	ICD-9-CM	Diagnosis
800.72	Open fracture of vault of skull with subarachnoid, subdural, and extradural hemorrhage, brief (less than one hour) loss of consciousness	ICD-9-CM	Diagnosis
800.73	Open fracture of vault of skull with subarachnoid, subdural, and extradural hemorrhage, moderate (1-24 hours) loss of consciousness	ICD-9-CM	Diagnosis
800.74	Open fracture of vault of skull with subarachnoid, subdural, and extradural hemorrhage, prolonged (more than 24 hours) loss of consciousness and return to pre-existing conscious level	ICD-9-CM	Diagnosis
800.75	Open fracture of vault of skull with subarachnoid, subdural, and extradural hemorrhage, prolonged (more than 24 hours) loss of consciousness, without return to pre-existing conscious level	ICD-9-CM	Diagnosis

Appendix D. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes Used to Define Outcomes and Censoring Criteria in this Request

Code	Description	Code Type	Code Category
800.76	Open fracture of vault of skull with subarachnoid, subdural, and extradural hemorrhage, loss of consciousness of unspecified duration	ICD-9-CM	Diagnosis
800.79	Open fracture of vault of skull with subarachnoid, subdural, and extradural hemorrhage, unspecified concussion	ICD-9-CM	Diagnosis
800.8	Open fracture of vault of skull with other and unspecified intracranial hemorrhage	ICD-9-CM	Diagnosis
800.80	Open fracture of vault of skull with other and unspecified intracranial hemorrhage, unspecified state of consciousness	ICD-9-CM	Diagnosis
800.81	Open fracture of vault of skull with other and unspecified intracranial hemorrhage, no loss of consciousness	ICD-9-CM	Diagnosis
800.82	Open fracture of vault of skull with other and unspecified intracranial hemorrhage, brief (less than one hour) loss of consciousness	ICD-9-CM	Diagnosis
800.83	Open fracture of vault of skull with other and unspecified intracranial hemorrhage, moderate (1-24 hours) loss of consciousness	ICD-9-CM	Diagnosis
800.84	Open fracture of vault of skull with other and unspecified intracranial hemorrhage, prolonged (more than 24 hours) loss of consciousness and return to pre-existing conscious level	ICD-9-CM	Diagnosis
800.85	Open fracture of vault of skull with other and unspecified intracranial hemorrhage, prolonged (more than 24 hours) loss of consciousness, without return to pre-existing conscious level	ICD-9-CM	Diagnosis
800.86	Open fracture of vault of skull with other and unspecified intracranial hemorrhage, loss of consciousness of unspecified duration	ICD-9-CM	Diagnosis
800.89	Open fracture of vault of skull with other and unspecified intracranial hemorrhage, unspecified concussion	ICD-9-CM	Diagnosis
800.9	Open fracture of vault of skull with intracranial injury of other and unspecified nature	ICD-9-CM	Diagnosis
800.90	Open fracture of vault of skull with intracranial injury of other and unspecified nature, unspecified state of consciousness	ICD-9-CM	Diagnosis
800.91	Open fracture of vault of skull with intracranial injury of other and unspecified nature, no loss of consciousness	ICD-9-CM	Diagnosis
800.92	Open fracture of vault of skull with intracranial injury of other and unspecified nature, brief (less than one hour) loss of consciousness	ICD-9-CM	Diagnosis
800.93	Open fracture of vault of skull with intracranial injury of other and unspecified nature, moderate (1-24 hours) loss of consciousness	ICD-9-CM	Diagnosis
800.94	Open fracture of vault of skull with intracranial injury of other and unspecified nature, prolonged (more than 24 hours) loss of consciousness and return to pre-existing conscious level	ICD-9-CM	Diagnosis
800.95	Open fracture of vault of skull with intracranial injury of other and unspecified nature, prolonged (more than 24 hours) loss of consciousness, without return to pre-existing conscious level	ICD-9-CM	Diagnosis
800.96	Open fracture of vault of skull with intracranial injury of other and unspecified nature, loss of consciousness of unspecified duration	ICD-9-CM	Diagnosis
800.99	Open fracture of vault of skull with intracranial injury of other and unspecified nature, unspecified concussion	ICD-9-CM	Diagnosis
801	Fracture of base of skull	ICD-9-CM	Diagnosis
801.0	Closed fracture of base of skull without mention of intracranial injury	ICD-9-CM	Diagnosis
801.00	Closed fracture of base of skull without mention of intracranial injury, unspecified state of consciousness	ICD-9-CM	Diagnosis
801.01	Closed fracture of base of skull without mention of intracranial injury, no loss of consciousness	ICD-9-CM	Diagnosis
801.02	Closed fracture of base of skull without mention of intracranial injury, brief (less than one hour) loss of consciousness	ICD-9-CM	Diagnosis
801.03	Closed fracture of base of skull without mention of intracranial injury, moderate (1-24 hours) loss of consciousness	ICD-9-CM	Diagnosis

Appendix D. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes Used to Define Outcomes and Censoring Criteria in this Request

Code	Description	Code Type	Code Category
801.04	Closed fracture of base of skull without mention of intracranial injury, prolonged (more than 24 hours) loss of consciousness and return to pre-existing conscious level	ICD-9-CM	Diagnosis
801.05	Closed fracture of base of skull without mention of intracranial injury, prolonged (more than 24 hours) loss of consciousness, without return to pre-existing conscious level	ICD-9-CM	Diagnosis
801.06	Closed fracture of base of skull without mention of intracranial injury, loss of consciousness of unspecified duration	ICD-9-CM	Diagnosis
801.09	Closed fracture of base of skull without mention of intracranial injury, unspecified concussion	ICD-9-CM	Diagnosis
801.1	Closed fracture of base of skull with cerebral laceration and contusion	ICD-9-CM	Diagnosis
801.10	Closed fracture of base of skull with cerebral laceration and contusion, unspecified state of consciousness	ICD-9-CM	Diagnosis
801.11	Closed fracture of base of skull with cerebral laceration and contusion, no loss of consciousness	ICD-9-CM	Diagnosis
801.12	Closed fracture of base of skull with cerebral laceration and contusion, brief (less than one hour) loss of consciousness	ICD-9-CM	Diagnosis
801.13	Closed fracture of base of skull with cerebral laceration and contusion, moderate (1-24 hours) loss of consciousness	ICD-9-CM	Diagnosis
801.14	Closed fracture of base of skull with cerebral laceration and contusion, prolonged (more than 24 hours) loss of consciousness and return to pre-existing conscious level	ICD-9-CM	Diagnosis
801.15	Closed fracture of base of skull with cerebral laceration and contusion, prolonged (more than 24 hours) loss of consciousness, without return to pre-existing conscious level	ICD-9-CM	Diagnosis
801.16	Closed fracture of base of skull with cerebral laceration and contusion, loss of consciousness of unspecified duration	ICD-9-CM	Diagnosis
801.19	Closed fracture of base of skull with cerebral laceration and contusion, unspecified concussion	ICD-9-CM	Diagnosis
801.2	Closed fracture of base of skull with subarachnoid, subdural, and extradural hemorrhage	ICD-9-CM	Diagnosis
801.20	Closed fracture of base of skull with subarachnoid, subdural, and extradural hemorrhage, unspecified state of consciousness	ICD-9-CM	Diagnosis
801.21	Closed fracture of base of skull with subarachnoid, subdural, and extradural hemorrhage, no loss of consciousness	ICD-9-CM	Diagnosis
801.22	Closed fracture of base of skull with subarachnoid, subdural, and extradural hemorrhage, brief (less than one hour) loss of consciousness	ICD-9-CM	Diagnosis
801.23	Closed fracture of base of skull with subarachnoid, subdural, and extradural hemorrhage, moderate (1-24 hours) loss of consciousness	ICD-9-CM	Diagnosis
801.24	Closed fracture of base of skull with subarachnoid, subdural, and extradural hemorrhage, prolonged (more than 24 hours) loss of consciousness and return to pre-existing conscious level	ICD-9-CM	Diagnosis
801.25	Closed fracture of base of skull with subarachnoid, subdural, and extradural hemorrhage, prolonged (more than 24 hours) loss of consciousness, without return to pre-existing conscious level	ICD-9-CM	Diagnosis
801.26	Closed fracture of base of skull with subarachnoid, subdural, and extradural hemorrhage, loss of consciousness of unspecified duration	ICD-9-CM	Diagnosis
801.29	Closed fracture of base of skull with subarachnoid, subdural, and extradural hemorrhage, unspecified concussion	ICD-9-CM	Diagnosis
801.3	Closed fracture of base of skull with other and unspecified intracranial hemorrhage	ICD-9-CM	Diagnosis
801.30	Closed fracture of base of skull with other and unspecified intracranial hemorrhage, unspecified state of consciousness	ICD-9-CM	Diagnosis
801.31	Closed fracture of base of skull with other and unspecified intracranial hemorrhage, no loss of consciousness	ICD-9-CM	Diagnosis

Appendix D. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes Used to Define Outcomes and Censoring Criteria in this Request

Code	Description	Code Type	Code Category
801.32	Closed fracture of base of skull with other and unspecified intracranial hemorrhage, brief (less than one hour) loss of consciousness	ICD-9-CM	Diagnosis
801.33	Closed fracture of base of skull with other and unspecified intracranial hemorrhage, moderate (1-24 hours) loss of consciousness	ICD-9-CM	Diagnosis
801.34	Closed fracture of base of skull with other and unspecified intracranial hemorrhage, prolonged (more than 24 hours) loss of consciousness and return to pre-existing conscious level	ICD-9-CM	Diagnosis
801.35	Closed fracture of base of skull with other and unspecified intracranial hemorrhage, prolonged (more than 24 hours) loss of consciousness, without return to pre-existing conscious level	ICD-9-CM	Diagnosis
801.36	Closed fracture of base of skull with other and unspecified intracranial hemorrhage, loss of consciousness of unspecified duration	ICD-9-CM	Diagnosis
801.39	Closed fracture of base of skull with other and unspecified intracranial hemorrhage, unspecified concussion	ICD-9-CM	Diagnosis
801.4	Closed fracture of base of skull with intracranial injury of other and unspecified nature	ICD-9-CM	Diagnosis
801.40	Closed fracture of base of skull with intracranial injury of other and unspecified nature, unspecified state of consciousness	ICD-9-CM	Diagnosis
801.41	Closed fracture of base of skull with intracranial injury of other and unspecified nature, no loss of consciousness	ICD-9-CM	Diagnosis
801.42	Closed fracture of base of skull with intracranial injury of other and unspecified nature, brief (less than one hour) loss of consciousness	ICD-9-CM	Diagnosis
801.43	Closed fracture of base of skull with intracranial injury of other and unspecified nature, moderate (1-24 hours) loss of consciousness	ICD-9-CM	Diagnosis
801.44	Closed fracture of base of skull with intracranial injury of other and unspecified nature, prolonged (more than 24 hours) loss of consciousness and return to pre-existing conscious level	ICD-9-CM	Diagnosis
801.45	Closed fracture of base of skull with intracranial injury of other and unspecified nature, prolonged (more than 24 hours) loss of consciousness, without return to pre-existing conscious level	ICD-9-CM	Diagnosis
801.46	Closed fracture of base of skull with intracranial injury of other and unspecified nature, loss of consciousness of unspecified duration	ICD-9-CM	Diagnosis
801.49	Closed fracture of base of skull with intracranial injury of other and unspecified nature, unspecified concussion	ICD-9-CM	Diagnosis
801.5	Open fracture of base of skull without mention of intracranial injury	ICD-9-CM	Diagnosis
801.50	Open fracture of base of skull without mention of intracranial injury, unspecified state of consciousness	ICD-9-CM	Diagnosis
801.51	Open fracture of base of skull without mention of intracranial injury, no loss of consciousness	ICD-9-CM	Diagnosis
801.52	Open fracture of base of skull without mention of intracranial injury, brief (less than one hour) loss of consciousness	ICD-9-CM	Diagnosis
801.53	Open fracture of base of skull without mention of intracranial injury, moderate (1-24 hours) loss of consciousness	ICD-9-CM	Diagnosis
801.54	Open fracture of base of skull without mention of intracranial injury, prolonged (more than 24 hours) loss of consciousness and return to pre-existing conscious level	ICD-9-CM	Diagnosis
801.55	Open fracture of base of skull without mention of intracranial injury, prolonged (more than 24 hours) loss of consciousness, without return to pre-existing conscious level	ICD-9-CM	Diagnosis
801.56	Open fracture of base of skull without mention of intracranial injury, loss of consciousness of unspecified duration	ICD-9-CM	Diagnosis
801.59	Open fracture of base of skull without mention of intracranial injury, unspecified concussion	ICD-9-CM	Diagnosis
801.6	Open fracture of base of skull with cerebral laceration and contusion	ICD-9-CM	Diagnosis

Appendix D. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes Used to Define Outcomes and Censoring Criteria in this Request

Code	Description	Code Type	Code Category
801.60	Open fracture of base of skull with cerebral laceration and contusion, unspecified state of consciousness	ICD-9-CM	Diagnosis
801.61	Open fracture of base of skull with cerebral laceration and contusion, no loss of consciousness	ICD-9-CM	Diagnosis
801.62	Open fracture of base of skull with cerebral laceration and contusion, brief (less than one hour) loss of consciousness	ICD-9-CM	Diagnosis
801.63	Open fracture of base of skull with cerebral laceration and contusion, moderate (1-24 hours) loss of consciousness	ICD-9-CM	Diagnosis
801.64	Open fracture of base of skull with cerebral laceration and contusion, prolonged (more than 24 hours) loss of consciousness and return to pre-existing conscious level	ICD-9-CM	Diagnosis
801.65	Open fracture of base of skull with cerebral laceration and contusion, prolonged (more than 24 hours) loss of consciousness, without return to pre-existing conscious level	ICD-9-CM	Diagnosis
801.66	Open fracture of base of skull with cerebral laceration and contusion, loss of consciousness of unspecified duration	ICD-9-CM	Diagnosis
801.69	Open fracture of base of skull with cerebral laceration and contusion, unspecified concussion	ICD-9-CM	Diagnosis
801.7	Open fracture of base of skull with subarachnoid, subdural, and extradural hemorrhage	ICD-9-CM	Diagnosis
801.70	Open fracture of base of skull with subarachnoid, subdural, and extradural hemorrhage, unspecified state of consciousness	ICD-9-CM	Diagnosis
801.71	Open fracture of base of skull with subarachnoid, subdural, and extradural hemorrhage, no loss of consciousness	ICD-9-CM	Diagnosis
801.72	Open fracture of base of skull with subarachnoid, subdural, and extradural hemorrhage, brief (less than one hour) loss of consciousness	ICD-9-CM	Diagnosis
801.73	Open fracture of base of skull with subarachnoid, subdural, and extradural hemorrhage, moderate (1-24 hours) loss of consciousness	ICD-9-CM	Diagnosis
801.74	Open fracture of base of skull with subarachnoid, subdural, and extradural hemorrhage, prolonged (more than 24 hours) loss of consciousness and return to pre-existing conscious level	ICD-9-CM	Diagnosis
801.75	Open fracture of base of skull with subarachnoid, subdural, and extradural hemorrhage, prolonged (more than 24 hours) loss of consciousness, without return to pre-existing conscious level	ICD-9-CM	Diagnosis
801.76	Open fracture of base of skull with subarachnoid, subdural, and extradural hemorrhage, loss of consciousness of unspecified duration	ICD-9-CM	Diagnosis
801.79	Open fracture of base of skull with subarachnoid, subdural, and extradural hemorrhage, unspecified concussion	ICD-9-CM	Diagnosis
801.8	Open fracture of base of skull with other and unspecified intracranial hemorrhage	ICD-9-CM	Diagnosis
801.80	Open fracture of base of skull with other and unspecified intracranial hemorrhage, unspecified state of consciousness	ICD-9-CM	Diagnosis
801.81	Open fracture of base of skull with other and unspecified intracranial hemorrhage, no loss of consciousness	ICD-9-CM	Diagnosis
801.82	Open fracture of base of skull with other and unspecified intracranial hemorrhage, brief (less than one hour) loss of consciousness	ICD-9-CM	Diagnosis
801.83	Open fracture of base of skull with other and unspecified intracranial hemorrhage, moderate (1-24 hours) loss of consciousness	ICD-9-CM	Diagnosis
801.84	Open fracture of base of skull with other and unspecified intracranial hemorrhage, prolonged (more than 24 hours) loss of consciousness and return to pre-existing conscious level	ICD-9-CM	Diagnosis
801.85	Open fracture of base of skull with other and unspecified intracranial hemorrhage, prolonged (more than 24 hours) loss of consciousness, without return to pre-existing conscious level	ICD-9-CM	Diagnosis

Appendix D. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes Used to Define Outcomes and Censoring Criteria in this Request

Code	Description	Code Type	Code Category
801.86	Open fracture of base of skull with other and unspecified intracranial hemorrhage, loss of consciousness of unspecified duration	ICD-9-CM	Diagnosis
801.89	Open fracture of base of skull with other and unspecified intracranial hemorrhage, unspecified concussion	ICD-9-CM	Diagnosis
801.9	Open fracture of base of skull with intracranial injury of other and unspecified nature	ICD-9-CM	Diagnosis
801.90	Open fracture of base of skull with intracranial injury of other and unspecified nature, unspecified state of consciousness	ICD-9-CM	Diagnosis
801.91	Open fracture of base of skull with intracranial injury of other and unspecified nature, no loss of consciousness	ICD-9-CM	Diagnosis
801.92	Open fracture of base of skull with intracranial injury of other and unspecified nature, brief (less than one hour) loss of consciousness	ICD-9-CM	Diagnosis
801.93	Open fracture of base of skull with intracranial injury of other and unspecified nature, moderate (1-24 hours) loss of consciousness	ICD-9-CM	Diagnosis
801.94	Open fracture of base of skull with intracranial injury of other and unspecified nature, prolonged (more than 24 hours) loss of consciousness and return to pre-existing conscious level	ICD-9-CM	Diagnosis
801.95	Open fracture of base of skull with intracranial injury of other and unspecified nature, prolonged (more than 24 hours) loss of consciousness, without return to pre-existing conscious level	ICD-9-CM	Diagnosis
801.96	Open fracture of base of skull with intracranial injury of other and unspecified nature, loss of consciousness of unspecified duration	ICD-9-CM	Diagnosis
801.99	Open fracture of base of skull with intracranial injury of other and unspecified nature, unspecified concussion	ICD-9-CM	Diagnosis
802	Fracture of face bones	ICD-9-CM	Diagnosis
802.0	Nasal bones, closed fracture	ICD-9-CM	Diagnosis
802.1	Nasal bones, open fracture	ICD-9-CM	Diagnosis
802.2	Mandible, closed fracture	ICD-9-CM	Diagnosis
802.20	Closed fracture of unspecified site of mandible	ICD-9-CM	Diagnosis
802.21	Closed fracture of condylar process of mandible	ICD-9-CM	Diagnosis
802.22	Closed fracture of subcondylar process of mandible	ICD-9-CM	Diagnosis
802.23	Closed fracture of coronoid process of mandible	ICD-9-CM	Diagnosis
802.24	Closed fracture of unspecified part of ramus of mandible	ICD-9-CM	Diagnosis
802.25	Closed fracture of angle of jaw	ICD-9-CM	Diagnosis
802.26	Closed fracture of symphysis of body of mandible	ICD-9-CM	Diagnosis
802.27	Closed fracture of alveolar border of body of mandible	ICD-9-CM	Diagnosis
802.28	Closed fracture of other and unspecified part of body of mandible	ICD-9-CM	Diagnosis
802.29	Closed fracture of multiple sites of mandible	ICD-9-CM	Diagnosis
802.3	Mandible, open fracture	ICD-9-CM	Diagnosis
802.30	Open fracture of unspecified site of mandible	ICD-9-CM	Diagnosis
802.31	Open fracture of condylar process of mandible	ICD-9-CM	Diagnosis
802.32	Open fracture of subcondylar process of mandible	ICD-9-CM	Diagnosis
802.33	Open fracture of coronoid process of mandible	ICD-9-CM	Diagnosis
802.34	Open fracture of unspecified part of ramus of mandible	ICD-9-CM	Diagnosis
802.35	Open fracture of angle of jaw	ICD-9-CM	Diagnosis
802.36	Open fracture of symphysis of body of mandible	ICD-9-CM	Diagnosis
802.37	Open fracture of alveolar border of body of mandible	ICD-9-CM	Diagnosis
802.38	Open fracture of other and unspecified part of body of mandible	ICD-9-CM	Diagnosis
802.39	Open fracture of multiple sites of mandible	ICD-9-CM	Diagnosis
802.4	Malar and maxillary bones, closed fracture	ICD-9-CM	Diagnosis
802.5	Malar and maxillary bones, open fracture	ICD-9-CM	Diagnosis
802.6	Orbital floor (blow-out), closed fracture	ICD-9-CM	Diagnosis
802.7	Orbital floor (blow-out), open fracture	ICD-9-CM	Diagnosis

Appendix D. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes Used to Define Outcomes and Censoring Criteria in this Request

Code	Description	Code Type	Code Category
802.8	Other facial bones, closed fracture	ICD-9-CM	Diagnosis
802.9	Other facial bones, open fracture	ICD-9-CM	Diagnosis
803	Other and unqualified skull fractures	ICD-9-CM	Diagnosis
803.0	Other closed skull fracture without mention of intracranial injury	ICD-9-CM	Diagnosis
803.00	Other closed skull fracture without mention of intracranial injury, unspecified state of consciousness	ICD-9-CM	Diagnosis
803.01	Other closed skull fracture without mention of intracranial injury, no loss of consciousness	ICD-9-CM	Diagnosis
803.02	Other closed skull fracture without mention of intracranial injury, brief (less than one hour) loss of consciousness	ICD-9-CM	Diagnosis
803.03	Other closed skull fracture without mention of intracranial injury, moderate (1-24 hours) loss of consciousness	ICD-9-CM	Diagnosis
803.04	Other closed skull fracture without mention of intracranial injury, prolonged (more than 24 hours) loss of consciousness and return to pre-existing conscious level	ICD-9-CM	Diagnosis
803.05	Other closed skull fracture without mention of intracranial injury, prolonged (more than 24 hours) loss of consciousness, without return to pre-existing conscious level	ICD-9-CM	Diagnosis
803.06	Other closed skull fracture without mention of intracranial injury, loss of consciousness of unspecified duration	ICD-9-CM	Diagnosis
803.09	Other closed skull fracture without mention of intracranial injury, unspecified concussion	ICD-9-CM	Diagnosis
803.1	Other closed skull fracture with cerebral laceration and contusion	ICD-9-CM	Diagnosis
803.10	Other closed skull fracture with cerebral laceration and contusion, unspecified state of consciousness	ICD-9-CM	Diagnosis
803.11	Other closed skull fracture with cerebral laceration and contusion, no loss of consciousness	ICD-9-CM	Diagnosis
803.12	Other closed skull fracture with cerebral laceration and contusion, brief (less than one hour) loss of consciousness	ICD-9-CM	Diagnosis
803.13	Other closed skull fracture with cerebral laceration and contusion, moderate (1-24 hours) loss of consciousness	ICD-9-CM	Diagnosis
803.14	Other closed skull fracture with cerebral laceration and contusion, prolonged (more than 24 hours) loss of consciousness and return to pre-existing conscious level	ICD-9-CM	Diagnosis
803.15	Other closed skull fracture with cerebral laceration and contusion, prolonged (more than 24 hours) loss of consciousness, without return to pre-existing conscious level	ICD-9-CM	Diagnosis
803.16	Other closed skull fracture with cerebral laceration and contusion, loss of consciousness of unspecified duration	ICD-9-CM	Diagnosis
803.19	Other closed skull fracture with cerebral laceration and contusion, unspecified concussion	ICD-9-CM	Diagnosis
803.2	Other closed skull fracture with subarachnoid, subdural, and extradural hemorrhage	ICD-9-CM	Diagnosis
803.20	Other closed skull fracture with subarachnoid, subdural, and extradural hemorrhage, unspecified state of consciousness	ICD-9-CM	Diagnosis
803.21	Other closed skull fracture with subarachnoid, subdural, and extradural hemorrhage, no loss of consciousness	ICD-9-CM	Diagnosis
803.22	Other closed skull fracture with subarachnoid, subdural, and extradural hemorrhage, brief (less than one hour) loss of consciousness	ICD-9-CM	Diagnosis
803.23	Other closed skull fracture with subarachnoid, subdural, and extradural hemorrhage, moderate (1-24 hours) loss of consciousness	ICD-9-CM	Diagnosis
803.24	Other closed skull fracture with subarachnoid, subdural, and extradural hemorrhage, prolonged (more than 24 hours) loss of consciousness and return to pre-existing conscious level	ICD-9-CM	Diagnosis
803.25	Other closed skull fracture with subarachnoid, subdural, and extradural hemorrhage, prolonged (more than 24 hours) loss of consciousness, without return to pre-existing conscious level	ICD-9-CM	Diagnosis

Appendix D. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes Used to Define Outcomes and Censoring Criteria in this Request

Code	Description	Code Type	Code Category
803.26	Other closed skull fracture with subarachnoid, subdural, and extradural hemorrhage, loss of consciousness of unspecified duration	ICD-9-CM	Diagnosis
803.29	Other closed skull fracture with subarachnoid, subdural, and extradural hemorrhage, unspecified concussion	ICD-9-CM	Diagnosis
803.3	Closed skull fracture with other and unspecified intracranial hemorrhage	ICD-9-CM	Diagnosis
803.30	Other closed skull fracture with other and unspecified intracranial hemorrhage, unspecified state of unconsciousness	ICD-9-CM	Diagnosis
803.31	Other closed skull fracture with other and unspecified intracranial hemorrhage, no loss of consciousness	ICD-9-CM	Diagnosis
803.32	Other closed skull fracture with other and unspecified intracranial hemorrhage, brief (less than one hour) loss of consciousness	ICD-9-CM	Diagnosis
803.33	Other closed skull fracture with other and unspecified intracranial hemorrhage, moderate (1-24 hours) loss of consciousness	ICD-9-CM	Diagnosis
803.34	Other closed skull fracture with other and unspecified intracranial hemorrhage, prolonged (more than 24 hours) loss of consciousness and return to pre-existing conscious level	ICD-9-CM	Diagnosis
803.35	Other closed skull fracture with other and unspecified intracranial hemorrhage, prolonged (more than 24 hours) loss of consciousness, without return to pre-existing conscious level	ICD-9-CM	Diagnosis
803.36	Other closed skull fracture with other and unspecified intracranial hemorrhage, loss of consciousness of unspecified duration	ICD-9-CM	Diagnosis
803.39	Other closed skull fracture with other and unspecified intracranial hemorrhage, unspecified concussion	ICD-9-CM	Diagnosis
803.4	Other closed skull fracture with intracranial injury of other and unspecified nature	ICD-9-CM	Diagnosis
803.40	Other closed skull fracture with intracranial injury of other and unspecified nature, unspecified state of consciousness	ICD-9-CM	Diagnosis
803.41	Other closed skull fracture with intracranial injury of other and unspecified nature, no loss of consciousness	ICD-9-CM	Diagnosis
803.42	Other closed skull fracture with intracranial injury of other and unspecified nature, brief (less than one hour) loss of consciousness	ICD-9-CM	Diagnosis
803.43	Other closed skull fracture with intracranial injury of other and unspecified nature, moderate (1-24 hours) loss of consciousness	ICD-9-CM	Diagnosis
803.44	Other closed skull fracture with intracranial injury of other and unspecified nature, prolonged (more than 24 hours) loss of consciousness and return to pre-existing conscious level	ICD-9-CM	Diagnosis
803.45	Other closed skull fracture with intracranial injury of other and unspecified nature, prolonged (more than 24 hours) loss of consciousness, without return to pre-existing conscious level	ICD-9-CM	Diagnosis
803.46	Other closed skull fracture with intracranial injury of other and unspecified nature, loss of consciousness of unspecified duration	ICD-9-CM	Diagnosis
803.49	Other closed skull fracture with intracranial injury of other and unspecified nature, unspecified concussion	ICD-9-CM	Diagnosis
803.5	Other open skull fracture without mention of intracranial injury	ICD-9-CM	Diagnosis
803.50	Other open skull fracture without mention of injury, state of consciousness unspecified	ICD-9-CM	Diagnosis
803.51	Other open skull fracture without mention of intracranial injury, no loss of consciousness	ICD-9-CM	Diagnosis
803.52	Other open skull fracture without mention of intracranial injury, brief (less than one hour) loss of consciousness	ICD-9-CM	Diagnosis
803.53	Other open skull fracture without mention of intracranial injury, moderate (1-24 hours) loss of consciousness	ICD-9-CM	Diagnosis
803.54	Other open skull fracture without mention of intracranial injury, prolonged (more than 24 hours) loss of consciousness and return to pre-existing conscious level	ICD-9-CM	Diagnosis

Appendix D. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes Used to Define Outcomes and Censoring Criteria in this Request

Code	Description	Code Type	Code Category
803.55	Other open skull fracture without mention of intracranial injury, prolonged (more than 24 hours) loss of consciousness, without return to pre-existing conscious level	ICD-9-CM	Diagnosis
803.56	Other open skull fracture without mention of intracranial injury, loss of consciousness of unspecified duration	ICD-9-CM	Diagnosis
803.59	Other open skull fracture without mention of intracranial injury, unspecified concussion	ICD-9-CM	Diagnosis
803.6	Other open skull fracture with cerebral laceration and contusion	ICD-9-CM	Diagnosis
803.60	Other open skull fracture with cerebral laceration and contusion, unspecified state of consciousness	ICD-9-CM	Diagnosis
803.61	Other open skull fracture with cerebral laceration and contusion, no loss of consciousness	ICD-9-CM	Diagnosis
803.62	Other open skull fracture with cerebral laceration and contusion, brief (less than one hour) loss of consciousness	ICD-9-CM	Diagnosis
803.63	Other open skull fracture with cerebral laceration and contusion, moderate (1-24 hours) loss of consciousness	ICD-9-CM	Diagnosis
803.64	Other open skull fracture with cerebral laceration and contusion, prolonged (more than 24 hours) loss of consciousness and return to pre-existing conscious level	ICD-9-CM	Diagnosis
803.65	Other open skull fracture with cerebral laceration and contusion, prolonged (more than 24 hours) loss of consciousness, without return to pre-existing conscious level	ICD-9-CM	Diagnosis
803.66	Other open skull fracture with cerebral laceration and contusion, loss of consciousness of unspecified duration	ICD-9-CM	Diagnosis
803.69	Other open skull fracture with cerebral laceration and contusion, unspecified concussion	ICD-9-CM	Diagnosis
803.7	Other open skull fracture with subarachnoid, subdural, and extradural hemorrhage	ICD-9-CM	Diagnosis
803.70	Other open skull fracture with subarachnoid, subdural, and extradural hemorrhage, unspecified state of consciousness	ICD-9-CM	Diagnosis
803.71	Other open skull fracture with subarachnoid, subdural, and extradural hemorrhage, no loss of consciousness	ICD-9-CM	Diagnosis
803.72	Other open skull fracture with subarachnoid, subdural, and extradural hemorrhage, brief (less than one hour) loss of consciousness	ICD-9-CM	Diagnosis
803.73	Other open skull fracture with subarachnoid, subdural, and extradural hemorrhage, moderate (1-24 hours) loss of consciousness	ICD-9-CM	Diagnosis
803.74	Other open skull fracture with subarachnoid, subdural, and extradural hemorrhage, prolonged (more than 24 hours) loss of consciousness and return to pre-existing conscious level	ICD-9-CM	Diagnosis
803.75	Other open skull fracture with subarachnoid, subdural, and extradural hemorrhage, prolonged (more than 24 hours) loss of consciousness, without return to pre-existing conscious level	ICD-9-CM	Diagnosis
803.76	Other open skull fracture with subarachnoid, subdural, and extradural hemorrhage, loss of consciousness of unspecified duration	ICD-9-CM	Diagnosis
803.79	Other open skull fracture with subarachnoid, subdural, and extradural hemorrhage, unspecified concussion	ICD-9-CM	Diagnosis
803.8	Other open skull fracture with other and unspecified intracranial hemorrhage	ICD-9-CM	Diagnosis
803.80	Other open skull fracture with other and unspecified intracranial hemorrhage, unspecified state of consciousness	ICD-9-CM	Diagnosis
803.81	Other open skull fracture with other and unspecified intracranial hemorrhage, no loss of consciousness	ICD-9-CM	Diagnosis
803.82	Other open skull fracture with other and unspecified intracranial hemorrhage, brief (less than one hour) loss of consciousness	ICD-9-CM	Diagnosis
803.83	Other open skull fracture with other and unspecified intracranial hemorrhage, moderate (1-24 hours) loss of consciousness	ICD-9-CM	Diagnosis

Appendix D. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes Used to Define Outcomes and Censoring Criteria in this Request

Code	Description	Code Type	Code Category
803.84	Other open skull fracture with other and unspecified intracranial hemorrhage, prolonged (more than 24 hours) loss of consciousness and return to pre-existing conscious level	ICD-9-CM	Diagnosis
803.85	Other open skull fracture with other and unspecified intracranial hemorrhage, prolonged (more than 24 hours) loss of consciousness, without return to pre-existing conscious level	ICD-9-CM	Diagnosis
803.86	Other open skull fracture with other and unspecified intracranial hemorrhage, loss of consciousness of unspecified duration	ICD-9-CM	Diagnosis
803.89	Other open skull fracture with other and unspecified intracranial hemorrhage, unspecified concussion	ICD-9-CM	Diagnosis
803.9	Other open skull fracture with intracranial injury of other and unspecified nature	ICD-9-CM	Diagnosis
803.90	Other open skull fracture with intracranial injury of other and unspecified nature, unspecified state of consciousness	ICD-9-CM	Diagnosis
803.91	Other open skull fracture with intracranial injury of other and unspecified nature, no loss of consciousness	ICD-9-CM	Diagnosis
803.92	Other open skull fracture with intracranial injury of other and unspecified nature, brief (less than one hour) loss of consciousness	ICD-9-CM	Diagnosis
803.93	Other open skull fracture with intracranial injury of other and unspecified nature, moderate (1-24 hours) loss of consciousness	ICD-9-CM	Diagnosis
803.94	Other open skull fracture with intracranial injury of other and unspecified nature, prolonged (more than 24 hours) loss of consciousness and return to pre-existing conscious level	ICD-9-CM	Diagnosis
803.95	Other open skull fracture with intracranial injury of other and unspecified nature, prolonged (more than 24 hours) loss of consciousness, without return to pre-existing conscious level	ICD-9-CM	Diagnosis
803.96	Other open skull fracture with intracranial injury of other and unspecified nature, loss of consciousness of unspecified duration	ICD-9-CM	Diagnosis
803.99	Other open skull fracture with intracranial injury of other and unspecified nature, unspecified concussion	ICD-9-CM	Diagnosis
804	Multiple fractures involving skull or face with other bones	ICD-9-CM	Diagnosis
804.0	Closed fractures involving skull or face with other bones, without mention of intracranial injury	ICD-9-CM	Diagnosis
804.00	Closed fractures involving skull or face with other bones, without mention of intracranial injury, unspecified state of consciousness	ICD-9-CM	Diagnosis
804.01	Closed fractures involving skull or face with other bones, without mention of intracranial injury, no loss of consciousness	ICD-9-CM	Diagnosis
804.02	Closed fractures involving skull or face with other bones, without mention of intracranial injury, brief (less than one hour) loss of consciousness	ICD-9-CM	Diagnosis
804.03	Closed fractures involving skull or face with other bones, without mention of intracranial injury, moderate (1-24 hours) loss of consciousness	ICD-9-CM	Diagnosis
804.04	Closed fractures involving skull or face with other bones, without mention or intracranial injury, prolonged (more than 24 hours) loss of consciousness and return to pre-existing conscious level	ICD-9-CM	Diagnosis
804.05	Closed fractures involving skull of face with other bones, without mention of intracranial injury, prolonged (more than 24 hours) loss of consciousness, without return to pre-existing conscious level	ICD-9-CM	Diagnosis
804.06	Closed fractures involving skull of face with other bones, without mention of intracranial injury, loss of consciousness of unspecified duration	ICD-9-CM	Diagnosis
804.09	Closed fractures involving skull of face with other bones, without mention of intracranial injury, unspecified concussion	ICD-9-CM	Diagnosis
804.1	Closed fractures involving skull or face with other bones, with cerebral laceration and contusion	ICD-9-CM	Diagnosis

Appendix D. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes Used to Define Outcomes and Censoring Criteria in this Request

Code	Description	Code Type	Code Category
804.10	Closed fractures involving skull or face with other bones, with cerebral laceration and contusion. unspecified state of consciousness	ICD-9-CM	Diagnosis
804.11	Closed fractures involving skull or face with other bones, with cerebral laceration and contusion. no loss of consciousness	ICD-9-CM	Diagnosis
804.12	Closed fractures involving skull or face with other bones, with cerebral laceration and contusion. brief (less than one hour) loss of consciousness	ICD-9-CM	Diagnosis
804.13	Closed fractures involving skull or face with other bones, with cerebral laceration and contusion. moderate (1-24 hours) loss of consciousness	ICD-9-CM	Diagnosis
804.14	Closed fractures involving skull or face with other bones, with cerebral laceration and contusion, prolonged (more than 24 hours) loss of consciousness and return to pre-existing conscious level	ICD-9-CM	Diagnosis
804.15	Closed fractures involving skull or face with other bones, with cerebral laceration and contusion, prolonged (more than 24 hours) loss of consciousness, without return to pre-existing conscious level	ICD-9-CM	Diagnosis
804.16	Closed fractures involving skull or face with other bones, with cerebral laceration and contusion. loss of consciousness of unspecified duration	ICD-9-CM	Diagnosis
804.19	Closed fractures involving skull or face with other bones, with cerebral laceration and contusion. unspecified concussion	ICD-9-CM	Diagnosis
804.2	Closed fractures involving skull or face with other bones with subarachnoid, subdural, and extradural hemorrhage	ICD-9-CM	Diagnosis
804.20	Closed fractures involving skull or face with other bones with subarachnoid, subdural, and extradural hemorrhage. unspecified state of consciousness	ICD-9-CM	Diagnosis
804.21	Closed fractures involving skull or face with other bones with subarachnoid, subdural, and extradural hemorrhage. no loss of consciousness	ICD-9-CM	Diagnosis
804.22	Closed fractures involving skull or face with other bones with subarachnoid, subdural, and extradural hemorrhage. brief (less than one hour) loss of consciousness	ICD-9-CM	Diagnosis
804.23	Closed fractures involving skull or face with other bones with subarachnoid, subdural, and extradural hemorrhage. moderate (1-24 hours) loss of consciousness	ICD-9-CM	Diagnosis
804.24	Closed fractures involving skull or face with other bones with subarachnoid, subdural, and extradural hemorrhage, prolonged (more than 24 hours) loss of consciousness and return to pre-existing conscious level	ICD-9-CM	Diagnosis
804.25	Closed fractures involving skull or face with other bones with subarachnoid, subdural, and extradural hemorrhage, prolonged (more than 24 hours) loss of consciousness, without return to pre-existing conscious level	ICD-9-CM	Diagnosis
804.26	Closed fractures involving skull or face with other bones with subarachnoid, subdural, and extradural hemorrhage. loss of consciousness of unspecified duration	ICD-9-CM	Diagnosis
804.29	Closed fractures involving skull or face with other bones with subarachnoid, subdural, and extradural hemorrhage. unspecified concussion	ICD-9-CM	Diagnosis
804.3	Closed fractures involving skull or face with other bones, with other and unspecified intracranial hemorrhage	ICD-9-CM	Diagnosis
804.30	Closed fractures involving skull or face with other bones, with other and unspecified intracranial hemorrhage. unspecified state of consciousness	ICD-9-CM	Diagnosis
804.31	Closed fractures involving skull or face with other bones, with other and unspecified intracranial hemorrhage. no loss of consciousness	ICD-9-CM	Diagnosis
804.32	Closed fractures involving skull or face with other bones, with other and unspecified intracranial hemorrhage. brief (less than one hour) loss of consciousness	ICD-9-CM	Diagnosis
804.33	Closed fractures involving skull or face with other bones, with other and unspecified intracranial hemorrhage. moderate (1-24 hours) loss of consciousness	ICD-9-CM	Diagnosis
804.34	Closed fractures involving skull or face with other bones, with other and unspecified intracranial hemorrhage, prolonged (more than 24 hours) loss of consciousness and return to pre-existing conscious level	ICD-9-CM	Diagnosis

Appendix D. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes Used to Define Outcomes and Censoring Criteria in this Request

Code	Description	Code Type	Code Category
804.35	Closed fractures involving skull or face with other bones, with other and unspecified intracranial hemorrhage, prolonged (more than 24 hours) loss of consciousness, without return to pre-existing conscious level	ICD-9-CM	Diagnosis
804.36	Closed fractures involving skull or face with other bones, with other and unspecified intracranial hemorrhage, loss of consciousness of unspecified duration	ICD-9-CM	Diagnosis
804.39	Closed fractures involving skull or face with other bones, with other and unspecified intracranial hemorrhage, unspecified concussion	ICD-9-CM	Diagnosis
804.4	Closed fractures involving skull or face with other bones, with intracranial injury of other and unspecified nature	ICD-9-CM	Diagnosis
804.40	Closed fractures involving skull or face with other bones, with intracranial injury of other and unspecified nature, unspecified state of consciousness	ICD-9-CM	Diagnosis
804.41	Closed fractures involving skull or face with other bones, with intracranial injury of other and unspecified nature, no loss of consciousness	ICD-9-CM	Diagnosis
804.42	Closed fractures involving skull or face with other bones, with intracranial injury of other and unspecified nature, brief (less than one hour) loss of consciousness	ICD-9-CM	Diagnosis
804.43	Closed fractures involving skull or face with other bones, with intracranial injury of other and unspecified nature, moderate (1-24 hours) loss of consciousness	ICD-9-CM	Diagnosis
804.44	Closed fractures involving skull or face with other bones, with intracranial injury of other and unspecified nature, prolonged (more than 24 hours) loss of consciousness and return to pre-existing conscious level	ICD-9-CM	Diagnosis
804.45	Closed fractures involving skull or face with other bones, with intracranial injury of other and unspecified nature, prolonged (more than 24 hours) loss of consciousness, without return to pre-existing conscious level	ICD-9-CM	Diagnosis
804.46	Closed fractures involving skull or face with other bones, with intracranial injury of other and unspecified nature, loss of consciousness of unspecified duration	ICD-9-CM	Diagnosis
804.49	Closed fractures involving skull or face with other bones, with intracranial injury of other and unspecified nature, unspecified concussion	ICD-9-CM	Diagnosis
804.5	Open fractures involving skull or face with other bones, without mention of intracranial injury	ICD-9-CM	Diagnosis
804.50	Open fractures involving skull or face with other bones, without mention of intracranial injury, unspecified state of consciousness	ICD-9-CM	Diagnosis
804.51	Open fractures involving skull or face with other bones, without mention of intracranial injury, no loss of consciousness	ICD-9-CM	Diagnosis
804.52	Open fractures involving skull or face with other bones, without mention of intracranial injury, brief (less than one hour) loss of consciousness	ICD-9-CM	Diagnosis
804.53	Open fractures involving skull or face with other bones, without mention of intracranial injury, moderate (1-24 hours) loss of consciousness	ICD-9-CM	Diagnosis
804.54	Open fractures involving skull or face with other bones, without mention of intracranial injury, prolonged (more than 24 hours) loss of consciousness and return to pre-existing conscious level	ICD-9-CM	Diagnosis
804.55	Open fractures involving skull or face with other bones, without mention of intracranial injury, prolonged (more than 24 hours) loss of consciousness, without return to pre-existing conscious level	ICD-9-CM	Diagnosis
804.56	Open fractures involving skull or face with other bones, without mention of intracranial injury, loss of consciousness of unspecified duration	ICD-9-CM	Diagnosis
804.59	Open fractures involving skull or face with other bones, without mention of intracranial injury, unspecified concussion	ICD-9-CM	Diagnosis
804.6	Open fractures involving skull or face with other bones, with cerebral laceration and contusion	ICD-9-CM	Diagnosis
804.60	Open fractures involving skull or face with other bones, with cerebral laceration and contusion, unspecified state of consciousness	ICD-9-CM	Diagnosis

