

## 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

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

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

If you are using a web page screen reader and are unable to access this document, please contact the Sentinel Operations Center for assistance at [info@sentinelssystem.org](mailto:info@sentinelssystem.org).

## Overview for Request cder\_mpl1r\_wp054

**Request ID:** cder\_mpl1r\_wp054

**Query Description:** The goal of this query was to investigate the incidence rate of serious uterine bleeding (SUB) among new users of oral anticoagulants (rivaroxaban, apixaban, dabigatran, and warfarin) in preparation for a risk assessment amongst warfarin and novel oral anticoagulants (NOAC) in the Sentinel Distributed Database (SDD).

**Sentinel Modular Program Tool Used:** Cohort Identification and Descriptive Analysis (CIDA) tool, version 5.0.3

**Data Source:** New users between October 19, 2010 and September 30, 2015 from 16 Data Partners contributing to the SDD were included in this report. This request was distributed on October 11, 2017. See Appendix A for a list of the latest dates of available data for each Data Partner (DP).

**Study Design:** The request was designed to calculate background rates. The number of qualifying patients with the exposures of interest were calculated overall and stratified by age group and year.

**Exposures of Interest:** The exposures of interest were rivaroxaban, apixaban, dabigatran, and warfarin, which were identified using National Drug Codes (NDCs) recorded in outpatient pharmacy dispensings. Please see Appendix B for a list of generic and brand names of medical products used to define the exposures of interest.

**Cohort Eligibility Criteria:** Those included in the cohort were required to be continuously enrolled in plans with medical and drug coverage for at least 183 days prior to their index dispensing date, during which gaps in coverage of up to 45 days were allowed. Members were excluded if they had either the exposure of interest or edoxaban in the 183 days prior to the index date. Edoxaban use was identified using NDCs. Generic and brand names of medical products used to define incidence criteria are also shown in Appendix B. The following age groups were included in the cohort: 0-49 and 50+ years. Only female patients were considered. Only the first valid incident dispensing per patient was included.

**Inclusion and Exclusion Criteria :** Inclusion and exclusion criteria for the six cohorts were evaluated 183 days prior to dispensing date. All cohorts included members who had evidences of atrial fibrillation or flutter, deep vein thrombosis or pulmonary embolism, or knee/hip joint replacement surgery. All cohorts required the exclusion of hysterectomy and the management used to define the SUB outcome of that cohort. Cohorts one-three additionally excluded members who had medical management, cohort four additionally excluded members who had transfusion management, and cohorts five-six additionally excluded members who had surgical management. Each management was defined as follows.

--Medical management of SUB - insertion of intrauterine device, initiation of contraception (combined oral contraceptives and progestin-only contraceptives), vaginal packing, or initiation of an antifibrinolytic drug (tranexamic acid, aminocaproic acid, aprotinin, desmopressin)

--Transfusion management of SUB - red blood cell-only transfusion with conjugated equine estrogen administered on the same day

--Surgical management of SUB - hysteroscopic polypectomy, hysteroscopic, laparoscopic or abdominal myomectomy, dilation and curettage with or without hysteroscopy, hysteroscopy (not listed in other surgical managements), hysterectomy, thermal, cryo or section endometrial ablation, or uterine artery embolization

International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) diagnosis and procedure codes, Healthcare Common Procedure Coding System (HCPCS) codes, Current Procedural Terminology, Fourth Edition (CPT-4) and Third Edition (CPT Category III) codes, and Revenue codes were used to define the inclusion and exclusion criteria. Please refer to Appendix C for a list of diagnosis and procedure codes.

**Follow-Up Time:** Follow-up time was determined by the length of the exposure episodes. Exposure episode lengths were defined using outpatient pharmacy dispensing days supplied to create a sequence of continuous exposure. Exposure episodes were considered continuous if gaps in days supply were less than three days. Follow-up began on the day on which the first exposure of interest was dispensed and continued until the last day of supply of the last dispensing plus a three-day extension period, or until the first occurrence of any of the following: 1) disenrollment; 2) death; 3) the end date of the data provided by each Data Partner; 4) the end of the query period (September 30, 2015); or 5) the outcome of interest.

**Outcomes of Interest:** SUB was defined as a combination of vaginal bleed and either medical, transfusion, or surgical management in non-institutional (non-IS) care settings. The SUB definitions used for each cohort were defined as below.

- 1) Vaginal bleed and medical management occurring on the same day (See Appendix J)
- 2) For vaginal packing management, vaginal bleed and medical management occurring on the same day. For insertion of intrauterine device or initiation of contraception/antifibrinolytics, vaginal bleed with a medical management occurring within 5 days after the vaginal bleed diagnosis (See Appendix J)
- 3) Vaginal bleed and medical management occurring on the same day, with an additional medical management between index date and date of vaginal bleed plus medical management (See Appendix J)
- 4) Vaginal bleed and transfusion management occurring on the same day (See Appendix J)
- 5) Vaginal bleed and surgical management occurring within 30 days after the vaginal bleed diagnosis (See Appendix J)
- 6) Vaginal bleed and surgical management occurring within 60 days after the vaginal bleed diagnosis (See Appendix J)

Vaginal bleed was defined using ICD-9-CM diagnosis codes, listed in Appendix D. Managements were defined using ICD-9-CM diagnosis and procedure codes, HCPCS codes, CPT-4 codes, CPT Category III codes, and Revenue codes. Please refer to Appendix E for a list of ICD-9-CM, HCPCS, CPT-4, CPT Category III and Revenue diagnosis and procedure codes and Appendix F for a list of generic and brand names of medical products used to define medical, transfusion, and surgical managements.