Appendix D. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes Used to Define Outcomes and Censoring Criteria in this Request

Code	Description	Code Type	Code Category
804.61	Open fractures involving skull or face with other bones, with cerebral laceration and contusion, no loss of consciousness	ICD-9-CM	Diagnosis
804.62	Open fractures involving skull or face with other bones, with cerebral laceration and contusion, brief (less than one hour) loss of consciousness	ICD-9-CM	Diagnosis
804.63	Open fractures involving skull or face with other bones, with cerebral laceration and contusion, moderate (1-24 hours) loss of consciousness	ICD-9-CM	Diagnosis
804.64	Open fractures involving skull or face with other bones, with cerebral laceration and contusion, prolonged (more than 24 hours) loss of consciousness and return to pre-existing conscious level	ICD-9-CM	Diagnosis
804.65	Open fractures involving skull or face with other bones, with cerebral laceration and contusion, prolonged (more than 24 hours) loss of consciousness, without return to pre-existing conscious level	ICD-9-CM	Diagnosis
804.66	Open fractures involving skull or face with other bones, with cerebral laceration and contusion, loss of consciousness of unspecified duration	ICD-9-CM	Diagnosis
804.69	Open fractures involving skull or face with other bones, with cerebral laceration and contusion, unspecified concussion	ICD-9-CM	Diagnosis
804.7	Open fractures involving skull or face with other bones with subarachnoid, subdural, and extradural hemorrhage	ICD-9-CM	Diagnosis
804.70	Open fractures involving skull or face with other bones with subarachnoid, subdural, and extradural hemorrhage, unspecified state of consciousness	ICD-9-CM	Diagnosis
804.71	Open fractures involving skull or face with other bones with subarachnoid, subdural, and extradural hemorrhage, no loss of consciousness	ICD-9-CM	Diagnosis
804.72	Open fractures involving skull or face with other bones with subarachnoid, subdural, and extradural hemorrhage, brief (less than one hour) loss of consciousness	ICD-9-CM	Diagnosis
804.73	Open fractures involving skull or face with other bones with subarachnoid, subdural, and extradural hemorrhage, moderate (1-24 hours) loss of consciousness	ICD-9-CM	Diagnosis
804.74	Open fractures involving skull or face with other bones with subarachnoid, subdural, and extradural hemorrhage, prolonged (more than 24 hours) loss of consciousness and return to pre-existing conscious level	ICD-9-CM	Diagnosis
804.75	Open fractures involving skull or face with other bones with subarachnoid, subdural, and extradural hemorrhage, prolonged (more than 24 hours) loss of consciousness, without return to pre-existing conscious level	ICD-9-CM	Diagnosis
804.76	Open fractures involving skull or face with other bones with subarachnoid, subdural, and extradural hemorrhage, loss of consciousness of unspecified duration	ICD-9-CM	Diagnosis
804.79	Open fractures involving skull or face with other bones with subarachnoid, subdural, and extradural hemorrhage, unspecified concussion	ICD-9-CM	Diagnosis
804.8	Open fractures involving skull or face with other bones, with other and unspecified intracranial hemorrhage	ICD-9-CM	Diagnosis
804.80	Open fractures involving skull or face with other bones, with other and unspecified intracranial hemorrhage, unspecified state of consciousness	ICD-9-CM	Diagnosis
804.81	Open fractures involving skull or face with other bones, with other and unspecified intracranial hemorrhage, no loss of consciousness	ICD-9-CM	Diagnosis
804.82	Open fractures involving skull or face with other bones, with other and unspecified intracranial hemorrhage, brief (less than one hour) loss of consciousness	ICD-9-CM	Diagnosis
804.83	Open fractures involving skull or face with other bones, with other and unspecified intracranial hemorrhage, moderate (1-24 hours) loss of consciousness	ICD-9-CM	Diagnosis
804.84	Open fractures involving skull or face with other bones, with other and unspecified intracranial hemorrhage, prolonged (more than 24 hours) loss of consciousness and return to pre-existing conscious level	ICD-9-CM	Diagnosis
804.85	Open fractures involving skull or face with other bones, with other and unspecified intracranial hemorrhage, prolonged (more than 24 hours) loss of consciousness, without return to pre-existing conscious level	ICD-9-CM	Diagnosis

Appendix D. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes Used to Define Outcomes and Censoring Criteria in this Request

Code	Description	Code Type	Code Category
804.86	Open fractures involving skull or face with other bones, with other and unspecified intracranial hemorrhage. loss of consciousness of unspecified duration	ICD-9-CM	Diagnosis
804.89	Open fractures involving skull or face with other bones, with other and unspecified intracranial hemorrhage. unspecified concussion	ICD-9-CM	Diagnosis
804.9	Open fractures involving skull or face with other bones, with intracranial injury of other and unspecified nature	ICD-9-CM	Diagnosis
804.90	Open fractures involving skull or face with other bones, with intracranial injury of other and unspecified nature. unspecified state of consciousness	ICD-9-CM	Diagnosis
804.91	Open fractures involving skull or face with other bones, with intracranial injury of other and unspecified nature. no loss of consciousness	ICD-9-CM	Diagnosis
804.92	Open fractures involving skull or face with other bones, with intracranial injury of other and unspecified nature. brief (less than one hour) loss of consciousness	ICD-9-CM	Diagnosis
804.93	Open fractures involving skull or face with other bones, with intracranial injury of other and unspecified nature. moderate (1-24 hours) loss of consciousness	ICD-9-CM	Diagnosis
804.94	Open fractures involving skull or face with other bones, with intracranial injury of other and unspecified nature. prolonged (more than 24 hours) loss of consciousness and return to pre-existing conscious level	ICD-9-CM	Diagnosis
804.95	Open fractures involving skull or face with other bones, with intracranial injury of other and unspecified nature. prolonged (more than 24 hours) loss of consciousness, without return to pre-existing level	ICD-9-CM	Diagnosis
804.96	Open fractures involving skull or face with other bones, with intracranial injury of other and unspecified nature. loss of consciousness of unspecified duration	ICD-9-CM	Diagnosis
804.99	Open fractures involving skull or face with other bones, with intracranial injury of other and unspecified nature. unspecified concussion	ICD-9-CM	Diagnosis
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
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

Appendix D. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes Used to Define Outcomes and Censoring Criteria in this Request

Code	Description	Code Type	Code Category
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
806.0	Closed fracture of cervical vertebra 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
806.00	Closed fracture of C1-C4 level with unspecified 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
806.01	Closed fracture of C1-C4 level with complete lesion of cord	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
806.02	Closed fracture of C1-C4 level with anterior cord syndrome	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
806.03	Closed fracture of C1-C4 level with central 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
806.04	Closed fracture of C1-C4 level with other specified spinal cord injury	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
806.05	Closed fracture of C5-C7 level with unspecified spinal cord injury	ICD-9-CM	Diagnosis
806.05	Closed fracture of C5-C7 level with unspecified spinal cord injury	ICD-9-CM	Diagnosis
806.06	Closed fracture of C5-C7 level with complete lesion of cord	ICD-9-CM	Diagnosis
806.06	Closed fracture of C5-C7 level with complete lesion of cord	ICD-9-CM	Diagnosis
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
806.07	Closed fracture of C5-C7 level with anterior cord syndrome	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
806.08	Closed fracture of C5-C7 level with central 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
806.09	Closed fracture of C5-C7 level with other specified spinal cord injury	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
806.1	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
806.10	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
806.11	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
806.12	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
806.13	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
806.14	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

Appendix D. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes Used to Define Outcomes and Censoring Criteria in this Request

Code	Description	Code Type	Code Category
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
806.16	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
806.17	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
806.18	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
806.19	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
806.2	Closed fracture of dorsal (thoracic) vertebra with 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
806.20	Closed fracture of T1-T6 level with unspecified 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
806.21	Closed fracture of T1-T6 level with complete lesion of cord	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
806.22	Closed fracture of T1-T6 level with anterior cord syndrome	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
806.23	Closed fracture of T1-T6 level with central 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
806.24	Closed fracture of T1-T6 level with other specified spinal cord injury	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
806.25	Closed fracture of T7-T12 level with unspecified 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
806.26	Closed fracture of T7-T12 level with complete lesion of cord	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
806.27	Closed fracture of T7-T12 level with anterior cord syndrome	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
806.28	Closed fracture of T7-T12 level with central 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
806.29	Closed fracture of T7-T12 level with other specified spinal cord injury	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
806.3	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
806.30	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
806.31	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
806.32	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
806.33	Open fracture of T1-T6 level with central cord syndrome	ICD-9-CM	Diagnosis

Appendix D. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes Used to Define Outcomes and Censoring Criteria in this Request

Code	Description	Code Type	Code Category
806.34	Open fracture of T1-T6 level with other specified spinal cord injury	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
806.35	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
806.36	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
806.37	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
806.38	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
806.39	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
806.4	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
806.5	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
806.6	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
806.60	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
806.61	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
806.62	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
806.69	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
806.7	Open fracture of sacrum and coccyx with spinal cord injury	ICD-9-CM	Diagnosis
806.70	Open fracture of sacrum and coccyx with unspecified spinal cord injury	ICD-9-CM	Diagnosis
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
806.71	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
806.72	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
806.79	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
806.8	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
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

Appendix D. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes Used to Define Outcomes and Censoring Criteria in this Request

Code	Description	Code Type	Code Category
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
807.4	Flail chest	ICD-9-CM	Diagnosis
807.5	Closed fracture of larynx and trachea	ICD-9-CM	Diagnosis
807.6	Open fracture of larynx and trachea	ICD-9-CM	Diagnosis
808	Fracture of pelvis	ICD-9-CM	Diagnosis
808	Fracture of pelvis	ICD-9-CM	Diagnosis
808.0	Closed fracture of acetabulum	ICD-9-CM	Diagnosis
808.0	Closed fracture of acetabulum	ICD-9-CM	Diagnosis
808.1	Open fracture of acetabulum	ICD-9-CM	Diagnosis
808.1	Open fracture of acetabulum	ICD-9-CM	Diagnosis
808.2	Closed fracture of pubis	ICD-9-CM	Diagnosis
808.2	Closed fracture of pubis	ICD-9-CM	Diagnosis
808.3	Open fracture of pubis	ICD-9-CM	Diagnosis
808.3	Open fracture of pubis	ICD-9-CM	Diagnosis
808.4	Closed fracture of other specified part of pelvis	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
808.41	Closed fracture of ilium	ICD-9-CM	Diagnosis
808.42	Closed fracture of ischium	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
808.43	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
808.44	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
808.49	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
808.5	Open fracture of other specified part of pelvis	ICD-9-CM	Diagnosis
808.51	Open fracture of ilium	ICD-9-CM	Diagnosis
808.51	Open fracture of ilium	ICD-9-CM	Diagnosis
808.52	Open fracture of ischium	ICD-9-CM	Diagnosis
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
808.53	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
808.54	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
808.59	Open fracture of other specified part of pelvis	ICD-9-CM	Diagnosis
808.8	Unspecified closed fracture of pelvis	ICD-9-CM	Diagnosis

Appendix D. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes Used to Define Outcomes and Censoring Criteria in this Request

Code	Description	Code Type	Code Category
808.8	Unspecified closed fracture of pelvis	ICD-9-CM	Diagnosis
808.9	Unspecified open 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
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	Fracture of humerus	ICD-9-CM	Diagnosis
812.0	Closed fracture of upper end 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
812.00	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
812.01	Closed fracture of surgical neck of humerus	ICD-9-CM	Diagnosis
812.02	Closed fracture of anatomical neck of humerus	ICD-9-CM	Diagnosis
812.02	Closed fracture of anatomical neck of humerus	ICD-9-CM	Diagnosis
812.03	Closed fracture of greater tuberosity of humerus	ICD-9-CM	Diagnosis
812.03	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
812.09	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
812.1	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
812.10	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
812.11	Open fracture of surgical neck of humerus	ICD-9-CM	Diagnosis
812.12	Open fracture of anatomical neck of humerus	ICD-9-CM	Diagnosis
812.12	Open fracture of anatomical neck of humerus	ICD-9-CM	Diagnosis

Appendix D. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes Used to Define Outcomes and Censoring Criteria in this Request

Code	Description	Code Type	Code Category
812.13	Open fracture of greater tuberosity 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
812.19	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
812.2	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
812.20	Closed fracture of unspecified part of humerus	ICD-9-CM	Diagnosis
812.21	Closed fracture of shaft of humerus	ICD-9-CM	Diagnosis
812.21	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
812.3	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
812.30	Open fracture of unspecified part of humerus	ICD-9-CM	Diagnosis
812.31	Open fracture of shaft of humerus	ICD-9-CM	Diagnosis
812.31	Open fracture of shaft of humerus	ICD-9-CM	Diagnosis
812.4	Closed fracture of lower end of humerus	ICD-9-CM	Diagnosis
812.4	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
812.40	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
812.41	Closed fracture of supracondylar humerus	ICD-9-CM	Diagnosis
812.42	Closed fracture of lateral condyle of 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
812.43	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
812.44	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
812.49	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
812.5	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
812.50	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
812.51	Open fracture of supracondylar humerus	ICD-9-CM	Diagnosis
812.52	Open fracture of lateral condyle of 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
812.53	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
812.54	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
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

Appendix D. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes Used to Define Outcomes and Censoring Criteria in this Request

Code	Description	Code Type	Code Category
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
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
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

Appendix D. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes Used to Define Outcomes and Censoring Criteria in this Request

Code	Description	Code Type	Code Category
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	Fracture of neck of femur	ICD-9-CM	Diagnosis
820.0	Closed transcervical fracture	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
820.00	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
820.01	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
820.02	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
820.03	Closed fracture of base of neck of femur	ICD-9-CM	Diagnosis
820.09	Other closed transcervical fracture of femur	ICD-9-CM	Diagnosis
820.09	Other closed transcervical fracture of femur	ICD-9-CM	Diagnosis
820.1	Open transcervical fracture	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
820.10	Open fracture of unspecified intracapsular section of neck of femur	ICD-9-CM	Diagnosis
820.11	Open fracture of epiphysis (separation) (upper) of neck of femur	ICD-9-CM	Diagnosis
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
820.12	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
820.13	Open fracture of base of neck of femur	ICD-9-CM	Diagnosis
820.19	Other open transcervical fracture of femur	ICD-9-CM	Diagnosis
820.19	Other open transcervical fracture of femur	ICD-9-CM	Diagnosis
820.2	Closed pertrochanteric 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
820.20	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
820.21	Closed fracture of intertrochanteric section of femur	ICD-9-CM	Diagnosis
820.22	Closed fracture of subtrochanteric section of femur	ICD-9-CM	Diagnosis
820.22	Closed fracture of subtrochanteric section of femur	ICD-9-CM	Diagnosis
820.3	Open pertrochanteric fracture 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
820.30	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
820.31	Open fracture of intertrochanteric section of femur	ICD-9-CM	Diagnosis
820.32	Open fracture of subtrochanteric section of femur	ICD-9-CM	Diagnosis
820.32	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
820.8	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
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	Fracture of other and unspecified parts of femur	ICD-9-CM	Diagnosis

Appendix D. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes Used to Define Outcomes and Censoring Criteria in this Request

Code	Description	Code Type	Code Category
821.0	Closed fracture of shaft or unspecified part 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
821.00	Closed fracture of unspecified part of femur	ICD-9-CM	Diagnosis
821.01	Closed fracture of shaft of femur	ICD-9-CM	Diagnosis
821.01	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
821.1	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
821.10	Open fracture of unspecified part of femur	ICD-9-CM	Diagnosis
821.11	Open fracture of shaft of femur	ICD-9-CM	Diagnosis
821.11	Open fracture of shaft of femur	ICD-9-CM	Diagnosis
821.2	Closed fracture of lower end of femur	ICD-9-CM	Diagnosis
821.2	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
821.20	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
821.21	Closed fracture of femoral condyle	ICD-9-CM	Diagnosis
821.22	Closed fracture of lower epiphysis of femur	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
821.23	Closed supracondylar fracture of femur	ICD-9-CM	Diagnosis
821.29	Other closed fracture of lower end of femur	ICD-9-CM	Diagnosis
821.29	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
821.3	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
821.30	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
821.31	Open fracture of femoral condyle	ICD-9-CM	Diagnosis
821.32	Open fracture of lower epiphysis of femur	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
821.33	Open supracondylar fracture of femur	ICD-9-CM	Diagnosis
821.39	Other open fracture of lower end 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
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

Appendix D. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes Used to Define Outcomes and Censoring Criteria in this Request

Code	Description	Code Type	Code Category
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
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	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
828.0	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
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
829	Fracture of unspecified bones	ICD-9-CM	Diagnosis
829.0	Closed fracture of unspecified bone	ICD-9-CM	Diagnosis
829.1	Open fracture of unspecified bone	ICD-9-CM	Diagnosis
860	Traumatic pneumothorax and hemothorax	ICD-9-CM	Diagnosis
860.0	Traumatic pneumothorax without mention of open wound into thorax	ICD-9-CM	Diagnosis
860.1	Traumatic pneumothorax with open wound into thorax	ICD-9-CM	Diagnosis
860.2	Traumatic hemothorax without mention of open wound into thorax	ICD-9-CM	Diagnosis
860.3	Traumatic hemothorax with open wound into thorax	ICD-9-CM	Diagnosis
860.4	Traumatic pneumohemothorax without mention of open wound into thorax	ICD-9-CM	Diagnosis
860.5	Traumatic pneumohemothorax with open wound into thorax	ICD-9-CM	Diagnosis

Appendix D. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes Used to Define Outcomes and Censoring Criteria in this Request

Code	Description	Code Type	Code Category
862.0	Diaphragm injury without mention of open wound into cavity	ICD-9-CM	Diagnosis
862.1	Diaphragm injury with open wound into cavity	ICD-9-CM	Diagnosis
862.8	Injury to multiple and unspecified intrathoracic organs without mention of open wound into cavity	ICD-9-CM	Diagnosis
862.9	Injury to multiple and unspecified intrathoracic organs with open wound into cavity	ICD-9-CM	Diagnosis
863.0	Stomach injury without mention of open wound into cavity	ICD-9-CM	Diagnosis
863.1	Stomach injury with open wound into cavity	ICD-9-CM	Diagnosis
863.2	Small intestine injury without mention of open wound into cavity	ICD-9-CM	Diagnosis
863.20	Small intestine injury, unspecified site, without mention of open wound into cavity	ICD-9-CM	Diagnosis
863.21	Duodenum injury without mention of open wound into cavity	ICD-9-CM	Diagnosis
863.29	Other injury to small intestine without mention of open wound into cavity	ICD-9-CM	Diagnosis
863.3	Small intestine injury with open wound into cavity	ICD-9-CM	Diagnosis
863.30	Small intestine injury, unspecified site, with open wound into cavity	ICD-9-CM	Diagnosis
863.31	Duodenum injury with open wound into cavity	ICD-9-CM	Diagnosis
863.39	Other injury to small intestine with open wound into cavity	ICD-9-CM	Diagnosis
863.4	Colon or rectal injury without mention of open wound into cavity	ICD-9-CM	Diagnosis
863.40	Colon injury unspecified site, without mention of open wound into cavity	ICD-9-CM	Diagnosis
863.41	Ascending (right) colon injury without mention of open wound into cavity	ICD-9-CM	Diagnosis
863.42	Transverse colon injury without mention of open wound into cavity	ICD-9-CM	Diagnosis
863.43	Descending (left) colon injury without mention of open wound into cavity	ICD-9-CM	Diagnosis
863.44	Sigmoid colon injury without mention of open wound into cavity	ICD-9-CM	Diagnosis
863.45	Rectum injury without mention of open wound into cavity	ICD-9-CM	Diagnosis
863.46	Injury to multiple sites in colon and rectum without mention of open wound into cavity	ICD-9-CM	Diagnosis
863.49	Other colon and rectum injury, without mention of open wound into cavity	ICD-9-CM	Diagnosis
863.5	Injury to colon or rectum with open wound into cavity	ICD-9-CM	Diagnosis
863.50	Colon injury, unspecified site, with open wound into cavity	ICD-9-CM	Diagnosis
863.51	Ascending (right) colon injury with open wound into cavity	ICD-9-CM	Diagnosis
863.52	Transverse colon injury with open wound into cavity	ICD-9-CM	Diagnosis
863.53	Descending (left) colon injury with open wound into cavity	ICD-9-CM	Diagnosis
863.54	Sigmoid colon injury with open wound into cavity	ICD-9-CM	Diagnosis
863.55	Rectum injury with open wound into cavity	ICD-9-CM	Diagnosis
863.56	Injury to multiple sites in colon and rectum with open wound into cavity	ICD-9-CM	Diagnosis
863.59	Other injury to colon and rectum with open wound into cavity	ICD-9-CM	Diagnosis
863.8	Injury to other and unspecified gastrointestinal sites without mention of open wound into cavity	ICD-9-CM	Diagnosis
863.80	Gastrointestinal tract injury, unspecified site, without mention of open wound into cavity	ICD-9-CM	Diagnosis
863.81	Pancreas head injury without mention of open wound into cavity	ICD-9-CM	Diagnosis
863.82	Pancreas body injury without mention of open wound into cavity	ICD-9-CM	Diagnosis
863.83	Pancreas tail injury without mention of open wound into cavity	ICD-9-CM	Diagnosis
863.84	Pancreas injury, multiple and unspecified sites, without mention of open wound into cavity	ICD-9-CM	Diagnosis
863.85	Appendix injury without mention of open wound into cavity	ICD-9-CM	Diagnosis
863.89	Injury to other and unspecified gastrointestinal sites without mention of open wound into cavity	ICD-9-CM	Diagnosis
863.9	Injury to other and unspecified gastrointestinal sites, with open wound into cavity	ICD-9-CM	Diagnosis
863.90	Gastrointestinal tract injury, unspecified site, with open wound into cavity	ICD-9-CM	Diagnosis
863.91	Pancreas head injury with open wound into cavity	ICD-9-CM	Diagnosis
863.92	Pancreas body injury with open wound into cavity	ICD-9-CM	Diagnosis
863.93	Pancreas tail injury with open wound into cavity	ICD-9-CM	Diagnosis
863.94	Pancreas injury, multiple and unspecified sites, with open wound into cavity	ICD-9-CM	Diagnosis
863.95	Appendix injury with open wound into cavity	ICD-9-CM	Diagnosis

Appendix D. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes Used to Define Outcomes and Censoring Criteria in this Request

Code	Description	Code Type	Code Category
863.99	Injury to other and unspecified gastrointestinal sites with open wound into cavity	ICD-9-CM	Diagnosis
864.1	Liver injury with open wound into cavity	ICD-9-CM	Diagnosis
864.10	Unspecified liver injury with open wound into cavity	ICD-9-CM	Diagnosis
864.11	Liver hematoma and contusion with open wound into cavity	ICD-9-CM	Diagnosis
864.12	Liver laceration, minor, with open wound into cavity	ICD-9-CM	Diagnosis
864.13	Liver laceration, moderate, with open wound into cavity	ICD-9-CM	Diagnosis
864.14	Liver laceration, major, with open wound into cavity	ICD-9-CM	Diagnosis
864.15	Liver injury with open wound into cavity, unspecified laceration	ICD-9-CM	Diagnosis
864.19	Other liver injury with open wound into cavity	ICD-9-CM	Diagnosis
865.1	Spleen injury with open wound into cavity	ICD-9-CM	Diagnosis
865.10	Unspecified spleen injury with open wound into cavity	ICD-9-CM	Diagnosis
865.11	Spleen hematoma, without rupture of capsule, with open wound into cavity	ICD-9-CM	Diagnosis
865.12	Capsular tears to spleen, without major disruption of parenchyma, with open wound into cavity	ICD-9-CM	Diagnosis
865.13	Spleen laceration extending into parenchyma, with open wound into cavity	ICD-9-CM	Diagnosis
865.14	Massive parenchyma disruption of spleen with open wound into cavity	ICD-9-CM	Diagnosis
865.19	Other spleen injury with open wound into cavity	ICD-9-CM	Diagnosis
866	Injury to kidney	ICD-9-CM	Diagnosis
866.0	Kidney injury without mention of open wound into cavity	ICD-9-CM	Diagnosis
866.00	Unspecified kidney injury without mention of open wound into cavity	ICD-9-CM	Diagnosis
866.01	Kidney hematoma without rupture of capsule or mention of open wound into cavity	ICD-9-CM	Diagnosis
866.02	Kidney laceration without mention of open wound into cavity	ICD-9-CM	Diagnosis
866.03	Complete disruption of kidney parenchyma, without mention of open wound into cavity	ICD-9-CM	Diagnosis
866.1	Kidney injury with open wound into cavity	ICD-9-CM	Diagnosis
866.10	Unspecified kidney injury with open wound into cavity	ICD-9-CM	Diagnosis
866.11	Kidney hematoma, without rupture of capsule, with open wound into cavity	ICD-9-CM	Diagnosis
866.12	Kidney laceration with open wound into cavity	ICD-9-CM	Diagnosis
866.13	Complete disruption of kidney parenchyma, with open wound into cavity	ICD-9-CM	Diagnosis
867	Injury to pelvic organs	ICD-9-CM	Diagnosis
867.0	Bladder and urethra injury without mention of open wound into cavity	ICD-9-CM	Diagnosis
867.1	Bladder and urethra injury with open wound into cavity	ICD-9-CM	Diagnosis
867.2	Ureter injury without mention of open wound into cavity	ICD-9-CM	Diagnosis
867.3	Ureter injury with open wound into cavity	ICD-9-CM	Diagnosis
867.4	Uterus injury without mention of open wound into cavity	ICD-9-CM	Diagnosis
867.5	Uterus injury with open wound into cavity	ICD-9-CM	Diagnosis
867.6	Injury to other specified pelvic organs without mention of open wound into cavity	ICD-9-CM	Diagnosis
867.7	Injury to other specified pelvic organs with open wound into cavity	ICD-9-CM	Diagnosis
867.8	Injury to unspecified pelvic organ without mention of open wound into cavity	ICD-9-CM	Diagnosis
867.9	Injury to unspecified pelvic organ with open wound into cavity	ICD-9-CM	Diagnosis
873.0	Open wound of scalp, without mention of complication	ICD-9-CM	Diagnosis
873.1	Open wound of scalp, complicated	ICD-9-CM	Diagnosis
875.0	Open wound of chest (wall), without mention of complication	ICD-9-CM	Diagnosis
875.1	Open wound of chest (wall), complicated	ICD-9-CM	Diagnosis
902.4	Renal blood vessel injury	ICD-9-CM	Diagnosis
902.40	Renal vessel(s) injury, unspecified	ICD-9-CM	Diagnosis
902.41	Renal artery injury	ICD-9-CM	Diagnosis
902.42	Renal vein injury	ICD-9-CM	Diagnosis
902.49	Renal blood vessel injury, other	ICD-9-CM	Diagnosis
902.55	Uterine artery injury	ICD-9-CM	Diagnosis
902.56	Uterine vein injury	ICD-9-CM	Diagnosis
902.81	Ovarian artery injury	ICD-9-CM	Diagnosis
902.82	Ovarian vein injury	ICD-9-CM	Diagnosis

Appendix D. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes Used to Define Outcomes and Censoring Criteria in this Request

Code	Description	Code Type	Code Category
925	Crushing injury of face, scalp, and neck	ICD-9-CM	Diagnosis
925.1	Crushing injury of face and scalp	ICD-9-CM	Diagnosis
925.2	Crushing injury of neck	ICD-9-CM	Diagnosis
926	Crushing injury of trunk	ICD-9-CM	Diagnosis
926.0	Crushing injury of external genitalia	ICD-9-CM	Diagnosis
926.1	Crushing injury of other specified sites of trunk	ICD-9-CM	Diagnosis
926.11	Crushing injury of back	ICD-9-CM	Diagnosis
926.12	Crushing injury of buttock	ICD-9-CM	Diagnosis
926.19	Crushing injury of other specified sites of trunk	ICD-9-CM	Diagnosis
926.8	Crushing injury of multiple sites of trunk	ICD-9-CM	Diagnosis
926.9	Crushing injury of unspecified site of trunk	ICD-9-CM	Diagnosis
927	Crushing injury of upper limb	ICD-9-CM	Diagnosis
927.0	Crushing injury of shoulder and upper arm	ICD-9-CM	Diagnosis
927.00	Crushing injury of shoulder region	ICD-9-CM	Diagnosis
927.01	Crushing injury of scapular region	ICD-9-CM	Diagnosis
927.02	Crushing injury of axillary region	ICD-9-CM	Diagnosis
927.03	Crushing injury of upper arm	ICD-9-CM	Diagnosis
927.09	Crushing injury of multiple sites of upper arm	ICD-9-CM	Diagnosis
927.1	Crushing injury of elbow and forearm	ICD-9-CM	Diagnosis
927.10	Crushing injury of forearm	ICD-9-CM	Diagnosis
927.11	Crushing injury of elbow	ICD-9-CM	Diagnosis
927.2	Crushing injury of wrist and hand(s), except finger(s) alone	ICD-9-CM	Diagnosis
927.20	Crushing injury of hand(s)	ICD-9-CM	Diagnosis
927.21	Crushing injury of wrist	ICD-9-CM	Diagnosis
927.3	Crushing injury of finger(s)	ICD-9-CM	Diagnosis
927.8	Crushing injury of multiple sites of upper limb	ICD-9-CM	Diagnosis
927.9	Crushing injury of unspecified site of upper limb	ICD-9-CM	Diagnosis
928	Crushing injury of lower limb	ICD-9-CM	Diagnosis
928.0	Crushing injury of hip and thigh	ICD-9-CM	Diagnosis
928.00	Crushing injury of thigh	ICD-9-CM	Diagnosis
928.01	Crushing injury of hip	ICD-9-CM	Diagnosis
928.1	Crushing injury of knee and lower leg	ICD-9-CM	Diagnosis
928.10	Crushing injury of lower leg	ICD-9-CM	Diagnosis
928.11	Crushing injury of knee	ICD-9-CM	Diagnosis
928.2	Crushing injury of ankle and foot, excluding toe(s) alone	ICD-9-CM	Diagnosis
928.20	Crushing injury of foot	ICD-9-CM	Diagnosis
928.21	Crushing injury of ankle	ICD-9-CM	Diagnosis
928.3	Crushing injury of toe(s)	ICD-9-CM	Diagnosis
928.8	Crushing injury of multiple sites of lower limb	ICD-9-CM	Diagnosis
928.9	Crushing injury of unspecified site of lower limb	ICD-9-CM	Diagnosis
929	Crushing injury of multiple and unspecified sites	ICD-9-CM	Diagnosis
929.0	Crushing injury of multiple sites, not elsewhere classified	ICD-9-CM	Diagnosis
929.9	Crushing injury of unspecified site	ICD-9-CM	Diagnosis
958.4	Traumatic shock	ICD-9-CM	Diagnosis
958.5	Traumatic anuria	ICD-9-CM	Diagnosis
958.7	Traumatic subcutaneous emphysema	ICD-9-CM	Diagnosis
996.7	Other complications of internal prosthetic device, implant, and graft	ICD-9-CM	Diagnosis
996.70	Other complications due to unspecified device, implant, and graft	ICD-9-CM	Diagnosis
996.71	Other complications due to heart valve prosthesis	ICD-9-CM	Diagnosis
996.72	Other complications due to other cardiac device, implant, and graft	ICD-9-CM	Diagnosis
996.73	Other complications due to renal dialysis device, implant, and graft	ICD-9-CM	Diagnosis
996.74	Other complications due to other vascular device, implant, and graft	ICD-9-CM	Diagnosis

Appendix D. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes Used to Define Outcomes and Censoring Criteria in this Request

Code	Description	Code Type	Code Category
996.75	Other complications due to nervous system device, implant, and graft	ICD-9-CM	Diagnosis
996.76	Other complications due to genitourinary device, implant, and graft	ICD-9-CM	Diagnosis
996.77	Other complications due to internal joint prosthesis	ICD-9-CM	Diagnosis
996.78	Other complications due to other internal orthopedic device, implant, and graft	ICD-9-CM	Diagnosis
996.79	Other complications due to other internal prosthetic device, implant, and graft	ICD-9-CM	Diagnosis
998.11	Hemorrhage complicating a procedure	ICD-9-CM	Diagnosis
998.12	Hematoma complicating a procedure	ICD-9-CM	Diagnosis
998.2	Accidental puncture or laceration during procedure	ICD-9-CM	Diagnosis
E805	Hit by rolling stock	ICD-9-CM	Diagnosis
E805.0	Railway employee hit by rolling stock	ICD-9-CM	Diagnosis
E805.1	Passenger on railway hit by rolling stock	ICD-9-CM	Diagnosis
E805.2	Pedestrian hit by rolling stock	ICD-9-CM	Diagnosis
E805.3	Pedal cyclist hit by rolling stock	ICD-9-CM	Diagnosis
E805.8	Other specified person hit by rolling stock	ICD-9-CM	Diagnosis
E805.9	Unspecified person hit by rolling stock	ICD-9-CM	Diagnosis
E870	Accidental cut, puncture, perforation, or hemorrhage during medical care	ICD-9-CM	Diagnosis
E870.0	Accidental cut, puncture, perforation, or hemorrhage during surgical operation	ICD-9-CM	Diagnosis
E870.1	Accidental cut, puncture, perforation, or hemorrhage during infusion or transfusion	ICD-9-CM	Diagnosis
E870.2	Accidental cut, puncture, perforation, or hemorrhage during kidney dialysis or other perfusion	ICD-9-CM	Diagnosis
E870.3	Accidental cut, puncture, perforation, or hemorrhage during injection or vaccination	ICD-9-CM	Diagnosis
E870.4	Accidental cut, puncture, perforation, or hemorrhage during endoscopic examination	ICD-9-CM	Diagnosis
E870.5	Accidental cut, puncture, perforation, or hemorrhage during aspiration of fluid or tissue, puncture, and catheterization	ICD-9-CM	Diagnosis
E870.6	Accidental cut, puncture, perforation, or hemorrhage during heart catheterization	ICD-9-CM	Diagnosis
E870.7	Accidental cut, puncture, perforation, or hemorrhage during administration of enema	ICD-9-CM	Diagnosis
E870.8	Accidental cut, puncture, perforation, or hemorrhage during other specified medical care	ICD-9-CM	Diagnosis
E870.9	Accidental cut, puncture, perforation, or hemorrhage during unspecified medical care	ICD-9-CM	Diagnosis
E881	Accidental fall on or from ladders or scaffolding	ICD-9-CM	Diagnosis
E881.0	Accidental fall from ladder	ICD-9-CM	Diagnosis
E881.1	Accidental fall from scaffolding	ICD-9-CM	Diagnosis
E882	Accidental fall from or out of building or other structure	ICD-9-CM	Diagnosis
E883	Accidental fall into hole or other opening in surface	ICD-9-CM	Diagnosis
E883.0	Accident from diving or jumping into water (swimming pool)	ICD-9-CM	Diagnosis
E883.1	Accidental fall into well	ICD-9-CM	Diagnosis
E883.2	Accidental fall into storm drain or manhole	ICD-9-CM	Diagnosis
E883.9	Accidental fall into other hole or other opening in surface	ICD-9-CM	Diagnosis
E922	Accident caused by firearm, and air gun missiles	ICD-9-CM	Diagnosis
E922.0	Accident caused by handgun	ICD-9-CM	Diagnosis
E922.1	Accident caused by shotgun (automatic)	ICD-9-CM	Diagnosis
E922.2	Accident caused by hunting rifle	ICD-9-CM	Diagnosis
E922.3	Accident caused by military firearms	ICD-9-CM	Diagnosis
E922.4	Accident caused by air gun	ICD-9-CM	Diagnosis
E922.5	Accident caused by paintball gun	ICD-9-CM	Diagnosis
E922.8	Accident caused by other specified firearm missile	ICD-9-CM	Diagnosis
E922.9	Accident caused by unspecified firearm missile	ICD-9-CM	Diagnosis
E923	Accident caused by explosive material	ICD-9-CM	Diagnosis
E923.0	Accident caused by fireworks	ICD-9-CM	Diagnosis
E923.1	Accident caused by blasting materials	ICD-9-CM	Diagnosis
E923.2	Accident caused by explosive gases	ICD-9-CM	Diagnosis
E923.8	Accident caused by other explosive materials	ICD-9-CM	Diagnosis

Appendix D. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Diagnosis Codes Used to Define Outcomes and Censoring Criteria in this Request

Code	Description	Code Type	Code Category
E923.9	Accident caused by unspecified explosive material	ICD-9-CM	Diagnosis
E955	Suicide and self-inflicted injury by firearms, air guns and explosives	ICD-9-CM	Diagnosis
E955.0	Suicide and self-inflicted injury by handgun	ICD-9-CM	Diagnosis
E955.1	Suicide and self-inflicted injury by shotgun	ICD-9-CM	Diagnosis
E955.2	Suicide and self-inflicted injury by hunting rifle	ICD-9-CM	Diagnosis
E955.3	Suicide and self-inflicted injury by military firearms	ICD-9-CM	Diagnosis
E955.4	Suicide and self-inflicted injury by other and unspecified firearm	ICD-9-CM	Diagnosis
E955.5	Suicide and self-inflicted injury by explosives	ICD-9-CM	Diagnosis
E955.6	Suicide and self-inflicted injury by air gun	ICD-9-CM	Diagnosis
E955.7	Suicide and self-inflicted injury by paintball gun	ICD-9-CM	Diagnosis
E955.9	Suicide and self-inflicted injury by firearms and explosives, unspecified	ICD-9-CM	Diagnosis
E960	Fight, brawl, rape	ICD-9-CM	Diagnosis
E960.0	Unarmed fight or brawl	ICD-9-CM	Diagnosis
E960.1	Rape	ICD-9-CM	Diagnosis
E965	Assault by firearms and explosives	ICD-9-CM	Diagnosis
E965.0	Assault by handgun	ICD-9-CM	Diagnosis
E965.1	Assault by shotgun	ICD-9-CM	Diagnosis
E965.2	Assault by hunting rifle	ICD-9-CM	Diagnosis
E965.3	Assault by military firearms	ICD-9-CM	Diagnosis
E965.4	Assault by other and unspecified firearm	ICD-9-CM	Diagnosis
E965.5	Assault by antipersonnel bomb	ICD-9-CM	Diagnosis
E965.6	Assault by gasoline bomb	ICD-9-CM	Diagnosis
E965.7	Assault by letter bomb	ICD-9-CM	Diagnosis
E965.8	Assault by other specified explosive	ICD-9-CM	Diagnosis
E965.9	Assault by unspecified explosive	ICD-9-CM	Diagnosis
E970	Injury due to legal intervention by firearms	ICD-9-CM	Diagnosis
E985	Injury by firearms, air guns and explosives, undetermined whether accidentally or purposely inflicted	ICD-9-CM	Diagnosis
E985.0	Injury by handgun, undetermined whether accidentally or purposely inflicted	ICD-9-CM	Diagnosis
E985.1	Injury by shotgun, undetermined whether accidentally or purposely inflicted	ICD-9-CM	Diagnosis
E985.2	Injury by hunting rifle, undetermined whether accidentally or purposely inflicted	ICD-9-CM	Diagnosis
E985.3	Injury by military firearms, undetermined whether accidentally or purposely inflicted	ICD-9-CM	Diagnosis
E985.4	Injury by other and unspecified firearm, undetermined whether accidentally or purposely inflicted	ICD-9-CM	Diagnosis
E985.5	Injury by explosives, undetermined whether accidentally or purposely inflicted	ICD-9-CM	Diagnosis
E985.6	Injury by air gun, undetermined whether accidental, or purposefully inflicted	ICD-9-CM	Diagnosis
E985.7	Injury by paintball gun, undetermined whether accidentally or purposefully inflicted	ICD-9-CM	Diagnosis

Appendix E. List of Generic and Brand Names of Medical Products Used to Define Exposure Incidence and Censoring Criteria in this Request

Generic Name	Brand Name
Apixaban	
Apixaban	Eliquis
Apixaban	Eliquis DVT-PE Treat 30D Start
Dabigatran	
Dabigatran etexilate mesylate	Pradaxa
Edoxaban	
Edoxaban tosylate	Savaysa
Rivaroxaban	
Rivaroxaban	Xarelto
Rivaroxaban	Xarelto DVT-PE Treat 30d Start
Warfarin	
Warfarin sodium	Warfarin
Warfarin sodium	Coumadin
Warfarin sodium	Jantoven

Appendix F. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) and Current Procedural Terminology, Fourth Edition (CPT-4) Codes Used to Define Inclusion and Exclusion Criteria in this Request

Code	Description	Code Type	Code Category
Atrial Fibrillation			
427.31	Atrial fibrillation	ICD-9-CM	Diagnosis
427.32	Atrial flutter	ICD-9-CM	Diagnosis
427.3	Atrial fibrillation and flutter	ICD-9-CM	Diagnosis
Deep Vein Thrombosis			
451.1	Phlebitis and thrombophlebitis of deep veins of lower extremities	ICD-9-CM	Diagnosis
451.11	Phlebitis and thrombophlebitis of femoral vein (deep) (superficial)	ICD-9-CM	Diagnosis
451.19	Phlebitis and thrombophlebitis of other deep vessels of lower extremities	ICD-9-CM	Diagnosis
451.2	Phlebitis and thrombophlebitis of lower extremities, unspecified	ICD-9-CM	Diagnosis
451.81	Phlebitis and thrombophlebitis of iliac vein	ICD-9-CM	Diagnosis
451.83	Phlebitis and thrombophlebitis of deep veins of upper extremities	ICD-9-CM	Diagnosis
453.4	Acute venous embolism and thrombosis of deep vessels of lower extremity	ICD-9-CM	Diagnosis
453.40	Acute venous embolism and thrombosis of unspecified deep vessels of lower extremity	ICD-9-CM	Diagnosis
453.41	Acute venous embolism and thrombosis of deep vessels of proximal lower extremity	ICD-9-CM	Diagnosis
453.42	Acute venous embolism and thrombosis of deep vessels of distal lower extremity	ICD-9-CM	Diagnosis
453.5	Chronic venous embolism and thrombosis of deep vessels of lower extremity	ICD-9-CM	Diagnosis
453.50	Chronic venous embolism and thrombosis of unspecified deep vessels of lower extremity	ICD-9-CM	Diagnosis
453.51	Chronic venous embolism and thrombosis of deep vessels of proximal lower extremity	ICD-9-CM	Diagnosis
453.52	Chronic venous embolism and thrombosis of deep vessels of distal lower extremity	ICD-9-CM	Diagnosis
Dialysis			
792.5	Cloudy (hemodialysis) (peritoneal) dialysis affluent	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
V56.0	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
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
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

Appendix F. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) and Current Procedural Terminology, Fourth Edition (CPT-4) Codes Used to Define Inclusion and Exclusion Criteria in this Request

Code	Description	Code Type	Code Category
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
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

Appendix F. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) and Current Procedural Terminology, Fourth Edition (CPT-4) Codes Used to Define Inclusion and Exclusion Criteria in this Request

Code	Description	Code Type	Code Category
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
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
90988	Supervision Of Hemodialysis In Hospital Or Other Facility (excluding Home Dialysis), On Mont	CPT-4	Procedure
90989	Dialysis training, patient, including helper where applicable, any mode, completed course	CPT-4	Procedure
90990	Hemodialysis Training And/or Counseling	CPT-4	Procedure
90991	Home Hemodialysis Care, Outpatient, For Those Services Either Provided By The Physician Pri	CPT-4	Procedure
90992	Peritoneal Dialysis Training And/or Counseling	CPT-4	Procedure
90993	Dialysis training, patient, including helper where applicable, any mode, course not completed	CPT-4	Procedure
90994	Supervision Of Chronic Ambulatory Peritoneal Dialysis (capd), Home Or Out-patient (monthly	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
Joint Replacement			
V436	Joint replaced by other means	ICD-9-CM	Diagnosis
V4360	Unspecified joint replacement by other means	ICD-9-CM	Diagnosis
V4361	Shoulder joint replacement by other means	ICD-9-CM	Diagnosis
V4362	Elbow joint replacement by other means	ICD-9-CM	Diagnosis
V4363	Wrist joint replacement by other means	ICD-9-CM	Diagnosis
V4364	Hip joint replacement by other means	ICD-9-CM	Diagnosis
V4365	Knee joint replacement by other means	ICD-9-CM	Diagnosis
V4366	Ankle joint replacement by other means	ICD-9-CM	Diagnosis
V4369	Other joint replacement by other means	ICD-9-CM	Diagnosis
81.5	Joint replacement of lower extremity	ICD-9-CM	Diagnosis
81.51	Total hip replacement	ICD-9-CM	Diagnosis
81.52	Partial hip replacement	ICD-9-CM	Diagnosis
81.53	Revision of hip replacement, not otherwise specified	ICD-9-CM	Diagnosis
81.54	Total knee replacement	ICD-9-CM	Diagnosis
81.55	Revision of knee replacement, not otherwise specified	ICD-9-CM	Diagnosis
81.56	Total ankle replacement	ICD-9-CM	Diagnosis
81.57	Replacement of joint of foot and toe	ICD-9-CM	Diagnosis
81.59	Revision of joint replacement of lower extremity, not elsewhere classified	ICD-9-CM	Diagnosis

Appendix F. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) and Current Procedural Terminology, Fourth Edition (CPT-4) Codes Used to Define Inclusion and Exclusion Criteria in this Request

Code	Description	Code Type	Code Category
81.8	Arthroplasty and repair of shoulder and elbow	ICD-9-CM	Diagnosis
81.80	Total shoulder replacement	ICD-9-CM	Diagnosis
81.81	Partial shoulder replacement	ICD-9-CM	Diagnosis
81.82	Repair of recurrent dislocation of shoulder	ICD-9-CM	Diagnosis
81.83	Other repair of shoulder	ICD-9-CM	Diagnosis
81.84	Total elbow replacement	ICD-9-CM	Diagnosis
81.85	Other repair of elbow	ICD-9-CM	Diagnosis
81.88	Reverse total shoulder replacement	ICD-9-CM	Diagnosis
0202T	Posterior vertebral joint(s) arthroplasty (eg, facet joint[s] replacement), including facetectomy, laminectomy, foraminotomy, and vertebral column fixation, injection of bone cement, when performed, including fluoroscopy, single level, lumbar spine	CPT-3	Procedure
0375T	Total disc arthroplasty (artificial disc), anterior approach, including discectomy with end plate preparation (includes osteophylectomy for nerve root or spinal cord decompression and microdissection), cervical, three or more levels	CPT-3	Procedure
21243	Arthroplasty, temporomandibular joint, with prosthetic joint replacement	CPT-4	Procedure
23472	Arthroplasty, glenohumeral joint; total shoulder (glenoid and proximal humeral replacement	CPT-4	Procedure
24361	Arthroplasty, elbow; with distal humeral prosthetic replacement	CPT-4	Procedure
24363	Arthroplasty, elbow; with distal humerus and proximal ulnar prosthetic replacement (eg, total	CPT-4	Procedure
24666	Open treatment of radial head or neck fracture, includes internal fixation or radial head excision, when performed; with radial head prosthetic replacement	CPT-4	Procedure
25441	Arthroplasty with prosthetic replacement; distal radius	CPT-4	Procedure
25442	Arthroplasty with prosthetic replacement; distal ulna	CPT-4	Procedure
25443	Arthroplasty with prosthetic replacement; scaphoid carpal (navicular)	CPT-4	Procedure
25444	Arthroplasty with prosthetic replacement; lunate	CPT-4	Procedure
25445	Arthroplasty with prosthetic replacement; trapezium	CPT-4	Procedure
25446	Arthroplasty with prosthetic replacement; distal radius and partial or entire carpus (total wrist	CPT-4	Procedure
27125	Hemiarthroplasty, hip, partial (eg, femoral stem prosthesis, bipolar arthroplasty)	CPT-4	Procedure
27130	Arthroplasty, acetabular and proximal femoral prosthetic replacement (total hip arthroplasty), with or without autograft or allograft	CPT-4	Procedure
27132	Conversion of previous hip surgery to total hip arthroplasty, with or without autograft or allograft	CPT-4	Procedure
27134	Revision of total hip arthroplasty; both components, with or without autograft or allograft	CPT-4	Procedure
27137	Revision of total hip arthroplasty; acetabular component only, with or without autograft or allograft	CPT-4	Procedure
27138	Revision of total hip arthroplasty; femoral component only, with or without allograft	CPT-4	Procedure
27447	Arthroplasty, knee, condyle and plateau; medial AND lateral compartments with or without patella resurfacing (total knee arthroplasty)	CPT-4	Procedure
27486	Revision of total knee arthroplasty, with or without allograft; 1 component	CPT-4	Procedure
27487	Revision of total knee arthroplasty, with or without allograft; femoral and entire tibial components	CPT-4	Procedure
L8631	Metacarpal phalangeal joint replacement, 2 or more pieces, metal (e.g., stainless steel or cobalt chrome), ceramic-like material (e.g., pyrocarbon), for surgical implantation (all sizes, includes entire system)	HCPCS	Procedure
L8659	Interphalangeal finger joint replacement, 2 or more pieces, metal (e.g., stainless steel or cobalt chrome), ceramic-like material (e.g., pyrocarbon) for surgical implantation, any size	HCPCS	Procedure
Kidney Replacement			
996.81	Complications of transplanted kidney	ICD-9-CM	Diagnosis
V42	Organ or tissue replaced by transplant	ICD-9-CM	Diagnosis
V420	Kidney replaced by transplant	ICD-9-CM	Diagnosis
55.6	Transplant of kidney	ICD-9-CM	Diagnosis
55.61	Renal autotransplantation	ICD-9-CM	Diagnosis
55.69	Other kidney transplantation	ICD-9-CM	Diagnosis
Mitral Stenosis			
394	Diseases of mitral valve	ICD-9-CM	Diagnosis

Appendix F. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) and Current Procedural Terminology, Fourth Edition (CPT-4) Codes Used to Define Inclusion and Exclusion Criteria in this Request

Code	Description	Code Type	Code Category
394.0	Mitral stenosis	ICD-9-CM	Diagnosis
394.1	Rheumatic mitral insufficiency	ICD-9-CM	Diagnosis
394.2	Mitral stenosis with insufficiency	ICD-9-CM	Diagnosis
394.9	Other and unspecified mitral valve diseases	ICD-9-CM	Diagnosis
396.0	Mitral valve stenosis and aortic valve stenosis	ICD-9-CM	Diagnosis
396.1	Mitral valve stenosis and aortic valve insufficiency	ICD-9-CM	Diagnosis
396.8	Multiple involvement of mitral and aortic valves	ICD-9-CM	Diagnosis
Pulmonary Embolism			
4151	Pulmonary embolism and infarction	ICD-9-CM	Diagnosis
41511	Iatrogenic pulmonary embolism and infarction	ICD-9-CM	Diagnosis
41512	Septic pulmonary embolism	ICD-9-CM	Diagnosis
41519	Other pulmonary embolism and infarction	ICD-9-CM	Diagnosis
Valve Repair			
0343T	Transcatheter mitral valve repair percutaneous approach including transeptal puncture whe	CPT-3	Procedure
0345T	Transcatheter mitral valve repair percutaneous approach via the coronary sinus	CPT-3	Procedure
33400	Valvuloplasty, aortic valve; open, with cardiopulmonary bypass	CPT-4	Procedure
33401	Valvuloplasty, aortic valve; open, with inflow occlusion	CPT-4	Procedure
33403	Valvuloplasty, aortic valve; using transventricular dilation, with cardiopulmonary bypass	CPT-4	Procedure
33420	Valvotomy, mitral valve; closed heart	CPT-4	Procedure
33422	Valvotomy, mitral valve; open heart, with cardiopulmonary bypass	CPT-4	Procedure
33425	Valvuloplasty, mitral valve, with cardiopulmonary bypass;	CPT-4	Procedure
33426	Valvuloplasty, mitral valve, with cardiopulmonary bypass; with prosthetic ring	CPT-4	Procedure
33427	Valvuloplasty, mitral valve, with cardiopulmonary bypass; radical reconstruction, with or with	CPT-4	Procedure
33460	Valvectomy, tricuspid valve, with cardiopulmonary bypass	CPT-4	Procedure
33463	Valvuloplasty, tricuspid valve; without ring insertion	CPT-4	Procedure
33464	Valvuloplasty, tricuspid valve; with ring insertion	CPT-4	Procedure
33468	Tricuspid valve repositioning and plication for Ebstein anomaly	CPT-4	Procedure
33470	Valvotomy, pulmonary valve, closed heart; transventricular	CPT-4	Procedure
33471	Valvotomy, pulmonary valve, closed heart; via pulmonary artery	CPT-4	Procedure
33472	Valvotomy, pulmonary valve, open heart; with inflow occlusion	CPT-4	Procedure
33474	Valvotomy, pulmonary valve, open heart, with cardiopulmonary bypass	CPT-4	Procedure
33476	Right ventricular resection for infundibular stenosis, with or without commissurotomy	CPT-4	Procedure
33496	Repair of non-structural prosthetic valve dysfunction with cardiopulmonary bypass (separate	CPT-4	Procedure
92986	Percutaneous balloon valvuloplasty; aortic valve	CPT-4	Procedure
92987	Percutaneous balloon valvuloplasty; mitral valve	CPT-4	Procedure
92990	Percutaneous balloon valvuloplasty; pulmonary valve	CPT-4	Procedure
Valve Replacement			
V422	Heart valve replaced by transplant	ICD-9-CM	Diagnosis
V433	Heart valve replaced by other means	ICD-9-CM	Diagnosis
35.2	Replacement of heart valve	ICD-9-CM	Diagnosis
35.20	Replacement of unspecified heart valve	ICD-9-CM	Diagnosis
35.21	Replacement of aortic valve with tissue graft	ICD-9-CM	Diagnosis
35.22	Other replacement of aortic valve	ICD-9-CM	Diagnosis
35.23	Replacement of mitral valve with tissue graft	ICD-9-CM	Diagnosis
35.24	Other replacement of mitral valve	ICD-9-CM	Diagnosis
35.25	Replacement of pulmonary valve with tissue graft	ICD-9-CM	Diagnosis
35.26	Other replacement of pulmonary valve	ICD-9-CM	Diagnosis
35.27	Replacement of tricuspid valve with tissue graft	ICD-9-CM	Diagnosis
35.28	Other replacement of tricuspid valve	ICD-9-CM	Diagnosis
0258T	Transthoracic cardiac exposure (eg, sternotomy, thoracotomy, subxiphoid) for catheter-deliv	CPT-3	Procedure
0259T	Transthoracic cardiac exposure (eg, sternotomy, thoracotomy, subxiphoid) for catheter-deliv	CPT-3	Procedure
0318T	Implantation of catheter-delivered prosthetic aortic heart valve, open thoracic approach, (eg,	CPT-3	Procedure

Appendix F. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) and Current Procedural Terminology, Fourth Edition (CPT-4) Codes Used to Define Inclusion and Exclusion Criteria in this Request

Code	Description	Code Type	Code Category
33361	Transcatheter aortic valve replacement (TAVR/TAVI) with prosthetic valve; percutaneous fem	CPT-4	Procedure
33362	Transcatheter aortic valve replacement (TAVR/TAVI) with prosthetic valve; open femoral arte	CPT-4	Procedure
33363	Transcatheter aortic valve replacement (TAVR/TAVI) with prosthetic valve; open axillary arter	CPT-4	Procedure
33364	Transcatheter aortic valve replacement (TAVR/TAVI) with prosthetic valve; open iliac artery a	CPT-4	Procedure
33365	Transcatheter aortic valve replacement (TAVR/TAVI) with prosthetic valve; transaortic appro	CPT-4	Procedure
33366	Transcatheter aortic valve replacement (TAVR/TAVI) with prosthetic valve; transapical expos	CPT-4	Procedure
33367	Transcatheter aortic valve replacement (TAVR/TAVI) with prosthetic valve; cardiopulmonary l	CPT-4	Procedure
33368	Transcatheter aortic valve replacement (TAVR/TAVI) with prosthetic valve; cardiopulmonary bypass support with open peripheral arterial and venous cannulation (eg, femoral, iliac, axillary vessels) (List separately in addition to code for primary procedure)	CPT-4	Procedure
33369	Transcatheter aortic valve replacement (TAVR/TAVI) with prosthetic valve; cardiopulmonary bypass support with central arterial and venous cannulation (eg, aorta, right atrium, pulmonary artery) (List separately in addition to code for primary procedure)	CPT-4	Procedure
33405	Replacement, aortic valve, open, with cardiopulmonary bypass; with prosthetic valve other than homograft or stentless valve	CPT-4	Procedure
33406	Replacement, aortic valve, open, with cardiopulmonary bypass; with allograft valve (freehand)	CPT-4	Procedure
33410	Replacement, aortic valve, open, with cardiopulmonary bypass; with stentless tissue valve	CPT-4	Procedure
33411	Replacement, aortic valve; with aortic annulus enlargement, noncoronary sinus	CPT-4	Procedure
33412	Replacement, aortic valve; with transventricular aortic annulus enlargement (Konno procedure)	CPT-4	Procedure
33413	Replacement, aortic valve; by translocation of autologous pulmonary valve with allograft replacement of pulmonary valve (Ross procedure)	CPT-4	Procedure
33418	Transcatheter mitral valve repair, percutaneous approach, including transseptal puncture when performed; initial prosthesis	CPT-4	Procedure
33419	Transcatheter mitral valve repair, percutaneous approach, including transseptal puncture when performed; additional prosthesis(es) during same session (List separately in addition to code for primary procedure)	CPT-4	Procedure
33430	Replacement, mitral valve, with cardiopulmonary bypass	CPT-4	Procedure
33465	Replacement, tricuspid valve, with cardiopulmonary bypass	CPT-4	Procedure
33475	Replacement, pulmonary valve	CPT-4	Procedure

Appendix G. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) and Current Procedural Terminology, Fourth Edition (CPT-4) Codes Used to Define Censoring Criteria in this Request

Code	Description	Code Type	Code Category
Dialysis			
792.5	Cloudy (hemodialysis) (peritoneal) dialysis affluent	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
V56.0	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
90935	Hemodialysis procedure with single evaluation by a physician or other qualified health care p	CPT-4	Procedure
90937	Hemodialysis procedure requiring repeated evaluation(s) with or without substantial	CPT-4	Procedure
	revision of dialysis prescription		
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
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

Appendix G. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) and Current Procedural Terminology, Fourth Edition (CPT-4) Codes Used to Define Censoring Criteria in this Request

Code	Description	Code Type	Code Category
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
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
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

Appendix G. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) and Current Procedural Terminology, Fourth Edition (CPT-4) Codes Used to Define Censoring Criteria in this Request

Code	Description	Code Type	Code Category
90988	Supervision Of Hemodialysis In Hospital Or Other Facility (excluding Home Dialysis), On Mont	CPT-4	Procedure
90989	Dialysis training, patient, including helper where applicable, any mode, completed course	CPT-4	Procedure
90990	Hemodialysis Training And/or Counseling	CPT-4	Procedure
90991	Home Hemodialysis Care, Outpatient, For Those Services Either Provided By The Physician Pri	CPT-4	Procedure
90992	Peritoneal Dialysis Training And/or Counseling	CPT-4	Procedure
90993	Dialysis training, patient, including helper where applicable, any mode, course not completed	CPT-4	Procedure
90994	Supervision Of Chronic Ambulatory Peritoneal Dialysis (capd), Home Or Out-patient (monthly	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
Kidney Replacement			
996.81	Complications of transplanted kidney	ICD-9-CM	Diagnosis
V42	Organ or tissue replaced by transplant	ICD-9-CM	Diagnosis
V420	Kidney replaced by transplant	ICD-9-CM	Diagnosis
55.6	Transplant of kidney	ICD-9-CM	Diagnosis
55.61	Renal autotransplantation	ICD-9-CM	Diagnosis
55.69	Other kidney transplantation	ICD-9-CM	Diagnosis

Appendix H. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Covariates in this Request

Code	Description	Code Type	Code Category
Acute Myocardial Infarction			
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
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
Acute Kidney Failure			
584	Acute kidney failure	ICD-9-CM	Diagnosis
584.5	Acute kidney failure with lesion of tubular necrosis	ICD-9-CM	Diagnosis
584.6	Acute kidney failure with lesion of renal cortical necrosis	ICD-9-CM	Diagnosis
584.7	Acute kidney failure with lesion of medullary [papillary] necrosis	ICD-9-CM	Diagnosis
584.8	Acute kidney failure with other specified pathological lesion in kidney	ICD-9-CM	Diagnosis

Appendix H. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define

Covariates in this Request

Code	Description	Code Type	Code Category
584.9	Acute kidney failure, unspecified	ICD-9-CM	Diagnosis
Anticoagulants			
C9121	Injection, argatroban, per 5 mg	HCPCS	Procedure
J0583	Injection, bivalirudin, 1 mg	HCPCS	Procedure
J1644	Injection, Heparin sodium, per 1000 units	HCPCS	Procedure
J1645	Injection, dalteparin sodium, per 2500 IU	HCPCS	Procedure
J1650	Injection, enoxaparin sodium, 10 mg	HCPCS	Procedure
J1652	Injection, fondaparinux sodium, 0.5 mg	HCPCS	Procedure
J1655	Injection, tinzaparin sodium, 1000 IU	HCPCS	Procedure
J1945	Injection, lepirudin, 50 mg	HCPCS	Procedure
Cardiac Ablation			
37.33	Excision or destruction of other lesion or tissue of heart, open approach	ICD-9-CM	Diagnosis
37.34	Excision or destruction of other lesion or tissue of heart, other approach	ICD-9-CM	Diagnosis
33250	Operative ablation of supraventricular arrhythmogenic focus or pathway (eg, Wolff-Parkinson	CPT-4	Procedure
33251	Operative ablation of supraventricular arrhythmogenic focus or pathway (eg, Wolff-Parkinson	CPT-4	Procedure
33254	Operative tissue ablation and reconstruction of atria, limited (eg, modified maze procedure)	CPT-4	Procedure
33255	Operative tissue ablation and reconstruction of atria, extensive (eg, maze procedure); without	CPT-4	Procedure
33256	Operative tissue ablation and reconstruction of atria, extensive (eg, maze procedure); with ca	CPT-4	Procedure
33257	Operative tissue ablation and reconstruction of atria, performed at the time of other cardiac	CPT-4	Procedure
33258	Operative tissue ablation and reconstruction of atria, performed at the time of other cardiac	CPT-4	Procedure
33259	Operative tissue ablation and reconstruction of atria, performed at the time of other cardiac	CPT-4	Procedure
33261	Operative ablation of ventricular arrhythmogenic focus with cardiopulmonary bypass	CPT-4	Procedure
33265	Endoscopy, surgical; operative tissue ablation and reconstruction of atria, limited (eg, modifie	CPT-4	Procedure
33266	Endoscopy, surgical; operative tissue ablation and reconstruction of atria, extensive (eg, maze	CPT-4	Procedure
93650	Intracardiac catheter ablation of atrioventricular node function, atrioventricular conduction fi	CPT-4	Procedure
93651	Intracardiac catheter ablation of arrhythmogenic focus; for treatment of supraventricular tach	CPT-4	Procedure
93652	Intracardiac catheter ablation of arrhythmogenic focus; for treatment of ventricular tachycar	CPT-4	Procedure
C1732	Catheter, electrophysiology, diagnostic/ablation, 3D or vector mapping	HCPCS	Procedure
C1733	Catheter, electrophysiology, diagnostic/ablation, other than 3D or vector mapping, other than	HCPCS	Procedure
C2630	Catheter, electrophysiology, diagnostic/ablation, other than 3D or vector mapping, cool-tip	HCPCS	Procedure
Cardioversion			
99.61	Atrial cardioversion	ICD-9-CM	Diagnosis
99.62	Other electric countershock of heart	ICD-9-CM	Diagnosis
92960	Cardioversion, elective, electrical conversion of arrhythmia; external	CPT-4	Procedure
92961	Cardioversion, elective, electrical conversion of arrhythmia; internal (separate procedure)	CPT-4	Procedure
Chronic Renal Disease			
585	Chronic kidney disease (CKD)	ICD-9-CM	Diagnosis
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
585.5	Chronic kidney disease, Stage V	ICD-9-CM	Diagnosis
585.6	End stage renal disease	ICD-9-CM	Diagnosis
585.9	Chronic kidney disease, unspecified	ICD-9-CM	Diagnosis
586	Unspecified renal failure	ICD-9-CM	Diagnosis
587	Unspecified renal sclerosis	ICD-9-CM	Diagnosis
Coronary Revascularization			
V4581	Postprocedural aortocoronary bypass status	ICD-9-CM	Diagnosis
V4582	Postprocedural percutaneous transluminal coronary angioplasty status	ICD-9-CM	Diagnosis
V4588	Status post administration of tPA (rtPA) in a different facility within the last 24 hours prior to	ICD-9-CM	Diagnosis
00.66	Percutaneous transluminal coronary angioplasty [PTCA] or coronary atherectomy	ICD-9-CM	Diagnosis

Appendix H. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Covariates in this Request

Code	Description	Code Type	Code Category
36.0	Removal of coronary artery obstruction and insertion of stent(s)	ICD-9-CM	Diagnosis
36.03	Open chest coronary artery angioplasty	ICD-9-CM	Diagnosis
36.04	Intracoronary artery thrombolytic infusion	ICD-9-CM	Diagnosis
36.06	Insertion of non-drug-eluting coronary artery stent(s)	ICD-9-CM	Diagnosis
36.07	Insertion of drug-eluting coronary artery stent(s)	ICD-9-CM	Diagnosis
36.09	Other removal of coronary artery obstruction	ICD-9-CM	Diagnosis
36.1	Bypass anastomosis for heart revascularization	ICD-9-CM	Diagnosis
36.10	Aortocoronary bypass for heart revascularization, not otherwise specified	ICD-9-CM	Diagnosis
36.11	(Aorto)coronary bypass of one coronary artery	ICD-9-CM	Diagnosis
36.12	(Aorto)coronary bypass of two coronary arteries	ICD-9-CM	Diagnosis
36.13	(Aorto)coronary bypass of three coronary arteries	ICD-9-CM	Diagnosis
36.14	(Aorto)coronary bypass of four or more coronary arteries	ICD-9-CM	Diagnosis
36.15	Single internal mammary-coronary artery bypass	ICD-9-CM	Diagnosis
36.16	Double internal mammary-coronary artery bypass	ICD-9-CM	Diagnosis
36.17	Abdominal-coronary artery bypass	ICD-9-CM	Diagnosis
36.19	Other bypass anastomosis for heart revascularization	ICD-9-CM	Diagnosis
36.2	Heart revascularization by arterial implant	ICD-9-CM	Diagnosis
36.3	Other heart revascularization	ICD-9-CM	Diagnosis
36.31	Open chest transmyocardial revascularization	ICD-9-CM	Diagnosis
36.32	Other transmyocardial revascularization	ICD-9-CM	Diagnosis
36.33	Endoscopic transmyocardial revascularization	ICD-9-CM	Diagnosis
36.34	Percutaneous transmyocardial revascularization	ICD-9-CM	Diagnosis
36.39	Other heart revascularization	ICD-9-CM	Diagnosis
00566	Anesthesia for direct coronary artery bypass grafting; without pump oxygenator	CPT-4	Procedure
33508	Endoscopy, surgical, including video-assisted harvest of vein(s) for coronary artery bypass pro	CPT-4	Procedure
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 separ	CPT-4	Procedure
33518	Coronary artery bypass, using venous graft(s) and arterial graft(s); 2 venous grafts (List separa	CPT-4	Procedure
33519	Coronary artery bypass, using venous graft(s) and arterial graft(s); 3 venous grafts (List separa	CPT-4	Procedure
33521	Coronary artery bypass, using venous graft(s) and arterial graft(s); 4 venous grafts (List separa	CPT-4	Procedure
33522	Coronary artery bypass, using venous graft(s) and arterial graft(s); 5 venous grafts (List separa	CPT-4	Procedure
33523	Coronary artery bypass, using venous graft(s) and arterial graft(s); 6 or more venous grafts (Li	CPT-4	Procedure
33530	Reoperation, coronary artery bypass procedure or valve procedure, more than 1 month after	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
33572	Coronary endarterectomy, open, any method, of left anterior descending, circumflex, or right	CPT-4	Procedure
35500	Harvest of upper extremity vein, 1 segment, for lower extremity or coronary artery bypass pro	CPT-4	Procedure
92920	Percutaneous transluminal coronary angioplasty; single major coronary artery or branch	CPT-4	Procedure
92921	Percutaneous transluminal coronary angioplasty; each additional branch of a major coronary	CPT-4	Procedure
92924	Percutaneous transluminal coronary atherectomy, with coronary angioplasty when performe	CPT-4	Procedure
92925	Percutaneous transluminal coronary atherectomy, with coronary angioplasty when performe	CPT-4	Procedure
92928	Percutaneous transcatheter placement of intracoronary stent(s), with coronary angioplasty w	CPT-4	Procedure
92929	Percutaneous transcatheter placement of intracoronary stent(s), with coronary angioplasty w	CPT-4	Procedure
92933	Percutaneous transluminal coronary atherectomy, with intracoronary stent, with coronary an	CPT-4	Procedure

Appendix H. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Covariates in this Request

Code	Description	Code Type	Code Category
92934	Percutaneous transluminal coronary atherectomy, with intracoronary stent, with coronary an	CPT-4	Procedure
92937	Percutaneous transluminal revascularization of or through coronary artery bypass graft (inter	CPT-4	Procedure
92938	Percutaneous transluminal revascularization of or through coronary artery bypass graft (inter	CPT-4	Procedure
92941	Percutaneous transluminal revascularization of acute total/subtotal occlusion during acute m	CPT-4	Procedure
92943	Percutaneous transluminal revascularization of chronic total occlusion, coronary artery, coror	CPT-4	Procedure
92944	Percutaneous transluminal revascularization of chronic total occlusion, coronary artery, coror	CPT-4	Procedure
92973	Percutaneous transluminal coronary thrombectomy mechanical (List separately in addition to	CPT-4	Procedure
92975	Thrombolysis, coronary; by intracoronary infusion, including selective coronary angiography	CPT-4	Procedure
92977	Thrombolysis, coronary; by intravenous infusion	CPT-4	Procedure
92980	Transcatheter placement of an intracoronary stent(s), percutaneous, with or without other th	CPT-4	Procedure
92981	Transcatheter placement of an intracoronary stent(s), percutaneous, with or without other th	CPT-4	Procedure
92982	Percutaneous transluminal coronary balloon angioplasty; single vessel	CPT-4	Procedure
92984	Percutaneous transluminal coronary balloon angioplasty; each additional vessel (List separat	CPT-4	Procedure
92995	Percutaneous transluminal coronary atherectomy, by mechanical or other method, with or w	CPT-4	Procedure
92996	Percutaneous transluminal coronary atherectomy, by mechanical or other method, with or w	CPT-4	Procedure
93540	Injection procedure during cardiac catheterization; for selective opacification of aortocoronar	CPT-4	Procedure
93564	Injection procedure during cardiac catheterization including imaging supervision, interpretati	CPT-4	Procedure
C9600	Percutaneous transcatheter placement of drug eluting intracoronary stent(s), with coronary a	HCPCS	Procedure
C9601	Percutaneous transcatheter placement of drug-eluting intracoronary stent(s), with coronary a	HCPCS	Procedure
C9602	Percutaneous transluminal coronary atherectomy, with drug eluting intracoronary stent, with	HCPCS	Procedure
C9603	Percutaneous transluminal coronary atherectomy, with drug-eluting intracoronary stent, with	HCPCS	Procedure
C9604	Percutaneous transluminal revascularization of or through coronary artery bypass graft (inter	HCPCS	Procedure
C9605	Percutaneous transluminal revascularization of or through coronary artery bypass graft (inter	HCPCS	Procedure
C9606	Percutaneous transluminal revascularization of acute total/subtotal occlusion during acute m	HCPCS	Procedure
C9607	Percutaneous transluminal revascularization of chronic total occlusion, coronary artery, coror	HCPCS	Procedure
C9608	Percutaneous transluminal revascularization of chronic total occlusion, coronary artery, coror	HCPCS	Procedure
G0290	Transcatheter placement of a drug eluting intracoronary stent(s), percutaneous, with or with	HCPCS	Procedure
G0291	Transcatheter placement of a drug eluting intracoronary stent(s), percutaneous, with or with	HCPCS	Procedure
G8158	Patient documented to have received coronary artery bypass graft with use of internal mam	HCPCS	Procedure
G8159	Patient documented to have received coronary artery bypass graft without use of internal ma	HCPCS	Procedure
G8161	Patient with isolated coronary artery bypass graft documented to have received pre-operativ	HCPCS	Procedure
G8162	Patient with isolated coronary artery bypass graft not documented to have received preoper	HCPCS	Procedure
G8163	Clinician documented that patient with isolated coronary artery bypass graft was not an eligi	HCPCS	Procedure
G8164	Patient with isolated coronary artery bypass graft documented to have prolonged intubation	HCPCS	Procedure
G8165	Patient with isolated coronary artery bypass graft not documented to have prolonged intubal	HCPCS	Procedure
G8166	Patient with isolated coronary artery bypass graft documented to have required surgical re-e:	HCPCS	Procedure
G8167	Patient with isolated coronary artery bypass graft did not require surgical re-exploration	HCPCS	Procedure
G8170	Patient with isolated coronary artery bypass graft documented to have been discharged on a:	HCPCS	Procedure
G8171	Patient with isolated coronary artery bypass graft not documented to have been discharged c	HCPCS	Procedure
G8172	Clinician documented that patient with isolated coronary artery bypass graft was not an eligi	HCPCS	Procedure
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 I	ICD-9-CM	Diagnosis
250.01	Diabetes mellitus without mention of complication, type I [juvenile type], not stated as uncor	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

Appendix H. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Covariates in this Request

Code	Description	Code Type	Code Category
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
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
A5500	For diabetics only, fitting (including follow-up), custom preparation and supply of off-the-shelf	HCPCS	Procedure
A5501	For diabetics only, fitting (including follow-up), custom preparation and supply of shoe molde	HCPCS	Procedure
A5503	For diabetics only, modification (including fitting) of off-the-shelf depth-inlay shoe or custom	HCPCS	Procedure
A5504	For diabetics only, modification (including fitting) of off-the-shelf depth-inlay shoe or custom	HCPCS	Procedure
A5505	For diabetics only, modification (including fitting) of off-the-shelf depth-inlay shoe or custom	HCPCS	Procedure
A5506	For diabetics only, modification (including fitting) of off-the-shelf depth-inlay shoe or custom	HCPCS	Procedure
A5507	For diabetics only, not otherwise specified modification (including fitting) of off-the-shelf dep	HCPCS	Procedure
A5508	For diabetics only, deluxe feature of off-the-shelf depth-inlay shoe or custom molded shoe, p	HCPCS	Procedure
A5510	For diabetics only, direct formed, compression molded to patient's foot without external heat	HCPCS	Procedure
A5512	For diabetics only, multiple density insert, direct formed, molded to foot after external heat s	HCPCS	Procedure

Appendix H. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Covariates in this Request

Code	Description	Code Type	Code Category
A5513	For diabetics only, multiple density insert, custom molded from model of patient's foot, total	HCPCS	Procedure
G0108	Diabetes outpatient self-management training services, individual, per 30 minutes	HCPCS	Procedure
G0109	Diabetes outpatient self-management training services, group session (2 or more), per 30 min	HCPCS	Procedure
G0245	Initial physician evaluation and management of a diabetic patient with diabetic sensory neurc	HCPCS	Procedure
G0246	Follow-up physician evaluation and management of a diabetic patient with diabetic sensory n	HCPCS	Procedure
G0247	Routine foot care by a physician of a diabetic patient with diabetic sensory neuropathy result	HCPCS	Procedure
G8015	Diabetic patient with most recent hemoglobin A1c level (within the last 6 months) document	HCPCS	Procedure
G8016	Diabetic patient with most recent hemoglobin A1c level (within the last 6 months) document	HCPCS	Procedure
G8017	Clinician documented that diabetic patient was not eligible candidate for hemoglobin A1c me	HCPCS	Procedure
G8018	Clinician has not provided care for the diabetic patient for the required time for hemoglobin /	HCPCS	Procedure
G8019	Diabetic patient with most recent low-density lipoprotein (within the last 12 months) docume	HCPCS	Procedure
G8020	Diabetic patient with most recent low-density lipoprotein (within the last 12 months) docume	HCPCS	Procedure
G8021	Clinician documented that diabetic patient was not eligible candidate for low-density lipoprot	HCPCS	Procedure
G8022	Clinician has not provided care for the diabetic patient for the required time for low-density li	HCPCS	Procedure
G8023	Diabetic patient with most recent blood pressure (within the last 6 months) documented as e	HCPCS	Procedure
G8024	Diabetic patient with most recent blood pressure (within the last 6 months) documented as k	HCPCS	Procedure
G8025	Clinician documented that the diabetic patient was not eligible candidate for blood pressure i	HCPCS	Procedure
G8026	Clinician has not provided care for the diabetic patient for the required time for blood pressu	HCPCS	Procedure
G8332	Clinician has not provided care for the diabetic retinopathy patient for the required time for r	HCPCS	Procedure
G8333	Patient documented to have had findings of macular or fundus exam communicated to the pl	HCPCS	Procedure
G8334	Documentation of findings of macular or fundus exam not communicated to the physician ma	HCPCS	Procedure
G8335	Clinician documentation that patient was not an eligible candidate for the findings of their m	HCPCS	Procedure
G8336	Clinician has not provided care for the diabetic retinopathy patient for the required time for p	HCPCS	Procedure
G8385	Diabetic patients with no documentation of hemoglobin A1c level (within the last 12 months)	HCPCS	Procedure
G8386	Diabetic patients with no documentation of low-density lipoprotein (within the last 12 month	HCPCS	Procedure
G8390	Diabetic patients with no documentation of blood pressure measurement (within the last 12	HCPCS	Procedure
Falls			
E880	Accidental fall on or from stairs or steps	ICD-9-CM	Diagnosis
E8800	Accidental fall on or from escalator	ICD-9-CM	Diagnosis
E8801	Accidental fall on or from sidewalk curb	ICD-9-CM	Diagnosis
E8809	Accidental fall on or from other stairs or steps	ICD-9-CM	Diagnosis
E881	Accidental fall on or from ladders or scaffolding	ICD-9-CM	Diagnosis
E8810	Accidental fall from ladder	ICD-9-CM	Diagnosis
E8811	Accidental fall from scaffolding	ICD-9-CM	Diagnosis
E882	Accidental fall from or out of building or other structure	ICD-9-CM	Diagnosis
E883	Accidental fall into hole or other opening in surface	ICD-9-CM	Diagnosis
E8830	Accident from diving or jumping into water (swimming pool)	ICD-9-CM	Diagnosis
E8831	Accidental fall into well	ICD-9-CM	Diagnosis
E8832	Accidental fall into storm drain or manhole	ICD-9-CM	Diagnosis
E8839	Accidental fall into other hole or other opening in surface	ICD-9-CM	Diagnosis
E884	Other accidental fall from one level to another	ICD-9-CM	Diagnosis
E8840	Accidental fall from playground equipment	ICD-9-CM	Diagnosis
E8841	Accidental fall from cliff	ICD-9-CM	Diagnosis
E8842	Accidental fall from chair	ICD-9-CM	Diagnosis
E8843	Accidental fall from wheelchair	ICD-9-CM	Diagnosis
E8844	Accidental fall from bed	ICD-9-CM	Diagnosis
E8845	Accidental fall from other furniture	ICD-9-CM	Diagnosis
E8846	Accidental fall from commode	ICD-9-CM	Diagnosis
E8849	Other accidental fall from one level to another	ICD-9-CM	Diagnosis
E885	Accidental fall on same level from slipping, tripping, or stumbling	ICD-9-CM	Diagnosis
E8850	Fall on same level from (nonmotorized) scooter	ICD-9-CM	Diagnosis

Appendix H. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Covariates in this Request

Code	Description	Code Type	Code Category
E8851	Fall from roller skates	ICD-9-CM	Diagnosis
E8852	Fall from skateboard	ICD-9-CM	Diagnosis
E8853	Fall from skis	ICD-9-CM	Diagnosis
E8854	Fall from snowboard	ICD-9-CM	Diagnosis
E8859	Fall from other slipping, tripping, or stumbling	ICD-9-CM	Diagnosis
E886	Accidental fall on same level from collision, pushing, or shoving, by or with other person	ICD-9-CM	Diagnosis
E8860	Accidental fall on same level from collision, pushing, or shoving, by or with other person in sp	ICD-9-CM	Diagnosis
E8869	Other and unspecified accidental falls on same level from collision, pushing, or shoving, by or	ICD-9-CM	Diagnosis
E887	Fracture in accidental fall, cause unspecified	ICD-9-CM	Diagnosis
E888	Other and unspecified accidental fall	ICD-9-CM	Diagnosis
E8880	Fall resulting in striking against sharp object	ICD-9-CM	Diagnosis
E8881	Fall resulting in striking against other object	ICD-9-CM	Diagnosis
E8888	Other fall	ICD-9-CM	Diagnosis
E8889	Unspecified fall	ICD-9-CM	Diagnosis
E9176	Strike against or struck accidentally by crowd, by collective fear or panic with subsequent fall	ICD-9-CM	Diagnosis
E9177	Strike against or struck accidentally by furniture with subsequent fall	ICD-9-CM	Diagnosis
E9178	Strike against or struck accidentally by other stationary object with subsequent fall	ICD-9-CM	Diagnosis
E9179	Other accident caused by striking against or being struck accidentally by objects or persons	ICD-9-CM	Diagnosis
E9293	Late effects of accidental fall	ICD-9-CM	Diagnosis
Fractures			
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
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

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Code	Description	Code Type	Code Category
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
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
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

Appendix H. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Covariates in this Request

Code	Description	Code Type	Code Category
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
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
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
78.11	Application of external fixator device, scapula, clavicle, and thorax [ribs and sternum]	ICD-9-CM	Diagnosis
78.13	Application of external fixator device, radius and ulna	ICD-9-CM	Diagnosis
78.15	Application of external fixator device, femur	ICD-9-CM	Diagnosis
78.41	Other repair or plastic operations on scapula, clavicle, and thorax (ribs and sternum)	ICD-9-CM	Diagnosis
78.43	Other repair or plastic operations on radius and ulna	ICD-9-CM	Diagnosis
78.45	Other repair or plastic operations on femur	ICD-9-CM	Diagnosis
78.51	Internal fixation of scapula, clavicle, and thorax (ribs and sternum) without fracture reduction	ICD-9-CM	Diagnosis
78.53	Internal fixation of radius and ulna without fracture reduction	ICD-9-CM	Diagnosis
78.55	Internal fixation of femur without fracture reduction	ICD-9-CM	Diagnosis
78.61	Removal of implanted device from scapula, clavicle, and thorax (ribs and sternum)	ICD-9-CM	Diagnosis
78.63	Removal of implanted device from radius and ulna	ICD-9-CM	Diagnosis
78.65	Removal of implanted device from femur	ICD-9-CM	Diagnosis
79.02	Closed reduction of fracture of radius and ulna without internal fixation	ICD-9-CM	Diagnosis
79.05	Closed reduction of fracture of femur without internal fixation	ICD-9-CM	Diagnosis
79.12	Closed reduction of fracture of radius and ulna with internal fixation	ICD-9-CM	Diagnosis
79.15	Closed reduction of fracture of femur with internal fixation	ICD-9-CM	Diagnosis
79.22	Open reduction of fracture of radius and ulna without internal fixation	ICD-9-CM	Diagnosis
79.25	Open reduction of fracture of femur without internal fixation	ICD-9-CM	Diagnosis
79.32	Open reduction of fracture of radius and ulna with internal fixation	ICD-9-CM	Diagnosis
79.35	Open reduction of fracture of femur with internal fixation	ICD-9-CM	Diagnosis
79.62	Debridement of open fracture of radius and ulna	ICD-9-CM	Diagnosis