**Baseline Covariates:** The following covariates were assessed during the baseline period: age, year, comorbidity score (Combined Comorbidity Index)<sup>a</sup>, health service and drug utilization, cardiovascular and antidiabetic agents, medications that increase bleeding risk, medications that are inducers, inhibitors or substrates listed on label as having clinically significant interactions with warfarin or NOACs, severe anemia, gynecological disorders, vaginal bleed, and SUB. Severe anemia and gynecological disorder were captured from any care setting, and vaginal bleed and SUB codes were captured from non-IS care settings. Occurrence of these covariates was evaluated in the 183 days prior to the exposures of interest. Please see Appendix G for a list of diagnosis and procedure codes and Appendix H for a list of generic and brand names of medical products.

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

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

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

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

## Table of Contents

<b>Glossary</b>	List of Terms Found in this Report and their Definitions
<b>Table 1a</b>	Aggregated Baseline Table for Medical Management within Five Days of Vaginal Bleed and Medical Management with Post-Index Occurrence in the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015
<b>Table 1b</b>	Aggregated Baseline Table for Transfusion Management in the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015
<b>Table 1c</b>	Aggregated Baseline Table for Surgical Management within 30 Days of Vaginal Bleed and Surgical Management within 60 Days of Vaginal Bleed in the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015
<b>Table 2</b>	Use of Novel Oral Anticoagulants, Warfarin and Serious Uterine Bleeding Outcome in the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015, Overall
<b>Table 3</b>	Use of Novel Oral Anticoagulants, Warfarin and Serious Uterine Bleeding Outcome in the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015 by Age Group
<b>Appendix A</b>	Start and End Dates for Each Data Partner (DP) up to Request End Date (September 30, 2015)
<b>Appendix B</b>	List of Generic and Brand Names of Medical Products Used to Define Exposures and Incidence Criteria in this Request
<b>Appendix C</b>	List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), Healthcare Common Procedure Coding System (HCPCS) and Current Procedural Terminology, Fourth Edition (CPT-4) Codes Used to Define Inclusion and Exclusion Criteria in this Request
<b>Appendix D</b>	List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Codes Used to Define Vaginal Bleed in this Request
<b>Appendix E</b>	List of International Classification of Diseases, Ninth Revision (ICD-9-CM), Healthcare Common Procedure Coding System (HCPCS), Current Procedural Terminology, Fourth Edition (CPT-4), Current Procedural Terminology, Third Edition (CPT Category III), and Revenue Codes Used to Define Medical, Transfusion, or Surgical Managements in this Request
<b>Appendix F</b>	List of Generic and Brand Names of Medical Products Used to Define Medical, Transfusion, or Surgical Managements in this Request
<b>Appendix G</b>	List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), Healthcare Common Procedure Coding System (HCPCS), and Revenue Codes Used to Define Covariates in this Request
<b>Appendix H</b>	List of Generic and Brand Names of Medical Products Used to Define Covariates in this Request
<b>Appendix I</b>	Specifications Defining Parameters for this Request
<b>Appendix J</b>	Diagrams Detailing the Outcomes in the Request

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

**Amount Supplied** - number of units (pills, tablets, vials) dispensed. Net amount per NDC per dispensing.

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

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

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

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

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

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

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

**Cohort Definition (drug/exposure)** - indicates how the cohort will be defined: 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

**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 MP algorithm: 0: Counts all occurrences of an 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 days 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

**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

**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

**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

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

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

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

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

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

\*all terms may not be used in this report

**Table 1a. Aggregated Baseline Table for Medical Management within Five Days of Vaginal Bleed and Medical Management with Post-Index Occurrence in the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015**

<b>Characteristic</b>	<b>Number</b>	
Number of episodes	308,016	
Number of unique patients	308,016	
<b>Demographics</b>	<b>Mean</b>	<b>Standard Deviation</b>
Mean Age (Years)	68.2	12.8
<b>Age (Years)</b>	<b>Number</b>	<b>Percent</b>
0-49	29,446	9.6%
50+	278,570	90.4%
<b>Sex</b>		
Female	308,016	100.0%
<b>Year</b>		
2010	12,083	3.9%
2011	59,499	19.3%
2012	62,618	20.3%
2013	63,491	20.6%
2014	63,884	20.7%
2015	46,441	15.1%
<b>Recorded history of:</b>	<b>Mean</b>	<b>Standard Deviation</b>
Prior combined comorbidity raw score	2.4	2.8
	<b>Number</b>	<b>Percent</b>
Cardiovascular and antidiabetic agents	248,310	80.6%
Bleed risk medication	178,320	57.9%
Inhibitors/substrates of cytochrome P450 3A4	180,929	58.7%
Inducers of cytochrome P450 3A4	18,176	5.9%
Severe anemia	23,450	7.6%
Gynecological disorders	10,784	3.5%
Vaginal bleed	6,532	2.1%
Serious uterine bleed (transfusion management, surgical management within 30 days of vaginal bleed)	1,017	0.3%
<b>Health Service Utilization Intensity:</b>	<b>Mean</b>	<b>Standard Deviation</b>
Mean number of ambulatory encounters (AV)	13.2	11.1
Mean number of emergency room encounters (ED)	0.7	1.4
Mean number of inpatient hospital encounters (IP)	1.0	0.9
Mean number of non-acute institutional encounters (IS)	0.4	1.1
Mean number of other ambulatory encounters (OA)	4.5	7.1
Mean number of filled prescriptions	18.7	15.4
Mean number of generics	8.1	5.2
Mean number of unique drug classes	7.5	4.6

**Table 1b. Aggregated Baseline Table for Transfusion Management in the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015**

<b>Characteristic</b>	<b>Number</b>	
Number of episodes	316,994	
Number of unique patients	316,994	
<b>Demographics</b>	<b>Mean</b>	<b>Standard Deviation</b>
Mean Age (Years)	67.3	13.6
<b>Age (Years)</b>	<b>Number</b>	<b>Percent</b>
0-49	37,758	11.9%
50+	279,236	88.1%
<b>Sex</b>		
Female	316,994	100.0%
<b>Year</b>		
2010	12,515	3.9%
2011	61,294	19.3%
2012	64,385	20.3%
2013	65,308	20.6%
2014	65,729	20.7%
2015	47,763	15.1%
<b>Recorded history of:</b>	<b>Mean</b>	<b>Standard Deviation</b>
Prior combined comorbidity raw score	2.4	2.7
	<b>Number</b>	<b>Percent</b>
Cardiovascular and antidiabetic agents	250,734	79.1%
Bleed risk medication	183,403	57.9%
Inhibitors/substrates of cytochrome P450 3A4	183,268	57.8%
Inducers of cytochrome P450 3A4	18,698	5.9%
Severe anemia	23,466	7.4%
Gynecological disorders	11,768	3.7%
Vaginal bleed	7,962	2.5%
Serious uterine bleed (medical management on same day as vaginal bleed, surgical management within 30 days of vaginal bleed)	2,162	0.7%
<b>Health Service Utilization Intensity:</b>	<b>Mean</b>	<b>Standard Deviation</b>
Mean number of ambulatory encounters (AV)	13.1	11.1
Mean number of emergency room encounters (ED)	0.7	1.4
Mean number of inpatient hospital encounters (IP)	1.0	0.9
Mean number of non-acute institutional encounters (IS)	0.4	1.1
Mean number of other ambulatory encounters (OA)	4.4	7.0
Mean number of filled prescriptions	18.6	15.3
Mean number of generics	8.1	5.2
Mean number of unique drug classes	7.5	4.6



**Table 1c. Aggregated Baseline Table for Surgical Management within 30 Days of Vaginal Bleed and Surgical Management within 60 Days of Vaginal Bleed in the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015**

<b>Characteristic</b>	<b>Number</b>	
Number of episodes	312,342	
Number of unique patients	312,342	
<b>Demographics</b>	<b>Mean</b>	<b>Standard Deviation</b>
Mean Age (Years)	67.4	13.6
<b>Age (Years)</b>	<b>Number</b>	<b>Percent</b>
0-49	36,678	11.7%
50+	275,664	88.3%
<b>Sex</b>		
Female	312,342	100.0%
<b>Year</b>		
2010	12,320	3.9%
2011	60,346	19.3%
2012	63,462	20.3%
2013	64,411	20.6%
2014	64,781	20.7%
2015	47,022	15.1%
<b>Recorded history of:</b>	<b>Mean</b>	<b>Standard Deviation</b>
Prior combined comorbidity raw score	2.4	2.7
	<b>Number</b>	<b>Percent</b>
Cardiovascular and antidiabetic agents	247,217	79.1%
Bleed risk medication	180,139	57.7%
Inhibitors/substrates of cytochrome P450 3A4	180,358	57.7%
Inducers of cytochrome P450 3A4	18,362	5.9%
Severe anemia	23,061	7.4%
Gynecological disorders	10,584	3.4%
Vaginal bleed	6,735	2.2%
Serious uterine bleed (medical management on same day as vaginal bleed, transfusion management)	1,022	0.3%
<b>Health Service Utilization Intensity:</b>	<b>Mean</b>	<b>Standard Deviation</b>
Mean number of ambulatory encounters (AV)	13.0	11.0
Mean number of emergency room encounters (ED)	0.7	1.4
Mean number of inpatient hospital encounters (IP)	1.0	0.9
Mean number of non-acute institutional encounters (IS)	0.3	1.1
Mean number of other ambulatory encounters (OA)	4.4	6.9
Mean number of filled prescriptions	18.5	15.3
Mean number of generics	8.0	5.2
Mean number of unique drug classes	7.5	4.6

**Table 2. Use of Novel Oral Anticoagulants, Warfarin and Serious Uterine Bleeding Outcome in the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015, Overall**

	New Users	Eligible Members <sup>1</sup>	New Users per 1,000 Eligible Members <sup>1</sup>	New Episodes	Years at Risk	Dispensing per User
<b>Medical Management</b>						
Medical Management	308,016	1,467,933	209.83	308,016	102,588.0	3.28
Medical Management within 5 Days of Vaginal Bleed	308,016	1,467,933	209.83	308,016	102,583.7	3.28
Medical Management with Post-Index Occurrence	308,016	1,467,933	209.83	308,016	102,620.2	3.28
<b>Transfusion Management</b>						
Transfusion Management	316,994	1,500,369	211.28	316,994	106,049.0	3.30
<b>Surgical Management</b>						
Surgical Management within 30 Days of Vaginal Bleed	312,342	1,490,598	209.54	312,342	104,004.4	3.30
Surgical Management within 60 Days of Vaginal Bleed	312,342	1,490,598	209.54	312,342	103,946.9	3.30

**Table 2. Use of Novel Oral Anticoagulants, Warfarin and Serious Uterine Bleeding Outcome in the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015, Overall**

	Days Supplied per User	Days Supplied per Dispensing	New Episodes with an Event	New Episodes with an Event per 10,000 Years at Risk	Eligible Member-Years <sup>1</sup>
<b>Medical Management</b>					
Medical Management	120.23	36.69	170	16.57	873,048.9
Medical Management within 5 Days of Vaginal Bleed	120.23	36.69	187	18.23	873,048.9
Medical Management with Post-Index Occurrence	120.23	36.69	78	7.60	873,048.9
<b>Transfusion Management</b>					
Transfusion Management	120.70	36.57	0	0.00	889,088.5
<b>Surgical Management</b>					
Surgical Management within 30 Days of Vaginal Bleed	120.71	36.62	1,090	104.80	874,927.3
Surgical Management within 60 Days of Vaginal Bleed	120.71	36.62	1,221	117.46	874,927.3

<sup>1</sup>Eligible Members and Member-Years are reflective of the number of patients that met all cohort entry criteria on at least one day during the query period.