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Code	Description	Code Type	Code Category
79.65	Debridement of open fracture of femur	ICD-9-CM	Diagnosis
21800	Closed treatment of broken rib	CPT-4	Procedure
21805	Open treatment of broken rib	CPT-4	Procedure
21810	Treatment of broken rib	CPT-4	Procedure
21812	Open treatment of broken ribs with insertion of hardware	CPT-4	Procedure
21813	Open treatment of broken ribs with insertion of hardware	CPT-4	Procedure
23485	Incision to repair collar bone for nonunion of fracture with bone graft	CPT-4	Procedure
23500	Closed treatment of collar bone fracture	CPT-4	Procedure
23505	Closed treatment of collar bone broken with manipulation	CPT-4	Procedure
23515	Open treatment of collar bone broken	CPT-4	Procedure
24586	Open treatment of broken and/or dislocated upper or lower arm bones at elbow	CPT-4	Procedure
24587	Open treatment of broken and/or dislocated upper or lower arm bones at elbow with implan	CPT-4	Procedure
24620	Closed treatment of broken and dislocated forearm bones at elbow with manipulation	CPT-4	Procedure
24635	Open treatment of broken and dislocated forearm bones at elbow	CPT-4	Procedure
24650	Closed treatment of broken forearm bone at elbow	CPT-4	Procedure
24655	Closed treatment of broken forearm bone at elbow with manipulation	CPT-4	Procedure
24665	Open treatment of broken forearm bone at elbow	CPT-4	Procedure
24666	Open treatment of broken forearm bone at elbow with prosthetic replacement	CPT-4	Procedure
24670	Closed treatment of broken forearm bone at elbow	CPT-4	Procedure
24675	Closed treatment of broken forearm bone at elbow with manipulation	CPT-4	Procedure
24685	Open treatment of broken forearm bone at elbow	CPT-4	Procedure
25500	Closed treatment of broken forearm bone	CPT-4	Procedure
25505	Closed treatment of broken forearm bone with manipulation	CPT-4	Procedure
25515	Open treatment of broken forearm bone	CPT-4	Procedure
25520	Closed treatment of broken forearm and dislocated wrist bones	CPT-4	Procedure
25525	Open treatment of broken forearm bone and closed treatment of joint dislocation	CPT-4	Procedure
25526	Open treatment of broken forearm bone	CPT-4	Procedure
25530	Closed treatment of broken forearm bone	CPT-4	Procedure
25535	Closed treatment of broken forearm bone with manipulation	CPT-4	Procedure
25545	Open treatment of broken forearm bone	CPT-4	Procedure
25560	Closed treatment of broken forearm bones	CPT-4	Procedure
25565	Closed treatment of broken forearm bones with manipulation	CPT-4	Procedure
25574	Open treatment of broken forearm bones	CPT-4	Procedure
25575	Open treatment of broken forearm bones	CPT-4	Procedure
25600	Closed treatment of broken forearm bones	CPT-4	Procedure
25605	Closed treatment of broken or growth plate separate of forearm bone at wrist with manipula	CPT-4	Procedure
25606	Insertion of hardware to lower forearm bone broken or growth plate separation, accessed th	CPT-4	Procedure
25607	Open treatment of broken or lower forearm bone or growth plate separation with insertion c	CPT-4	Procedure
25608	Open treatment of broken of lower forearm or growth plate separation with insertion of harc	CPT-4	Procedure
25609	Open treatment of broken of lower forearm or growth plate separation with insertion of harc	CPT-4	Procedure
25611	Percutaneous skeletal fixation of distal radial fracture (eg, colles or smith type) or epiphyseal	CPT-4	Procedure
25620	Open treatment of distal radial fracture (eg, colles or smith type) or epiphyseal separation, w	CPT-4	Procedure
25650	Closed treatment of broken forearm bone at wrist bone	CPT-4	Procedure
25651	Insertion of hardware broken bone of forearm at wrist, accessed through the skin	CPT-4	Procedure
25652	Open treatment of broken wrist	CPT-4	Procedure
27230	Closed treatment of upper thigh bone fracture	CPT-4	Procedure
27232	Closed treatment of thigh bone fracture with manipulation	CPT-4	Procedure
27235	Insertion of hardware to broken thigh bone, accessed through the skin	CPT-4	Procedure
27236	Open treatment of broken thigh bone with insertion of hardware or prosthetic replacement	CPT-4	Procedure
27238	Closed treatment of fracture below neck of upper thigh bone	CPT-4	Procedure
27240	Closed treatment of broken thigh bone with manipulation	CPT-4	Procedure

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Code	Description	Code Type	Code Category
27244	Surgical treatment of broken thigh bone	CPT-4	Procedure
27245	Surgical treatment of broken thigh bone	CPT-4	Procedure
27246	Closed treatment of broken thigh bone	CPT-4	Procedure
27248	Open treatment of broken thigh bone	CPT-4	Procedure
27254	Open treatment of fracture and traumatic dislocation of hip socket and thigh bone	CPT-4	Procedure
27267	Closed treatment of broken thigh bone	CPT-4	Procedure
27268	Closed treatment of fracture of upper portion and head of thigh bone with manipulation	CPT-4	Procedure
27269	Open treatment of fracture of thigh bone	CPT-4	Procedure
27500	Closed treatment of thigh bone fracture	CPT-4	Procedure
27501	Closed treatment of broken thigh bone	CPT-4	Procedure
27502	Closed treatment of broken thigh bone with manipulation	CPT-4	Procedure
27503	Closed treatment of broken thigh bone with manipulation	CPT-4	Procedure
27506	Open treatment of broken thigh bone	CPT-4	Procedure
27507	Open treatment of broken thigh bone	CPT-4	Procedure
27508	Closed treatment of broken thigh bone	CPT-4	Procedure
27509	Insertion of hardware to stabilize broken thigh bone or separated growth plate, accessed thr	CPT-4	Procedure
27510	Closed treatment of broken thigh bone with manipulation	CPT-4	Procedure
27511	Open treatment of broken thigh bone	CPT-4	Procedure
27513	Open treatment of broken thigh bone	CPT-4	Procedure
27514	Open treatment of broken thigh bone	CPT-4	Procedure

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	ICD-9-CM	Diagnosis
404.03	Hypertensive heart and chronic kidney disease, malignant, with heart failure and with chronic	ICD-9-CM	Diagnosis
404.11	Hypertensive heart and chronic kidney disease, benign, with heart failure and with chronic ki	ICD-9-CM	Diagnosis
404.13	Hypertensive heart and chronic kidney disease, benign, with heart failure and chronic kidney	ICD-9-CM	Diagnosis
404.91	Hypertensive heart and chronic kidney disease, unspecified, with heart failure and with chron	ICD-9-CM	Diagnosis
404.93	Hypertensive heart and chronic kidney disease, unspecified, with heart failure and chronic ki	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
37.66	Insertion of implantable heart assist system	ICD-9-CM	Diagnosis

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Code	Description	Code Type	Code Category
33980	Removal of ventricular assist device, implantable intracorporeal, single ventricle	CPT-4	Procedure
92970	Cardioassist-method of circulatory assist; internal	CPT-4	Procedure
92971	Cardioassist-method of circulatory assist; external	CPT-4	Procedure
G8027	Heart failure patient with left ventricular systolic dysfunction (LVSD) documented to be on eit	HCPCS	Procedure
G8028	Heart failure patient with left ventricular systolic dysfunction (LVSD) not documented to be o	HCPCS	Procedure
G8029	Clinician documented that heart failure patient was not an eligible candidate for either angioi	HCPCS	Procedure
G8030	Heart failure patient with left ventricular systolic dysfunction (LVSD) documented to be on be	HCPCS	Procedure
G8031	Heart failure patient with left ventricular systolic dysfunction (LVSD) not documented to be o	HCPCS	Procedure
G8032	Clinician documented that heart failure patient was not eligible candidate for beta-blocker th	HCPCS	Procedure
G8184	Clinician documented that patient with heart failure and atrial fibrillation was not an eligible c	HCPCS	Procedure
G8184	Clinician documented that patient with heart failure and atrial fibrillation was not an eligible c	HCPCS	Procedure
Hospitalized Bleeding			
280.0	Iron deficiency anemia secondary to blood loss (chronic)	ICD-9-CM	Diagnosis
285.1	Acute posthemorrhagic anemia	ICD-9-CM	Diagnosis
285.9	Unspecified anemia	ICD-9-CM	Diagnosis
423.0	Hemopericardium	ICD-9-CM	Diagnosis
430	Subarachnoid hemorrhage	ICD-9-CM	Diagnosis
431	Intracerebral 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
455	Hemorrhoids	ICD-9-CM	Diagnosis
455.0	Internal hemorrhoids without mention of complication	ICD-9-CM	Diagnosis
455.1	Internal thrombosed hemorrhoids	ICD-9-CM	Diagnosis
455.2	Internal hemorrhoids with other complication	ICD-9-CM	Diagnosis
455.3	External hemorrhoids without mention of complication	ICD-9-CM	Diagnosis
455.4	External thrombosed hemorrhoids	ICD-9-CM	Diagnosis
455.5	External hemorrhoids with other complication	ICD-9-CM	Diagnosis
455.6	Unspecified hemorrhoids without mention of complication	ICD-9-CM	Diagnosis
455.7	Unspecified thrombosed hemorrhoids	ICD-9-CM	Diagnosis
455.8	Unspecified hemorrhoids with other complication	ICD-9-CM	Diagnosis
455.9	Residual hemorrhoidal skin tags	ICD-9-CM	Diagnosis
456.0	Esophageal varices with bleeding	ICD-9-CM	Diagnosis
456.20	Esophageal varices with bleeding in diseases classified elsewhere	ICD-9-CM	Diagnosis
459.0	Unspecified hemorrhage	ICD-9-CM	Diagnosis
530.1	Esophagitis	ICD-9-CM	Diagnosis
530.10	Unspecified esophagitis	ICD-9-CM	Diagnosis
530.11	Reflux esophagitis	ICD-9-CM	Diagnosis
530.12	Acute esophagitis	ICD-9-CM	Diagnosis
530.13	Eosinophilic esophagitis	ICD-9-CM	Diagnosis
530.19	Other esophagitis	ICD-9-CM	Diagnosis
530.7	Gastroesophageal laceration-hemorrhage syndrome	ICD-9-CM	Diagnosis
530.82	Esophageal hemorrhage	ICD-9-CM	Diagnosis
531.0	Acute gastric ulcer with hemorrhage	ICD-9-CM	Diagnosis
531.00	Acute gastric ulcer with hemorrhage, without mention of obstruction	ICD-9-CM	Diagnosis
531.01	Acute gastric ulcer with hemorrhage and obstruction	ICD-9-CM	Diagnosis
531.1	Acute gastric ulcer with perforation	ICD-9-CM	Diagnosis
531.10	Acute gastric ulcer with perforation, without mention of obstruction	ICD-9-CM	Diagnosis
531.11	Acute gastric ulcer with perforation and obstruction	ICD-9-CM	Diagnosis
531.2	Acute gastric ulcer with hemorrhage and perforation	ICD-9-CM	Diagnosis
531.20	Acute gastric ulcer with hemorrhage and perforation, without mention of obstruction	ICD-9-CM	Diagnosis

Appendix H. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Covariates in this Request

Code	Description	Code Type	Code Category
531.21	Acute gastric ulcer with hemorrhage, perforation, and obstruction	ICD-9-CM	Diagnosis
531.3	Acute gastric ulcer without mention of hemorrhage or perforation	ICD-9-CM	Diagnosis
531.30	Acute gastric ulcer without mention of hemorrhage, perforation, or obstruction	ICD-9-CM	Diagnosis
531.31	Acute gastric ulcer without mention of hemorrhage or perforation, with obstruction	ICD-9-CM	Diagnosis
531.4	Chronic or unspecified gastric ulcer with hemorrhage	ICD-9-CM	Diagnosis
531.40	Chronic or unspecified gastric ulcer with hemorrhage, without mention of obstruction	ICD-9-CM	Diagnosis
531.41	Chronic or unspecified gastric ulcer with hemorrhage and obstruction	ICD-9-CM	Diagnosis
531.5	Chronic or unspecified gastric ulcer with perforation	ICD-9-CM	Diagnosis
531.50	Chronic or unspecified gastric ulcer with perforation, without mention of obstruction	ICD-9-CM	Diagnosis
531.51	Chronic or unspecified gastric ulcer with perforation and obstruction	ICD-9-CM	Diagnosis
531.6	Chronic or unspecified gastric ulcer with hemorrhage and perforation	ICD-9-CM	Diagnosis
531.60	Chronic or unspecified gastric ulcer with hemorrhage and perforation, without mention of ob	ICD-9-CM	Diagnosis
531.61	Chronic or unspecified gastric ulcer with hemorrhage, perforation, and obstruction	ICD-9-CM	Diagnosis
531.7	Chronic gastric ulcer without mention of hemorrhage or perforation	ICD-9-CM	Diagnosis
531.70	Chronic gastric ulcer without mention of hemorrhage, perforation, without mention of obstru	ICD-9-CM	Diagnosis
531.71	Chronic gastric ulcer without mention of hemorrhage or perforation, with obstruction	ICD-9-CM	Diagnosis
531.9	Gastric ulcer, unspecified as acute or chronic, without mention of hemorrhage or perforation	ICD-9-CM	Diagnosis
531.90	Gastric ulcer, unspecified as acute or chronic, without mention of hemorrhage, perforation, o	ICD-9-CM	Diagnosis
531.91	Gastric ulcer, unspecified as acute or chronic, without mention of hemorrhage or perforation	ICD-9-CM	Diagnosis
532.0	Acute duodenal ulcer with hemorrhage	ICD-9-CM	Diagnosis
532.00	Acute duodenal ulcer with hemorrhage, without mention of obstruction	ICD-9-CM	Diagnosis
532.01	Acute duodenal ulcer with hemorrhage and obstruction	ICD-9-CM	Diagnosis
532.1	Acute duodenal ulcer with perforation	ICD-9-CM	Diagnosis
532.10	Acute duodenal ulcer with perforation, without mention of obstruction	ICD-9-CM	Diagnosis
532.11	Acute duodenal ulcer with perforation and obstruction	ICD-9-CM	Diagnosis
532.2	Acute duodenal ulcer with hemorrhage and perforation	ICD-9-CM	Diagnosis
532.20	Acute duodenal ulcer with hemorrhage and perforation, without mention of obstruction	ICD-9-CM	Diagnosis
532.21	Acute duodenal ulcer with hemorrhage, perforation, and obstruction	ICD-9-CM	Diagnosis
532.3	Acute duodenal ulcer without mention of hemorrhage or perforation	ICD-9-CM	Diagnosis
532.30	Acute duodenal ulcer without mention of hemorrhage, perforation, or obstruction	ICD-9-CM	Diagnosis
532.31	Acute duodenal ulcer without mention of hemorrhage or perforation, with obstruction	ICD-9-CM	Diagnosis
532.4	Chronic or unspecified duodenal ulcer with hemorrhage	ICD-9-CM	Diagnosis
532.40	Duodenal ulcer, chronic or unspecified, with hemorrhage, without mention of obstruction	ICD-9-CM	Diagnosis
532.41	Chronic or unspecified duodenal ulcer with hemorrhage and obstruction	ICD-9-CM	Diagnosis
532.5	Chronic or unspecified duodenal ulcer with perforation	ICD-9-CM	Diagnosis
532.50	Chronic or unspecified duodenal ulcer with perforation, without mention of obstruction	ICD-9-CM	Diagnosis
532.51	Chronic or unspecified duodenal ulcer with perforation and obstruction	ICD-9-CM	Diagnosis
532.6	Chronic or unspecified duodenal ulcer with hemorrhage and perforation	ICD-9-CM	Diagnosis
532.60	Chronic or unspecified duodenal ulcer with hemorrhage and perforation, without mention of	ICD-9-CM	Diagnosis
532.61	Chronic or unspecified duodenal ulcer with hemorrhage, perforation, and obstruction	ICD-9-CM	Diagnosis
532.7	Chronic duodenal ulcer without mention of hemorrhage or perforation	ICD-9-CM	Diagnosis
532.70	Chronic duodenal ulcer without mention of hemorrhage, perforation, or obstruction	ICD-9-CM	Diagnosis
532.71	Chronic duodenal ulcer without mention of hemorrhage or perforation, with obstruction	ICD-9-CM	Diagnosis
532.9	Duodenal ulcer, unspecified as acute or chronic, without mention of hemorrhage or perforati	ICD-9-CM	Diagnosis
532.90	Duodenal ulcer, unspecified as acute or chronic, without hemorrhage, perforation, or obstruc	ICD-9-CM	Diagnosis
532.91	Duodenal ulcer, unspecified as acute or chronic, without mention of hemorrhage or perforati	ICD-9-CM	Diagnosis
533.0	Acute peptic ulcer, unspecified site, with hemorrhage	ICD-9-CM	Diagnosis
533.00	Acute peptic ulcer, unspecified site, with hemorrhage, without mention of obstruction	ICD-9-CM	Diagnosis
533.01	Acute peptic ulcer, unspecified site, with hemorrhage and obstruction	ICD-9-CM	Diagnosis
533.1	Acute peptic ulcer, unspecified site, with perforation	ICD-9-CM	Diagnosis
533.10	Acute peptic ulcer, unspecified site, with perforation, without mention of obstruction	ICD-9-CM	Diagnosis

Appendix H. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Covariates in this Request

Code	Description	Code Type	Code Category
533.11	Acute peptic ulcer, unspecified site, with perforation and obstruction	ICD-9-CM	Diagnosis
533.2	Acute peptic ulcer, unspecified site, with hemorrhage and perforation	ICD-9-CM	Diagnosis
533.20	Acute peptic ulcer, unspecified site, with hemorrhage and perforation, without mention of ob	ICD-9-CM	Diagnosis
533.21	Acute peptic ulcer, unspecified site, with hemorrhage, perforation, and obstruction	ICD-9-CM	Diagnosis
533.3	Acute peptic ulcer, unspecified site, without mention of hemorrhage and perforation	ICD-9-CM	Diagnosis
533.30	Acute peptic ulcer, unspecified site, without mention of hemorrhage, perforation, or obstruct	ICD-9-CM	Diagnosis
533.31	Acute peptic ulcer, unspecified site, without mention of hemorrhage and perforation, with ot	ICD-9-CM	Diagnosis
533.4	Chronic or unspecified peptic ulcer, unspecified site, with hemorrhage	ICD-9-CM	Diagnosis
533.40	Chronic or unspecified peptic ulcer, unspecified site, with hemorrhage, without mention of ol	ICD-9-CM	Diagnosis
533.41	Chronic or unspecified peptic ulcer, unspecified site, with hemorrhage and obstruction	ICD-9-CM	Diagnosis
533.5	Chronic or unspecified peptic ulcer, unspecified site, with perforation	ICD-9-CM	Diagnosis
533.50	Chronic or unspecified peptic ulcer, unspecified site, with perforation, without mention of ob	ICD-9-CM	Diagnosis
533.51	Chronic or unspecified peptic ulcer, unspecified site, with perforation and obstruction	ICD-9-CM	Diagnosis
533.6	Chronic or unspecified peptic ulcer, unspecified site, with hemorrhage and perforation	ICD-9-CM	Diagnosis
533.60	Chronic or unspecified peptic ulcer, unspecified site, with hemorrhage and perforation, witho	ICD-9-CM	Diagnosis
533.61	Chronic or unspecified peptic ulcer, unspecified site, with hemorrhage, perforation, and obst	ICD-9-CM	Diagnosis
533.7	Chronic peptic ulcer, unspecified site, without mention of hemorrhage or perforation	ICD-9-CM	Diagnosis
533.70	Chronic peptic ulcer, unspecified site, without mention of hemorrhage, perforation, or obstru	ICD-9-CM	Diagnosis
533.71	Chronic peptic ulcer of unspecified site without mention of hemorrhage or perforation, with	ICD-9-CM	Diagnosis
533.9	Peptic ulcer, unspecified site, unspecified as acute or chronic, without mention of hemorrhag	ICD-9-CM	Diagnosis
533.90	Peptic ulcer, unspecified site, unspecified as acute or chronic, without mention of hemorrhag	ICD-9-CM	Diagnosis
533.91	Peptic ulcer, unspecified site, unspecified as acute or chronic, without mention of hemorrhag	ICD-9-CM	Diagnosis
534.0	Acute gastrojejunal ulcer with hemorrhage	ICD-9-CM	Diagnosis
534.00	Acute gastrojejunal ulcer with hemorrhage, without mention of obstruction	ICD-9-CM	Diagnosis
534.01	Acute gastrojejunal ulcer, with hemorrhage and obstruction	ICD-9-CM	Diagnosis
534.1	Acute gastrojejunal ulcer with perforation	ICD-9-CM	Diagnosis
534.10	Acute gastrojejunal ulcer with perforation, without mention of obstruction	ICD-9-CM	Diagnosis
534.11	Acute gastrojejunal ulcer with perforation and obstruction	ICD-9-CM	Diagnosis
534.2	Acute gastrojejunal ulcer with hemorrhage and perforation	ICD-9-CM	Diagnosis
534.20	Acute gastrojejunal ulcer with hemorrhage and perforation, without mention of obstruction	ICD-9-CM	Diagnosis
534.21	Acute gastrojejunal ulcer with hemorrhage, perforation, and obstruction	ICD-9-CM	Diagnosis
534.3	Acute gastrojejunal ulcer without mention of hemorrhage or perforation	ICD-9-CM	Diagnosis
534.30	Acute gastrojejunal ulcer without mention of hemorrhage, perforation, or obstruction	ICD-9-CM	Diagnosis
534.31	Acute gastrojejunal ulcer without mention of hemorrhage or perforation, with obstruction	ICD-9-CM	Diagnosis
534.4	Chronic or unspecified gastrojejunal ulcer with hemorrhage	ICD-9-CM	Diagnosis
534.40	Chronic or unspecified gastrojejunal ulcer with hemorrhage, without mention of obstruction	ICD-9-CM	Diagnosis
534.41	Chronic or unspecified gastrojejunal ulcer, with hemorrhage and obstruction	ICD-9-CM	Diagnosis
534.5	Chronic or unspecified gastrojejunal ulcer with perforation	ICD-9-CM	Diagnosis
534.50	Chronic or unspecified gastrojejunal ulcer with perforation, without mention of obstruction	ICD-9-CM	Diagnosis
534.51	Chronic or unspecified gastrojejunal ulcer with perforation and obstruction	ICD-9-CM	Diagnosis
534.6	Chronic or unspecified gastrojejunal ulcer with hemorrhage and perforation	ICD-9-CM	Diagnosis
534.60	Chronic or unspecified gastrojejunal ulcer with hemorrhage and perforation, without mentior	ICD-9-CM	Diagnosis
534.61	Chronic or unspecified gastrojejunal ulcer with hemorrhage, perforation, and obstruction	ICD-9-CM	Diagnosis
534.7	Chronic gastrojejunal ulcer without mention of hemorrhage or perforation	ICD-9-CM	Diagnosis
534.70	Chronic gastrojejunal ulcer without mention of hemorrhage, perforation, or obstruction	ICD-9-CM	Diagnosis
534.71	Chronic gastrojejunal ulcer without mention of hemorrhage or perforation, with obstruction	ICD-9-CM	Diagnosis
534.9	Gastrojejunal ulcer, unspecified as acute or chronic, without mention of hemorrhage or perfo	ICD-9-CM	Diagnosis
534.90	Gastrojejunal ulcer, unspecified as acute or chronic, without mention of hemorrhage, perfo	ICD-9-CM	Diagnosis
534.91	Gastrojejunal ulcer, unspecified as acute or chronic, without mention of hemorrhage or perfo	ICD-9-CM	Diagnosis
535.00	Acute gastritis without mention of hemorrhage	ICD-9-CM	Diagnosis
535.01	Acute gastritis with hemorrhage	ICD-9-CM	Diagnosis

Appendix H. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Covariates in this Request

Code	Description	Code Type	Code Category
535.10	Atrophic gastritis without mention of hemorrhage	ICD-9-CM	Diagnosis
535.11	Atrophic gastritis with hemorrhage	ICD-9-CM	Diagnosis
535.20	Gastric mucosal hypertrophy without mention of hemorrhage	ICD-9-CM	Diagnosis
535.21	Gastric mucosal hypertrophy with hemorrhage	ICD-9-CM	Diagnosis
535.30	Alcoholic gastritis without mention of hemorrhage	ICD-9-CM	Diagnosis
535.31	Alcoholic gastritis with hemorrhage	ICD-9-CM	Diagnosis
535.40	Other specified gastritis without mention of hemorrhage	ICD-9-CM	Diagnosis
535.41	Other specified gastritis with hemorrhage	ICD-9-CM	Diagnosis
535.50	Unspecified gastritis and gastroduodenitis without mention of hemorrhage	ICD-9-CM	Diagnosis
535.51	Unspecified gastritis and gastroduodenitis with hemorrhage	ICD-9-CM	Diagnosis
535.60	Duodenitis without mention of hemorrhage	ICD-9-CM	Diagnosis
535.61	Duodenitis with hemorrhage	ICD-9-CM	Diagnosis
537.83	Angiodysplasia of stomach and duodenum with hemorrhage	ICD-9-CM	Diagnosis
562.00	Diverticulosis of small intestine (without mention of hemorrhage)	ICD-9-CM	Diagnosis
562.01	Diverticulitis of small intestine (without mention of hemorrhage)	ICD-9-CM	Diagnosis
562.02	Diverticulosis of small intestine with hemorrhage	ICD-9-CM	Diagnosis
562.03	Diverticulitis of small intestine with hemorrhage	ICD-9-CM	Diagnosis
562.10	Diverticulosis of colon (without mention of hemorrhage)	ICD-9-CM	Diagnosis
562.11	Diverticulitis of colon (without mention of hemorrhage)	ICD-9-CM	Diagnosis
562.12	Diverticulosis of colon with hemorrhage	ICD-9-CM	Diagnosis
562.13	Diverticulitis of colon with hemorrhage	ICD-9-CM	Diagnosis
568.81	Hemoperitoneum (nontraumatic)	ICD-9-CM	Diagnosis
569.3	Hemorrhage of rectum and anus	ICD-9-CM	Diagnosis
569.85	Angiodysplasia of intestine with hemorrhage	ICD-9-CM	Diagnosis
578.0	Hematemesis	ICD-9-CM	Diagnosis
578.1	Blood in stool	ICD-9-CM	Diagnosis
578.9	Hemorrhage of gastrointestinal tract, unspecified	ICD-9-CM	Diagnosis
593.81	Vascular disorders of kidney	ICD-9-CM	Diagnosis
599.7	Hematuria	ICD-9-CM	Diagnosis
599.70	Hematuria, unspecified	ICD-9-CM	Diagnosis
599.71	Gross hematuria	ICD-9-CM	Diagnosis
599.72	Microscopic hematuria	ICD-9-CM	Diagnosis
623.8	Other specified noninflammatory disorder of vagina	ICD-9-CM	Diagnosis
626.2	Excessive or frequent menstruation	ICD-9-CM	Diagnosis
626.6	Metrorrhagia	ICD-9-CM	Diagnosis
719.1	Hemarthrosis	ICD-9-CM	Diagnosis
719.10	Hemarthrosis, site unspecified	ICD-9-CM	Diagnosis
719.11	Hemarthrosis, shoulder region	ICD-9-CM	Diagnosis
719.12	Hemarthrosis, upper arm	ICD-9-CM	Diagnosis
719.13	Hemarthrosis, forearm	ICD-9-CM	Diagnosis
719.14	Hemarthrosis, hand	ICD-9-CM	Diagnosis
719.15	Hemarthrosis, pelvic region and thigh	ICD-9-CM	Diagnosis
719.16	Hemarthrosis, lower leg	ICD-9-CM	Diagnosis
719.17	Hemarthrosis, ankle and foot	ICD-9-CM	Diagnosis
719.18	Hemarthrosis, other specified site	ICD-9-CM	Diagnosis
719.19	Hemarthrosis, multiple sites	ICD-9-CM	Diagnosis
784.7	Epistaxis	ICD-9-CM	Diagnosis
784.8	Hemorrhage from throat	ICD-9-CM	Diagnosis
786.3	Hemoptysis	ICD-9-CM	Diagnosis
790.92	Abnormal coagulation profile	ICD-9-CM	Diagnosis
852.0	Subarachnoid hemorrhage following injury without mention of open intracranial wound	ICD-9-CM	Diagnosis

Appendix H. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Covariates in this Request

Code	Description	Code Type	Code Category
852.00	Subarachnoid hemorrhage following injury, without mention of open intracranial wound, uns	ICD-9-CM	Diagnosis
852.01	Subarachnoid hemorrhage following injury, without mention of open intracranial wound, no l	ICD-9-CM	Diagnosis
852.02	Subarachnoid hemorrhage following injury, without mention of open intracranial wound, brie	ICD-9-CM	Diagnosis
852.03	Subarachnoid hemorrhage following injury, without mention of open intracranial wound, mo	ICD-9-CM	Diagnosis
852.04	Subarachnoid hemorrhage following injury, without mention of open intracranial wound, pro	ICD-9-CM	Diagnosis
852.05	Subarachnoid hemorrhage following injury, without mention of open intracranial wound, pro	ICD-9-CM	Diagnosis
852.06	Subarachnoid hemorrhage following injury, without mention of open intracranial wound, loss	ICD-9-CM	Diagnosis
852.09	Subarachnoid hemorrhage following injury, without mention of open intracranial wound, uns	ICD-9-CM	Diagnosis
852.2	Subdural hemorrhage following injury without mention of open intracranial wound	ICD-9-CM	Diagnosis
852.20	Subdural hemorrhage following injury, without mention of open intracranial wound, unspecif	ICD-9-CM	Diagnosis
852.21	Subdural hemorrhage following injury, without mention of open intracranial wound, no loss c	ICD-9-CM	Diagnosis
852.22	Subdural hemorrhage following injury, without mention of open intracranial wound, brief (les	ICD-9-CM	Diagnosis
852.23	Subdural hemorrhage following injury, without mention of open intracranial wound, moderat	ICD-9-CM	Diagnosis
852.24	Subdural hemorrhage following injury, without mention of open intracranial wound, prolonge	ICD-9-CM	Diagnosis
852.25	Subdural hemorrhage following injury, without mention of open intracranial wound, prolonge	ICD-9-CM	Diagnosis
852.26	Subdural hemorrhage following injury, without mention of open intracranial wound, loss of c	ICD-9-CM	Diagnosis
852.29	Subdural hemorrhage following injury, without mention of open intracranial wound, unspecif	ICD-9-CM	Diagnosis
852.4	Extradural hemorrhage following injury without mention of open intracranial wound	ICD-9-CM	Diagnosis
852.40	Extradural hemorrhage following injury, without mention of open intracranial wound, unspec	ICD-9-CM	Diagnosis
852.41	Extradural hemorrhage following injury, without mention of open intracranial wound, no loss	ICD-9-CM	Diagnosis
852.42	Extradural hemorrhage following injury, without mention of open intracranial wound, brief (l	ICD-9-CM	Diagnosis
852.43	Extradural hemorrhage following injury, without mention of open intracranial wound, moder	ICD-9-CM	Diagnosis
852.44	Extradural hemorrhage following injury, without mention of open intracranial wound, prolong	ICD-9-CM	Diagnosis
852.45	Extradural hemorrhage following injury, without mention of open intracranial wound, prolong	ICD-9-CM	Diagnosis
852.46	Extradural hemorrhage following injury, without mention of open intracranial wound, loss of	ICD-9-CM	Diagnosis
852.49	Extradural hemorrhage following injury, without mention of open intracranial wound, unspec	ICD-9-CM	Diagnosis
853.0	Other and unspecified intracranial hemorrhage following injury, without mention of open int	ICD-9-CM	Diagnosis
Hypercholesterolemia			
272.0	Pure hypercholesterolemia	ICD-9-CM	Diagnosis
272.2	Mixed 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
402.01	Malignant hypertensive heart disease with 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
402.11	Benign hypertensive heart disease with 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
402.91	Hypertensive heart disease, unspecified, with heart failure	ICD-9-CM	Diagnosis
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 s	ICD-9-CM	Diagnosis
403.01	Hypertensive chronic kidney disease, malignant, with chronic kidney disease stage V or end st	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 stag	ICD-9-CM	Diagnosis

Appendix H. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Covariates in this Request

Code	Description	Code Type	Code Category
403.11	Hypertensive chronic kidney disease, benign, with chronic kidney disease stage V or end stage	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	ICD-9-CM	Diagnosis
403.91	Hypertensive chronic kidney disease, unspecified, with chronic kidney disease stage V or end	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 chr	ICD-9-CM	Diagnosis
404.01	Hypertensive heart and chronic kidney disease, malignant, with heart failure and with chronic	ICD-9-CM	Diagnosis
404.02	Hypertensive heart and chronic kidney disease, malignant, without heart failure and with chr	ICD-9-CM	Diagnosis
404.03	Hypertensive heart and chronic kidney disease, malignant, with heart failure and with chronic	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 chroni	ICD-9-CM	Diagnosis
404.11	Hypertensive heart and chronic kidney disease, benign, with heart failure and with chronic ki	ICD-9-CM	Diagnosis
404.12	Hypertensive heart and chronic kidney disease, benign, without heart failure and with chroni	ICD-9-CM	Diagnosis
404.13	Hypertensive heart and chronic kidney disease, benign, with heart failure and chronic kidney	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 ch	ICD-9-CM	Diagnosis
404.91	Hypertensive heart and chronic kidney disease, unspecified, with heart failure and with chro	ICD-9-CM	Diagnosis
404.92	Hypertensive heart and chronic kidney disease, unspecified, without heart failure and with ch	ICD-9-CM	Diagnosis
404.93	Hypertensive heart and chronic kidney disease, unspecified, with heart failure and chronic ki	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
997.91	Hypertension	ICD-9-CM	Diagnosis
Nicotine Dependency			
305.1	Nondependent tobacco use disorder	ICD-9-CM	Diagnosis
989.84	Toxic effect of tobacco	ICD-9-CM	Diagnosis
V1582	Personal history of tobacco use, presenting hazards to health	ICD-9-CM	Diagnosis
99406	Smoking and tobacco use cessation counseling visit; intermediate, greater than 3 minutes up	CPT-4	Procedure
99407	Smoking and tobacco use cessation counseling visit; intensive, greater than 10 minutes	CPT-4	Procedure
C9801	Smoking and tobacco cessation counseling visit for the asymptomatic patient; intermediate, g	HCPCS	Procedure
C9802	Smoking and tobacco cessation counseling visit for the asymptomatic patient; intensive, grea	HCPCS	Procedure
D1320	tobacco counseling for the control and prevention of oral disease	HCPCS	Procedure
G0375	Smoking and tobacco use cessation counseling visit; intermediate, greater than 3 minutes up	HCPCS	Procedure
G0376	Smoking and tobacco use cessation counseling visit; intensive, greater than 10 minutes	HCPCS	Procedure
G0436	Smoking and tobacco cessation counseling visit for the asymptomatic patient; intermediate, g	HCPCS	Procedure
G0437	Smoking and tobacco cessation counseling visit for the asymptomatic patient; intensive, grea	HCPCS	Procedure
G8093	Newly diagnosed chronic obstructive pulmonary disease (COPD) patient documented to have	HCPCS	Procedure
G8094	Newly diagnosed chronic obstructive pulmonary disease (COPD) patient not documented to h	HCPCS	Procedure
G8402	Tobacco (smoke) use cessation intervention, counseling	HCPCS	Procedure
G8403	Tobacco (smoke) use cessation intervention not counseled	HCPCS	Procedure
G8453	Tobacco use cessation intervention, counseling	HCPCS	Procedure
G8454	Tobacco use cessation intervention not counseled, reason not specified	HCPCS	Procedure
G8455	Current tobacco smoker	HCPCS	Procedure

Appendix H. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Covariates in this Request

Code	Description	Code Type	Code Category
G8690	Current tobacco smoker or current exposure to secondhand smoke	HCPCS	Procedure
G9016	Smoking cessation counseling, individual, in the absence of or in addition to any other evaluation	HCPCS	Procedure
G9276	Documentation that patient is a current tobacco user	HCPCS	Procedure
G9458	Patient documented as tobacco user and received tobacco cessation intervention (must include counseling)	HCPCS	Procedure
Obesity			
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
278.1	Localized adiposity	ICD-9-CM	Diagnosis
V45.86	Bariatric surgery status	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
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
44.31	High gastric bypass	ICD-9-CM	Diagnosis
44.68	Laparoscopic gastroplasty	ICD-9-CM	Diagnosis
44.95	Laparoscopic gastric restrictive procedure	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
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
414.12	Dissection of coronary artery	ICD-9-CM	Diagnosis

Appendix H. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Covariates in this Request

Code	Description	Code Type	Code Category
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
429.2	Unspecified cardiovascular disease	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
429.9	Unspecified heart disease	ICD-9-CM	Diagnosis
G8033	Prior myocardial infarction, coronary artery disease patient documented to be on beta-blocker	HCPCS	Procedure
G8034	Prior myocardial infarction, coronary artery disease patient not documented to be on beta-blocker	HCPCS	Procedure
G8035	Clinician documented that prior myocardial infarction, coronary artery disease patient was not on beta-blocker	HCPCS	Procedure
G8036	Coronary artery disease patient documented to be on antiplatelet therapy	HCPCS	Procedure
G8037	Coronary artery disease patient not documented to be on antiplatelet therapy	HCPCS	Procedure
G8038	Clinician documented that coronary artery disease patient was not eligible candidate for antiplatelet therapy	HCPCS	Procedure
G8039	Coronary artery disease patient with low-density lipoprotein documented to be greater than 160 mg/dL	HCPCS	Procedure
G8040	Coronary artery disease patient with low-density lipoprotein documented to be less than or equal to 160 mg/dL	HCPCS	Procedure
G8041	Clinician documented that coronary artery disease patient was not eligible candidate for low-density lipoprotein treatment	HCPCS	Procedure
Peptic Ulcer Disease			
531.0	Acute gastric ulcer with hemorrhage	ICD-9-CM	Diagnosis
531.00	Acute gastric ulcer with hemorrhage, without mention of obstruction	ICD-9-CM	Diagnosis
531.01	Acute gastric ulcer with hemorrhage and obstruction	ICD-9-CM	Diagnosis
531.1	Acute gastric ulcer with perforation	ICD-9-CM	Diagnosis
531.10	Acute gastric ulcer with perforation, without mention of obstruction	ICD-9-CM	Diagnosis
531.11	Acute gastric ulcer with perforation and obstruction	ICD-9-CM	Diagnosis
531.2	Acute gastric ulcer with hemorrhage and perforation	ICD-9-CM	Diagnosis
531.20	Acute gastric ulcer with hemorrhage and perforation, without mention of obstruction	ICD-9-CM	Diagnosis
531.21	Acute gastric ulcer with hemorrhage, perforation, and obstruction	ICD-9-CM	Diagnosis
531.3	Acute gastric ulcer without mention of hemorrhage or perforation	ICD-9-CM	Diagnosis
531.30	Acute gastric ulcer without mention of hemorrhage, perforation, or obstruction	ICD-9-CM	Diagnosis
531.31	Acute gastric ulcer without mention of hemorrhage or perforation, with obstruction	ICD-9-CM	Diagnosis
531.4	Chronic or unspecified gastric ulcer with hemorrhage	ICD-9-CM	Diagnosis
531.40	Chronic or unspecified gastric ulcer with hemorrhage, without mention of obstruction	ICD-9-CM	Diagnosis
531.41	Chronic or unspecified gastric ulcer with hemorrhage and obstruction	ICD-9-CM	Diagnosis
531.5	Chronic or unspecified gastric ulcer with perforation	ICD-9-CM	Diagnosis
531.50	Chronic or unspecified gastric ulcer with perforation, without mention of obstruction	ICD-9-CM	Diagnosis
531.51	Chronic or unspecified gastric ulcer with perforation and obstruction	ICD-9-CM	Diagnosis
531.6	Chronic or unspecified gastric ulcer with hemorrhage and perforation	ICD-9-CM	Diagnosis
531.60	Chronic or unspecified gastric ulcer with hemorrhage and perforation, without mention of obstruction	ICD-9-CM	Diagnosis
531.61	Chronic or unspecified gastric ulcer with hemorrhage, perforation, and obstruction	ICD-9-CM	Diagnosis
531.7	Chronic gastric ulcer without mention of hemorrhage or perforation	ICD-9-CM	Diagnosis
531.70	Chronic gastric ulcer without mention of hemorrhage, perforation, without mention of obstruction	ICD-9-CM	Diagnosis
531.71	Chronic gastric ulcer without mention of hemorrhage or perforation, with obstruction	ICD-9-CM	Diagnosis
532.0	Acute duodenal ulcer with hemorrhage	ICD-9-CM	Diagnosis
532.00	Acute duodenal ulcer with hemorrhage, without mention of obstruction	ICD-9-CM	Diagnosis
532.01	Acute duodenal ulcer with hemorrhage and obstruction	ICD-9-CM	Diagnosis
532.1	Acute duodenal ulcer with perforation	ICD-9-CM	Diagnosis

Appendix H. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Covariates in this Request

Code	Description	Code Type	Code Category
532.10	Acute duodenal ulcer with perforation, without mention of obstruction	ICD-9-CM	Diagnosis
532.11	Acute duodenal ulcer with perforation and obstruction	ICD-9-CM	Diagnosis
532.2	Acute duodenal ulcer with hemorrhage and perforation	ICD-9-CM	Diagnosis
532.20	Acute duodenal ulcer with hemorrhage and perforation, without mention of obstruction	ICD-9-CM	Diagnosis
532.21	Acute duodenal ulcer with hemorrhage, perforation, and obstruction	ICD-9-CM	Diagnosis
532.3	Acute duodenal ulcer without mention of hemorrhage or perforation	ICD-9-CM	Diagnosis
532.30	Acute duodenal ulcer without mention of hemorrhage, perforation, or obstruction	ICD-9-CM	Diagnosis
532.31	Acute duodenal ulcer without mention of hemorrhage or perforation, with obstruction	ICD-9-CM	Diagnosis
532.4	Chronic or unspecified duodenal ulcer with hemorrhage	ICD-9-CM	Diagnosis
532.40	Duodenal ulcer, chronic or unspecified, with hemorrhage, without mention of obstruction	ICD-9-CM	Diagnosis
532.41	Chronic or unspecified duodenal ulcer with hemorrhage and obstruction	ICD-9-CM	Diagnosis
532.5	Chronic or unspecified duodenal ulcer with perforation	ICD-9-CM	Diagnosis
532.50	Chronic or unspecified duodenal ulcer with perforation, without mention of obstruction	ICD-9-CM	Diagnosis
532.51	Chronic or unspecified duodenal ulcer with perforation and obstruction	ICD-9-CM	Diagnosis
532.6	Chronic or unspecified duodenal ulcer with hemorrhage and perforation	ICD-9-CM	Diagnosis
532.60	Chronic or unspecified duodenal ulcer with hemorrhage and perforation, without mention of	ICD-9-CM	Diagnosis
532.61	Chronic or unspecified duodenal ulcer with hemorrhage, perforation, and obstruction	ICD-9-CM	Diagnosis
532.7	Chronic duodenal ulcer without mention of hemorrhage or perforation	ICD-9-CM	Diagnosis
532.70	Chronic duodenal ulcer without mention of hemorrhage, perforation, or obstruction	ICD-9-CM	Diagnosis
532.71	Chronic duodenal ulcer without mention of hemorrhage or perforation, with obstruction	ICD-9-CM	Diagnosis
533.0	Acute peptic ulcer, unspecified site, with hemorrhage	ICD-9-CM	Diagnosis
533.00	Acute peptic ulcer, unspecified site, with hemorrhage, without mention of obstruction	ICD-9-CM	Diagnosis
533.01	Acute peptic ulcer, unspecified site, with hemorrhage and obstruction	ICD-9-CM	Diagnosis
533.1	Acute peptic ulcer, unspecified site, with perforation	ICD-9-CM	Diagnosis
533.10	Acute peptic ulcer, unspecified site, with perforation, without mention of obstruction	ICD-9-CM	Diagnosis
533.11	Acute peptic ulcer, unspecified site, with perforation and obstruction	ICD-9-CM	Diagnosis
533.2	Acute peptic ulcer, unspecified site, with hemorrhage and perforation	ICD-9-CM	Diagnosis
533.20	Acute peptic ulcer, unspecified site, with hemorrhage and perforation, without mention of ob	ICD-9-CM	Diagnosis
533.21	Acute peptic ulcer, unspecified site, with hemorrhage, perforation, and obstruction	ICD-9-CM	Diagnosis
533.3	Acute peptic ulcer, unspecified site, without mention of hemorrhage and perforation	ICD-9-CM	Diagnosis
533.30	Acute peptic ulcer, unspecified site, without mention of hemorrhage, perforation, or obstruct	ICD-9-CM	Diagnosis
533.31	Acute peptic ulcer, unspecified site, without mention of hemorrhage and perforation, with ob	ICD-9-CM	Diagnosis
533.4	Chronic or unspecified peptic ulcer, unspecified site, with hemorrhage	ICD-9-CM	Diagnosis
533.40	Chronic or unspecified peptic ulcer, unspecified site, with hemorrhage, without mention of ol	ICD-9-CM	Diagnosis
533.41	Chronic or unspecified peptic ulcer, unspecified site, with hemorrhage and obstruction	ICD-9-CM	Diagnosis
533.5	Chronic or unspecified peptic ulcer, unspecified site, with perforation	ICD-9-CM	Diagnosis
533.50	Chronic or unspecified peptic ulcer, unspecified site, with perforation, without mention of ob	ICD-9-CM	Diagnosis
533.51	Chronic or unspecified peptic ulcer, unspecified site, with perforation and obstruction	ICD-9-CM	Diagnosis
533.6	Chronic or unspecified peptic ulcer, unspecified site, with hemorrhage and perforation	ICD-9-CM	Diagnosis
533.60	Chronic or unspecified peptic ulcer, unspecified site, with hemorrhage and perforation, witho	ICD-9-CM	Diagnosis
533.61	Chronic or unspecified peptic ulcer, unspecified site, with hemorrhage, perforation, and obstr	ICD-9-CM	Diagnosis
533.7	Chronic peptic ulcer, unspecified site, without mention of hemorrhage or perforation	ICD-9-CM	Diagnosis
533.70	Chronic peptic ulcer, unspecified site, without mention of hemorrhage, perforation, or obstru	ICD-9-CM	Diagnosis
533.71	Chronic peptic ulcer of unspecified site without mention of hemorrhage or perforation, with c	ICD-9-CM	Diagnosis
534.0	Acute gastrojejunal ulcer with hemorrhage	ICD-9-CM	Diagnosis
534.00	Acute gastrojejunal ulcer with hemorrhage, without mention of obstruction	ICD-9-CM	Diagnosis
534.01	Acute gastrojejunal ulcer, with hemorrhage and obstruction	ICD-9-CM	Diagnosis
534.1	Acute gastrojejunal ulcer with perforation	ICD-9-CM	Diagnosis
534.10	Acute gastrojejunal ulcer with perforation, without mention of obstruction	ICD-9-CM	Diagnosis
534.11	Acute gastrojejunal ulcer with perforation and obstruction	ICD-9-CM	Diagnosis
534.2	Acute gastrojejunal ulcer with hemorrhage and perforation	ICD-9-CM	Diagnosis