**Table 3. Use of Novel Oral Anticoagulants, Warfarin and Serious Uterine Bleeding Outcome in the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015 by Age Group**

Age Group (Years)	New Users	Eligible Members <sup>1</sup>	New Users per 1,000		New Episodes	Years at Risk	Dispensing per User
			Eligible Members <sup>1</sup>				
<b>Medical Management</b>							
<b>Medical Management</b>							
0-49	29,446	248,682	118.41		29,446	8,523.0	3.21
50+	278,570	1,230,769	226.34		278,570	94,065.0	3.28
<b>Medical Management within 5 Days of Vaginal Bleed</b>							
0-49	29,446	248,682	118.41		29,446	8,519.0	3.21
50+	278,570	1,230,769	226.34		278,570	94,064.7	3.28
<b>Medical Management with Post-Index Occurrence</b>							
0-49	29,446	248,682	118.41		29,446	8,546.5	3.21
50+	278,570	1,230,769	226.34		278,570	94,073.7	3.28
<b>Transfusion Management</b>							
<b>Transfusion Management</b>							
0-49	37,758	279,354	135.16		37,758	11,715.6	3.41
50+	279,236	1,232,983	226.47		279,236	94,333.4	3.29
<b>Surgical Management</b>							
<b>Surgical Management within 30 Days of Vaginal Bleed</b>							
0-49	36,678	275,763	133.01		36,678	11,124.0	3.41
50+	275,664	1,226,617	224.74		275,664	92,880.4	3.28
<b>Surgical Management within 60 Days of Vaginal Bleed</b>							
0-49	36,678	275,763	133.01		36,678	11,093.8	3.41
50+	275,664	1,226,617	224.74		275,664	92,853.1	3.28

**Table 3. Use of Novel Oral Anticoagulants, Warfarin and Serious Uterine Bleeding Outcome in the Sentinel Distributed Database (SDD) between October 19, 2010 and September 30, 2015 by Age Group**

Age Group (Years)	Days Supplied per User	Days Supplied per Dispensing	New Episodes with an Event	New Episodes with an Event per 10,000 Years at Risk	Eligible Member-Years <sup>1</sup>
<b>Medical Management</b>					
<b>Medical Management</b>					
0-49	104.87	32.66	135	158.39	107,819.7
50+	121.85	37.11	35	3.72	765,229.2
<b>Medical Management within 5 Days of Vaginal Bleed</b>					
0-49	104.87	32.66	149	174.90	107,819.7
50+	121.85	37.11	38	4.04	765,229.2
<b>Medical Management with Post-Index Occurrence</b>					
0-49	104.87	32.66	68	79.56	107,819.7
50+	121.85	37.11	10	1.06	765,229.2
<b>Transfusion Management</b>					
<b>Transfusion Management</b>					
0-49	111.91	32.82	0	0.00	122,830.6
50+	121.89	37.10	0	0.00	766,257.9
<b>Surgical Management</b>					
<b>Surgical Management within 30 Days of Vaginal Bleed</b>					
0-49	112.00	32.85	566	508.81	119,240.8
50+	121.87	37.14	524	56.42	755,686.5
<b>Surgical Management within 60 Days of Vaginal Bleed</b>					
0-49	112.00	32.85	639	576.00	119,240.8
50+	121.87	37.14	582	62.68	755,686.5

<sup>1</sup>Eligible Members and Member-Years are reflective of the number of patients that met all cohort entry criteria on at least one day during the query period.

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

DP ID	Start Date <sup>1</sup>	End Date <sup>1</sup>
DP01	01/01/2000	09/30/2015
DP02	01/01/2000	09/30/2015
DP03	01/01/2004	09/30/2015
DP04	01/01/2008	09/30/2015
DP05	01/01/2000	09/30/2015
DP06	01/01/2000	09/30/2015
DP07	01/01/2006	09/30/2015
DP08	01/01/2000	09/30/2015
DP09	06/01/2007	09/30/2015
DP10	01/01/2000	10/31/2014
DP11	01/01/2005	09/30/2015
DP12	01/01/2000	09/30/2015
DP13	01/01/2000	09/30/2015
DP14	01/01/2008	09/30/2015
DP15	01/01/2000	05/31/2015
DP16	01/01/2012	09/30/2015

<sup>1</sup>The start and end dates are based on the minimum and maximum dates within each DP. The month with the maximum data must have at least 80% of the number of records in the previous month.

**Appendix B. List of Generic and Brand Names of Medical Products Used to Define Exposures and Incidence Criteria in this Request**

<b>Generic Name</b>	<b>Brand Name</b>
<b>Exposure and Incidence Criteria</b>	
apixaban	Eliquis
dabigatran etexilate mesylate	Pradaxa
rivaroxaban	Xarelto
warfarin sodium	Coumadin
warfarin sodium	Warfarin
warfarin sodium	Jantoven
<b>Incidence Criteria Only</b>	
edoxaban tosylate	Savaysa

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

Code	Description	Code Category	Code Type
<b>Atrial Fibrillation / Atrial Flutter</b>			
427.3	Atrial fibrillation and flutter	Diagnosis	ICD-9-CM
427.31	Atrial fibrillation	Diagnosis	ICD-9-CM
427.32	Atrial flutter	Diagnosis	ICD-9-CM
<b>Deep Vein Thrombosis / Pulmonary Embolism</b>			
415.1	Pulmonary embolism and infarction	Diagnosis	ICD-9-CM
415.11	Iatrogenic pulmonary embolism and infarction	Diagnosis	ICD-9-CM
415.12	Septic pulmonary embolism	Diagnosis	ICD-9-CM
415.19	Other pulmonary embolism and infarction	Diagnosis	ICD-9-CM
416.2	Chronic pulmonary embolism	Diagnosis	ICD-9-CM
434.0	Cerebral thrombosis	Diagnosis	ICD-9-CM
434.00	Cerebral thrombosis without mention of cerebral infarction	Diagnosis	ICD-9-CM
434.01	Cerebral thrombosis with cerebral infarction	Diagnosis	ICD-9-CM
437.6	Nonpyogenic thrombosis of intracranial venous sinus	Diagnosis	ICD-9-CM
444	Arterial embolism and thrombosis	Diagnosis	ICD-9-CM
444.0	Arterial embolism and thrombosis of abdominal aorta	Diagnosis	ICD-9-CM
444.09	Other arterial embolism and thrombosis of abdominal aorta	Diagnosis	ICD-9-CM
444.1	Embolism and thrombosis of thoracic aorta	Diagnosis	ICD-9-CM
444.2	Embolism and thrombosis of arteries of the extremities	Diagnosis	ICD-9-CM
444.21	Embolism and thrombosis of arteries of upper extremity	Diagnosis	ICD-9-CM
444.22	Embolism and thrombosis of arteries of lower extremity	Diagnosis	ICD-9-CM
444.8	Embolism and thrombosis of other specified artery	Diagnosis	ICD-9-CM
444.81	Embolism and thrombosis of iliac artery	Diagnosis	ICD-9-CM
444.89	Embolism and thrombosis of other specified artery	Diagnosis	ICD-9-CM
444.9	Embolism and thrombosis of unspecified artery	Diagnosis	ICD-9-CM
451.11	Phlebitis and thrombophlebitis of femoral vein (deep) (superficial)	Diagnosis	ICD-9-CM
451.19	Phlebitis and thrombophlebitis of other deep vessels of lower extremities	Diagnosis	ICD-9-CM
451.2	Phlebitis and thrombophlebitis of lower extremities, unspecified	Diagnosis	ICD-9-CM
451.81	Phlebitis and thrombophlebitis of iliac vein	Diagnosis	ICD-9-CM
451.83	Phlebitis and thrombophlebitis of deep veins of upper extremities	Diagnosis	ICD-9-CM
452	Portal vein thrombosis	Diagnosis	ICD-9-CM
453	Other venous embolism and thrombosis	Diagnosis	ICD-9-CM
453.2	Other venous embolism and thrombosis, of inferior vena cava	Diagnosis	ICD-9-CM
453.3	Embolism and thrombosis of renal vein	Diagnosis	ICD-9-CM
453.4	Acute venous embolism and thrombosis of deep vessels of lower extremity	Diagnosis	ICD-9-CM
453.40	Acute venous embolism and thrombosis of unspecified deep vessels of lower extremity	Diagnosis	ICD-9-CM
453.41	Acute venous embolism and thrombosis of deep vessels of proximal lower extremity	Diagnosis	ICD-9-CM
453.42	Acute venous embolism and thrombosis of deep vessels of distal lower extremity	Diagnosis	ICD-9-CM
453.5	Chronic venous embolism and thrombosis of deep vessels of lower extremity	Diagnosis	ICD-9-CM
453.50	Chronic venous embolism and thrombosis of unspecified deep vessels of lower extremity	Diagnosis	ICD-9-CM
453.51	Chronic venous embolism and thrombosis of deep vessels of proximal lower extremity	Diagnosis	ICD-9-CM
453.52	Chronic venous embolism and thrombosis of deep vessels of distal lower extremity	Diagnosis	ICD-9-CM



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

<b>Code</b>	<b>Description</b>	<b>Code Category</b>	<b>Code Type</b>
453.6	Venous embolism and thrombosis of superficial vessels of lower extremity	Diagnosis	ICD-9-CM
453.7	Chronic venous embolism and thrombosis of other specified vessels	Diagnosis	ICD-9-CM
453.71	Chronic venous embolism and thrombosis of superficial veins of upper extremity	Diagnosis	ICD-9-CM
453.72	Chronic venous embolism and thrombosis of deep veins of upper extremity	Diagnosis	ICD-9-CM
453.73	Chronic venous embolism and thrombosis of upper extremity, unspecified	Diagnosis	ICD-9-CM
453.74	Chronic venous embolism and thrombosis of axillary veins	Diagnosis	ICD-9-CM
453.75	Chronic venous embolism and thrombosis of subclavian veins	Diagnosis	ICD-9-CM
453.76	Chronic venous embolism and thrombosis of internal jugular veins	Diagnosis	ICD-9-CM
453.77	Chronic venous embolism and thrombosis of other thoracic veins	Diagnosis	ICD-9-CM
453.79	Chronic venous embolism and thrombosis of other specified veins	Diagnosis	ICD-9-CM
453.8	Acute venous embolism and thrombosis of other specified veins	Diagnosis	ICD-9-CM
453.81	Acute venous embolism and thrombosis of superficial veins of upper extremity	Diagnosis	ICD-9-CM
453.82	Acute venous embolism and thrombosis of deep veins of upper extremity	Diagnosis	ICD-9-CM
453.83	Acute venous embolism and thrombosis of upper extremity, unspecified	Diagnosis	ICD-9-CM
453.84	Acute venous embolism and thrombosis of axillary veins	Diagnosis	ICD-9-CM
453.85	Acute venous embolism and thrombosis of subclavian veins	Diagnosis	ICD-9-CM
453.86	Acute venous embolism and thrombosis of internal jugular veins	Diagnosis	ICD-9-CM
453.87	Acute venous embolism and thrombosis of other thoracic veins	Diagnosis	ICD-9-CM
453.89	Acute venous embolism and thrombosis of other specified veins	Diagnosis	ICD-9-CM
453.9	Embolism and thrombosis of unspecified site	Diagnosis	ICD-9-CM
671.3	Deep phlebothrombosis, antepartum	Diagnosis	ICD-9-CM
671.30	Deep phlebothrombosis, antepartum, unspecified as to episode of care	Diagnosis	ICD-9-CM
671.31	Deep phlebothrombosis, antepartum, with delivery	Diagnosis	ICD-9-CM
671.33	Deep phlebothrombosis, antepartum	Diagnosis	ICD-9-CM
671.4	Deep phlebothrombosis, postpartum	Diagnosis	ICD-9-CM
671.40	Deep phlebothrombosis, postpartum, unspecified as to episode of care	Diagnosis	ICD-9-CM
671.42	Deep phlebothrombosis, postpartum, with delivery	Diagnosis	ICD-9-CM
671.44	Deep phlebothrombosis, postpartum condition or complication	Diagnosis	ICD-9-CM
671.5	Other phlebitis and thrombosis in pregnancy and the puerperium	Diagnosis	ICD-9-CM
671.50	Other phlebitis and thrombosis complicating pregnancy and the puerperium, unspecified as to episode of care	Diagnosis	ICD-9-CM
671.51	Other phlebitis and thrombosis with delivery, with or without mention of antepartum condition	Diagnosis	ICD-9-CM
671.52	Other phlebitis and thrombosis with delivery, with mention of postpartum complication	Diagnosis	ICD-9-CM
671.53	Other antepartum phlebitis and thrombosis	Diagnosis	ICD-9-CM
671.54	Other phlebitis and thrombosis, postpartum condition or complication	Diagnosis	ICD-9-CM
673	Obstetrical pulmonary embolism	Diagnosis	ICD-9-CM
673.8	Other obstetrical pulmonary embolism	Diagnosis	ICD-9-CM
673.80	Other obstetrical pulmonary embolism, unspecified as to episode of care	Diagnosis	ICD-9-CM
673.81	Other obstetrical pulmonary embolism, with delivery, with or without mention of antepartum condition	Diagnosis	ICD-9-CM