Appendix H. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Covariates in this Request

Code	Description	Code Type	Code Category
534.20	Acute gastrojejunal ulcer with hemorrhage and perforation, without mention of obstruction	ICD-9-CM	Diagnosis
534.21	Acute gastrojejunal ulcer with hemorrhage, perforation, and obstruction	ICD-9-CM	Diagnosis
534.3	Acute gastrojejunal ulcer without mention of hemorrhage or perforation	ICD-9-CM	Diagnosis
534.30	Acute gastrojejunal ulcer without mention of hemorrhage, perforation, or obstruction	ICD-9-CM	Diagnosis
534.31	Acute gastrojejunal ulcer without mention of hemorrhage or perforation, with obstruction	ICD-9-CM	Diagnosis
534.4	Chronic or unspecified gastrojejunal ulcer with hemorrhage	ICD-9-CM	Diagnosis
534.40	Chronic or unspecified gastrojejunal ulcer with hemorrhage, without mention of obstruction	ICD-9-CM	Diagnosis
534.41	Chronic or unspecified gastrojejunal ulcer, with hemorrhage and obstruction	ICD-9-CM	Diagnosis
534.5	Chronic or unspecified gastrojejunal ulcer with perforation	ICD-9-CM	Diagnosis
534.50	Chronic or unspecified gastrojejunal ulcer with perforation, without mention of obstruction	ICD-9-CM	Diagnosis
534.51	Chronic or unspecified gastrojejunal ulcer with perforation and obstruction	ICD-9-CM	Diagnosis
534.6	Chronic or unspecified gastrojejunal ulcer with hemorrhage and perforation	ICD-9-CM	Diagnosis
534.60	Chronic or unspecified gastrojejunal ulcer with hemorrhage and perforation, without mention of obstruction	ICD-9-CM	Diagnosis
534.61	Chronic or unspecified gastrojejunal ulcer with hemorrhage, perforation, and obstruction	ICD-9-CM	Diagnosis
534.7	Chronic gastrojejunal ulcer without mention of hemorrhage or perforation	ICD-9-CM	Diagnosis
534.70	Chronic gastrojejunal ulcer without mention of hemorrhage, perforation, or obstruction	ICD-9-CM	Diagnosis
534.71	Chronic gastrojejunal ulcer without mention of hemorrhage or perforation, with obstruction	ICD-9-CM	Diagnosis
44.4	Control of hemorrhage and suture of ulcer of stomach or duodenum	ICD-9-CM	Diagnosis
44.40	Suture of peptic ulcer, not otherwise specified	ICD-9-CM	Diagnosis
44.41	Suture of gastric ulcer site	ICD-9-CM	Diagnosis
44.42	Suture of duodenal ulcer site	ICD-9-CM	Diagnosis
Stroke			
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
Syncope			
780.2	Syncope and collapse	ICD-9-CM	Diagnosis
Transient Ischemic Attack			
435	Transient cerebral ischemia	ICD-9-CM	Diagnosis
435.0	Basilar artery syndrome	ICD-9-CM	Diagnosis
435.1	Vertebral artery syndrome	ICD-9-CM	Diagnosis
435.2	Subclavian steal syndrome	ICD-9-CM	Diagnosis
435.3	Vertebrobasilar artery syndrome	ICD-9-CM	Diagnosis
435.8	Other specified transient cerebral ischemias	ICD-9-CM	Diagnosis
435.9	Unspecified transient cerebral ischemia	ICD-9-CM	Diagnosis
Walker Use			
E0130	Walker, rigid (pickup), adjustable or fixed height	HCPCS	Procedure
E0135	Walker, folding (pickup), adjustable or fixed height	HCPCS	Procedure
E0140	Walker, with trunk support, adjustable or fixed height, any type	HCPCS	Procedure
E0141	Walker, rigid, wheeled, adjustable or fixed height	HCPCS	Procedure
E0142	Rigid walker, wheeled, with seat	HCPCS	Procedure
E0143	Walker, folding, wheeled, adjustable or fixed height	HCPCS	Procedure

Appendix H. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), Current Procedural Terminology, Fourth Edition (CPT-4), and Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Covariates in this Request

Code	Description	Code Type	Code Category
E0144	Walker, enclosed, 4 sided framed, rigid or folding, wheeled with posterior seat	HCPCS	Procedure
E0145	Walker, wheeled, with seat and crutch attachments	HCPCS	Procedure
E0146	Folding walker, wheeled, with seat	HCPCS	Procedure
E0147	Walker, heavy-duty, multiple braking system, variable wheel resistance	HCPCS	Procedure
E0148	Walker, heavy-duty, without wheels, rigid or folding, any type, each	HCPCS	Procedure
E0149	Walker, heavy-duty, wheeled, rigid or folding, any type	HCPCS	Procedure
E0154	Platform attachment, walker, each	HCPCS	Procedure
E0155	Wheel attachment, rigid pick-up walker, per pair	HCPCS	Procedure
E0156	Seat attachment, walker	HCPCS	Procedure
E0157	Crutch attachment, walker, each	HCPCS	Procedure
E0158	Leg extensions for walker, per set of 4	HCPCS	Procedure
E0159	Brake attachment for wheeled walker, replacement, each	HCPCS	Procedure
K0458	Heavy duty walker, without wheels, each	HCPCS	Procedure
K0459	Heavy duty wheeled walker, each	HCPCS	Procedure
L1520	Thoracic-hip-knee-ankle orthotic (THKAO), swivel walker	HCPCS	Procedure

Appendix I. List of Generic Names of Medical Products Used to Define Covariates in this Request

Generic Name

Angiotensin-Converting Enzyme Inhibitors and Angiotensin Receptor Blockers

AMLODIPINE BESYLATE BENAZEPRIL HCL CAP 2.5 10 MG
AMLODIPINE BESYLATE BENAZEPRIL HCL CAP 5 10 MG
AMLODIPINE BESYLATE BENAZEPRIL HCL CAP 5 20 MG
AMLODIPINE BESYLATE BENAZEPRIL HCL CAP 10 20 MG
ENALAPRIL MALEATE TAB 10 MG
ENALAPRIL MALEATE TAB 5 MG
BENAZEPRIL HCL TAB 10 MG
ENALAPRIL MALEATE TAB 20 MG
TELMISARTAN HYDROCHLOROTHIAZIDE TAB 40 12.5 MG
TELMISARTAN HYDROCHLOROTHIAZIDE TAB 80 12.5 MG
TELMISARTAN HYDROCHLOROTHIAZIDE TAB 80 25 MG
CAPTOPRIL TAB 100 MG
LISINOPRIL TAB 30 MG
RAMIPRIL CAP 10 MG
LOSARTAN POTASSIUM TAB 25 MG
QUINAPRIL HCL TAB 5 MG
QUINAPRIL HCL TAB 10 MG
QUINAPRIL HCL TAB 20 MG
QUINAPRIL HCL TAB 40 MG
BENAZEPRIL HCL TAB 5 MG
AMLODIPINE BESYLATE BENAZEPRIL HCL CAP 5 40 MG
AMLODIPINE BESYLATE BENAZEPRIL HCL CAP 10 40 MG
IRBESARTAN TAB 300 MG
BENAZEPRIL HCL TAB 40 MG
LISINOPRIL TAB 5 MG
LISINOPRIL TAB 40 MG
LOSARTAN POTASSIUM TAB 50 MG
CAPTOPRIL TAB 25 MG
FOSINOPRIL SODIUM TAB 40 MG
LOSARTAN POTASSIUM HYDROCHLOROTHIAZIDE TAB 100 25 MG
LISINOPRIL TAB 20 MG
LISINOPRIL HYDROCHLOROTHIAZIDE TAB 20 25 MG
LOSARTAN POTASSIUM HYDROCHLOROTHIAZIDE TAB 100 12.5 MG
LISINOPRIL TAB 2.5 MG
LISINOPRIL HYDROCHLOROTHIAZIDE TAB 20 12.5 MG
LISINOPRIL TAB 10 MG
LISINOPRIL HYDROCHLOROTHIAZIDE TAB 10 12.5 MG
CAPTOPRIL TAB 12.5 MG
CAPTOPRIL TAB 50 MG
ENALAPRIL MALEATE TAB 2.5 MG
ENALAPRIL MALEATE HYDROCHLOROTHIAZIDE TAB 5 12.5 MG
ENALAPRIL MALEATE HYDROCHLOROTHIAZIDE TAB 10 25 MG
TRANDOLAPRIL TAB 1 MG
TRANDOLAPRIL TAB 2 MG
TRANDOLAPRIL TAB 4 MG
TRANDOLAPRIL VERAPAMIL HCL TAB CR 2 180 MG
TRANDOLAPRIL VERAPAMIL HCL TAB CR 2 240 MG
EPROSARTAN MESYLATE TAB 400 MG
EPROSARTAN MESYLATE TAB 600 MG
QUINAPRIL HYDROCHLOROTHIAZIDE TAB 20 12.5 MG
QUINAPRIL HYDROCHLOROTHIAZIDE TAB 10 12.5 MG
QUINAPRIL HYDROCHLOROTHIAZIDE TAB 20 25 MG

Appendix I. List of Generic Names of Medical Products Used to Define Covariates in this Request

Generic Name

CAPTOPRIL HYDROCHLOROTHIAZIDE TAB 25 15 MG
CAPTOPRIL HYDROCHLOROTHIAZIDE TAB 50 25 MG
IRBESARTAN TAB 150 MG
VALSARTAN TAB 80 MG
VALSARTAN TAB 160 MG
VALSARTAN HYDROCHLOROTHIAZIDE TAB 80 12.5 MG
VALSARTAN HYDROCHLOROTHIAZIDE TAB 160 12.5 MG
VALSARTAN HYDROCHLOROTHIAZIDE TAB 160 25 MG
BENAZEPRIL HCL TAB 20 MG
IRBESARTAN TAB 75 MG
OLMESARTAN MEDOXOMIL TAB 20 MG
OLMESARTAN MEDOXOMIL TAB 40 MG
VALSARTAN TAB 40 MG
LOSARTAN POTASSIUM TAB 100 MG
RAMIPRIL CAP 2.5 MG
RAMIPRIL CAP 5 MG
BENAZEPRIL HYDROCHLOROTHIAZIDE TAB 10 12.5 MG
LOSARTAN POTASSIUM HYDROCHLOROTHIAZIDE TAB 50 12.5 MG
IRBESARTAN HYDROCHLOROTHIAZIDE TAB 150 12.5 MG
AMLODIPINE BESYLATE VALSARTAN TAB 10 320 MG
AMLODIPINE BESYLATE VALSARTAN TAB 5 160 MG
VALSARTAN TAB 320 MG
VALSARTAN HYDROCHLOROTHIAZIDE TAB 320 25 MG
TELMISARTAN TAB 20 MG
TELMISARTAN TAB 40 MG
TELMISARTAN TAB 80 MG
CANDESARTAN CILEXETIL TAB 8 MG
MOEXIPRIL HCL TAB 7.5 MG
BENAZEPRIL HYDROCHLOROTHIAZIDE TAB 5 6.25 MG
BENAZEPRIL HYDROCHLOROTHIAZIDE TAB 20 12.5 MG
BENAZEPRIL HYDROCHLOROTHIAZIDE TAB 20 25 MG
FOSINOPRIL SODIUM HYDROCHLOROTHIAZIDE TAB 20 12.5 MG
RAMIPRIL CAP 1.25 MG
FOSINOPRIL SODIUM TAB 20 MG
FOSINOPRIL SODIUM TAB 10 MG
CANDESARTAN CILEXETIL HYDROCHLOROTHIAZIDE TAB 32 12.5 MG
VALSARTAN HYDROCHLOROTHIAZIDE TAB 320 12.5 MG
AMLODIPINE BESYLATE OLMESARTAN MEDOXOMIL TAB 10 20 MG
OLMESARTAN MEDOXOMIL HYDROCHLOROTHIAZIDE TAB 40 12.5 MG
OLMESARTAN MEDOXOMIL HYDROCHLOROTHIAZIDE TAB 20 12.5 MG
LISINOPRIL TAB 20 MG DIETARY MANAGEMENT CAP PACK
VALSARTAN HYDROCHLOROTHIAZIDE
AMLODIPINE BESYLATE VALSARTAN HYDROCHLOROTHIAZIDE
SACUBITRIL VALSARTAN
VALSARTAN
AMLODIPINE BESYLATE VALSARTAN
LISINOPRIL
BENAZEPRIL HCL HYDROCHLOROTHIAZIDE
TELMISARTAN AMLODIPINE BESYLATE
TELMISARTAN
FOSINOPRIL SODIUM
PERINDOPRIL ERBUMINE
ENALAPRIL MALEATE HYDROCHLOROTHIAZIDE

Appendix I. List of Generic Names of Medical Products Used to Define Covariates in this Request

Generic Name

BENAZEPRIL HCL
 RAMIPRIL
 ENALAPRIL MALEATE
 TELMISARTAN HYDROCHLOROTHIAZIDE
 LOSARTAN POTASSIUM
 LOSARTAN POTASSIUM HYDROCHLOROTHIAZIDE
 QUINAPRIL HCL HYDROCHLOROTHIAZIDE
 TRANDOLAPRIL
 LISINOPRIL HYDROCHLOROTHIAZIDE
 AMLODIPINE BESYLATE BENAZEPRIL HCL
 IRBESARTAN
 QUINAPRIL HCL
 IRBESARTAN HYDROCHLOROTHIAZIDE
 TRANDOLAPRIL VERAPAMIL HCL
 AZILSARTAN MEDOXOMIL
 AZILSARTAN MEDOXOMIL CHLORTHALIDONE
 CANDESARTAN CILEXETIL
 PERINDOPRIL ARGININE AMLODIPINE BESYLATE
 CAPTOPRIL HYDROCHLOROTHIAZIDE
 CAPTOPRIL
 EPROSARTAN MESYLATE HYDROCHLOROTHIAZIDE
 EPROSARTAN MESYLATE
 ALISKIREN VALSARTAN
 FOSINOPRIL SODIUM HYDROCHLOROTHIAZIDE
 MOEXIPRIL HCL
 MOEXIPRIL HCL HYDROCHLOROTHIAZIDE
 ENALAPRIL MALEATE FELODIPINE
 CANDESARTAN CILEXETIL HYDROCHLOROTHIAZIDE
 OLMESARTAN MEDOXOMIL
 OLMESARTAN MEDOXOMIL HYDROCHLOROTHIAZIDE
 AMLODIPINE BESYLATE OLMESARTAN MEDOXOMIL
 OLMESARTAN MEDOXOMIL AMLODIPINE BESYLATE HYDROCHLOROTHIAZIDE
 LISINOPRIL DIETARY SUPPLEMENT COMB.10

Amiodarone

Amiodarone hcl
 Amiodarone hcl tab 200 mg
 Amiodarone hcl tab 400 mg

Antiarrhythmics

DISOPYRAMIDE PHOSPHATE CAP 150 MG
 QUINIDINE SULFATE TAB CR 300 MG
 PROPAFENONE HCL TAB 150 MG
 PROPAFENONE HCL TAB 300 MG
 PROPAFENONE HCL TAB 225 MG
 QUINIDINE GLUCONATE TAB CR 324 MG
 QUINIDINE SULFATE TAB 300 MG
 QUINIDINE SULFATE TAB 200 MG
 FLECAINIDE ACETATE TAB 100 MG
 SOTALOL HCL TAB 80 MG
 SOTALOL HCL (AFIB AFL) TAB 120 MG
 SOTALOL HCL (AFIB AFL) TAB 80 MG
 MEXILETINE HCL CAP 150 MG
 MEXILETINE HCL CAP 200 MG
 MEXILETINE HCL CAP 250 MG

Appendix I. List of Generic Names of Medical Products Used to Define Covariates in this Request

Generic Name

SOTALOL HCL TAB 160 MG
SOTALOL HCL TAB 240 MG
SOTALOL HCL TAB 120 MG
MORICIZINE HCL TAB 200 MG
MORICIZINE HCL TAB 300 MG
FLECAINIDE ACETATE TAB 50 MG
PROCAINAMIDE HCL TAB CR 750 MG
PROCAINAMIDE HCL CAP 375 MG
SOTALOL HCL (AFIB AFL) TAB 160 MG
PROCAINAMIDE HCL TAB SR 12HR 500 MG
PROCAINAMIDE HCL TAB SR 12HR 1000 MG
PROPAFENONE HCL
SOTALOL HCL
FLECAINIDE ACETATE
ADENOSINE TRIPHOSPHATE
PROCAINAMIDE HCL
DISOPYRAMIDE PHOSPHATE
MEXILETINE HCL
DOFETILIDE
QUINIDINE SULFATE
TOCAINIDE HCL
QUINIDINE GLUCONATE
MORICIZINE HCL

Anticoagulants

HEPARIN SODIUM (PORCINE) 100 UNIT ML IN D5W
HEPARIN SODIUM (BOVINE) INJ 1000 UNIT ML
HEPARIN SODIUM (BOVINE) INJ 5000 UNIT ML
HEPARIN SODIUM (BOVINE) INJ 10000 UNIT ML
HEPARIN SODIUM (PORCINE) INJ 10000 UNIT ML
HEPARIN SODIUM (PORCINE) INJ 2500 UNIT ML
HEPARIN SODIUM (PORCINE) INJ 7500 UNIT ML
HEPARIN SODIUM (PORCINE) INJ 5000 UNIT ML
ENOXAPARIN SODIUM INJ 10 MG 0.1ML (100 MG ML)
HEPARIN SODIUM (PORCINE) INJ 1000 UNIT ML
ENOXAPARIN SODIUM INJ 30 MG 0.3ML
ENOXAPARIN SODIUM INJ 40 MG 0.4ML
ENOXAPARIN SODIUM INJ 60 MG 0.6ML
ENOXAPARIN SODIUM INJ 80 MG 0.8ML
ENOXAPARIN SODIUM INJ 100 MG ML
ENOXAPARIN SODIUM INJ 120 MG 0.8ML
ENOXAPARIN SODIUM INJ 150 MG ML
TINZAPARIN SODIUM INJ 20000 ANTI XA UNIT ML
DALTEPARIN SODIUM PORCINE
HEPARIN SODIUM PORCINE
HEPARIN SODIUM PORCINE IN 0.9 % SODIUM CHLORIDE PF
HEPARIN SODIUM PORCINE IN 0.45 % SODIUM CHLORIDE
HEPARIN SODIUM PORCINE DEXTROSE 5 % IN WATER
ENOXAPARIN SODIUM
HEPARIN SODIUM PORCINE IN 0.9 % SODIUM CHLORIDE
FONDAPARINUX SODIUM
HEPARIN SODIUM BEEF
HEPARIN SODIUM PORCINE PF
HEPARIN SODIUM PORCINE NORMAL SALINE PF

Appendix I. List of Generic Names of Medical Products Used to Define Covariates in this Request

Generic Name

HEPARIN SODIUM PORCINE 0.5 NORMAL SALINE
HEPARIN SODIUM PORCINE DEXTROSE 5% WATER
HEPARIN SODIUM PORCINE NORMAL SALINE
HEPARIN SODIUM PORCINE DEXTROSE 5 % IN WATER PF
TINZAPARIN SODIUM PORCINE
HEPARIN SODIUM PORCINE IN 1 2 NORMAL SALINE
HEPARIN SODIUM PORCINE DEXTROSE 5 % WATER

Antiplatelet Agents (non-aspirin)

DIPYRIDAMOLE TAB 75 MG
CILOSTAZOL TAB 50 MG
CILOSTAZOL TAB 100 MG
CLOPIDOGREL BISULFATE TAB 75 MG (BASE EQUIV)
DIPYRIDAMOLE TAB 50 MG
CLOPIDOGREL BISULFATE TAB 300 MG (BASE EQUIV)
TICLOPIDINE HCL TAB 250 MG
DIPYRIDAMOLE TAB 25 MG
ASPIRIN DIPYRIDAMOLE CAP SR 12HR 25 200 MG
ASPIRIN DIPYRIDAMOLE
TICAGRELOR
CLOPIDOGREL BISULFATE
DIPYRIDAMOLE
CILOSTAZOL
PRASUGREL HYDROCHLORIDE
PRASUGREL HCL
TICLOPIDINE HCL

Beta Blockers

PROPRANOLOL HCL TAB 10 MG
METOPROLOL SUCCINATE TAB SR 24HR 100 MG
BISOPROLOL HYDROCHLOROTHIAZIDE TAB 5 6.25 MG
CARVEDILOL TAB 12.5 MG
CARVEDILOL TAB 3.125 MG
PROPRANOLOL HCL TAB 40 MG
ACEBUTOLOL HCL POWDER
PROPRANOLOL HCL CAP SR 24HR 120 MG
ATENOLOL TAB 25 MG
ATENOLOL TAB 50 MG
ATENOLOL TAB 100 MG
PROPRANOLOL HCL TAB 20 MG
METOPROLOL SUCCINATE TAB SR 24HR 50 MG
METOPROLOL TARTRATE TAB 100 MG
METOPROLOL TARTRATE TAB 25 MG
CARVEDILOL TAB 25 MG
METOPROLOL TARTRATE TAB 50 MG
CARVEDILOL TAB 6.25 MG
NADOLOL TAB 40 MG
NADOLOL TAB 120 MG
NADOLOL TAB 20 MG
NADOLOL TAB 80 MG
BISOPROLOL HYDROCHLOROTHIAZIDE TAB 10 6.25 MG
BISOPROLOL HYDROCHLOROTHIAZIDE TAB 2.5 6.25 MG
BISOPROLOL FUMARATE TAB 5 MG
BISOPROLOL FUMARATE TAB 10 MG
ACEBUTOLOL HCL CAP 200 MG

Appendix I. List of Generic Names of Medical Products Used to Define Covariates in this Request

Generic Name

BETAXOLOL HCL TAB 10 MG
LABETALOL HCL TAB 100 MG
LABETALOL HCL TAB 200 MG
LABETALOL HCL TAB 300 MG
PROPRANOLOL HYDROCHLOROTHIAZIDE TAB 40 25 MG
ATENOLOL CHLORTHALIDONE TAB 50 25 MG
ATENOLOL CHLORTHALIDONE TAB 100 25 MG
PINDOLOL TAB 10 MG
PROPRANOLOL HCL TAB 80 MG
PROPRANOLOL HCL CAP SR 24HR 60 MG
METOPROLOL SUCCINATE TAB SR 24HR 25 MG
PROPRANOLOL HCL CAP SR 24HR 160 MG
SOTALOL HCL TAB 80 MG
SOTALOL HCL (AFIB AFL) TAB 120 MG
SOTALOL HCL (AFIB AFL) TAB 80 MG
SOTALOL HCL TAB 160 MG
SOTALOL HCL TAB 240 MG
SOTALOL HCL TAB 120 MG
PINDOLOL TAB 5 MG
PROPRANOLOL HCL TAB 60 MG
METOPROLOL SUCCINATE TAB SR 24HR 200 MG
CARVEDILOL PHOSPHATE CAP SR 24HR 20 MG
TIMOLOL MALEATE TAB 10 MG
PROPRANOLOL HCL CAP SR 24HR 80 MG
SOTALOL HCL (AFIB AFL) TAB 160 MG
METOPROLOL HYDROCHLOROTHIAZIDE TAB 50 25 MG
NEBIVOLOL HCL TAB 2.5 MG (BASE EQUIVALENT)
NEBIVOLOL HCL TAB 20 MG (BASE EQUIVALENT)
NEBIVOLOL HCL TAB 10 MG (BASE EQUIVALENT)
NEBIVOLOL HCL TAB 5 MG (BASE EQUIVALENT)
METOPROLOL TAB 50 MG DIETARY MANAGEMENT CAP PACK
CARVEDILOL TAB 12.5 MG DIETARY MANAGEMENT CAP PACK
METOPROLOL TARTRATE
NEBIVOLOL HCL
ATENOLOL
BISOPROLOL FUMARATE HYDROCHLOROTHIAZIDE
CARVEDILOL
PROPRANOLOL HCL
METOPROLOL TARTRATE HYDROCHLOROTHIAZIDE
SOTALOL HCL
NADOLOL
PINDOLOL
METOPROLOL SUCCINATE
LABETALOL HCL
ATENOLOL CHLORTHALIDONE
ACEBUTOLOL HCL
METOPROLOL SUCCINATE HYDROCHLOROTHIAZIDE
TIMOLOL MALEATE
TIMOLOL MALEATE HYDROCHLOROTHIAZIDE
CARVEDILOL PHOSPHATE
BETAXOLOL HCL
PROPRANOLOL HCL HYDROCHLOROTHIAZIDE
CARTEOLOL HCL

Appendix I. List of Generic Names of Medical Products Used to Define Covariates in this Request

Generic Name

PENBUTOLOL SULFATE
BISOPROLOL FUMARATE
NADOLOL BENDROFLUMETHIAZIDE
LEVETIRACETAM
METOPROLOL TARTRATE DIETARY SUPPLEMENT COMB.10

Calcium Channel Blockers

AMLODIPINE BESYLATE TAB 2.5 MG
AMLODIPINE BESYLATE TAB 5 MG
AMLODIPINE BESYLATE TAB 10 MG
AMLODIPINE BESYLATE BENAZEPRIL HCL CAP 2.5 10 MG
AMLODIPINE BESYLATE BENAZEPRIL HCL CAP 5 10 MG
AMLODIPINE BESYLATE BENAZEPRIL HCL CAP 5 20 MG
AMLODIPINE BESYLATE BENAZEPRIL HCL CAP 10 20 MG
DILTIAZEM HCL TAB 60 MG
DILTIAZEM HCL TAB 30 MG
DILTIAZEM HCL COATED BEADS CAP SR 24HR 240 MG
DILTIAZEM HCL EXTENDED RELEASE BEADS CAP SR 24HR 180 MG
DILTIAZEM HCL COATED BEADS CAP SR 24HR 120 MG
VERAPAMIL HCL TAB CR 240 MG
AMLODIPINE BESYLATE BENAZEPRIL HCL CAP 5 40 MG
AMLODIPINE BESYLATE BENAZEPRIL HCL CAP 10 40 MG
NIFEDIPINE TAB SR 24HR OSMOTIC RELEASE 60 MG
NIFEDIPINE TAB SR 24HR OSMOTIC RELEASE 30 MG
NIFEDIPINE TAB SR 24HR 30 MG
NIFEDIPINE TAB SR 24HR 60 MG
VERAPAMIL HCL TAB CR 180 MG
VERAPAMIL HCL TAB CR 120 MG
TRANDOLAPRIL VERAPAMIL HCL TAB CR 2 180 MG
TRANDOLAPRIL VERAPAMIL HCL TAB CR 2 240 MG
NIFEDIPINE CAP 10 MG
DILTIAZEM HCL CAP SR 12HR 90 MG
DILTIAZEM HCL CAP SR 12HR 120 MG
NICARDIPINE HCL CAP 20 MG
VERAPAMIL HCL CAP SR 24HR 180 MG
DILTIAZEM HCL TAB 90 MG
DILTIAZEM HCL COATED BEADS CAP SR 24HR 180 MG
FELODIPINE TAB SR 24HR 2.5 MG
FELODIPINE TAB SR 24HR 5 MG
FELODIPINE TAB SR 24HR 10 MG
VERAPAMIL HCL CAP SR 24HR 120 MG
VERAPAMIL HCL CAP SR 24HR 240 MG
VERAPAMIL HCL CAP SR 24HR 360 MG
NIFEDIPINE TAB SR 24HR 90 MG
NIFEDIPINE TAB SR 24HR OSMOTIC 90 MG
VERAPAMIL HCL TAB 80 MG
VERAPAMIL HCL TAB 120 MG
NIFEDIPINE TAB SR 24HR OSMOTIC 60 MG
NIFEDIPINE TAB SR 24HR OSMOTIC 30 MG
DILTIAZEM HCL TAB 120 MG
AMLODIPINE BESYLATE VALSARTAN TAB 10 320 MG
AMLODIPINE BESYLATE VALSARTAN TAB 5 160 MG
DILTIAZEM HCL COATED BEADS CAP SR 24HR 300 MG
NIMODIPINE CAP 30 MG

Appendix I. List of Generic Names of Medical Products Used to Define Covariates in this Request

Generic Name

NIFEDIPINE CAP 20 MG
 DILTIAZEM HCL CAP SR 12HR 60 MG
 VERAPAMIL HCL TAB SR 24HR (CONTROLLED ONSET) 180 MG
 VERAPAMIL HCL TAB SR 24HR (CONTROLLED ONSET) 240 MG
 NISOLDIPINE TAB SR 24HR 30 MG
 DILTIAZEM HCL EXTENDED RELEASE BEADS CAP SR 24HR 120 MG
 DILTIAZEM HCL EXTENDED RELEASE BEADS CAP SR 24HR 240 MG
 VERAPAMIL HCL CAP SR 24HR 100 MG
 DILTIAZEM HCL CAP SR 24HR 180 MG
 ISRADIPINE CAP 2.5 MG
 DILTIAZEM HCL CAP SR 24HR 240 MG
 VERAPAMIL HCL CAP SR 24HR 300 MG
 DILTIAZEM HCL CAP SR 24HR 120 MG
 AMLODIPINE BESYLATE OLMESARTAN MEDOXOMIL TAB 10 20 MG
 AMLODIPINE TAB 2.5 MG DIETARY MANAGEMENT CAP PACK
 AMLODIPINE BESYLATE
 AMLODIPINE BESYLATE VALSARTAN HYDROCHLOROTHIAZIDE
 AMLODIPINE BESYLATE VALSARTAN
 DILTIAZEM HCL
 TELMISARTAN AMLODIPINE BESYLATE
 AMLODIPINE BESYLATE ATORVASTATIN CALCIUM
 NIMODIPINE
 VERAPAMIL HCL
 FELODIPINE
 NIFEDIPINE
 ISRADIPINE
 AMLODIPINE BESYLATE BENAZEPRIL HCL
 TRANDOLAPRIL VERAPAMIL HCL
 PERINDOPRIL ARGININE AMLODIPINE BESYLATE
 NICARDIPINE HCL
 BEPRIDIL HCL
 ALISKIREN HEMIFUMARATE AMLODIPINE BESYLATE
 ALISKIREN HEMIFUMARATE AMLODIPINE HYDROCHLOROTHIAZIDE
 ENALAPRIL MALEATE FELODIPINE
 NISOLDIPINE
 AMLODIPINE BESYLATE OLMESARTAN MEDOXOMIL
 FOSINOPRIL SODIUM
 OLMESARTAN MEDOXOMIL AMLODIPINE BESYLATE HYDROCHLOROTHIAZIDE

Digoxin

DIGOXIN TAB 125 MCG (0.125 MG)
 DIGOXIN TAB 250 MCG (0.25 MG)
 DIGOXIN TAB 0.125 MG
 DIGOXIN ORAL SOLN 0.05 MG ML
 DIGOXIN TAB 0.25 MG
 DIGOXIN

Dronedarone

Dronedarone HCl

Estrogen Replacement

LEVONORGESTREL ETHINYL ESTRADIOL TAB 0.1 MG 20 MCG
 LEVONORGESTREL ETHINYL ESTRADIOL (91 DAY) TAB 0.15 0.03 MG
 ESTRADIOL TAB 1 MG
 ESTRADIOL TAB 2 MG
 ESTRADIOL TD PATCH WEEKLY 0.025 MG 24HR

Appendix I. List of Generic Names of Medical Products Used to Define Covariates in this Request

Generic Name

ESTRADIOL TAB 0.5 MG
 ESTRADIOL ESTRIOL PROGESTERONE MICRONIZED CREAM (CMPD KIT)
 NORGESTIMATE ETHINYL ESTRADIOL TAB 0.25 MG 35 MCG
 DESOGESTREL ETHINYL ESTRADIOL TAB 0.15 MG 30 MCG
 NORELGESTROMIN ETHINYL ESTRADIOL TD PTWK 150 35 MCG 24HR
 NORETHINDRONE ETHINYL ESTRADIOL TAB 1 MG 35 MCG
 NORETHINDRONE ETH ESTRADIOL TAB 0.5 35 0.75 35 1 35 MG MCG
 DROSPIRENONE ETHINYL ESTRADIOL TAB 3 0.02 MG
 ESTRADIOL IMPLANT PELLETT 6 MG
 ESTRADIOL IMPLANT PELLETT 10 MG
 ESTRADIOL IMPLANT PELLETT 12.5 MG
 ESTRADIOL IMPLANT PELLETT 18 MG
 ESTRADIOL IMPLANT PELLETT 20 MG
 ESTRADIOL IMPLANT PELLETT 25 MG
 ESTRADIOL IMPLANT PELLETT 31 MG
 ESTRADIOL IMPLANT PELLETT 37.5 MG
 ESTRADIOL IMPLANT PELLETT 50 MG
 ESTRADIOL VALERATE IM IN OIL 40 MG ML
 ESTRADIOL VALERATE IM IN OIL 10 MG ML
 ESTRADIOL VALERATE IM IN OIL 20 MG ML
 ESTRADIOL TESTOSTERONE CYPIONATES IM IN OIL 2 50 MG ML
 MEDROXYPROGESTERONE ACE ESTRADIOL CYP IM SUSP 25 5 MG 0.5ML
 ETHYNODIOL DIACETATE ETHINYL ESTRADIOL TAB 1 MG 50 MCG
 ETHYNODIOL DIACETATE ETHINYL ESTRADIOL TAB 1 MG 35 MCG
 ESTROGENS CONJUGATED TAB 1.25 MG
 ESTROGENS CONJUGATED TAB 0.625 MG
 ESTRADIOL TD PATCH BIWEEKLY 0.025 MG 24HR
 ESTRADIOL TD PATCH BIWEEKLY 0.05 MG 24HR
 ESTRADIOL TD PATCH BIWEEKLY 0.1 MG 24HR
 ESTRADIOL TD PATCH BIWEEKLY 0.0375 MG 24HR
 ESTRADIOL TD PATCH BIWEEKLY 0.075 MG 24HR
 ESTROPIPATE TAB 3 MG
 ESTRADIOL TAB 1.5 MG
 NORETHINDRONE ETHINYL ESTRADIOL FE CHEW TAB 0.4 MG 35 MCG
 ESTERIFIED ESTROGENS METHYLTESTOSTERONE TAB 0.625 1.25 MG
 ESTERIFIED ESTROGENS METHYLTESTOSTERONE TAB 1.25 2.5 MG
 ESTROGENS CONJUGATED TAB 0.45 MG
 ESTRADIOL TD PATCH WEEKLY 0.05 MG 24HR
 ESTRADIOL TD PATCH WEEKLY 0.1 MG 24HR
 DROSPIRENONE ETHINYL ESTRADIOL TAB 3 0.03 MG
 LEVONORGESTREL ETHINYL ESTRADIOL TAB 0.10 MG 20 MCG
 NORGESTREL ETHINYL ESTRADIOL TAB 0.3 MG 30 MCG
 LEVONORGESTREL ETHINYL ESTRADIOL TAB 0.15 MG 30 MCG
 ESTROPIPATE TAB 0.75 MG
 ESTROPIPATE TAB 1.5 MG
 NORETHINDRONE ETHINYL ESTRADIOL TAB 0.5 MG 35 MCG
 NORETHINDRONE ETH ESTRADIOL TAB 0.5 35 1 35 MG MCG (10 11)
 NORETHINDRONE ACE ETHINYL ESTRADIOL TAB 1 MG 20 MCG
 NORETHINDRONE ACE ETHINYL ESTRADIOL FE TAB 1.5 MG 30 MCG
 ETHINYL ESTRADIOL TAB 0.02 MG
 ESTERIFIED ESTROGENS TAB 0.625 MG
 ESTERIFIED ESTROGENS TAB 0.3 MG
 ESTROGENS CONJUGATED TAB 0.9 MG

Appendix I. List of Generic Names of Medical Products Used to Define Covariates in this Request

Generic Name

ESTROGENS CONJUGATED TAB 0.3 MG
NORGESTREL ETHINYL ESTRADIOL TAB 0.5 MG 50 MCG
NORETHINDRONE ETHINYL ESTRADIOL TAB 0.4 MG 35 MCG
ESTRADIOL CYPIONATE IM IN OIL 5 MG ML
CONJ EST 0.625(14) CONJ EST MEDROXYPRO AC TAB 0.625 5MG(14)
NORETHINDRONE ACETATE ETHINYL ESTRADIOL TAB 1 MG 5 MCG
NORETHINDRONE ACE ETHINYL ESTRADIOL FE TAB 1 MG 20 MCG
NORETHINDRONE ETHINYL ESTRADIOL FE CHEW TAB 0.8 MG 25 MCG
NORETHIN ETH ESTRADIOL FE TAB 1 MG 10 MCG (24) 10 MCG (2)
ESTERIFIED ESTROGENS TAB 1.25 MG
ESTROGENS CONJUGATED SYNTHETIC A TAB 1.25 MG
ESTROGENS CONJUGATED SYNTHETIC A TAB 0.625 MG
ESTROGENS CONJUGATED SYNTHETIC A TAB 0.9 MG
ESTERIFIED ESTROGENS TAB 2.5 MG
ESTROGENS CONJUGATED TAB 2.5 MG
NORGESTIMATE ETH ESTRAD TAB 0.18 35 0.215 35 0.25 35 MG MCG
CONJUGATED ESTROGEN MEDROXYPROGEST ACETATE TAB 0.3 1.5 MG
CONJUGATED ESTROGEN MEDROXYPROGEST ACETATE TAB 0.45 1.5 MG
CONJUGATED ESTROGEN MEDROXYPROGEST ACETATE TAB 0.625 2.5 MG
CONJUGATED ESTROGEN MEDROXYPROGEST ACETATE TAB 0.625 5 MG
NOELGESTROMIN ETHINYL ESTRADIOL TD PTWK 150 20 MCG 24HR
ESTRADIOL
DESOGESTREL ETHINYL ESTRADIOL
NORGESTIMATE ETHINYL ESTRADIOL
NORETHINDRONE ACETATE ETHINYL ESTRADIOL
NORETHINDRONE ACETATE ETHINYL ESTRADIOL FERROUS FUMARATE
NOELGESTROMIN ETHINYL ESTRADIOL
LEVONORGESTREL ETHINYL ESTRADIOL
LEVONORGESTREL ETH ESTRA ETHINYL ESTRADIOL
DESOGESTREL ETHINYL ESTRADIOL ETHINYL ESTRADIOL
ETHINYL ESTRADIOL DROSPIRENONE
NORETHINDRONE ETHINYL ESTRADIOL FERROUS FUMARATE
DROSPIRENONE ETHINYL ESTRADIOL LEVOMEFOLATE CALCIUM
NORETHINDRONE ETHINYL ESTRADIOL
LEVONORGESTREL ETHINYL ESTRADIOL AND ETHINYL ESTRADIOL
NORGESTREL ETHINYL ESTRADIOL
ETHYNODIOL DIACETATE ETHINYL ESTRADIOL
ESTRADIOL NORETHINDRONE ACETATE
LEVONORGESTREL ETH ESTRA
ESTROGENS CONJUGATED BAZEDOXIFENE ACETATE
ESTRADIOL CYPIONATE
ESTRADIOL CYPIONATE MEDROXYPROGESTERONE ACET
ESTROPIATE
ETHYNODIOL D ETHINYL ESTRADIOL
METHYLTESTOSTERONE ESTROGENS ESTERIFIED
ESTROGENS CONJUGATED
ESTROGENS CONJUGATED MEDROXYPROGESTERONE ACET
ESTROGENS CONJUGATED MEDROXYPROGESTERONE ACETATE
ETONOGESTREL ETHINYL ESTRADIOL
NORETHINDRONE ETHINYL ESTRAD
ESTRADIOL NORGESTIMATE
ETHINYL ESTRADIOL NOELGESTROMIN
ETHINYL ESTRADIOL NORETHINDRONE ACETATE

Appendix I. List of Generic Names of Medical Products Used to Define Covariates in this Request

Generic Name

NORETHINDRONE A E ESTRADIOL FERROUS FUMARATE
 NORETHINDRONE A E ESTRADIOL
 ESTRONE
 ESTRADIOL VALERATE
 TESTOSTERONE ENANTHATE ESTRADIOL VALERATE
 ESTRADIOL ACETATE
 ESTROGENS ESTERIFIED METHYLTESTOSTERONE
 ESTRADIOL VALERATE DIENOGEST
 ESTRADIOL HEMIHYDRATE DROSPIRENONE
 ESTRADIOL LEVONORGESTREL
 ESTROGENS CONJ. SYNTHETIC B
 ESTROGENS CONJ. SYNTHETIC A
 ESTROGENS ESTERIFIED
 ETHINYL ESTRADIOL