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

<b>Code</b>	<b>Description</b>	<b>Code Category</b>	<b>Code Type</b>
673.82	Other obstetrical pulmonary embolism, with delivery, with mention of postpartum complication	Diagnosis	ICD-9-CM
673.83	Other obstetrical pulmonary embolism, antepartum	Diagnosis	ICD-9-CM
673.84	Other obstetrical pulmonary embolism, postpartum condition or complication	Diagnosis	ICD-9-CM
V12.51	Personal history of venous thrombosis and embolism	Diagnosis	ICD-9-CM
<b>Knee or Hip Joint Replacement Surgery</b>			
01214	Anesthesia for open procedures involving hip joint; total hip arthroplasty	Procedure	CPT-4
01215	Anesthesia for open procedures involving hip joint; revision of total hip arthroplasty	Procedure	CPT-4
01402	Anesthesia for open or surgical arthroscopic procedures on knee joint; total knee arthroplasty	Procedure	CPT-4
27125	Hemiarthroplasty, hip, partial (eg, femoral stem prosthesis, bipolar arthroplasty)	Procedure	CPT-4
27130	Arthroplasty, acetabular and proximal femoral prosthetic replacement (total hip arthroplasty), with or without autograft or allograft	Procedure	CPT-4
27132	Conversion of previous hip surgery to total hip arthroplasty, with or without autograft or allograft	Procedure	CPT-4
27134	Revision of total hip arthroplasty; both components, with or without autograft or allograft	Procedure	CPT-4
27137	Revision of total hip arthroplasty; acetabular component only, with or without autograft or allograft	Procedure	CPT-4
27138	Revision of total hip arthroplasty; femoral component only, with or without allograft	Procedure	CPT-4
27265	Closed treatment of post hip arthroplasty dislocation; without anesthesia	Procedure	CPT-4
27266	Closed treatment of post hip arthroplasty dislocation; requiring regional or general anesthesia	Procedure	CPT-4
27437	Arthroplasty, patella; without prosthesis	Procedure	CPT-4
27438	Arthroplasty, patella; with prosthesis	Procedure	CPT-4
27440	Arthroplasty, knee, tibial plateau;	Procedure	CPT-4
27441	Arthroplasty, knee, tibial plateau; with debridement and partial synovectomy	Procedure	CPT-4
27442	Arthroplasty, femoral condyles or tibial plateau(s), knee	Procedure	CPT-4
27443	Arthroplasty, femoral condyles or tibial plateau(s), knee; with debridement and partial synovectomy	Procedure	CPT-4
27445	Arthroplasty, knee, hinge prosthesis (eg, Walldius type)	Procedure	CPT-4
27446	Arthroplasty, knee, condyle and plateau; medial OR lateral compartment	Procedure	CPT-4
27447	Arthroplasty, knee, condyle and plateau; medial AND lateral compartments with or without patella resurfacing (total knee arthroplasty)	Procedure	CPT-4
27486	Revision of total knee arthroplasty, with or without allograft; 1 component	Procedure	CPT-4
27487	Revision of total knee arthroplasty, with or without allograft; femoral and entire tibial component	Procedure	CPT-4
29862	Arthroscopy, hip, surgical; with debridement/shaving of articular cartilage (chondroplasty), abrasion arthroplasty, and/or resection of labrum	Procedure	CPT-4
29879	Arthroscopy, knee, surgical; abrasion arthroplasty (includes chondroplasty where necessary) or multiple drilling or microfracture	Procedure	CPT-4
81.5	Joint replacement of lower extremity	Procedure	ICD-9-CM