Fibrates

FENOFIBRATE TAB 54 MG
 FENOFIBRATE TAB 160 MG
 GEMFIBROZIL TAB 600 MG
 FENOFIBRATE MICRONIZED CAP 67 MG
 FENOFIBRATE MICRONIZED CAP 134 MG
 FENOFIBRATE MICRONIZED CAP 200 MG
 CHOLINE FENOFIBRATE CAP DR 135 MG (FENOFIBRIC ACID EQUIV)
 FENOFIBRATE TAB 48 MG
 FENOFIBRATE TAB 145 MG
 FENOFIBRATE
 FENOFIBRIC ACID (CHOLINE)
 GEMFIBROZIL
 FENOFIBRATE MICRONIZED
 FENOFIBRATE NANOCRYSTALLIZED
 FENOFIBRIC ACID

H₂ Antagonists

RANITIDINE HCL TAB 150 MG
 RANITIDINE HCL TAB 75 MG
 RANITIDINE HCL SYRUP 15 MG ML (75 MG 5ML)
 RANITIDINE HCL FOR ORAL SUSP 22.4 MG ML (COMPOUND KIT)
 FAMOTIDINE TAB 10 MG
 FAMOTIDINE TAB 20 MG
 DICLOFEN DR TAB 75MG RANITIDINE TAB 150MG CAPSAICIN CR THPK
 RANITIDINE HCL TAB 300 MG
 NIZATIDINE CAP 150 MG
 CIMETIDINE TAB 400 MG
 DICLOFEN DR TAB 75MG RANITIDINE TAB 150MG LIDO CR 3.75% THPK
 FAMOTIDINE TAB 40 MG
 CIMETIDINE TAB 300 MG
 FAMOTIDINE CA CARBONATE MAG HYDROXIDE CHEW TAB 10 800 165 MG
 CIMETIDINE TAB 800 MG
 CIMETIDINE TAB 200 MG
 CIMETIDINE HCL SOLN 300 MG 5ML
 FAMOTIDINE CHEW TAB 20 MG
 FAMOTIDINE CA CARBONATE MAG HYDROXIDE CHEW TAB 10 800 185 MG
 NIZATIDINE CAP 300 MG
 RANITIDINE HCL TAB 150 MG DIETARY MANAGEMENT CAP PACK
 FAMOTIDINE

Appendix I. List of Generic Names of Medical Products Used to Define Covariates in this Request

Generic Name

RANITIDINE HCL
 FAMOTIDINE CALCIUM CARBONATE MAGNESIUM HYDROXIDE
 FAMOTIDINE CALCIUM CARBONATE MAGNESIUM
 CIMETIDINE
 NIZATIDINE
 CIMETIDINE HCL
 RANITIDINE HCL DIETARY SUPPLEMENT MISC COMB17
 RANITIDINE HCL DIETARY SUPPLEMENT MISC.COMBO8
 IBUPROFEN FAMOTIDINE

Insulin

INSULIN DETEMIR SOLN PEN INJECTOR 100 UNIT ML
 INSULIN ASPART INJ 100 UNIT ML
 INSULIN LISPRO (HUMAN) SOLN PEN INJECTOR 100 UNIT ML
 INSULIN ASPART SOLN CARTRIDGE 100 UNIT ML
 INSULIN ASPART SOLN PEN INJECTOR 100 UNIT ML
 INSULIN ASPART PROT ASPART (HUMAN) INJ 100 UNIT ML (70 30)
 INSULIN ASPART PROT ASPART SUS PEN INJ 100 UNIT ML (70 30)
 INSULIN (REGULAR) INJ 100 UNIT ML
 INSULIN ISOPHANE INJ 100 UNIT ML
 INSULIN ZINC INJ 100 UNIT ML
 INSULIN LISPRO (HUMAN) INJ 100 UNIT ML
 INSULIN ISOPHANE (HUMAN) INJ 100 UNIT ML
 INSULIN REGULAR (HUMAN) INJ 100 UNIT ML
 INSULIN DETEMIR INJ 100 UNIT ML
 INSULIN GLARGINE INJ 100 UNIT ML
 INSULIN ISOPHANE REGULAR (HUMAN) INJ 100 UNIT ML (70 30)
 INSULIN ZINC (HUMAN) INJ 100 UNIT ML
 INSULIN GLARGINE SOLN PEN INJECTOR 100 UNIT ML
 INSULIN LISPRO PROT LISPRO (HUMAN) INJ 100 UNIT ML (75 25)
 INSULIN LISPRO
 INSULIN LISPRO PROTAMINE INSULIN LISPRO
 INSULIN REGULAR HUMAN
 INSULIN GLARGINE HUMAN RECOMBINANT ANALOG
 INSULIN DEGLUDEC
 INSULIN DETEMIR
 DILUENT INSULIN ASPART COMBINATION #1
 INSULIN NPH HUMAN RECOM
 INSULIN LISPRO HUMAN REC.ANLOG
 INSULIN LISPRO (NPL) INSULIN LISPRO HUMAN REC.ANLOG
 INSULIN PORK PURIFIED
 INSULIN REGULAR HUMAN REC
 INSULIN ISOPHANE PORK PURE
 NPH HUMAN INSULIN ISOPHANE
 INSULIN ZINC PORK PURIFIED
 INSULIN ZINC HUMAN REC
 INSULIN ZINC EXTEND HUMAN REC
 INSULIN NPH HUMAN RECOM INSULIN REGULAR HUMAN REC
 NPH HUMAN INSULIN ISOPHANE INSULIN REGULAR HUMAN
 INSULIN REGULAR HUMAN REC INSULIN RELEASE UNIT
 INSULIN REGULAR HUMAN REC INSULIN RELEASE UNIT CHBR IHLR
 INSULIN GLARGINE HUMAN RECOMBINANT ANALOG
 INSULIN GLARGINE HUM.REC.ANLOG
 INSULIN GLULISINE

Appendix I. List of Generic Names of Medical Products Used to Define Covariates in this Request

Generic Name

INSULIN REG HUM REC BUFF
 INSULIN ASPART
 INSULIN ASPART PROTAMINE HUMAN INSULIN ASPART

Loop Diuretics

BUMETANIDE TAB 0.5 MG
 BUMETANIDE TAB 1 MG
 BUMETANIDE TAB 2 MG
 FUROSEMIDE TAB 40 MG
 FUROSEMIDE TAB 20 MG
 FUROSEMIDE TAB 80 MG
 FUROSEMIDE ORAL SOLN 10 MG ML
 TORSEMIDE TAB 10 MG
 TORSEMIDE TAB 5 MG
 TORSEMIDE TAB 20 MG
 TORSEMIDE
 FUROSEMIDE
 BUMETANIDE
 ETHACRYNIC ACID

Metformin

GLYBURIDE METFORMIN TAB 2.5 500 MG
 METFORMIN HCL TAB SR 24HR 500 MG
 METFORMIN HCL TAB 500 MG
 METFORMIN HCL TAB 850 MG
 METFORMIN HCL TAB 1000 MG
 METFORMIN HCL TAB SR 24HR 750 MG
 SITAGLIPTIN METFORMIN HCL TAB SR 24HR 50 1000 MG
 GLYBURIDE METFORMIN TAB 5 500 MG
 GLIPIZIDE METFORMIN HCL TAB 2.5 500 MG
 GLIPIZIDE METFORMIN HCL TAB 5 500 MG
 SITAGLIPTIN METFORMIN HCL TAB 50 1000 MG
 SITAGLIPTIN METFORMIN HCL TAB 50 500 MG
 ROSIGLITAZONE MALEATE METFORMIN HCL TAB 4 500 MG
 PIOGLITAZONE HCL METFORMIN HCL TAB 15 850 MG
 METFORMIN HCL TAB 500 MG DIETARY MANAGEMENT CAP PACK
 PIOGLITAZONE HCL METFORMIN HCL
 SAXAGLIPTIN HCL METFORMIN HCL
 DAPAGLIFLOZIN PROPANEDIOL METFORMIN HCL
 EMPAGLIFLOZIN METFORMIN HCL
 METFORMIN HCL
 GLYBURIDE METFORMIN HCL
 ALOGLIPTIN BENZOATE METFORMIN HCL
 CANAGLIFLOZIN METFORMIN HCL
 REPAGLINIDE METFORMIN HCL
 SITAGLIPTIN PHOSPHATE METFORMIN HCL
 ROSIGLITAZONE MALEATE METFORMIN HCL
 GLIPIZIDE METFORMIN HCL
 GLYBURIDE MICRONIZED METFORMIN HCL
 LINAGLIPTIN METFORMIN HCL
 BUTALBITAL ASPIRIN CAFFEINE
 PROPRANOLOL HCL
 METFORMIN CAFFEINE AMINO ACIDS#7 HERBAL COMB#125 CHOLINE BIT
 METFORMIN AMINO ACIDS COMB. #7 HERBAL COMB.#125 CHOLINE

Nicotine Dependency

Appendix I. List of Generic Names of Medical Products Used to Define Covariates in this Request

Generic Name

NICOTINE POLACRILEX LOZENGE 2 MG
 NICOTINE POLACRILEX LOZENGE 4 MG
 NICOTINE POLACRILEX GUM 4 MG
 NICOTINE POLACRILEX GUM 2 MG
 NICOTINE TD PATCH 24HR 7 MG 24HR
 HOMEOPATHIC PRODUCTS KIT
 NICOTINE INHALER SYSTEM 10 MG (4 MG DELIVERED)
 NICOTINE TD PATCH 24HR 14 MG 24HR
 VARENICLINE TARTRATE TAB 0.5 MG (BASE EQUIV)
 VARENICLINE TARTRATE TAB 1 MG (BASE EQUIV)
 NICOTINE TD PATCH 24HR 21 MG 24HR
 NICOTINE TD PATCH 24HR 11 MG 24HR
 NICOTINE TD PATCH 24HR 22 MG 24HR
 VARENICLINE TARTRATE TAB 0.5 MG X 11 TAB 1 MG X 42 PACK
 NICOTINE
 VARENICLINE TARTRATE
 NICOTINE POLACRILEX
 SMOKING DETERRENT FILTER
 CALCIUM CARBONATE
 BUPROPION HCL

Nitrates

ISOSORBIDE MONONITRATE TAB SR 24HR 120 MG
 NITROGLYCERIN SL TAB 0.4 MG
 ISOSORBIDE DINITRATE TAB 20 MG
 ISOSORBIDE MONONITRATE TAB SR 24HR 30 MG
 ISOSORBIDE DINITRATE TAB 10 MG
 ISOSORBIDE DINITRATE TAB 30 MG
 ISOSORBIDE DINITRATE SL TAB 10 MG
 NITROGLYCERIN TD PATCH 24HR 0.8 MG HR
 NITROGLYCERIN TD PATCH 24HR 0.1 MG HR
 NITROGLYCERIN TD PATCH 24HR 0.2 MG HR
 NITROGLYCERIN TD PATCH 24HR 0.3 MG HR
 NITROGLYCERIN TD PATCH 24HR 0.4 MG HR
 NITROGLYCERIN TD PATCH 24HR 0.6 MG HR
 NITROGLYCERIN CAP CR 2.5 MG
 ISOSORBIDE MONONITRATE TAB SR 24HR 60 MG
 NITROGLYCERIN OINT 2%
 ISOSORBIDE DINITRATE SL TAB 2.5 MG
 ISOSORBIDE MONONITRATE TAB 20 MG
 NITROGLYCERIN TL SOLN 0.4 MG SPRAY (400 MCG SPRAY)
 ISOSORBIDE DINITRATE TAB 5 MG
 ISOSORBIDE DINITRATE TAB CR 40 MG
 NITROGLYCERIN CAP CR 6.5 MG
 NITROGLYCERIN SL TAB 0.3 MG
 NITROGLYCERIN SL TAB 0.6 MG
 NITROGLYCERIN
 ISOSORBIDE MONONITRATE
 ISOSORBIDE DINITRATE
 AMYL NITRITE
 ISOSORBIDE DINITRATE HYDRALAZINE HCL

Other Antidiabetic Drugs

SITAGLIPTIN METFORMIN HCL TAB 50 1000 MG
 SITAGLIPTIN METFORMIN HCL TAB 50 500 MG

Appendix I. List of Generic Names of Medical Products Used to Define Covariates in this Request

Generic Name

ACARBOSE TAB 50 MG
 SITAGLIPTIN METFORMIN HCL TAB SR 24HR 50 1000 MG
 PIOGLITAZONE HCL TAB 15 MG (BASE EQUIV)
 FRUCTOSE DEXTROSE PHOSPHORIC ACID ORAL SOLN
 ROSIGLITAZONE MALEATE GLIMEPIRIDE TAB 4 1 MG
 ROSIGLITAZONE MALEATE GLIMEPIRIDE TAB 4 2 MG
 ROSIGLITAZONE MALEATE GLIMEPIRIDE TAB 4 4 MG
 MIGLITOL TAB 25 MG
 PIOGLITAZONE HCL TAB 30 MG (BASE EQUIV)
 PIOGLITAZONE HCL TAB 45 MG (BASE EQUIV)
 SITAGLIPTIN PHOSPHATE TAB 100 MG (BASE EQUIV)
 ROSIGLITAZONE MALEATE TAB 2 MG (BASE EQUIV)
 ROSIGLITAZONE MALEATE TAB 4 MG (BASE EQUIV)
 ROSIGLITAZONE MALEATE TAB 8 MG (BASE EQUIV)
 ACARBOSE TAB 25 MG
 NATEGLINIDE TAB 120 MG
 REPAGLINIDE TAB 2 MG
 LIRAGLUTIDE SOLN PEN INJECTOR 18 MG 3ML (6 MG ML)
 ROSIGLITAZONE MALEATE METFORMIN HCL TAB 4 500 MG
 PIOGLITAZONE HCL METFORMIN HCL TAB 15 850 MG
 NATEGLINIDE TAB 60 MG
 EXENATIDE INJ 5 MCG 0.02ML
 EXENATIDE INJ 10 MCG 0.04ML
 SITAGLIPTIN PHOSPHATE
 PIOGLITAZONE HCL
 PIOGLITAZONE HCL METFORMIN HCL
 LIRAGLUTIDE
 SAXAGLIPTIN HCL
 SAXAGLIPTIN HCL METFORMIN HCL
 EXENATIDE
 EXENATIDE MICROSPHERES
 PRAMLINTIDE ACETATE
 EMPAGLIFLOZIN LINAGLIPTIN
 NATEGLINIDE
 ACARBOSE
 ALOGLIPTIN BENZOATE
 ALOGLIPTIN BENZOATE PIOGLITAZONE HCL
 REPAGLINIDE
 PIOGLITAZONE HCL GLIMEPIRIDE
 REPAGLINIDE METFORMIN HCL
 SAXAGLIPTIN HYDROCHLORIDE
 SITAGLIPTIN PHOSPHATE METFORMIN HCL
 SITAGLIPTIN PHOSPHATE SIMVASTATIN
 ROSIGLITAZONE MALEATE GLIMEPIRIDE
 ROSIGLITAZONE MALEATE METFORMIN HCL
 MIGLITOL
 ROSIGLITAZONE MALEATE
 LINAGLIPTIN
 LINAGLIPTIN METFORMIN HCL
 PIOGLITAZONE GLIMEPIRIDE
 CANAGLIFLOZIN
 MIFEPRISTONE

Potassium Sparing Diuretics

Appendix I. List of Generic Names of Medical Products Used to Define Covariates in this Request

Generic Name

AMILORIDE HYDROCHLOROTHIAZIDE TAB 5 50 MG
 TRIAMTERENE HYDROCHLOROTHIAZIDE TAB 75 50 MG
 TRIAMTERENE HYDROCHLOROTHIAZIDE TAB 37.5 25 MG
 TRIAMTERENE HYDROCHLOROTHIAZIDE CAP 37.5 25 MG
 SPIRONOLACTONE TAB 25 MG
 TRIAMTERENE HYDROCHLOROTHIAZIDE CAP 50 25 MG
 SPIRONOLACTONE HYDROCHLOROTHIAZIDE TAB 25 25 MG
 SPIRONOLACTONE TAB 100 MG
 SPIRONOLACTONE TAB 50 MG
 AMILORIDE HCL TAB 5 MG
 TRIAMTERENE HYDROCHLOROTHIAZIDE
 SPIRONOLACTONE
 AMILORIDE HCL
 TRIAMTERENE
 SPIRONOLACTONE HYDROCHLOROTHIAZIDE
 AMILORIDE HCL HYDROCHLOROTHIAZIDE

Prescription Nonsteroidal Anti-Inflammatory Drugs

NAPROXEN SODIUM TAB 220 MG
 IBUPROFEN TAB 200 MG
 IBUPROFEN CAP 200 MG
 DICLOFENAC SODIUM GEL 1%
 NAPROXEN CREAM 10% (COMPOUND KIT)
 DICLOFENAC GABAPENTIN LIDOCAINE HCL CREAM 5 5 2% (CMPD KIT)
 NAPROXEN TAB 250 MG
 NAPROXEN TAB 375 MG
 NAPROXEN TAB 500 MG
 NAPROXEN TAB 500 MG LINIMENT TOPICAL GEL KIT
 NAPROXEN TAB EC 500 MG
 IBUPROFEN TAB 400 MG
 NAPROXEN SODIUM TAB 550 MG
 DICLOFENAC SODIUM TAB SR 24HR 100 MG
 CELECOXIB CAP 200 MG
 MELOXICAM TAB 15 MG
 INDOMETHACIN CAP 25 MG
 FLURBIPROFEN CYCLOBENZAPRINE CREAM (CMPD KIT)
 KETOPROFEN BACLOFEN GABAPENTIN CREAM (CMPD KIT)
 KETOPROFEN LIDOCAINE GABAPENTIN CREAM (CMPD KIT)
 CELECOXIB CAP 100 MG
 KETOPROFEN BACLOFEN GABAPENT LIDO CRM 15 4 10 2% (CMP KIT)
 IBUPROFEN TAB 600 MG
 IBUPROFEN TAB 800 MG
 METAXALONE TAB 800 MG DICLOFENAC SODIUM SOLN 1.5% KIT
 FENOPROFEN CALCIUM CAP 400 MG
 KETOROLAC TROMETHAMINE GEL 2% (CMPD KIT) (BASE EQUIV)
 KETOPROFEN (BULK) CREAM 10%
 DICLOFENAC SODIUM TAB DELAYED RELEASE 50 MG
 NABUMETONE TAB 500 MG
 KETOROLAC TROMETHAMINE TAB 10 MG
 PRASTERONE CAP 200 MG IBUPROFEN TAB 400 MG KIT
 DICLOFENAC SOD TAB DR 75 MG LIDO MEN METHYL SAL PTCH KIT
 ETODOLAC TAB 400 MG
 INDOMETHACIN CAP 50 MG
 OXAPROZIN TAB 600 MG

Appendix I. List of Generic Names of Medical Products Used to Define Covariates in this Request

Generic Name

SULINDAC TAB 200 MG
ETODOLAC TAB 500 MG
NAPROXEN SODIUM TAB 550 MG MENTHOL GEL 2% THERAPY PACK
FLURBIPROFEN BACLOFEN CYCLOBEN LIDO CREAM (CMPD KIT)
NAPROXEN TAB 250 MG DIETARY MANAGEMENT CAP PACK
MELOXICAM TAB 7.5 MG DIETARY MANAGEMENT CAP PACK
PIROXICAM CAP 20 MG DIETARY MANAGEMENT CAP PACK
IBUPROFEN TAB 600 MG DIETARY MANAGEMENT CAP PACK
NAPROXEN TAB 500 MG DIETARY MANAGEMENT CAP PACK
IBUPROFEN TAB 800 MG DIETARY MANAGEMENT CAP PACK
DICLOFENAC TAB DR 25 MG DIETARY MANAGEMENT CAP PACK
MELOXICAM TAB 7.5 MG
KETOPROFEN CAP 75 MG
IBUPROFEN SUSP 100 MG 5ML
DICLOFENAC SODIUM TAB DELAYED RELEASE 75 MG
NABUMETONE TAB 750 MG
FLUOROURACIL DICLOFENAC SODIUM CREAM 5 1%
TAMOXIFEN ADAPALENE DICLOFENAC CREAM 0.2 0.3 2% (CMPD KIT)
AMANTADINE GABAPENT DICLOFENAC BACLOFEN LIDO CR (CMPD KIT)
DICLOFENAC AMITRIPTYLINE PRILO LIDO CREAM (CMPD KIT)
DICLOFENAC TAB 75MG RANITID TAB 150MG LIDO PRILO CR THPK
KETOROLAC TROMETHAMINE NASAL SPRAY 15.75 MG SPRAY
IBUPROFEN TAB 800 MG MULTIPLE MINERALS CAP THERAPY PACK
DICLOFENAC TD SOLN 1.5% CAMPH MEN METHYL SAL PATCH KIT
ETODOLAC TAB SR 24HR 600 MG
PIROXICAM CAP 20 MG
NAPROXEN SODIUM TAB 275 MG
FLURBIPROFEN TAB 100 MG
FENOPROFEN CALCIUM TAB 600 MG
TOLMETIN SODIUM TAB 600 MG
TOLMETIN SODIUM CAP 400 MG
INDOMETHACIN CAP CR 75 MG
NAPROXEN SODIUM CAP 220 MG
MECLOFENAMATE SODIUM CAP 50 MG
MECLOFENAMATE SODIUM CAP 100 MG
SULINDAC TAB 150 MG
DICLOFENAC W MISOPROSTOL TAB 75 0.2 MG
DICLOFENAC SODIUM TAB DELAYED RELEASE 25 MG
DICLOFENAC POTASSIUM TAB 50 MG
ETODOLAC TAB SR 24HR 500 MG
PIROXICAM CAP 10 MG
ETODOLAC CAP 300 MG
DICLOFENAC W MISOPROSTOL TAB 50 0.2 MG
NAPROXEN ESOMEPRAZOLE MAGNESIUM TAB DR 375 20 MG
NAPROXEN SODIUM TAB SR 24HR 375 MG (BASE EQUIV)
NAPROXEN SUSP 125 MG 5ML
KETOPROFEN CREAM 5% (COMPOUND KIT)
DICLOFENAC POTASSIUM CAP 25 MG
FLURBIPROFEN BACLOFEN LIDOCAINE CREAM 15 4 5% (CMPD KIT)
KETOPROFEN LIDOCAINE HCL CREAM 10 2% (COMPOUND KIT)
KETOPROFEN LIDOCAINE GABAPENTIN CREAM 5 2 5% (CMPD KIT)
KETOPROFEN KETAMINE LIDOCAINE CREAM 5 5 2% (COMPOUNDING KIT)
KETOPROFEN KETAMINE LIDOCAINE CREAM 5 5 2% (COMPOUND KIT)

Appendix I. List of Generic Names of Medical Products Used to Define Covariates in this Request

Generic Name

ROFECOXIB TAB 50 MG
VALDECOXIB TAB 10 MG
VALDECOXIB TAB 20 MG
ETODOLAC TAB SR 24HR 400 MG
IBUPROFEN CREAM 10% (COMPOUNDING KIT)
KETOPROFEN CAP SR 24HR 200 MG
KETOPROFEN TAB 12.5 MG
PHENYLBUTAZONE TAB 100 MG
ROFECOXIB TAB 25 MG
FENOPROFEN CALCIUM CAP 200 MG
INDOMETHACIN SUPPOS 50 MG
NAPROXEN SODIUM TAB SR 24HR 500 MG (BASE EQUIV)
ROFECOXIB TAB 12.5 MG
ETODOLAC CAP 200 MG
FLURBIPROFEN TAB 50 MG
MEFENAMIC ACID CAP 250 MG
KETOPROFEN CAP 50 MG
FLURBIPROFEN GABAPENT CYCLOBEN LIDO DEXAMETH CR (CMP KIT)
IBUPROFEN
CELECOXIB
ETODOLAC
NAPROXEN SODIUM
IBUPROFEN DIPHENHYDRAMINE CITRATE
IBUPROFEN DIPHENHYDRAMINE HCL
MELOXICAM
NABUMETONE
DICLOFENAC SODIUM
DICLOFENAC SODIUM MISOPROSTOL
MEFENAMIC ACID
INDOMETHACIN
DICLOFENAC POTASSIUM
NAPROXEN
FENOPROFEN CALCIUM
INDOMETHACIN SUBMICRONIZED
MELOXICAM SUBMICRONIZED
DICLOFENAC SODIUM CAPSICUM OLEORESIN
KETOROLAC TROMETHAMINE
PHENYLEPHRINE HCL KETOROLAC TROMETHAMINE
NAPROXEN SODIUM MENTHOL
SUMATRIPTAN SUCCINATE NAPROXEN SODIUM
OXAPROZIN
NAPROXEN CAPSAICIN MENTHOL METHYL SALICYLATE
NAPROXEN CAPSAICIN MENTHOL
CELECOXIB CAPSAICIN MENTHOL
CELECOXIB LIDOCAINE MENTHOL
ROFECOXIB
SULINDAC
KETOPROFEN
FLURBIPROFEN
VALDECOXIB
TOLMETIN SODIUM
PIROXICAM
NAPROXEN ESOMEPRAZOLE MAGNESIUM

Appendix I. List of Generic Names of Medical Products Used to Define Covariates in this Request

Generic Name

LANSOPRAZOLE NAPROXEN
 MECLOFENAMATE SODIUM
 MAGNESIUM CARBONATE ALUMINUM HYDROXIDE ALGINIC ACID
 DICLOFENAC SUBMICRONIZED
 IBUPROFEN IRRITANTS COUNTER IRRITANTS COMBINATION #2
 MELOXICAM IRRITANTS COUNTER IRRITANTS COMBINATION NO.2
 NAPROXEN IRRITANTS COUNTER IRRITANTS COMBINATION #2
 IBUPROFEN CAFFEINE VITAMINS B1 B2 B6 B12
 GOLD SODIUM THIOMALATE
 NAPROXEN DIETARY SUPPLEMENT MISC. CB.11
 PIROXICAM DIETARY SUPPLEMENT MISC. CB.11
 IBUPROFEN DIETARY SUPPLEMENT MISC. CB.11

Proton Pump Inhibitors

ESOMEPRAZOLE MAGNESIUM CAP DELAYED RELEASE 20 MG (BASE EQ)
 OMEPRAZOLE CAP DELAYED RELEASE 40 MG
 LANSOPRAZOLE
 PANTOPRAZOLE SODIUM EC TAB 20 MG (BASE EQUIV)
 LANSOPRAZOLE CAP DELAYED RELEASE 15 MG
 ESOMEPRAZOLE MAGNESIUM CAP DELAYED RELEASE 40 MG (BASE EQ)
 OMEPRAZOLE SUSP 2 MG ML (COMPOUND KIT)
 RABEPRAZOLE SODIUM EC TAB 20 MG
 LANSOPRAZOLE CAP DELAYED RELEASE 30 MG
 PANTOPRAZOLE SODIUM EC TAB 40 MG (BASE EQUIV)
 OMEPRAZOLE CAP DELAYED RELEASE 20 MG
 LANSOPRAZOLE TAB DELAYED RELEASE ORALLY DISINTEGRATING 15 MG
 LANSOPRAZOLE TAB DELAYED RELEASE ORALLY DISINTEGRATING 30 MG
 OMEPRAZOLE SODIUM BICARBONATE CAP 20 1100 MG
 ESOMEPRAZOLE MAGNESIUM CAP DELAYED RELEASE 40 MG
 ESOMEPRAZOLE MAGNESIUM CAP DELAYED RELEASE 20 MG
 OMEPRAZOLE DELAYED RELEASE TAB 20 MG
 OMEPRAZOLE SODIUM BICARBONATE CAP 40 1100 MG
 OMEPRAZOLE CAP DELAYED RELEASE 10 MG
 NAPROXEN ESOMEPRAZOLE MAGNESIUM TAB DR 375 20 MG
 DEXLANSOPRAZOLE CAP DELAYED RELEASE 60 MG
 DEXLANSOPRAZOLE CAP DELAYED RELEASE 30 MG
 OMEPRAZOLE MAGNESIUM DELAYED RELEASE TAB 20 MG (BASE EQUIV)
 ESOMEPRAZOLE MAGNESIUM
 LANSOPRAZOLE AMOXICILLIN TRIHYDRATE CLARITHROMYCIN
 OMEPRAZOLE
 RABEPRAZOLE SODIUM
 PANTOPRAZOLE SODIUM
 OMEPRAZOLE MAGNESIUM
 OMEPRAZOLE SODIUM BICARBONATE
 ESOMEPRAZOLE STRONTIUM
 OMEPRAZOLE CLARITHROMYCIN AMOXICILLIN TRIHYDRATE
 NAPROXEN ESOMEPRAZOLE MAGNESIUM
 ESOMEPRAZOLE MAG TRIHYDRATE
 LANSOPRAZOLE NAPROXEN
 DEXLANSOPRAZOLE
 COLCHICINE

SSRI Depressants

CITALOPRAM HYDROBROMIDE TAB 20 MG (BASE EQUIV)
 ESCITALOPRAM OXALATE TAB 10 MG (BASE EQUIV)

Appendix I. List of Generic Names of Medical Products Used to Define Covariates in this Request

Generic Name

ESCITALOPRAM TAB 10 MG METHYLFOLATE B12 B6 D CAP THPK
FLUOXETINE HCL CAP 20 MG
PAROXETINE HCL TAB 30 MG
FLUOXETINE HCL CAP 10 MG
CITALOPRAM HYDROBROMIDE TAB 40 MG (BASE EQUIV)
PAROXETINE HCL TAB 10 MG
PAROXETINE HCL TAB 20 MG
PAROXETINE HCL TAB 40 MG
ESCITALOPRAM OXALATE TAB 20 MG (BASE EQUIV)
PAROXETINE HCL TAB SR 24HR 25 MG
SERTRALINE HCL TAB 50 MG
FLUOXETINE HCL CAP 40 MG
SERTRALINE HCL TAB 25 MG
SERTRALINE HCL TAB 100 MG
FLUVOXAMINE MALEATE TAB 50 MG
FLUVOXAMINE MALEATE TAB 100 MG
FLUVOXAMINE MALEATE TAB 25 MG
FLUOXETINE HCL SOLUTION 20 MG 5ML
CITALOPRAM HYDROBROMIDE TAB 10 MG (BASE EQUIV)
ESCITALOPRAM OXALATE TAB 5 MG (BASE EQUIV)
PAROXETINE HCL TAB SR 24HR 37.5 MG
FLUVOXAMINE MALEATE CAP SR 24HR 150 MG
FLUOXETINE HCL TAB 20 MG
PAROXETINE HCL TAB SR 24HR 12.5 MG
FLUOXETINE HCL TAB 10 MG
FLUOXETINE HCL TAB 60 MG
CITALOPRAM TAB 10 MG DIETARY MANAGEMENT CAP PACK
FLUOXETINE HCL CAP 10 MG DIETARY MANAGEMENT CAP PACK
FLUVOXAMINE MALEATE
ESCITALOPRAM OXALATE
CITALOPRAM HYDROBROMIDE
FLUOXETINE HCL
PAROXETINE HCL
SERTRALINE HCL
OLANZAPINE FLUOXETINE HCL
ZALEPLON
PAROXETINE MESYLATE
FLUOXETINE HCL DIETARY SUPPLEMENT MISC COMB17
FLUOXETINE HCL DIETARY SUPPLEMENT MISC.COMBO8

Statins

ATORVASTATIN CALCIUM TAB 10 MG (BASE EQUIVALENT)
ATORVASTATIN CALCIUM TAB 20 MG (BASE EQUIVALENT)
ATORVASTATIN CALCIUM TAB 40 MG (BASE EQUIVALENT)
ATORVASTATIN CALCIUM TAB 80 MG (BASE EQUIVALENT)
SIMVASTATIN TAB 40 MG
PRAVASTATIN SODIUM TAB 20 MG
PRAVASTATIN SODIUM TAB 40 MG
LOVASTATIN TAB 10 MG
SIMVASTATIN TAB 20 MG
ROSUVASTATIN CALCIUM TAB 20 MG
PRAVASTATIN SODIUM TAB 10 MG
LOVASTATIN TAB 20 MG
LOVASTATIN TAB 40 MG

Appendix I. List of Generic Names of Medical Products Used to Define Covariates in this Request

Generic Name

SIMVASTATIN TAB 10 MG
ATORVASTATIN TAB 20 MG COENZYME Q10 CAP 100 MG THER PACK
SIMVASTATIN TAB 80 MG
FLUVASTATIN SODIUM CAP 20 MG
SIMVASTATIN TAB 5 MG
ROSUVASTATIN CALCIUM TAB 10 MG
EZETIMIBE SIMVASTATIN TAB 10 20 MG
PRAVASTATIN SODIUM TAB 80 MG
ROSUVASTATIN CALCIUM TAB 5 MG
EZETIMIBE SIMVASTATIN TAB 10 40 MG
EZETIMIBE SIMVASTATIN TAB 10 80 MG
FLUVASTATIN SODIUM CAP 40 MG
ROSUVASTATIN CALCIUM TAB 40 MG
ATORVASTATIN CALCIUM
AMLODIPINE BESYLATE ATORVASTATIN CALCIUM
FLUVASTATIN SODIUM
LOVASTATIN
PRAVASTATIN SODIUM
SIMVASTATIN
ROSUVASTATIN CALCIUM
EZETIMIBE ATORVASTATIN CALCIUM
PITAVASTATIN CALCIUM
ASPIRIN CALCIUM CARBONATE MAGNESIUM PRAVASTATIN
SITAGLIPTIN PHOSPHATE SIMVASTATIN
NIACIN LOVASTATIN
NIACIN SIMVASTATIN
EZETIMIBE SIMVASTATIN

Sulfonyureas

GLYBURIDE TAB 2.5 MG
GLIPIZIDE TAB SR 24HR 5 MG
GLIPIZIDE TAB SR 24HR 10 MG
GLIMEPIRIDE TAB 1 MG
GLYBURIDE METFORMIN TAB 2.5 500 MG
GLIPIZIDE TAB 10 MG
GLIPIZIDE TAB 5 MG
GLYBURIDE METFORMIN TAB 5 500 MG
GLYBURIDE TAB 5 MG
BULK CHEMICALS POWDER
ROSIGLITAZONE MALEATE GLIMEPIRIDE TAB 4 1 MG
ROSIGLITAZONE MALEATE GLIMEPIRIDE TAB 4 2 MG
ROSIGLITAZONE MALEATE GLIMEPIRIDE TAB 4 4 MG
CHLORPROPAMIDE TAB 100 MG
CHLORPROPAMIDE TAB 250 MG
GLYBURIDE MICRONIZED TAB 1.5 MG
GLIPIZIDE TAB SR 24HR 2.5 MG
GLIMEPIRIDE TAB 4 MG
GLIMEPIRIDE TAB 2 MG
GLIPIZIDE METFORMIN HCL TAB 2.5 500 MG
GLIPIZIDE METFORMIN HCL TAB 5 500 MG
TOLAZAMIDE TAB 250 MG
TOLAZAMIDE TAB 500 MG
GLYBURIDE MICRONIZED TAB 3 MG
GLYBURIDE TAB 1.25 MG

Appendix I. List of Generic Names of Medical Products Used to Define Covariates in this Request

Generic Name

GLYBURIDE MICRONIZED TAB 6 MG
 TOLAZAMIDE TAB 100 MG
 GLIPIZIDE
 GLIMEPIRIDE
 TRIAMTERENE HYDROCHLOROTHIAZIDE
 GLYBURIDE METFORMIN HCL
 GLYBURIDE
 PIOGLITAZONE HCL GLIMEPIRIDE
 ROSIGLITAZONE MALEATE GLIMEPIRIDE
 TOLAZAMIDE
 GLYBURIDE MICRONIZED
 CHLORPROPAMIDE
 GLIPIZIDE METFORMIN HCL
 GLYBURIDE MICRONIZED METFORMIN HCL
 TOLBUTAMIDE
 ACETOHEXAMIDE
 PIOGLITAZONE GLIMEPIRIDE
 BUSPIRONE HCL

Thiazide Diuretics

TELMISARTAN HYDROCHLOROTHIAZIDE TAB 40 12.5 MG
 TELMISARTAN HYDROCHLOROTHIAZIDE TAB 80 12.5 MG
 TELMISARTAN HYDROCHLOROTHIAZIDE TAB 80 25 MG
 TRIAMTERENE HYDROCHLOROTHIAZIDE TAB 75 50 MG
 BISOPROLOL HYDROCHLOROTHIAZIDE TAB 5 6.25 MG
 HYDROCHLOROTHIAZIDE TAB 25 MG
 CHLORTHALIDONE TAB 25 MG
 AMILORIDE HYDROCHLOROTHIAZIDE TAB 5 50 MG
 TRIAMTERENE HYDROCHLOROTHIAZIDE TAB 37.5 25 MG
 HYDROCHLOROTHIAZIDE TAB 50 MG
 TRIAMTERENE HYDROCHLOROTHIAZIDE CAP 37.5 25 MG
 LOSARTAN POTASSIUM HYDROCHLOROTHIAZIDE TAB 100 25 MG
 LISINAPRIL HYDROCHLOROTHIAZIDE TAB 20 25 MG
 LOSARTAN POTASSIUM HYDROCHLOROTHIAZIDE TAB 100 12.5 MG
 HYDROCHLOROTHIAZIDE CAP 12.5 MG
 LISINAPRIL HYDROCHLOROTHIAZIDE TAB 20 12.5 MG
 LISINAPRIL HYDROCHLOROTHIAZIDE TAB 10 12.5 MG
 BISOPROLOL HYDROCHLOROTHIAZIDE TAB 10 6.25 MG
 BISOPROLOL HYDROCHLOROTHIAZIDE TAB 2.5 6.25 MG
 ENALAPRIL MALEATE HYDROCHLOROTHIAZIDE TAB 5 12.5 MG
 ENALAPRIL MALEATE HYDROCHLOROTHIAZIDE TAB 10 25 MG
 POLYTHIAZIDE TAB 1 MG
 POLYTHIAZIDE TAB 2 MG
 QUINAPRIL HYDROCHLOROTHIAZIDE TAB 20 12.5 MG
 QUINAPRIL HYDROCHLOROTHIAZIDE TAB 10 12.5 MG
 QUINAPRIL HYDROCHLOROTHIAZIDE TAB 20 25 MG
 METHYCLOTHIAZIDE TAB 5 MG
 INDAPAMIDE TAB 2.5 MG
 INDAPAMIDE TAB 1.25 MG
 HYDROCHLOROTHIAZIDE TAB 100 MG
 CAPTOPRIL HYDROCHLOROTHIAZIDE TAB 25 15 MG
 CAPTOPRIL HYDROCHLOROTHIAZIDE TAB 50 25 MG
 PROPRANOLOL HYDROCHLOROTHIAZIDE TAB 40 25 MG
 ATENOLOL CHLORTHALIDONE TAB 50 25 MG

Appendix I. List of Generic Names of Medical Products Used to Define Covariates in this Request

Generic Name

ATENOLOL CHLORTHALIDONE TAB 100 25 MG
CHLOROTHIAZIDE TAB 500 MG
HYDRALAZINE RESERPINE HYDROCHLOROTHIAZIDE TAB 25 0.1 15 MG
TRIAMTERENE HYDROCHLOROTHIAZIDE CAP 50 25 MG
SPIRONOLACTONE HYDROCHLOROTHIAZIDE TAB 25 25 MG
VALSARTAN HYDROCHLOROTHIAZIDE TAB 80 12.5 MG
VALSARTAN HYDROCHLOROTHIAZIDE TAB 160 12.5 MG
VALSARTAN HYDROCHLOROTHIAZIDE TAB 160 25 MG
BENAZEPRIL HYDROCHLOROTHIAZIDE TAB 10 12.5 MG
LOSARTAN POTASSIUM HYDROCHLOROTHIAZIDE TAB 50 12.5 MG
IRBESARTAN HYDROCHLOROTHIAZIDE TAB 150 12.5 MG
VALSARTAN HYDROCHLOROTHIAZIDE TAB 320 25 MG
HYDROCHLOROTHIAZIDE TAB 12.5 MG
METOLAZONE TAB 2.5 MG
METOLAZONE TAB 5 MG
RESERPINE HYDROCHLOROTHIAZIDE TAB 0.125 25 MG
METHYLDOPA HYDROCHLOROTHIAZIDE TAB 250 25 MG
BENAZEPRIL HYDROCHLOROTHIAZIDE TAB 5 6.25 MG
BENAZEPRIL HYDROCHLOROTHIAZIDE TAB 20 12.5 MG
BENAZEPRIL HYDROCHLOROTHIAZIDE TAB 20 25 MG
RESERPINE HYDROCHLOROTHIAZIDE TAB 0.125 50 MG
FOSINOPRIL SODIUM HYDROCHLOROTHIAZIDE TAB 20 12.5 MG
BENDROFLUMETHIAZIDE RAUWOLFIA TAB 4 50 MG
METHYLDOPA HYDROCHLOROTHIAZIDE TAB 250 15 MG
TRICHLORMETHIAZIDE TAB 4 MG
CANDESARTAN CILEXETIL HYDROCHLOROTHIAZIDE TAB 32 12.5 MG
VALSARTAN HYDROCHLOROTHIAZIDE TAB 320 12.5 MG
METOPROLOL HYDROCHLOROTHIAZIDE TAB 50 25 MG
LOSARTAN POTASSIUM HYDROCHLOROTHIAZIDE
VALSARTAN HYDROCHLOROTHIAZIDE
AMLODIPINE BESYLATE VALSARTAN HYDROCHLOROTHIAZIDE
TRIAMTERENE HYDROCHLOROTHIAZIDE
BENAZEPRIL HCL HYDROCHLOROTHIAZIDE
ENALAPRIL MALEATE HYDROCHLOROTHIAZIDE
HYDROCHLOROTHIAZIDE
BISOPROLOL FUMARATE HYDROCHLOROTHIAZIDE
TELMISARTAN HYDROCHLOROTHIAZIDE
METOPROLOL TARTRATE HYDROCHLOROTHIAZIDE
QUINAPRIL HCL HYDROCHLOROTHIAZIDE
INDAPAMIDE
LISINOPRIL HYDROCHLOROTHIAZIDE
ATENOLOL CHLORTHALIDONE
METOLAZONE
CHLORTHALIDONE
IRBESARTAN HYDROCHLOROTHIAZIDE
METOPROLOL SUCCINATE HYDROCHLOROTHIAZIDE
AZILSARTAN MEDOXOMIL CHLORTHALIDONE
SPIRONOLACTONE HYDROCHLOROTHIAZIDE
ISOSORBIDE DINITRATE HYDRALAZINE HCL
CAPTOPRIL HYDROCHLOROTHIAZIDE
BENDROFLUMETHIAZIDE
TIMOLOL MALEATE HYDROCHLOROTHIAZIDE
CHLOROTHIAZIDE

Appendix I. List of Generic Names of Medical Products Used to Define Covariates in this Request

Generic Name

METHYLDOPA HYDROCHLOROTHIAZIDE
METHYLDOPA CHLOROTHIAZIDE
AMILORIDE HCL HYDROCHLOROTHIAZIDE
METHYCLOTHIAZIDE
PROPRANOLOL HCL HYDROCHLOROTHIAZIDE
PRAZOSIN HCL POLYTHIAZIDE
EPROSARTAN MESYLATE HYDROCHLOROTHIAZIDE
DESERPIDINE METHYCLOTHIAZIDE
ALISKIREN HEMIFUMARATE HYDROCHLOROTHIAZIDE
ALISKIREN HEMIFUMARATE AMLODIPINE HYDROCHLOROTHIAZIDE
FOSINOPRIL SODIUM HYDROCHLOROTHIAZIDE
MOEXIPRIL HCL HYDROCHLOROTHIAZIDE
NADOLOL BENDROFLUMETHIAZIDE
CANDESARTAN CILEXETIL HYDROCHLOROTHIAZIDE
CLONIDINE HCL CHLORTHALIDONE
HYDRALAZINE HCL HYDROCHLOROTHIAZIDE
HYDROFLUMETHIAZIDE
HYDRALAZINE HCL RESERPINE HYDROCHLOROTHIAZIDE
SPIRONOLACTONE

Appendix J. Specifications Defining Parameters for this Request

This request executed the Cohort Identification and Descriptive Analysis (CIDA) tool with additional programming to compare risk of stroke and bleeding associated with use of dabigatran, rivaroxaban, and apixaban in those aged 65 years or older in the Sentinel Distributed Database (SDD).

Query Period: October 19, 2010 - September 30, 2015
Coverage Requirement: Medical and drug coverage
Pre-Index Enrollment Requirement: 183 days
Post-Index Enrollment Requirement: None
Enrollment Gap: 45 days
Age Groups: 65-74, 75-84, and 85+ years
Stratifications: None
Censor Output Categorization: None
Envelope Macro: No reclassification
Freeze Data: Yes
Additional Programming Needed: Risk scores, daily dose requirement, compatibility with QRP 10.1.0 or later
Output Denominator: Yes

Thromboembolic stroke						
Comparison 1 Males and Females		Comparison 2 Males and Females		Comparison 3 Males and Females		
Sex						
Drug/Exposure	Rivaroxaban	Dabigatran	Rivaroxaban	Apixaban	Dabigatran	Apixaban
Exposure/Comparator	Once daily	Twice daily	Once daily	Twice daily	Twice daily	Twice daily
Daily Dose Requirement	Apixaban, dabigatran, rivaroxaban, edoxaban, warfarin (all doses)		Apixaban, dabigatran, rivaroxaban, edoxaban, warfarin (all doses)		Apixaban, dabigatran, rivaroxaban, edoxaban, warfarin (all doses)	
Incident with Respect to:	Dispensing date or days supply		Dispensing date or days supply		Dispensing date or days supply	
Incidence Assessment	183 days		183 days		183 days	
Washout	First valid incident exposure episode		First valid incident exposure episode		First valid incident exposure episode	
Cohort Definition	33%		33%		33%	
Stockpiling Overlapping Claims	3 days		3 days		3 days	
Episode Gap	3 days		3 days		3 days	
Episode Extension Period	1 day		1 day		1 day	
Minimum Episode Duration	None		None		None	
Maximum Episode Duration	1 day		1 day		1 day	
Minimum Days Supplied	Death, Query end date, Disenrollment, Event, End of exposure episode, Comparator drug dispensing, Low dose of current exposure, Warfarin dispensing, Edoxaban dispensing, Apixaban dispensing, Kidney transplant, Dialysis, Non-Acute Institutional stay (IS) encounter, Major extracranial bleeding, Gastrointestinal hemorrhage, Intracranial hemorrhage		Death, Query end date, Disenrollment, Event, End of exposure episode, Comparator drug dispensing, Low dose of current exposure, Warfarin dispensing, Edoxaban dispensing, Apixaban dispensing, Kidney transplant, Dialysis, IS encounter, Major extracranial bleeding, Gastrointestinal hemorrhage, Intracranial hemorrhage		Death, Query end date, Disenrollment, Event, End of exposure episode, Comparator drug dispensing, Low dose of current exposure, Warfarin dispensing, Edoxaban dispensing, Apixaban dispensing, Kidney transplant, Dialysis, IS encounter, Major extracranial bleeding, Gastrointestinal hemorrhage, Intracranial hemorrhage	
Censor Criteria	hemorrhage		hemorrhage		hemorrhage	
	Thromboembolic stroke					
	Comparison 1 Males and Females		Comparison 2 Males and Females		Comparison 3 Males and Females	
Sex						

Appendix J. Specifications Defining Parameters for this Request

Inclusion/Exclusion Pre-Existing Condition Include/Exclude Care Setting/Principle Diagnosis Lookback Period	Atrial fibrillation or flutter Include Any -183, 0 days		Atrial fibrillation or flutter Include Any -183, 0 days		Atrial fibrillation or flutter Include Any -183, 0 days	
Pre-Existing Condition Include/Exclude Lookback Period	Low-dose rivaroxaban, dabigatran, apixaban, edoxaban, warfarin	Low-dose dabigatran, rivaroxaban, apixaban, edoxaban, warfarin	Low-dose apixaban, rivaroxaban, dabigatran, edoxaban, warfarin	Low-dose apixaban, rivaroxaban, dabigatran, edoxaban, warfarin	Low-dose dabigatran, rivaroxaban, apixaban, edoxaban, warfarin	Low-dose apixaban, rivaroxaban, dabigatran, edoxaban, warfarin
Pre-Existing Condition Include/Exclude Lookback Period	Institutional stay encounter Exclude 0, 0 days		Institutional stay encounter Exclude 0, 0 days		Institutional stay encounter Exclude 0, 0 days	
Pre-Existing Condition Include/Exclude Lookback Period	Dialysis, Kidney replacement, Deep vein thrombosis, Pulmonary embolism, Joint replacement, Mitral stenosis, Valve replacement, Valve repair Exclude		Dialysis, Kidney replacement, Deep vein thrombosis, Pulmonary embolism, Joint replacement, Mitral stenosis, Valve replacement, Valve repair Exclude		Dialysis, Kidney replacement, Deep vein thrombosis, Pulmonary embolism, Joint replacement, Mitral stenosis, Valve replacement, Valve repair Exclude	
Care Setting/PDX Lookback Period	Any, except Ambulatory Visit (AV)/ Other Ambulatory Visit (OA) for dialysis -183, 0 days		Any, except AV/OA for dialysis -183, 0 days		Any, except AV/OA for dialysis -183, 0 days	
Event/Outcome Event/Outcome Care Setting/PDX Washout Blackout Period	Thromboembolic stroke Inpatient Hospital Stay (IP) 0 days 1 day		Thromboembolic stroke IP 0 days 1 day		Thromboembolic stroke IP 0 days 1 day	
	Major Extracranial Bleeding					
Sex	Comparison 4 Males and Females		Comparison 5 Males and Females		Comparison 6 Males and Females	
Drug/Exposure Exposure/Comparator Daily Dose Requirement Incident with Respect to: Incidence Assessment Washout	Rivaroxaban Once daily Apixaban, dabigatran, rivaroxaban, edoxaban, warfarin (all doses) Dispensing date or days supply 183 days	Dabigatran Twice daily Apixaban, dabigatran, rivaroxaban, edoxaban, warfarin (all doses) Dispensing date or days supply 183 days	Rivaroxaban Once daily Apixaban, dabigatran, rivaroxaban, edoxaban, warfarin (all doses) Dispensing date or days supply 183 days	Apixaban Twice daily Apixaban, dabigatran, rivaroxaban, edoxaban, warfarin (all doses) Dispensing date or days supply 183 days	Dabigatran Twice daily Apixaban, dabigatran, rivaroxaban, edoxaban, warfarin (all doses) Dispensing date or days supply 183 days	Apixaban Twice daily Apixaban, dabigatran, rivaroxaban, edoxaban, warfarin (all doses) Dispensing date or days supply 183 days
	Major Extracranial Bleeding					
Sex	Comparison 4 Males and Females		Comparison 5 Males and Females		Comparison 6 Males and Females	
Cohort Definition Stockpiling Overlapping Claims	First valid incident exposure episode 33%		First valid incident exposure episode 33%		First valid incident exposure episode 33%	

Appendix J. Specifications Defining Parameters for this Request

Episode Gap	3 days	3 days	3 days
Episode Extension Period	3 days	3 days	3 days
Minimum Episode Duration	1 day	1 day	1 day
Maximum Episode Duration	None	None	None
Minimum Days Supplied	1 day	1 day	1 day
Censor Criteria	Death, Query end date, Disenrollment, Event, End of exposure episode, Comparator drug dispensing, Low dose of current exposure, Warfarin dispensing, Edoxaban dispensing, Apixaban dispensing, Kidney transplant, Dialysis, IS encounter, Major extracranial bleeding, Gastrointestinal hemorrhage, Intracranial hemorrhage	Death, Query end date, Disenrollment, Event, End of exposure episode, Comparator drug dispensing, Low dose of current exposure, Warfarin dispensing, Edoxaban dispensing, Apixaban dispensing, Kidney transplant, Dialysis, IS encounter, Major extracranial bleeding, Gastrointestinal hemorrhage, Intracranial hemorrhage	Death, Query end date, Disenrollment, Event, End of exposure episode, Comparator drug dispensing, Low dose of current exposure, Warfarin dispensing, Edoxaban dispensing, Apixaban dispensing, Kidney transplant, Dialysis, IS encounter, Major extracranial bleeding, Gastrointestinal hemorrhage, Intracranial hemorrhage
Inclusion/Exclusion Pre-Existing Condition	Atrial fibrillation or flutter	Atrial fibrillation or flutter	Atrial fibrillation or flutter
Include/Exclude	Include	Include	Include
Care Setting/PDX	Any	Any	Any
Lookback Period	-183, 0 days	-183, 0 days	-183, 0 days
Pre-Existing Condition	Low-dose rivaroxaban, dabigatran, apixaban, edoxaban, warfarin	Low-dose rivaroxaban, dabigatran, apixaban, edoxaban, warfarin	Low-dose dabigatran, rivaroxaban, apixaban, edoxaban, warfarin
Include/Exclude	Exclude	Exclude	Exclude
Lookback Period	0, 0 days	0, 0 days	0, 0 days
Pre-Existing Condition	Institutional stay encounter	Institutional stay encounter	Institutional stay encounter
Include/Exclude	Exclude	Exclude	Exclude
Lookback Period	0, 0 days	0, 0 days	0, 0 days
Pre-Existing Condition	Dialysis, Kidney replacement, Deep vein thrombosis, Pulmonary embolism, Joint replacement, Mitral stenosis, Valve replacement, Valve repair	Dialysis, Kidney replacement, Deep vein thrombosis, Pulmonary embolism, Joint replacement, Mitral stenosis, Valve replacement, Valve repair	Dialysis, Kidney replacement, Deep vein thrombosis, Pulmonary embolism, Joint replacement, Mitral stenosis, Valve replacement, Valve repair
Include/Exclude	Exclude	Exclude	Exclude
Care Setting/PDX	Any, except AV/OA for dialysis	Any, except AV/OA for dialysis	Any, except AV/OA for dialysis
Lookback Period	-183, 0 days	-183, 0 days	-183, 0 days

	Major Extracranial Bleeding		
	Comparison 4 Males and Females	Comparison 5 Males and Females	Comparison 6 Males and Females
Sex			
Event/Outcome	Major Extracranial Bleeding ¹	Major Extracranial Bleeding ¹	Major Extracranial Bleeding ¹
Event/Outcome	IP	IP	IP
Care Setting/PDX			
Washout	0 days	0 days	0 days
Blackout Period	1 day	1 day	1 day

Appendix J. Specifications Defining Parameters for this Request

Drug/Exposure Exposure/Comparator Daily Dose Requirement Incident with Respect to:	Rivaroxaban Once daily	Dabigatran Twice daily	Rivaroxaban Once daily	Apixaban Twice daily	Dabigatran Twice daily	Apixaban Twice daily
Incidence Assessment Washout Cohort Definition Stockpiling Overlapping Claims	Apixaban, dabigatran, rivaroxaban, edoxaban, warfarin (all doses) Dispensing date or days supply 183 days First valid incident exposure episode 33%	Apixaban, dabigatran, rivaroxaban, edoxaban, warfarin (all doses) Dispensing date or days supply 183 days First valid incident exposure episode 33%	Apixaban, dabigatran, rivaroxaban, edoxaban, warfarin (all doses) Dispensing date or days supply 183 days First valid incident exposure episode 33%	Apixaban, dabigatran, rivaroxaban, edoxaban, warfarin (all doses) Dispensing date or days supply 183 days First valid incident exposure episode 33%	Apixaban, dabigatran, rivaroxaban, edoxaban, warfarin (all doses) Dispensing date or days supply 183 days First valid incident exposure episode 33%	Apixaban, dabigatran, rivaroxaban, edoxaban, warfarin (all doses) Dispensing date or days supply 183 days First valid incident exposure episode 33%
Gastrointestinal Hemorrhage						
Sex	Comparison 7 Males and Females		Comparison 8 Males and Females		Comparison 9 Males and Females	
Episode Gap Episode Extension Period Minimum Episode Duration Maximum Episode Duration Minimum Days Supplied Censor Criteria	3 days 3 days 1 day None 1 day Death, Query end date, Disenrollment, Event, End of exposure episode, Comparator drug dispensing, Low dose of current exposure, Warfarin dispensing, Edoxaban dispensing, Apixaban dispensing, Kidney transplant, Dialysis, IS encounter, Major extracranial bleeding, Gastrointestinal hemorrhage, Intracranial hemorrhage		3 days 3 days 1 day None 1 day Death, Query end date, Disenrollment, Event, End of exposure episode, Comparator drug dispensing, Low dose of current exposure, Warfarin dispensing, Edoxaban dispensing, Apixaban dispensing, Kidney transplant, Dialysis, IS encounter, Major extracranial bleeding, Gastrointestinal hemorrhage, Intracranial hemorrhage		3 days 3 days 1 day None 1 day Death, Query end date, Disenrollment, Event, End of exposure episode, Comparator drug dispensing, Low dose of current exposure, Warfarin dispensing, Edoxaban dispensing, Apixaban dispensing, Kidney transplant, Dialysis, IS encounter, Major extracranial bleeding, Gastrointestinal hemorrhage, Intracranial hemorrhage	
Inclusion/Exclusion Pre-Existing Condition Include/Exclude Care Setting/PDX Lookback Period	Atrial fibrillation or flutter Include Any -183, 0 days		Atrial fibrillation or flutter Include Any -183, 0 days		Atrial fibrillation or flutter Include Any -183, 0 days	

Gastrointestinal Hemorrhage						
Sex	Comparison 7 Males and Females		Comparison 8 Males and Females		Comparison 9 Males and Females	
Pre-Existing Condition Include/Exclude Lookback Period	Low-dose rivaroxaban, dabigatran, apixaban, edoxaban, warfarin	Low-dose dabigatran, rivaroxaban, apixaban, edoxaban, warfarin	Low-dose rivaroxaban, dabigatran, apixaban, edoxaban, warfarin	Low-dose apixaban, rivaroxaban, dabigatran, edoxaban, warfarin	Low-dose dabigatran, rivaroxaban, apixaban, edoxaban, warfarin	Low-dose apixaban, rivaroxaban, dabigatran, edoxaban, warfarin
Pre-Existing Condition Include/Exclude	Exclude 0, 0 days		Exclude 0, 0 days		Exclude 0, 0 days	
Pre-Existing Condition Include/Exclude	Institutional stay encounter Exclude		Institutional stay encounter Exclude		Institutional stay encounter Exclude	

Appendix J. Specifications Defining Parameters for this Request

Lookback Period	0, 0 days		0, 0 days		0, 0 days	
Pre-Existing Condition	Dialysis, Kidney replacement, Deep vein thrombosis, Pulmonary embolism, Joint replacement, Mitral stenosis, Valve replacement, Valve repair		Dialysis, Kidney replacement, Deep vein thrombosis, Pulmonary embolism, Joint replacement, Mitral stenosis, Valve replacement, Valve repair		Dialysis, Kidney replacement, Deep vein thrombosis, Pulmonary embolism, Joint replacement, Mitral stenosis, Valve replacement, Valve repair	
Include/Exclude Care Setting/PDX Lookback Period	Exclude Any, except AV/OA for dialysis -183, 0 days		Exclude Any, except AV/OA for dialysis -183, 0 days		Exclude Any, except AV/OA for dialysis -183, 0 days	
Event/Outcome	Gastrointestinal hemorrhage ²		Gastrointestinal hemorrhage ²		Gastrointestinal hemorrhage ²	
Care Setting/PDX	IP		IP		IP	
Washout	0 days		0 days		0 days	
Blackout Period	1 day		1 day		1 day	
	Intracranial Hemorrhage					
Sex	Comparison 10 Males and Females		Comparison 11 Males and Females		Comparison 12 Males and Females	
Drug/Exposure Exposure/Comparator Daily Dose Requirement Incident with Respect to:	Rivaroxaban Once daily	Dabigatran Twice daily	Rivaroxaban Once daily	Apixaban Twice daily	Dabigatran Twice daily	Apixaban Twice daily
Incidence Assessment	Apixaban, dabigatran, rivaroxaban, edoxaban, warfarin (all doses)		Apixaban, dabigatran, rivaroxaban, edoxaban, warfarin (all doses)		Apixaban, dabigatran, rivaroxaban, edoxaban, warfarin (all doses)	
Washout	Dispensing date or days supply 183 days		Dispensing date or days supply 183 days		Dispensing date or days supply 183 days	
Cohort Definition	First valid incident exposure episode		First valid incident exposure episode		First valid incident exposure episode	
Stockpiling Overlapping Claims	33%		33%		33%	
Episode Gap	3 days		3 days		3 days	
Episode Extension Period	3 days		3 days		3 days	
Minimum Episode Duration	1 day		1 day		1 day	
Maximum Episode Duration	None		None		None	
Minimum Days Supplied	1 day		1 day		1 day	
	Intracranial Hemorrhage					
Sex	Comparison 10 Males and Females		Comparison 11 Males and Females		Comparison 12 Males and Females	
Censor Criteria	Death, Query end date, Disenrollment, Event, End of exposure episode, Comparator drug dispensing, Low dose of current exposure, Warfarin dispensing, Edoxaban dispensing, Apixaban dispensing, Kidney transplant, Dialysis, IS encounter, Major extracranial bleeding, Gastrointestinal hemorrhage, Intracranial hemorrhage		Death, Query end date, Disenrollment, Event, End of exposure episode, Comparator drug dispensing, Low dose of current exposure, Warfarin dispensing, Edoxaban dispensing, Apixaban dispensing, Kidney transplant, Dialysis, IS encounter, Major extracranial bleeding, Gastrointestinal hemorrhage, Intracranial hemorrhage		Death, Query end date, Disenrollment, Event, End of exposure episode, Comparator drug dispensing, Low dose of current exposure, Warfarin dispensing, Edoxaban dispensing, Apixaban dispensing, Kidney transplant, Dialysis, IS encounter, Major extracranial bleeding, Gastrointestinal hemorrhage, Intracranial hemorrhage	
Inclusion/Exclusion						

Appendix J. Specifications Defining Parameters for this Request

Pre-Existing Condition Include/Exclude Care Setting/PDX Lookback Period	Atrial fibrillation or flutter Include Any -183, 0 days		Atrial fibrillation or flutter Include Any -183, 0 days		Atrial fibrillation or flutter Include Any -183, 0 days	
Pre-Existing Condition Include/Exclude Lookback Period	Low-dose rivaroxaban, dabigatran, apixaban, edoxaban, warfarin	Low-dose dabigatran, rivaroxaban, apixaban, edoxaban, warfarin	Low-dose rivaroxaban, dabigatran, apixaban, edoxaban, warfarin	Low-dose apixaban, rivaroxaban, dabigatran, edoxaban, warfarin	Low-dose dabigatran, rivaroxaban, apixaban, edoxaban, warfarin	Low-dose apixaban, rivaroxaban, dabigatran, edoxaban, warfarin
Pre-Existing Condition Include/Exclude Care Setting/PDX Lookback Period	Institutional stay encounter Exclude 0, 0 days		Institutional stay encounter Exclude 0, 0 days		Institutional stay encounter Exclude 0, 0 days	
Pre-Existing Condition Include/Exclude Care Setting/PDX Lookback Period	Dialysis, Kidney replacement, Deep vein thrombosis, Pulmonary embolism, Joint replacement, Mitral stenosis, Valve replacement, Valve repair Exclude Any, except AV/OA for dialysis -183, 0 days		Dialysis, Kidney replacement, Deep vein thrombosis, Pulmonary embolism, Joint replacement, Mitral stenosis, Valve replacement, Valve repair Exclude Any, except AV/OA for dialysis -183, 0 days		Dialysis, Kidney replacement, Deep vein thrombosis, Pulmonary embolism, Joint replacement, Mitral stenosis, Valve replacement, Valve repair Exclude Any, except AV/OA for dialysis -183, 0 days	
Event/Outcome Event/Outcome Care Setting/PDX Washout Blackout Period	Intracranial hemorrhage IP 0 days 1 day		Intracranial hemorrhage IP 0 days 1 day		Intracranial hemorrhage IP 0 days 1 day	

	Thromboembolic Stroke- Female					
	Comparison 13		Comparison 14		Comparison 15	
Sex	Females		Females		Females	
Drug/Exposure Exposure/Comparator Daily Dose Requirement Incident with Respect to:	Rivaroxaban Once daily	Dabigatran Twice daily	Rivaroxaban Once daily	Apixaban Twice daily	Dabigatran Twice daily	Apixaban Twice daily
Incidence Assessment Washout Cohort Definition Stockpiling Overlapping Claims Episode Gap Episode Extension Period	Apixaban, dabigatran, rivaroxaban, edoxaban, warfarin (all doses) Dispensing date or days supply 183 days First valid incident exposure episode 33% 3 days 3 days		Apixaban, dabigatran, rivaroxaban, edoxaban, warfarin (all doses) Dispensing date or days supply 183 days First valid incident exposure episode 33% 3 days 3 days		Apixaban, dabigatran, rivaroxaban, edoxaban, warfarin (all doses) Dispensing date or days supply 183 days First valid incident exposure episode 33% 3 days 3 days	

Appendix J. Specifications Defining Parameters for this Request

Minimum Episode Duration Maximum Episode Duration Minimum Days Supplied Censor Criteria	1 day None 1 day Death, Query end date, Disenrollment, Event, End of exposure episode, Comparator drug dispensing, Low dose of current exposure, Warfarin dispensing, Edoxaban dispensing, Apixaban dispensing, Kidney transplant, Dialysis, IS encounter, Major extracranial bleeding, Gastrointestinal hemorrhage, Intracranial hemorrhage	1 day None 1 day Death, Query end date, Disenrollment, Event, End of exposure episode, Comparator drug dispensing, Low dose of current exposure, Warfarin dispensing, Edoxaban dispensing, Apixaban dispensing, Kidney transplant, Dialysis, IS encounter, Major extracranial bleeding, Gastrointestinal hemorrhage, Intracranial hemorrhage	1 day None 1 day Death, Query end date, Disenrollment, Event, End of exposure episode, Comparator drug dispensing, Low dose of current exposure, Warfarin dispensing, Edoxaban dispensing, Apixaban dispensing, Kidney transplant, Dialysis, IS encounter, Major extracranial bleeding, Gastrointestinal hemorrhage, Intracranial hemorrhage
Inclusion/Exclusion Pre-Existing Condition Include/Exclude Care Setting/PDX Lookback Period	Atrial fibrillation or flutter Include Any -183, 0 days	Atrial fibrillation or flutter Include Any -183, 0 days	Atrial fibrillation or flutter Include Any -183, 0 days
Pre-Existing Condition Include/Exclude Lookback Period	Low-dose rivaroxaban, dabigatran, apixaban, edoxaban, warfarin Low-dose dabigatran, rivaroxaban, apixaban, edoxaban, warfarin Exclude 0, 0 days	Low-dose apixaban, rivaroxaban, dabigatran, edoxaban, warfarin Low-dose apixaban, rivaroxaban, dabigatran, edoxaban, warfarin Exclude 0, 0 days	Low-dose dabigatran, rivaroxaban, apixaban, edoxaban, warfarin Low-dose apixaban, rivaroxaban, dabigatran, edoxaban, warfarin Exclude 0, 0 days
Pre-Existing Condition Include/Exclude Lookback Period	Institutional stay encounter Exclude 0, 0 days	Institutional stay encounter Exclude 0, 0 days	Institutional stay encounter Exclude 0, 0 days

	Thromboembolic Stroke- Female		
	Comparison 13	Comparison 14	Comparison 15
Sex	Females	Females	Females
Pre-Existing Condition Include/Exclude Care Setting/PDX Lookback Period	Dialysis, Kidney replacement, Deep vein thrombosis, Pulmonary embolism, Joint replacement, Mitral stenosis, Valve replacement, Valve repair Exclude Any, except AV/OA for dialysis -183, 0 days	Dialysis, Kidney replacement, Deep vein thrombosis, Pulmonary embolism, Joint replacement, Mitral stenosis, Valve replacement, Valve repair Exclude Any, except AV/OA for dialysis -183, 0 days	Dialysis, Kidney replacement, Deep vein thrombosis, Pulmonary embolism, Joint replacement, Mitral stenosis, Valve replacement, Valve repair Exclude Any, except AV/OA for dialysis -183, 0 days
Event/Outcome Event/Outcome Care Setting/PDX Washout Blackout Period	Thromboembolic stroke IP 0 days 1 day	Thromboembolic stroke IP 0 days 1 day	Thromboembolic stroke IP 0 days 1 day
	Major Extracranial Bleeding- Female		
	Comparison 16	Comparison 17	Comparison 18

Appendix J. Specifications Defining Parameters for this Request

Sex	Females		Females		Females	
Drug/Exposure Exposure/Comparator Daily Dose Requirement Incident with Respect to:	Rivaroxaban Once daily	Dabigatran Twice daily	Rivaroxaban Once daily	Apixaban Twice daily	Dabigatran Twice daily	Apixaban Twice daily
Incidence Assessment	Apixaban, dabigatran, rivaroxaban, edoxaban, warfarin (all doses)		Apixaban, dabigatran, rivaroxaban, edoxaban, warfarin (all doses)		Apixaban, dabigatran, rivaroxaban, edoxaban, warfarin (all doses)	
Washout	Dispensing date or days supply 183 days		Dispensing date or days supply 183 days		Dispensing date or days supply 183 days	
Cohort Definition	First valid incident exposure episode		First valid incident exposure episode		First valid incident exposure episode	
Stockpiling Overlapping Claims	33%		33%		33%	
Episode Gap	3 days		3 days		3 days	
Episode Extension Period	3 days		3 days		3 days	
Minimum Episode Duration	1 day		1 day		1 day	
Maximum Episode Duration	None		None		None	
Minimum Days Supplied	1 day		1 day		1 day	
Censor Criteria	Death, Query end date, Disenrollment, Event, End of exposure episode, Comparator drug dispensing, Low dose of current exposure, Warfarin dispensing, Edoxaban dispensing, Apixaban dispensing, Kidney transplant, Dialysis, IS encounter, Major extracranial bleeding, Gastrointestinal hemorrhage, Intracranial hemorrhage		Death, Query end date, Disenrollment, Event, End of exposure episode, Comparator drug dispensing, Low dose of current exposure, Warfarin dispensing, Edoxaban dispensing, Apixaban dispensing, Kidney transplant, Dialysis, IS encounter, Major extracranial bleeding, Gastrointestinal hemorrhage, Intracranial hemorrhage		Death, Query end date, Disenrollment, Event, End of exposure episode, Comparator drug dispensing, Low dose of current exposure, Warfarin dispensing, Edoxaban dispensing, Apixaban dispensing, Kidney transplant, Dialysis, IS encounter, Major extracranial bleeding, Gastrointestinal hemorrhage, Intracranial hemorrhage	
	Major Extracranial Bleeding- Female					
	Comparison 16		Comparison 17		Comparison 18	
Sex	Females		Females		Females	
Inclusion/Exclusion Pre-Existing Condition Include/Exclude Care Setting/PDX Lookback Period	Atrial fibrillation or flutter Include Any -183, 0 days		Atrial fibrillation or flutter Include Any -183, 0 days		Atrial fibrillation or flutter Include Any -183, 0 days	
Pre-Existing Condition Include/Exclude Lookback Period	Low-dose rivaroxaban, dabigatran, apixaban, edoxaban, warfarin	Low-dose dabigatran, rivaroxaban, apixaban, edoxaban, warfarin	Low-dose apixaban, rivaroxaban, dabigatran, edoxaban, warfarin	Low-dose apixaban, rivaroxaban, dabigatran, edoxaban, warfarin	Low-dose dabigatran, rivaroxaban, apixaban, edoxaban, warfarin	Low-dose apixaban, rivaroxaban, dabigatran, edoxaban, warfarin
Pre-Existing Condition Include/Exclude Lookback Period	Exclude 0, 0 days		Exclude 0, 0 days		Exclude 0, 0 days	
Pre-Existing Condition Include/Exclude Lookback Period	Institutional stay encounter Exclude 0, 0 days		Institutional stay encounter Exclude 0, 0 days		Institutional stay encounter Exclude 0, 0 days	

Appendix J. Specifications Defining Parameters for this Request

Pre-Existing Condition	Dialysis, Kidney replacement, Deep vein thrombosis, Pulmonary embolism, Joint replacement, Mitral stenosis, Valve replacement, Valve repair	Dialysis, Kidney replacement, Deep vein thrombosis, Pulmonary embolism, Joint replacement, Mitral stenosis, Valve replacement, Valve repair	Dialysis, Kidney replacement, Deep vein thrombosis, Pulmonary embolism, Joint replacement, Mitral stenosis, Valve replacement, Valve repair
Include/Exclude Care Setting/PDX Lookback Period	Exclude Any, except AV/OA for dialysis -183, 0 days	Exclude Any, except AV/OA for dialysis -183, 0 days	Exclude Any, except AV/OA for dialysis -183, 0 days
Event/Outcome Event/Outcome Care Setting/PDX Washout Blackout Period	Major Extracranial Bleeding ¹ IP 0 days 1 day	Major Extracranial Bleeding ¹ IP 0 days 1 day	Major Extracranial Bleeding ¹ IP 0 days 1 day
	Gastrointestinal Hemorrhage- Female		
	Comparison 19	Comparison 20	Comparison 21
Sex	Females	Females	Females
Drug/Exposure Exposure/Comparator Daily Dose Requirement Incident with Respect to:	Rivaroxaban Once daily Apixaban, dabigatran, rivaroxaban, edoxaban, warfarin (all doses)	Rivaroxaban Once daily Apixaban, dabigatran, rivaroxaban, edoxaban, warfarin (all doses)	Dabigatran Twice daily Apixaban, dabigatran, rivaroxaban, edoxaban, warfarin (all doses)
Incidence Assessment Washout Cohort Definition Stockpiling Overlapping Claims	Dabigatran Twice daily Dispensing date or days supply 183 days First valid incident exposure episode 33%	Apixaban Twice daily Dispensing date or days supply 183 days First valid incident exposure episode 33%	Apixaban Twice daily Dispensing date or days supply 183 days First valid incident exposure episode 33%
	Gastrointestinal Hemorrhage- Female		
	Comparison 19	Comparison 20	Comparison 21
Sex	Females	Females	Females
Episode Gap Episode Extension Period Minimum Episode Duration Maximum Episode Duration Minimum Days Supplied Censor Criteria	3 days 3 days 1 day None 1 day Death, Query end date, Disenrollment, Event, End of exposure episode, Comparator drug dispensing, Low dose of current exposure, Warfarin dispensing, Edoxaban dispensing, Apixaban dispensing, Kidney transplant, Dialysis, IS encounter, Major extracranial bleeding, Gastrointestinal hemorrhage, Intracranial hemorrhage	3 days 3 days 1 day None 1 day Death, Query end date, Disenrollment, Event, End of exposure episode, Comparator drug dispensing, Low dose of current exposure, Warfarin dispensing, Edoxaban dispensing, Apixaban dispensing, Kidney transplant, Dialysis, IS encounter, Major extracranial bleeding, Gastrointestinal hemorrhage, Intracranial hemorrhage	3 days 3 days 1 day None 1 day Death, Query end date, Disenrollment, Event, End of exposure episode, Comparator drug dispensing, Low dose of current exposure, Warfarin dispensing, Edoxaban dispensing, Apixaban dispensing, Kidney transplant, Dialysis, IS encounter, Major extracranial bleeding, Gastrointestinal hemorrhage, Intracranial hemorrhage
Inclusion/Exclusion Pre-Existing Condition	Atrial fibrillation or flutter	Atrial fibrillation or flutter	Atrial fibrillation or flutter

Appendix J. Specifications Defining Parameters for this Request

Include/Exclude Care Setting/PDX Lookback Period	Include Any -183, 0 days		Include Any -183, 0 days		Include Any -183, 0 days	
Pre-Existing Condition	Low-dose rivaroxaban, dabigatran, apixaban, edoxaban, warfarin	Low-dose dabigatran, rivaroxaban, apixaban, edoxaban, warfarin	Low-dose apixaban, rivaroxaban, dabigatran, edoxaban, warfarin	Low-dose apixaban, rivaroxaban, dabigatran, edoxaban, warfarin	Low-dose dabigatran, rivaroxaban, apixaban, edoxaban, warfarin	Low-dose apixaban, rivaroxaban, dabigatran, edoxaban, warfarin
Include/Exclude Lookback Period	Exclude 0, 0 days		Exclude 0, 0 days		Exclude 0, 0 days	
Pre-Existing Condition	Institutional stay encounter		Institutional stay encounter		Institutional stay encounter	
Include/Exclude Lookback Period	Exclude 0, 0 days		Exclude 0, 0 days		Exclude 0, 0 days	
Pre-Existing Condition	Dialysis, Kidney replacement, Deep vein thrombosis, Pulmonary embolism, Joint replacement, Mitral stenosis, Valve replacement, Valve repair		Dialysis, Kidney replacement, Deep vein thrombosis, Pulmonary embolism, Joint replacement, Mitral stenosis, Valve replacement, Valve repair		Dialysis, Kidney replacement, Deep vein thrombosis, Pulmonary embolism, Joint replacement, Mitral stenosis, Valve replacement, Valve repair	
Include/Exclude Care Setting/PDX Lookback Period	Exclude Any, except AV/OA for dialysis -183, 0 days		Exclude Any, except AV/OA for dialysis -183, 0 days		Exclude Any, except AV/OA for dialysis -183, 0 days	

	Gastrointestinal Hemorrhage- Female					
	Comparison 19		Comparison 20		Comparison 21	
	Females		Females		Females	
Sex						
Event/Outcome	Gastrointestinal Hemorrhage ²		Gastrointestinal Hemorrhage ²		Gastrointestinal Hemorrhage ²	
Event/Outcome Care Setting/PDX	IP		IP		IP	
Washout	0 days		0 days		0 days	
Blackout Period	1 day		1 day		1 day	
	Intracranial Hemorrhage- Female					
	Comparison 22		Comparison 23		Comparison 24	
	Females		Females		Females	
Sex						
Drug/Exposure	Rivaroxaban	Dabigatran	Rivaroxaban	Apixaban	Dabigatran	Apixaban
Exposure/Comparator	Once daily	Twice daily	Once daily	Twice daily	Twice daily	Twice daily
Daily Dose Requirement	Apixaban, dabigatran, rivaroxaban, edoxaban, warfarin (all doses)		Apixaban, dabigatran, rivaroxaban, edoxaban, warfarin (all doses)		Apixaban, dabigatran, rivaroxaban, edoxaban, warfarin (all doses)	
Incident with Respect to:	Dispensing date or days supply		Dispensing date or days supply		Dispensing date or days supply	
Incidence Assessment	183 days		183 days		183 days	
Washout	First valid incident exposure episode		First valid incident exposure episode		First valid incident exposure episode	
Cohort Definition	33%		33%		33%	
Stockpiling Overlapping Claims	3 days		3 days		3 days	
Episode Gap						

Appendix J. Specifications Defining Parameters for this Request

Episode Extension Period	3 days	3 days	3 days
Minimum Episode Duration	1 day	1 day	1 day
Maximum Episode Duration	None	None	None
Minimum Days Supplied	1 day	1 day	1 day
Censor Criteria	Death, Query end date, Disenrollment, Event, End of exposure episode, Comparator drug dispensing, Low dose of current exposure, Warfarin dispensing, Edoxaban dispensing, Apixaban dispensing, Kidney transplant, Dialysis, IS encounter, Major extracranial bleeding, Gastrointestinal hemorrhage, Intracranial hemorrhage	Death, Query end date, Disenrollment, Event, End of exposure episode, Comparator drug dispensing, Low dose of current exposure, Warfarin dispensing, Edoxaban dispensing, Apixaban dispensing, Kidney transplant, Dialysis, IS encounter, Major extracranial bleeding, Gastrointestinal hemorrhage, Intracranial hemorrhage	Death, Query end date, Disenrollment, Event, End of exposure episode, Comparator drug dispensing, Low dose of current exposure, Warfarin dispensing, Edoxaban dispensing, Apixaban dispensing, Kidney transplant, Dialysis, IS encounter, Major extracranial bleeding, Gastrointestinal hemorrhage, Intracranial hemorrhage
Inclusion/Exclusion			
Pre-Existing Condition	Atrial fibrillation or flutter	Atrial fibrillation or flutter	Atrial fibrillation or flutter
Include/Exclude	Include	Include	Include
Care Setting/PDX	Any	Any	Any
Lookback Period	-183, 0 days	-183, 0 days	-183, 0 days

Sex	Intracranial Hemorrhage- Female					
	Comparison 22		Comparison 23		Comparison 24	
	Females		Females		Females	
Pre-Existing Condition	Low-dose rivaroxaban, dabigatran, apixaban, edoxaban, warfarin	Low-dose dabigatran, rivaroxaban, apixaban, edoxaban, warfarin	Low-dose apixaban, rivaroxaban, dabigatran, edoxaban, warfarin	Low-dose apixaban, rivaroxaban, dabigatran, edoxaban, warfarin	Low-dose dabigatran, rivaroxaban, apixaban, edoxaban, warfarin	Low-dose apixaban, rivaroxaban, dabigatran, edoxaban, warfarin
Include/Exclude	Exclude		Exclude		Exclude	
Lookback Period	0, 0 days		0, 0 days		0, 0 days	
Pre-Existing Condition	Institutional stay encounter		Institutional stay encounter		Institutional stay encounter	
Include/Exclude	Exclude		Exclude		Exclude	
Lookback Period	0, 0 days		0, 0 days		0, 0 days	
Pre-Existing Condition	Dialysis, Kidney replacement, Deep vein thrombosis, Pulmonary embolism, Joint replacement, Mitral stenosis, Valve replacement, Valve repair		Dialysis, Kidney replacement, Deep vein thrombosis, Pulmonary embolism, Joint replacement, Mitral stenosis, Valve replacement, Valve repair		Dialysis, Kidney replacement, Deep vein thrombosis, Pulmonary embolism, Joint replacement, Mitral stenosis, Valve replacement, Valve repair	
Include/Exclude	Exclude		Exclude		Exclude	
Care Setting/PDX	Any, except AV/OA for dialysis		Any, except AV/OA for dialysis		Any, except AV/OA for dialysis	
Lookback Period	-183, 0 days		-183, 0 days		-183, 0 days	
Event/Outcome	Intracranial Hemorrhage		Intracranial Hemorrhage		Intracranial Hemorrhage	
Event/Outcome	IP		IP		IP	
Care Setting/PDX	IP		IP		IP	
Washout	0 days		0 days		0 days	
Blackout Period	1 day		1 day		1 day	

Appendix J. Specifications Defining Parameters for this Request

Sex	Thromboembolic Stroke - Male					
	Comparison 25		Comparison 26		Comparison 27	
	Males		Males		Males	
Drug/Exposure	Rivaroxaban	Dabigatran	Rivaroxaban	Apixaban	Dabigatran	Apixaban
Exposure/Comparator	Once daily	Twice daily	Once daily	Twice daily	Twice daily	Twice daily
Daily Dose Requirement	Apixaban, dabigatran, rivaroxaban, edoxaban, warfarin (all doses)		Apixaban, dabigatran, rivaroxaban, edoxaban, warfarin (all doses)		Apixaban, dabigatran, rivaroxaban, edoxaban, warfarin (all doses)	
Incident with Respect to:	Dispensing date or days supply		Dispensing date or days supply		Dispensing date or days supply	
Incidence Assessment	183 days		183 days		183 days	
Washout	First valid incident exposure episode		First valid incident exposure episode		First valid incident exposure episode	
Cohort Definition	33%		33%		33%	
Stockpiling Overlapping Claims	3 days		3 days		3 days	
Episode Gap	3 days		3 days		3 days	
Episode Extension Period	1 day		1 day		1 day	
Minimum Episode Duration	None		None		None	
Maximum Episode Duration	None		None		None	

Sex	Thromboembolic Stroke - Male					
	Comparison 25		Comparison 26		Comparison 27	
	Males		Males		Males	
Minimum Days Supplied	1 day		1 day		1 day	
Censor Criteria	Death, Query end date, Disenrollment, Event, End of exposure episode, Comparator drug dispensing, Low dose of current exposure, Warfarin dispensing, Edoxaban dispensing, Apixaban dispensing, Kidney transplant, Dialysis, IS encounter, Major extracranial bleeding, Gastrointestinal hemorrhage, Intracranial hemorrhage		Death, Query end date, Disenrollment, Event, End of exposure episode, Comparator drug dispensing, Low dose of current exposure, Warfarin dispensing, Edoxaban dispensing, Apixaban dispensing, Kidney transplant, Dialysis, IS encounter, Major extracranial bleeding, Gastrointestinal hemorrhage, Intracranial hemorrhage		Death, Query end date, Disenrollment, Event, End of exposure episode, Comparator drug dispensing, Low dose of current exposure, Warfarin dispensing, Edoxaban dispensing, Apixaban dispensing, Kidney transplant, Dialysis, IS encounter, Major extracranial bleeding, Gastrointestinal hemorrhage, Intracranial hemorrhage	
Inclusion/Exclusion	Atrial fibrillation or flutter		Atrial fibrillation or flutter		Atrial fibrillation or flutter	
Pre-Existing Condition	Include		Include		Include	
Include/Exclude	Any		Any		Any	
Care Setting/PDX	-183, 0 days		-183, 0 days		-183, 0 days	
Lookback Period	Low-dose rivaroxaban, dabigatran, apixaban, edoxaban, warfarin	Low-dose dabigatran, rivaroxaban, apixaban, edoxaban, warfarin	Low-dose apixaban, rivaroxaban, dabigatran, edoxaban, warfarin	Low-dose apixaban, rivaroxaban, dabigatran, edoxaban, warfarin	Low-dose dabigatran, rivaroxaban, apixaban, edoxaban, warfarin	Low-dose apixaban, rivaroxaban, dabigatran, edoxaban, warfarin
Pre-Existing Condition	Exclude		Exclude		Exclude	
Include/Exclude	0, 0 days		0, 0 days		0, 0 days	
Lookback Period	Institutional stay encounter		Institutional stay encounter		Institutional stay encounter	
Pre-Existing Condition	Exclude		Exclude		Exclude	
Include/Exclude	0, 0 days		0, 0 days		0, 0 days	
Lookback Period	0, 0 days		0, 0 days		0, 0 days	