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

Code	Description	Code Category	Code Type
<b>Hysterectomy</b>			
00846	Anesthesia for intraperitoneal procedures in lower abdomen including laparoscopy; radical hysterectomy	Procedure	CPT-4
00855	Anesthesia for intraperitoneal procedures in lower abdomen including laparoscopy; cesarean hysterectomy	Procedure	CPT-4
00944	Anesthesia for vaginal procedures (including biopsy of labia, vagina, cervix or endometrium); vaginal hysterectomy	Procedure	CPT-4
01962	Anesthesia for urgent hysterectomy following delivery	Procedure	CPT-4
01963	Anesthesia for cesarean hysterectomy without any labor analgesia/anesthesia care	Procedure	CPT-4
01969	Anesthesia for cesarean hysterectomy following neuraxial labor analgesia/anesthesia (List separately in addition to code for primary procedure performed)	Procedure	CPT-4
51925	closure of vesicouterine fistula; w/hysterectomy	Procedure	CPT-4
58150	tah w/wo removal of tube w/wo removal of ovary;	Procedure	CPT-4
58152	tah; w/wo remv tube-ovry w/colpo-urethrocytopex	Procedure	CPT-4
58180	supracerv abd hysterectomy w/wo remov tube-ovary	Procedure	CPT-4
58200	tah incl part vaginect w/pelv lymph node sampl	Procedure	CPT-4
58205	Total Hysterectomy, Extended, Corpus Cancer, Including Partial	Procedure	CPT-4
58210	rad abd hyst w/bilat tot pelvic lymphadenect bx	Procedure	CPT-4
58260	vag hyst 250 gm/<	Procedure	CPT-4
58262	vag hyst 250 gm/< w/rmvl tube&/ovary	Procedure	CPT-4
58263	vag hyst 250 gm/< w/rmvl tube ovary w/rpr ntrcl	Procedure	CPT-4
58265	Vaginal Hysterectomy With Plastic Repair Of Vagina, Anterior	Procedure	CPT-4
58267	vag hyst 250 gm/< w/colpo-urtcstopexy	Procedure	CPT-4
58270	vag hyst 250 gm/< w/rpr ntrcl	Procedure	CPT-4
58275	vag hyst with total or partial vaginectomy;	Procedure	CPT-4
58280	vag hyst w/tot/part vaginectomy; w/repr enterocl	Procedure	CPT-4
58285	vaginal hysterectomy radical	Procedure	CPT-4
58290	vag hyst for uterus greater than 250 grams;	Procedure	CPT-4
58291	vag hyst utrus >250 gms; w/remv tube &/ ovary	Procedure	CPT-4
58292	vag hyst utrus>250 gms; remv t&/o rep enterocl	Procedure	CPT-4
58293	vag hyst utrus > 250 gms; w/colpo-urethrocytProcedurey	Procedure	CPT-4
58294	vag hyst uterus > 250 grams; w/repair enterocele	Procedure	CPT-4
58541	laps supracrv hyst 250 g/<	Procedure	CPT-4
58542	laps supracrv hyst 250 g/< rmvl tube/ovary	Procedure	CPT-4
58543	laps supracrv hyst >250 g	Procedure	CPT-4
58544	laps supracrv hyst >250 g rmvl tube/ovary	Procedure	CPT-4
58548	laps w/rad hyst w/bilat lmpadec rmvl tube/ovary	Procedure	CPT-4
58550	laparscpy surg w/vag hyst uterus 250 gms/less;	Procedure	CPT-4
58552	lap vag hyst utrus 250 gms/<; w/remv tube&/ovry	Procedure	CPT-4
58553	laparscpy surgical w/vag hyst uterus > 250 gms;	Procedure	CPT-4
58554	lap w/vag hyst utrus >250 gms; w/remv tube&/ovry	Procedure	CPT-4
58570	laparoscopy w total hysterectomy uterus 250 g/<	Procedure	CPT-4
58571	laps total hysterectomy 250 g/<w tube/ovary	Procedure	CPT-4

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

<b>Code</b>	<b>Description</b>	<b>Code Category</b>	<b>Code Type</b>
58572	laparoscopy total hysterectomy uterus>250 g	Procedure	CPT-4
58573	laparoscopy tot hysterectomy >250 g w tube/ovary	Procedure	CPT-4
58951	rescj prim prtl mal w/bso&omntc tah&lmphadec	Procedure	CPT-4
58953	bilat s-o w/omentect tah&radl dissect debulking;	Procedure	CPT-4
58954	bil s-o w/omentect tah&radl dbulk; pelv lymphect	Procedure	CPT-4
58956	bil salpingoophorect w/tot omentect tah malig	Procedure	CPT-4
59100	hysterotomy abdominal	Procedure	CPT-4
59135	Surgical treatment of ectopic pregnancy; interstitial, uterine pregnancy requiring total hysterectomy	Procedure	CPT-4
59525	subtotal/total hysterectomy after c-sect deliv	Procedure	CPT-4
59560	Cesarean Section With Hysterectomy, Subtotal, Including	Procedure	CPT-4
59561	Cesarean Section With Hysterectomy, Subtotal, Including	Procedure	CPT-4
59580	Cesarean Section With Hysterectomy, Total, Including	Procedure	CPT-4
59581	Cesarean Section With Hysterectomy, Total, Including	Procedure	CPT-4
S2078	Laparoscopic supracervical hysterectomy (subtotal hysterectomy), with or without removal of tube(s), with or without removal of ovary(s)	Procedure	HCPCS
68.3	Subtotal abdominal hysterectomy	Procedure	ICD-9-CM
68.31	Laparoscopic supracervical hysterectomy [LSH]	Procedure	ICD-9-CM
68.39	Other and unspecified subtotal abdominal hysterectomy	Procedure	ICD-9-CM
68.4	Total abdominal hysterectomy	Procedure	ICD-9-CM
68.41	Laparoscopic total abdominal hysterectomy	Procedure	ICD-9-CM
68.49	Other and unspecified total abdominal hysterectomy	Procedure	ICD-9-CM
68.5	Vaginal hysterectomy	Procedure	ICD-9-CM
68.51	Laparoscopically assisted vaginal hysterectomy (LAVH)	Procedure	ICD-9-CM
68.59	Other and unspecified vaginal hysterectomy	Procedure	ICD-9-CM
68.6	Radical abdominal hysterectomy	Procedure	ICD-9-CM
68.61	Laparoscopic radical abdominal hysterectomy	Procedure	ICD-9-CM
68.69	Other and unspecified radical abdominal hysterectomy	Procedure	ICD-9-CM
68.7	Radical vaginal hysterectomy	Procedure	ICD-9-CM
68.71	Laparoscopic radical vaginal hysterectomy [LRVH]	Procedure	ICD-9-CM
68.79	Other and unspecified radical vaginal hysterectomy	Procedure	ICD-9-CM
68.9	Other and unspecified hysterectomy	Procedure	ICD-9-CM
618.5	Prolapse of vaginal vault after hysterectomy	Diagnosis	ICD-9-CM
68.8	pelvic evisceration	Procedure	ICD-9-CM