Appendix J. Specifications Defining Parameters for this Request

Pre-Existing Condition	Dialysis, Kidney replacement, Deep vein thrombosis, Pulmonary embolism, Joint replacement, Mitral stenosis, Valve replacement, Valve repair	Dialysis, Kidney replacement, Deep vein thrombosis, Pulmonary embolism, Joint replacement, Mitral stenosis, Valve replacement, Valve repair	Dialysis, Kidney replacement, Deep vein thrombosis, Pulmonary embolism, Joint replacement, Mitral stenosis, Valve replacement, Valve repair
Include/Exclude Care Setting/PDX Lookback Period	Exclude Any, except AV/OA for dialysis -183, 0 days	Exclude Any, except AV/OA for dialysis -183, 0 days	Exclude Any, except AV/OA for dialysis -183, 0 days
Event/Outcome Event/Outcome Care Setting/PDX Washout Blackout Period	Thromboembolic Stroke IP 0 days 1 day	Thromboembolic Stroke IP 0 days 1 day	Thromboembolic Stroke IP 0 days 1 day

	Major Extracranial Bleeding- Male					
	Comparison 28		Comparison 29		Comparison 30	
Sex	Males		Males		Males	
Drug/Exposure Exposure/Comparator Daily Dose Requirement Incident with Respect to:	Rivaroxaban Once daily	Dabigatran Twice daily	Rivaroxaban Once daily	Apixaban Twice daily	Dabigatran Twice daily	Apixaban Twice daily
Incidence Assessment Washout Cohort Definition Stockpiling Overlapping Claims Episode Gap Episode Extension Period Minimum Episode Duration Maximum Episode Duration Minimum Days Supplied Censor Criteria	Apixaban, dabigatran, rivaroxaban, edoxaban, warfarin (all doses) Dispensing date or days supply 183 days First valid incident exposure episode 33% 3 days 3 days 1 day None 1 day		Apixaban, dabigatran, rivaroxaban, edoxaban, warfarin (all doses) Dispensing date or days supply 183 days First valid incident exposure episode 33% 3 days 3 days 1 day None 1 day		Apixaban, dabigatran, rivaroxaban, edoxaban, warfarin (all doses) Dispensing date or days supply 183 days First valid incident exposure episode 33% 3 days 3 days 1 day None 1 day	
Inclusion/Exclusion Pre-Existing Condition Include/Exclude	Atrial fibrillation or flutter Include		Atrial fibrillation or flutter Include		Atrial fibrillation or flutter Include	
	Death, Query end date, Disenrollment, Event, End of exposure episode, Comparator drug dispensing, Low dose of current exposure, Warfarin dispensing, Edoxaban dispensing, Apixaban dispensing, Kidney transplant, Dialysis, IS encounter, Major extracranial bleeding, Gastrointestinal hemorrhage, Intracranial hemorrhage					

Appendix J. Specifications Defining Parameters for this Request

Care Setting/PDX Lookback Period	Any -183, 0 days		Any -183, 0 days		Any -183, 0 days	
Pre-Existing Condition	Low-dose rivaroxaban, dabigatran, apixaban, edoxaban, warfarin	Low-dose dabigatran, rivaroxaban, apixaban, edoxaban, warfarin	Low-dose apixaban, rivaroxaban, dabigatran, edoxaban, warfarin	Low-dose apixaban, rivaroxaban, dabigatran, edoxaban, warfarin	Low-dose dabigatran, rivaroxaban, apixaban, edoxaban, warfarin	Low-dose apixaban, rivaroxaban, dabigatran, edoxaban, warfarin
Include/Exclude Lookback Period	Exclude 0, 0 days		Exclude 0, 0 days		Exclude 0, 0 days	
Pre-Existing Condition Include/Exclude Lookback Period	Institutional stay encounter Exclude 0, 0 days		Institutional stay encounter Exclude 0, 0 days		Institutional stay encounter Exclude 0, 0 days	

	Major Extracranial Bleeding- Male		
	Comparison 28	Comparison 29	Comparison 30
Sex	Males	Males	Males
Pre-Existing Condition	Dialysis, Kidney replacement, Deep vein thrombosis, Pulmonary embolism, Joint replacement, Mitral stenosis, Valve replacement, Valve repair	Dialysis, Kidney replacement, Deep vein thrombosis, Pulmonary embolism, Joint replacement, Mitral stenosis, Valve replacement, Valve repair	Dialysis, Kidney replacement, Deep vein thrombosis, Pulmonary embolism, Joint replacement, Mitral stenosis, Valve replacement, Valve repair
Include/Exclude Care Setting/PDX Lookback Period	Exclude Any, except AV/OA for dialysis -183, 0 days	Exclude Any, except AV/OA for dialysis -183, 0 days	Exclude Any, except AV/OA for dialysis -183, 0 days
Event/Outcome Event/Outcome Care Setting/PDX Washout Blackout Period	Major Extracranial Bleeding ¹ IP 0 days 1 day	Major Extracranial Bleeding ¹ IP 0 days 1 day	Major Extracranial Bleeding ¹ IP 0 days 1 day

	Gastrointestinal Hemorrhage - Male		
	Comparison 31	Comparison 32	Comparison 33
Sex	Males	Males	Males
Drug/Exposure Exposure/Comparator Daily Dose Requirement Incident with Respect to:	Rivaroxaban Once daily Apixaban, dabigatran, rivaroxaban, edoxaban, warfarin (all doses)	Dabigatran Twice daily Apixaban, dabigatran, rivaroxaban, edoxaban, warfarin (all doses)	Rivaroxaban Once daily Apixaban, dabigatran, rivaroxaban, edoxaban, warfarin (all doses)
Incidence Assessment Washout Cohort Definition Stockpiling Overlapping Claims Episode Gap Episode Extension Period Minimum Episode Duration Maximum Episode Duration	Dispersing date or days supply 183 days First valid incident exposure episode 33% 3 days 3 days 1 day None	Dispersing date or days supply 183 days First valid incident exposure episode 33% 3 days 3 days 1 day None	Dispersing date or days supply 183 days First valid incident exposure episode 33% 3 days 3 days 1 day None

Appendix J. Specifications Defining Parameters for this Request

Minimum Days Supplied	1 day		1 day		1 day	
Censor Criteria	Death, Query end date, Disenrollment, Event, End of exposure episode, Comparator drug dispensing, Low dose of current exposure, Warfarin dispensing, Edoxaban dispensing, Apixaban dispensing, Kidney transplant, Dialysis, IS encounter, Major extracranial bleeding, Gastrointestinal hemorrhage, Intracranial hemorrhage		Death, Query end date, Disenrollment, Event, End of exposure episode, Comparator drug dispensing, Low dose of current exposure, Warfarin dispensing, Edoxaban dispensing, Apixaban dispensing, Kidney transplant, Dialysis, IS encounter, Major extracranial bleeding, Gastrointestinal hemorrhage, Intracranial hemorrhage		Death, Query end date, Disenrollment, Event, End of exposure episode, Comparator drug dispensing, Low dose of current exposure, Warfarin dispensing, Edoxaban dispensing, Apixaban dispensing, Kidney transplant, Dialysis, IS encounter, Major extracranial bleeding, Gastrointestinal hemorrhage, Intracranial hemorrhage	
	Gastrointestinal Hemorrhage - Male					
	Comparison 31		Comparison 32		Comparison 33	
Sex	Males		Males		Males	
Inclusion/Exclusion	Atrial fibrillation or flutter		Atrial fibrillation or flutter		Atrial fibrillation or flutter	
Pre-Existing Condition	Include		Include		Include	
Include/Exclude	Any		Any		Any	
Care Setting/PDX	Any		Any		Any	
Lookback Period	-183, 0 days		-183, 0 days		-183, 0 days	
Pre-Existing Condition	Low-dose rivaroxaban, dabigatran, apixaban, edoxaban, warfarin	Low-dose dabigatran, rivaroxaban, apixaban, edoxaban, warfarin	Low-dose apixaban, rivaroxaban, dabigatran, edoxaban, warfarin	Low-dose apixaban, rivaroxaban, dabigatran, edoxaban, warfarin	Low-dose dabigatran, rivaroxaban, apixaban, edoxaban, warfarin	Low-dose apixaban, rivaroxaban, dabigatran, edoxaban, warfarin
Include/Exclude	Exclude		Exclude		Exclude	
Lookback Period	0, 0 days		0, 0 days		0, 0 days	
Pre-Existing Condition	Institutional stay encounter		Institutional stay encounter		Institutional stay encounter	
Include/Exclude	Exclude		Exclude		Exclude	
Lookback Period	0, 0 days		0, 0 days		0, 0 days	
Pre-Existing Condition	Dialysis, Kidney replacement, Deep vein thrombosis, Pulmonary embolism, Joint replacement, Mitral stenosis, Valve replacement, Valve repair		Dialysis, Kidney replacement, Deep vein thrombosis, Pulmonary embolism, Joint replacement, Mitral stenosis, Valve replacement, Valve repair		Dialysis, Kidney replacement, Deep vein thrombosis, Pulmonary embolism, Joint replacement, Mitral stenosis, Valve replacement, Valve repair	
Include/Exclude	Exclude		Exclude		Exclude	
Care Setting/PDX	Any, except AV/OA for dialysis		Any, except AV/OA for dialysis		Any, except AV/OA for dialysis	
Lookback Period	-183, 0 days		-183, 0 days		-183, 0 days	
Event/Outcome	Gastrointestinal Hemorrhage ²		Gastrointestinal Hemorrhage ²		Gastrointestinal Hemorrhage ²	
Event/Outcome	IP		IP		IP	
Care Setting/PDX	IP		IP		IP	
Washout	0 days		0 days		0 days	
Blackout Period	1 day		1 day		1 day	
	Intracranial Hemorrhage - Male					
	Comparison 34		Comparison 35		Comparison 36	
Sex	Males		Males		Males	
Drug/Exposure	Rivaroxaban	Dabigatran	Rivaroxaban	Apixaban	Dabigatran	Apixaban
Exposure/Comparator	Rivaroxaban	Dabigatran	Rivaroxaban	Apixaban	Dabigatran	Apixaban

Appendix J. Specifications Defining Parameters for this Request

Daily Dose Requirement Incident with Respect to:	Once daily Apixaban, dabigatran, rivaroxaban, edoxaban, warfarin (all doses)	Twice daily Apixaban, dabigatran, rivaroxaban, edoxaban, warfarin (all doses)	Once daily Apixaban, dabigatran, rivaroxaban, edoxaban, warfarin (all doses)	Twice daily Apixaban, dabigatran, rivaroxaban, edoxaban, warfarin (all doses)	Twice daily Apixaban, dabigatran, rivaroxaban, edoxaban, warfarin (all doses)	Twice daily Apixaban, dabigatran, rivaroxaban, edoxaban, warfarin (all doses)
Incidence Assessment Washout Cohort Definition Stockpiling Overlapping Claims	Dispensing date or days supply 183 days First valid incident exposure episode 33%	Dispensing date or days supply 183 days First valid incident exposure episode 33%	Dispensing date or days supply 183 days First valid incident exposure episode 33%	Dispensing date or days supply 183 days First valid incident exposure episode 33%	Dispensing date or days supply 183 days First valid incident exposure episode 33%	Dispensing date or days supply 183 days First valid incident exposure episode 33%
	Intracranial Hemorrhage - Male					
	Comparison 34		Comparison 35		Comparison 36	
Sex	Males		Males		Males	
Episode Gap	3 days		3 days		3 days	
Episode Extension Period	3 days		3 days		3 days	
Minimum Episode Duration	1 day		1 day		1 day	
Maximum Episode Duration	None		None		None	
Minimum Days Supplied	1 day		1 day		1 day	
Censor Criteria	Death, Query end date, Disenrollment, Event, End of exposure episode, Comparator drug dispensing, Low dose of current exposure, Warfarin dispensing, Edoxaban dispensing, Apixaban dispensing, Kidney transplant, Dialysis, IS encounter, Major extracranial bleeding, Gastrointestinal hemorrhage, Intracranial hemorrhage		Death, Query end date, Disenrollment, Event, End of exposure episode, Comparator drug dispensing, Low dose of current exposure, Warfarin dispensing, Edoxaban dispensing, Apixaban dispensing, Kidney transplant, Dialysis, IS encounter, Major extracranial bleeding, Gastrointestinal hemorrhage, Intracranial hemorrhage		Death, Query end date, Disenrollment, Event, End of exposure episode, Comparator drug dispensing, Low dose of current exposure, Warfarin dispensing, Edoxaban dispensing, Apixaban dispensing, Kidney transplant, Dialysis, IS encounter, Major extracranial bleeding, Gastrointestinal hemorrhage, Intracranial hemorrhage	
Inclusion/Exclusion Pre-Existing Condition Include/Exclude Care Setting/PDX Lookback Period	Atrial fibrillation or flutter Include Any -183, 0 days		Atrial fibrillation or flutter Include Any -183, 0 days		Atrial fibrillation or flutter Include Any -183, 0 days	
Pre-Existing Condition Include/Exclude Lookback Period	Low-dose rivaroxaban, dabigatran, apixaban, edoxaban, warfarin	Low-dose dabigatran, rivaroxaban, apixaban, edoxaban, warfarin	Low-dose apixaban, rivaroxaban, dabigatran, edoxaban, warfarin	Low-dose apixaban, rivaroxaban, dabigatran, edoxaban, warfarin	Low-dose dabigatran, rivaroxaban, apixaban, edoxaban, warfarin	Low-dose apixaban, rivaroxaban, dabigatran, edoxaban, warfarin
	Exclude 0, 0 days		Exclude 0, 0 days		Exclude 0, 0 days	
Pre-Existing Condition Include/Exclude Lookback Period	Institutional stay encounter Exclude 0, 0 days		Institutional stay encounter Exclude 0, 0 days		Institutional stay encounter Exclude 0, 0 days	
Pre-Existing Condition Include/Exclude Care Setting/PDX	Dialysis, Kidney replacement, Deep vein thrombosis, Pulmonary embolism, Joint replacement, Mitral stenosis, Valve replacement, Valve repair Exclude Any, except AV/OA for dialysis		Dialysis, Kidney replacement, Deep vein thrombosis, Pulmonary embolism, Joint replacement, Mitral stenosis, Valve replacement, Valve repair Exclude Any, except AV/OA for dialysis		Dialysis, Kidney replacement, Deep vein thrombosis, Pulmonary embolism, Joint replacement, Mitral stenosis, Valve replacement, Valve repair Exclude Any, except AV/OA for dialysis	

Appendix J. Specifications Defining Parameters for this Request

Lookback Period	-183, 0 days	-183, 0 days	-183, 0 days
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	Intracranial Hemorrhage - Male					
	Comparison 34		Comparison 35		Comparison 36	
Sex	Males		Males		Males	
Event/Outcome	Intracranial Hemorrhage		Intracranial Hemorrhage		Intracranial Hemorrhage	
Event/Outcome Care Setting/PDX	IP		IP		IP	
Washout	0 days		0 days		0 days	
Blackout Period	1 day		1 day		1 day	
	No Outcome					
Sex	Males and Females		Males and Females		Males and Females	
Drug/Exposure	Rivaroxaban	Dabigatran	Rivaroxaban	Apixaban	Dabigatran	Apixaban
Exposure/Comparator	Once daily	Twice daily	Once daily	Twice daily	Twice daily	Twice daily
Daily Dose Requirement	Apixaban, dabigatran, rivaroxaban, edoxaban, warfarin (all doses)		Apixaban, dabigatran, rivaroxaban, edoxaban, warfarin (all doses)		Apixaban, dabigatran, rivaroxaban, edoxaban, warfarin (all doses)	
Incident with Respect to:	Dispensing date or days supply		Dispensing date or days supply		Dispensing date or days supply	
Incidence Assessment	183 days		183 days		183 days	
Washout	First valid incident exposure episode		First valid incident exposure episode		First valid incident exposure episode	
Cohort Definition	33%		33%		33%	
Stockpiling Overlapping Claims	3 days		3 days		3 days	
Episode Gap	3 days		3 days		3 days	
Episode Extension Period	1 day		1 day		1 day	
Minimum Episode Duration	None		None		None	
Maximum Episode Duration	1 day		1 day		1 day	
Minimum Days Supplied	None		None		None	
Censor Criteria	1 day		1 day		1 day	
Sensor Criteria	Death, Query end date, Disenrollment, Event, End of exposure episode, Comparator drug dispensing, Low dose of current exposure, Warfarin dispensing, Edoxaban dispensing, Apixaban dispensing, Kidney transplant, Dialysis, IS encounter, Major extracranial bleeding, Gastrointestinal hemorrhage, Intracranial hemorrhage		Death, Query end date, Disenrollment, Event, End of exposure episode, Comparator drug dispensing, Low dose of current exposure, Warfarin dispensing, Edoxaban dispensing, Apixaban dispensing, Kidney transplant, Dialysis, IS encounter, Major extracranial bleeding, Gastrointestinal hemorrhage, Intracranial hemorrhage		Death, Query end date, Disenrollment, Event, End of exposure episode, Comparator drug dispensing, Low dose of current exposure, Warfarin dispensing, Edoxaban dispensing, Apixaban dispensing, Kidney transplant, Dialysis, IS encounter, Major extracranial bleeding, Gastrointestinal hemorrhage, Intracranial hemorrhage	
Inclusion/Exclusion	Atrial fibrillation or flutter		Atrial fibrillation or flutter		Atrial fibrillation or flutter	
Pre-Existing Condition	Include		Include		Include	
Include/Exclude	Any		Any		Any	
Care Setting/PDX	-183, 0 days		-183, 0 days		-183, 0 days	
Lookback Period	-183, 0 days		-183, 0 days		-183, 0 days	

Appendix J. Specifications Defining Parameters for this Request

Pre-Existing Condition	Low-dose rivaroxaban, dabigatran, apixaban, edoxaban, warfarin		Low-dose apixaban, rivaroxaban, dabigatran, edoxaban, warfarin		Low-dose dabigatran, rivaroxaban, apixaban, edoxaban, warfarin	
	No Outcome					
Sex	Males and Females		Males and Females		Males and Females	
Include/Exclude	Exclude		Exclude		Exclude	
Lookback Period	0, 0 days		0, 0 days		0, 0 days	
Pre-Existing Condition	Institutional stay encounter		Institutional stay encounter		Institutional stay encounter	
Include/Exclude	Exclude		Exclude		Exclude	
Lookback Period	0, 0 days		0, 0 days		0, 0 days	
Pre-Existing Condition	Dialysis, Kidney replacement, Deep vein thrombosis, Pulmonary embolism, Joint replacement, Mitral stenosis, Valve replacement, Valve repair		Dialysis, Kidney replacement, Deep vein thrombosis, Pulmonary embolism, Joint replacement, Mitral stenosis, Valve replacement, Valve repair		Dialysis, Kidney replacement, Deep vein thrombosis, Pulmonary embolism, Joint replacement, Mitral stenosis, Valve replacement, Valve repair	
Include/Exclude	Exclude		Exclude		Exclude	
Care Setting/PDX	Any, except AV/OA for dialysis		Any, except AV/OA for dialysis		Any, except AV/OA for dialysis	
Lookback Period	-183, 0 days		-183, 0 days		-183, 0 days	
Event/Outcome	None		None		None	
Event/Outcome	None		None		None	
Care Setting/PDX	N/A		N/A		N/A	
Washout	N/A		N/A		N/A	
Blackout Period	N/A		N/A		N/A	
	No Outcome					
Sex	Females		Females		Females	
Drug/Exposure	Rivaroxaban	Dabigatran	Rivaroxaban	Apixaban	Dabigatran	Apixaban
Exposure/Comparator	Once daily	Twice daily	Once daily	Twice daily	Twice daily	Twice daily
Daily Dose Requirement	Apixaban, dabigatran, rivaroxaban, edoxaban, warfarin (all doses)		Apixaban, dabigatran, rivaroxaban, edoxaban, warfarin (all doses)		Apixaban, dabigatran, rivaroxaban, edoxaban, warfarin (all doses)	
Incident with Respect to:	Dispensing date or days supply		Dispensing date or days supply		Dispensing date or days supply	
Incidence Assessment	183 days		183 days		183 days	
Washout	183 days		183 days		183 days	
Cohort Definition	First valid incident exposure episode		First valid incident exposure episode		First valid incident exposure episode	
Stockpiling Overlapping Claims	33%		33%		33%	
Episode Gap	3 days		3 days		3 days	
Episode Extension Period	3 days		3 days		3 days	
Minimum Episode Duration	1 day		1 day		1 day	
Maximum Episode Duration	None		None		None	
Minimum Days Supplied	1 day		1 day		1 day	

Appendix J. Specifications Defining Parameters for this Request

Sex	No Outcome		
	Females	Females	Females
Censor Criteria	Death, Query end date, Disenrollment, Event, End of exposure episode, Comparator drug dispensing, Low dose of current exposure, Warfarin dispensing, Edoxaban dispensing, Apixaban dispensing, Kidney transplant, Dialysis, IS encounter, Major extracranial bleeding, Gastrointestinal hemorrhage, Intracranial hemorrhage	Death, Query end date, Disenrollment, Event, End of exposure episode, Comparator drug dispensing, Low dose of current exposure, Warfarin dispensing, Edoxaban dispensing, Apixaban dispensing, Kidney transplant, Dialysis, IS encounter, Major extracranial bleeding, Gastrointestinal hemorrhage, Intracranial hemorrhage	Death, Query end date, Disenrollment, Event, End of exposure episode, Comparator drug dispensing, Low dose of current exposure, Warfarin dispensing, Edoxaban dispensing, Apixaban dispensing, Kidney transplant, Dialysis, IS encounter, Major extracranial bleeding, Gastrointestinal hemorrhage, Intracranial hemorrhage
Pre-Existing Condition Include/Exclude Care Setting/PDX Lookback Period	Atrial fibrillation or flutter Include Any -183, 0 days	Atrial fibrillation or flutter Include Any -183, 0 days	Atrial fibrillation or flutter Include Any -183, 0 days
Pre-Existing Condition Include/Exclude Lookback Period	Low-dose rivaroxaban, dabigatran, apixaban, edoxaban, warfarin Exclude 0, 0 days	Low-dose apixaban, rivaroxaban, dabigatran, edoxaban, warfarin Exclude 0, 0 days	Low-dose dabigatran, rivaroxaban, apixaban, edoxaban, warfarin Exclude 0, 0 days
Pre-Existing Condition Include/Exclude Lookback Period	Institutional stay encounter Exclude 0, 0 days	Institutional stay encounter Exclude 0, 0 days	Institutional stay encounter Exclude 0, 0 days
Pre-Existing Condition Include/Exclude Care Setting/PDX Lookback Period	Dialysis, Kidney replacement, Deep vein thrombosis, Exclude Any, except AV/OA for dialysis -183, 0 days	Dialysis, Kidney replacement, Deep vein thrombosis, Exclude Any, except AV/OA for dialysis -183, 0 days	Dialysis, Kidney replacement, Deep vein thrombosis, Exclude Any, except AV/OA for dialysis -183, 0 days
Event/Outcome Event/Outcome Care Setting/PDX Washout Blackout Period	None N/A N/A N/A	None N/A N/A N/A	None N/A N/A N/A
Sex	No Outcome		
	Males	Males	Males
Drug/Exposure Exposure/Comparator Daily Dose Requirement Incident with Respect to:	Rivaroxaban Once daily Apixaban, dabigatran, rivaroxaban, edoxaban, warfarin (all doses)	Rivaroxaban Once daily Apixaban Twice daily Apixaban, dabigatran, rivaroxaban, edoxaban, warfarin (all doses)	Dabigatran Twice daily Apixaban Twice daily Apixaban, dabigatran, rivaroxaban, edoxaban, warfarin (all doses)
Sex	No Outcome		
	Males	Males	Males

Appendix J. Specifications Defining Parameters for this Request

Incidence Assessment	Dispensing date or days supply 183 days	Dispensing date or days supply 183 days	Dispensing date or days supply 183 days
Washout	183 days	183 days	183 days
Cohort Definition	First valid incident exposure episode	First valid incident exposure episode	First valid incident exposure episode
Stockpiling Overlapping Claims	33%	33%	33%
Episode Gap	3 days	3 days	3 days
Episode Extension Period	3 days	3 days	3 days
Minimum Episode Duration	1 day	1 day	1 day
Maximum Episode Duration	None	None	None
Minimum Days Supplied	1 day	1 day	1 day
Censor Criteria	Death, Query end date, Disenrollment, Event, End of exposure episode, Comparator drug dispensing, Low dose of current exposure, Warfarin dispensing, Edoxaban dispensing, Apixaban dispensing, Kidney transplant, Dialysis, IS encounter, Major extracranial bleeding, Gastrointestinal hemorrhage, Intracranial hemorrhage	Death, Query end date, Disenrollment, Event, End of exposure episode, Comparator drug dispensing, Low dose of current exposure, Warfarin dispensing, Edoxaban dispensing, Apixaban dispensing, Kidney transplant, Dialysis, IS encounter, Major extracranial bleeding, Gastrointestinal hemorrhage, Intracranial hemorrhage	Death, Query end date, Disenrollment, Event, End of exposure episode, Comparator drug dispensing, Low dose of current exposure, Warfarin dispensing, Edoxaban dispensing, Apixaban dispensing, Kidney transplant, Dialysis, IS encounter, Major extracranial bleeding, Gastrointestinal hemorrhage, Intracranial hemorrhage
Inclusion/Exclusion	Atrial fibrillation or flutter	Atrial fibrillation or flutter	Atrial fibrillation or flutter
Pre-Existing Condition	Include	Include	Include
Include/Exclude	Any	Any	Any
Care Setting/PDX	-183, 0 days	-183, 0 days	-183, 0 days
Lookback Period			
Pre-Existing Condition	Low-dose rivaroxaban, dabigatran, apixaban, edoxaban, warfarin	Low-dose apixaban, rivaroxaban, dabigatran, edoxaban, warfarin	Low-dose dabigatran, rivaroxaban, apixaban, edoxaban, warfarin
Include/Exclude	Exclude	Exclude	Exclude
Lookback Period	0, 0 days	0, 0 days	0, 0 days
Pre-Existing Condition	Institutional stay encounter	Institutional stay encounter	Institutional stay encounter
Include/Exclude	Exclude	Exclude	Exclude
Lookback Period	0, 0 days	0, 0 days	0, 0 days
Pre-Existing Condition	Dialysis, Kidney replacement, Deep vein thrombosis, Pulmonary embolism, Joint replacement, Mitral stenosis, Valve replacement, Valve repair	Dialysis, Kidney replacement, Deep vein thrombosis, Pulmonary embolism, Joint replacement, Mitral stenosis, Valve replacement, Valve repair	Dialysis, Kidney replacement, Deep vein thrombosis, Pulmonary embolism, Joint replacement, Mitral stenosis, Valve replacement, Valve repair
Include/Exclude	Exclude	Exclude	Exclude
Care Setting/PDX	Any, except AV/OA for dialysis	Any, except AV/OA for dialysis	Any, except AV/OA for dialysis
Lookback Period	-183, 0 days	-183, 0 days	-183, 0 days
	No Outcome		
Sex	Males	Males	Males
Event/Outcome	None	None	None

Appendix J. Specifications Defining Parameters for this Request

Care Setting/PDX	N/A	N/A	N/A
Washout	N/A	N/A	N/A
Blackout Period	N/A	N/A	N/A

¹The major extracranial bleed outcome is defined as **a)** one code from "MEB_1" tab in the primary inpatient position AND no code from "MEB_trauma_exclusion" on the same day **OR** **b)** one code from "MEB_2" in the primary inpatient position AND one code from "MEB_1" in secondary or unspecified inpatient position on the same day AND no code from "MEB_trauma_exclusion" on the same day

²The gastrointestinal hemorrhage outcome is defined as **a)** one code from "GI_1" tab in the primary inpatient position **OR** **b)** one code from "GI_2" in the primary inpatient position AND one code from "GI_1" in secondary or unspecified inpatient position on the same day

International Classification of Diseases, Ninth Revision (ICD-9) and Tenth Revision (ICD-10), Healthcare Common Procedure Coding System (HCPCS), and Current Procedural Terminology (CPT) codes are provided by Optum360. National Drug Codes (NDCs) are checked against First Data Bank's "National Drug Data File (NDDF®) Plus."

Appendix K. Specifications Defining Parameters for Baseline Covariate Groups in this Request

Covariate	Evaluation Window	Care Settings
Age (Continuous)	Index date	-
Age Group (Years)		
65-74	Index date	-
75-84	Index date	-
85+	Index date	-
Sex		
Female	Index date	-
Race		
American Indian or Alaska Native	Index date	-
Asian	Index date	-
Black or African American	Index date	-
Native Hawaiian or Other Pacific Islander	Index date	-
White	Index date	-
Unknown	Index date	-
Year		
2010	Index date	-
2011	Index date	-
2012	Index date	-
2013	Index date	-
2014	Index date	-
2015	Index date	-
Medical Comorbidities		
Diabetes	-183 to 0 days	Any
Hypercholesterolemia	-183 to 0 days	Any
Hypertension	-183 to 0 days	Any
Kidney failure		
Acute	-183 to 0 days	Any
Chronic	-183 to 0 days	Any
Obesity	-183 to 0 days	Any
Peptic ulcer disease	-183 to 0 days	Any
Prior hospitalized bleeding	-183 to 0 days	IPP
Nicotine dependency	-183 to 0 days	Any
Cardiovascular disease		
Acute myocardial infarction		
Past 1-30 days	-30 to 0 days	IPP or IPS
Past 31-183 days	-183 to -31 days	IPP or IPS
Coronary revascularization	-183 to 0 days	Any
Heart failure		
Hospitalized	-183 to 0 days	IP* or ED*
Outpatient	-183 to 0 days	AV* or OA*
Other ischemic heart disease	-183 to 0 days	Any
Stroke		
Past 1-30 days	-30 to 0 days	IPP
Past 31-183 days	-183 to -31 days	IPP
Other		

Appendix K. Specifications Defining Parameters for Baseline Covariate Groups in this Request

Covariate	Evaluation Window	Care Settings
Transient ischemic attack	-183 to 0 days	Any
Cardioablation	-183 to 0 days	Any
Cardioversion	-183 to 0 days	Any
Other medical conditions		
Falls	-183 to 0 days	Any
Fractures	-183 to 0 days	Any
Syncope	-183 to 0 days	Any
Walker use	-183 to 0 days	Any
CHA₂DS₂-VASc score²		
0-1	-183 to 0 days	-
2	-183 to 0 days	-
3	-183 to 0 days	-
4	-183 to 0 days	-
5	-183 to 0 days	-
≥6	-183 to 0 days	-
HAS-BLED score³		
0-1	-183 to 0 days	-
2	-183 to 0 days	-
3	-183 to 0 days	-
≥4	-183 to 0 days	-
Medication Use		
General		
Estrogen replacement	-183 to 0 days	-
H2-antagonists	-183 to 0 days	-
NSAIDs	-183 to 0 days	-
Proton pump inhibitors	-183 to 0 days	-
SSRI antidepressants	-183 to 0 days	-
Cardiovascular		
ACEI/ARB	-183 to 0 days	-
Antiarrhythmics	-183 to 0 days	-
Anticoagulants (injectable)	-183 to 0 days	-
Anti-platelets	-183 to 0 days	-
Beta-blockers	-183 to 0 days	-
Calcium channel blockers	-183 to 0 days	-
Digoxin	-183 to 0 days	-
Diuretics		
Loop	-183 to 0 days	-
Potassium sparing	-183 to 0 days	-
Thiazide	-183 to 0 days	-
Nitrates	-183 to 0 days	-
Statins	-183 to 0 days	-
Fibrates	-183 to 0 days	-
Diabetes-Related		
Insulin	-183 to 0 days	-
Metformin	-183 to 0 days	-
Sulfonylureas	-183 to 0 days	-
Other	-183 to 0 days	-

Appendix K. Specifications Defining Parameters for Baseline Covariate Groups in this Request

Covariate	Evaluation Window	Care Settings
Metabolic Inhibitors		
Amiodarone	-183 to 0 days	-
Dronedarone	-183 to 0 days	-
Health Care Utilization		
Number of inpatient hospital stays	-183 to 0 days	IP*
Number of emergency department visits	-183 to 0 days	ED*
Number of ambulatory visits	-183 to 0 days	AV*
Drug Utilization		
Number of unique generics dispensed	-183 to 0 days	-

Appendix L. Specifications Defining Parameters for Propensity Score (PS) Models in this Request

Model Number	PS Models	Comparison			Analyses			
	Model	Comparison	Exposure of Interest	Reference	PS Model Label	Analysis Name 1	Analysis Name 2	Analysis Name 3
1	Rivaroxaban vs. Dabigatran	Rivaroxaban vs. Dabigatran, Stroke	riv_stroke	dab_stroke	riv_dab_stroke	riv_dab_stroke_0	riv_dab_stroke_1	riv_dab_stroke_2.5
2	Rivaroxaban vs. Apixaban	Rivaroxaban vs. Apixaban, Stroke	riv_stroke	apx_stroke	riv_apx_stroke	riv_apx_stroke_0	riv_apx_stroke_1	riv_apx_stroke_2.5
3	Dabigatran vs. Apixaban	Dabigatran vs. Apixaban, Stroke	dab_stroke	apx_stroke	dab_apx_stroke	dab_apx_stroke_0	dab_apx_stroke_1	dab_apx_stroke_2.5
4	Rivaroxaban vs. Dabigatran	Rivaroxaban vs. Dabigatran, Major Extracranial Bleeding	riv_meb	dab_meb	riv_dab_meb	riv_dab_meb_0	riv_dab_meb_1	riv_dab_meb_2.5
5	Rivaroxaban vs. Apixaban	Rivaroxaban vs. Apixaban, Major Extracranial Bleeding	riv_meb	apx_meb	riv_apx_meb	riv_apx_meb_0	riv_apx_meb_1	riv_apx_meb_2.5
6	Dabigatran vs. Apixaban	Dabigatran vs. Apixaban, Major Extracranial Bleeding	dab_meb	apx_meb	dab_apx_meb	dab_apx_meb_0	dab_apx_meb_1	dab_apx_meb_2.5
7	Rivaroxaban vs. Dabigatran	Rivaroxaban vs. Dabigatran, Gastrointestinal Hemorrhage	riv_gi	dab_gi	riv_dab_gi	riv_dab_gi_0	riv_dab_gi_1	riv_dab_gi_2.5
8	Rivaroxaban vs. Apixaban	Rivaroxaban vs. Apixaban, Gastrointestinal Hemorrhage	riv_gi	apx_gi	riv_apx_gi	riv_apx_gi_0	riv_apx_gi_1	riv_apx_gi_2.5
9	Dabigatran vs. Apixaban	Dabigatran vs. Apixaban, Gastrointestinal Hemorrhage	dab_gi	apx_gi	dab_apx_gi	dab_apx_gi_0	dab_apx_gi_1	dab_apx_gi_2.5
10	Rivaroxaban vs. Dabigatran	Rivaroxaban vs. Dabigatran, Intracranial Hemorrhage	riv_ich	dab_ich	riv_dab_ich	riv_dab_ich_0	riv_dab_ich_1	riv_dab_ich_2.5
11	Rivaroxaban vs. Apixaban	Rivaroxaban vs. Apixaban, Intracranial Hemorrhage	riv_ich	apx_ich	riv_apx_ich	riv_apx_ich_0	riv_apx_ich_1	riv_apx_ich_2.5
12	Dabigatran vs. Apixaban	Dabigatran vs. Apixaban, Intracranial Hemorrhage	dab_ich	apx_ich	dab_apx_ich	dab_apx_ich_0	dab_apx_ich_1	dab_apx_ich_2.5

Model Number	PS Models	Comparison			Analyses			
	Model	Comparison	Exposure of Interest	Reference	PS Model Label	Analysis Name 1	Analysis Name 2	Analysis Name 3

Appendix L. Specifications Defining Parameters for Propensity Score (PS) Models in this Request

13	Rivaroxaban vs. Dabigatran, Female	Rivaroxaban vs. Dabigatran, Stroke	riv_stroke_f	dab_stroke_f	riv_dab_stroke_f	riv_dab_stroke_f_0	riv_dab_stroke_f_1	riv_dab_stroke_f_2.5
14	Rivaroxaban vs. Apixaban, Female	Rivaroxaban vs. Apixaban, Stroke	riv_stroke_f	apx_stroke_f	riv_apx_stroke_f	riv_apx_stroke_f_0	riv_apx_stroke_f_1	riv_apx_stroke_f_2.5
15	Dabigatran vs. Apixaban, Female	Dabigatran vs. Apixaban, Stroke	dab_stroke_f	apx_stroke_f	dab_apx_stroke_f	dab_apx_stroke_f_0	dab_apx_stroke_f_1	dab_apx_stroke_f_2.5
16	Rivaroxaban vs. Dabigatran, Female	Rivaroxaban vs. Dabigatran, Major Extracranial Bleeding	riv_meb_f	dab_meb_f	riv_dab_meb_f	riv_dab_meb_f_0	riv_dab_meb_f_1	riv_dab_meb_f_2.5
17	Rivaroxaban vs. Apixaban, Female	Rivaroxaban vs. Apixaban, Major Extracranial Bleeding	riv_meb_f	apx_meb_f	riv_apx_meb_f	riv_apx_meb_f_0	riv_apx_meb_f_1	riv_apx_meb_f_2.5
18	Dabigatran vs. Apixaban, Female	Dabigatran vs. Apixaban, Major Extracranial Bleeding	dab_meb_f	apx_meb_f	dab_apx_meb_f	dab_apx_meb_f_0	dab_apx_meb_f_1	dab_apx_meb_f_2.5
19	Rivaroxaban vs. Dabigatran, Female	Rivaroxaban vs. Dabigatran, Gastrointestinal Hemorrhage	riv_gi_f	dab_gi_f	riv_dab_gi_f	riv_dab_gi_f_0	riv_dab_gi_f_1	riv_dab_gi_f_2.5
20	Rivaroxaban vs. Apixaban, Female	Rivaroxaban vs. Apixaban, Gastrointestinal Hemorrhage	riv_gi_f	apx_gi_f	riv_apx_gi_f	riv_apx_gi_f_0	riv_apx_gi_f_1	riv_apx_gi_f_2.5
21	Dabigatran vs. Apixaban, Female	Dabigatran vs. Apixaban, Gastrointestinal Hemorrhage	dab_gi_f	apx_gi_f	dab_apx_gi_f	dab_apx_gi_f_0	dab_apx_gi_f_1	dab_apx_gi_f_2.5
22	Rivaroxaban vs. Dabigatran, Female	Rivaroxaban vs. Dabigatran, Intracranial Hemorrhage	riv_ich_f	dab_ich_f	riv_dab_ich_f	riv_dab_ich_f_0	riv_dab_ich_f_1	riv_dab_ich_f_2.5
23	Rivaroxaban vs. Apixaban, Female	Rivaroxaban vs. Apixaban, Intracranial Hemorrhage	riv_ich_f	apx_ich_f	riv_apx_ich_f	riv_apx_ich_f_0	riv_apx_ich_f_1	riv_apx_ich_f_2.5
24	Dabigatran vs. Apixaban, Female	Dabigatran vs. Apixaban, Intracranial Hemorrhage	dab_ich_f	apx_ich_f	dab_apx_ich_f	dab_apx_ich_f_0	dab_apx_ich_f_1	dab_apx_ich_f_2.5

	PS Models	Comparison				Analyses		
Model Number	Model	Comparison	Exposure of Interest	Reference	PS Model Label	Analysis Name 1	Analysis Name 2	Analysis Name 3
25	Rivaroxaban vs. Dabigatran, Male	Rivaroxaban vs. Dabigatran, Stroke	riv_stroke_m	dab_stroke_m	riv_dab_stroke_m	riv_dab_stroke_m_0	riv_dab_stroke_m_1	riv_dab_stroke_m_2.5

Appendix L. Specifications Defining Parameters for Propensity Score (PS) Models in this Request

26	Rivaroxaban vs. Apixaban, Male	Rivaroxaban vs. Apixaban, Stroke	riv_stroke_m	apx_stroke_m	riv_apx_stroke_m	riv_apx_stroke_m_0	riv_apx_stroke_m_1	riv_apx_stroke_m_2.5
27	Dabigatran vs. Apixaban, Male	Dabigatran vs. Apixaban, Stroke	dab_stroke_m	apx_stroke_m	dab_apx_stroke_m	dab_apx_stroke_m_0	dab_apx_stroke_m_1	dab_apx_stroke_m_2.5
28	Rivaroxaban vs. Dabigatran, Male	Rivaroxaban vs. Dabigatran, Major Extracranial Bleeding	riv_meb_m	dab_meb_m	riv_dab_meb_m	riv_dab_meb_m_0	riv_dab_meb_m_1	riv_dab_meb_m_2.5
29	Rivaroxaban vs. Apixaban, Male	Rivaroxaban vs. Apixaban, Major Extracranial Bleeding	riv_meb_m	apx_meb_m	riv_apx_meb_m	riv_apx_meb_m_0	riv_apx_meb_m_1	riv_apx_meb_m_2.5
30	Dabigatran vs. Apixaban, Male	Dabigatran vs. Apixaban, Major Extracranial Bleeding	dab_meb_m	apx_meb_m	dab_apx_meb_m	dab_apx_meb_m_0	dab_apx_meb_m_1	dab_apx_meb_m_2.5
31	Rivaroxaban vs. Dabigatran, Male	Rivaroxaban vs. Dabigatran, Gastrointestinal Hemorrhage	riv_gi_m	dab_gi_m	riv_dab_gi_m	riv_dab_gi_m_0	riv_dab_gi_m_1	riv_dab_gi_m_2.5
32	Rivaroxaban vs. Apixaban, Male	Rivaroxaban vs. Apixaban, Gastrointestinal Hemorrhage	riv_gi_m	apx_gi_m	riv_apx_gi_m	riv_apx_gi_m_0	riv_apx_gi_m_1	riv_apx_gi_m_2.5
33	Dabigatran vs. Apixaban, Male	Dabigatran vs. Apixaban, Gastrointestinal Hemorrhage	dab_gi_m	apx_gi_m	dab_apx_gi_m	dab_apx_gi_m_0	dab_apx_gi_m_1	dab_apx_gi_m_2.5
34	Rivaroxaban vs. Dabigatran, Male	Rivaroxaban vs. Dabigatran, Intracranial Hemorrhage	riv_ich_m	dab_ich_m	riv_dab_ich_m	riv_dab_ich_m_0	riv_dab_ich_m_1	riv_dab_ich_m_2.5
35	Rivaroxaban vs. Apixaban, Male	Rivaroxaban vs. Apixaban, Intracranial Hemorrhage	riv_ich_m	apx_ich_m	riv_apx_ich_m	riv_apx_ich_m_0	riv_apx_ich_m_1	riv_apx_ich_m_2.5
36	Dabigatran vs. Apixaban, Male	Dabigatran vs. Apixaban, Intracranial Hemorrhage	dab_ich_m	apx_ich_m	dab_apx_ich_m	dab_apx_ich_m_0	dab_apx_ich_m_1	dab_apx_ich_m_2.5

PS Estimation Parameters

Covariates	See Appendix K
High-Dimensional Propensity Score	No

PS Analysis (Inverse Probability of Treatment Weighting)

	Analysis Group
Analysis Name	All listed above
Inverse Probability Weight Calculation	Average Treatment Effect Stabilized
Weight Truncation?	- No truncation - 1st percentile truncation - 2.5 percentile truncation

Appendix M. Diagram Detailing the Design of this Request