**Appendix D. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Codes Used to Define Vaginal Bleed in this Request**

<b>Code</b>	<b>Description</b>	<b>Code Category</b>	<b>Code Type</b>
<b>Vaginal Bleed</b>			
623.8	Other specified noninflammatory disorder of vagina	Diagnosis	ICD-9-CM
623.9	Unspecified noninflammatory disorder of vagina	Diagnosis	ICD-9-CM
626.2	Excessive or frequent menstruation	Diagnosis	ICD-9-CM
626.3	Puberty bleeding	Diagnosis	ICD-9-CM
626.6	Metrorrhagia	Diagnosis	ICD-9-CM
626.8	Other disorder of menstruation and other abnormal bleeding from female genital tract	Diagnosis	ICD-9-CM
626.9	Unspecified disorder of menstruation and other abnormal bleeding from female genital tract	Diagnosis	ICD-9-CM
627.0	Menopausal and postmenopausal disorders	Diagnosis	ICD-9-CM
627.1	Postmenopausal bleeding	Diagnosis	ICD-9-CM
627.4	Symptomatic states associated with artificial menopause	Diagnosis	ICD-9-CM

**Appendix E. List of International Classification of Diseases, Ninth Revision (ICD-9-CM), Healthcare Common Procedure Coding System (HCPCS), Current Procedural Terminology, Fourth Edition (CPT-4), Current Procedural Terminology, Third Edition (CPT Category III), and Revenue Codes Used to Define Medical, Transfusion, or Surgical Managements in this Request**

Code	Description	Code Category	Code Type
<b>Medical Managements</b>			
<b>Insertion of Intrauterine System Device (IUD)</b>			
V25.11	Encounter for insertion of intrauterine contraceptive device	Diagnosis	ICD-9-CM
V25.13	Encounter for removal and reinsertion of intrauterine contraceptive device	Diagnosis	ICD-9-CM
V45.51	Presence of intrauterine contraceptive device	Diagnosis	ICD-9-CM
J7297	Levonorgestrel-releasing intrauterine contraceptive system (Liletta), 52 mg	Procedure	HCPCS
J7298	Levonorgestrel-releasing intrauterine contraceptive system (Mirena), 52 mg	Procedure	HCPCS
J7301	Levonorgestrel-releasing intrauterine contraceptive system, 13.5 mg	Procedure	HCPCS
J7302	Levonorgestrel-releasing intrauterine contraceptive system, 52 mg	Procedure	HCPCS
Q0090	Levonorgestrel-releasing intrauterine contraceptive system, (Skyla), 13.5 mg	Procedure	HCPCS
S4980	Levonorgestrel - releasing intrauterine system, each	Procedure	HCPCS
S4981	Insertion of levonorgestrel-releasing intrauterine system	Procedure	HCPCS
S4989	Contraceptive intrauterine device (e.g., Progestacert IUD), including implants and supplies	Procedure	HCPCS
69.7	INSERTION OF INTRAUTERINE CONTRACEPTIVE DEVICE	Procedure	ICD-9-CM
58300	Insertion of intrauterine device (IUD)	Procedure	CPT-4
<b>Vaginal Packing</b>			
57180	Introduction of any hemostatic agent or pack for spontaneous or traumatic nonobstetrical vaginal hemorrhage (separate procedure)	Procedure	CPT-4
96.14	Vaginal packing	Procedure	ICD-9-CM
<b>Transfusion Managements</b>			
<b>Red Blood Cell-Only Transfusion</b>			
C1010	Whole blood or red blood cells, leukoreduced, cmv negative, each unit	Procedure	HCPCS
C1016	Whole blood or red blood cells, leukoreduced, frozen, deglycerol, washed, each unit	Procedure	HCPCS
C1020	Each unit red blood cells, frozen/deglycerolized/washed, leukocyte-reduced, irradiated	Procedure	HCPCS
C1021	Red blood cells, leukocyte-reduced, cmv negative, irradiated, each unit	Procedure	HCPCS
P9016	Red blood cells, leukocytes reduced, each unit	Procedure	HCPCS
P9021	Red blood cells, each unit	Procedure	HCPCS
P9022	Red blood cells, washed, each unit	Procedure	HCPCS
P9038	Red blood cells, irradiated, each unit	Procedure	HCPCS
P9039	Red blood cells, deglycerolized, each unit	Procedure	HCPCS
P9040	Red blood cells, leukocytes reduced, irradiated, each unit	Procedure	HCPCS
P9051	Whole blood or red blood cells, leukocytes reduced, cmv-negative, each unit	Procedure	HCPCS
P9054	Each unit whole blood or red blood cells, leukocytes reduced, frozen, deglycerol, washed	Procedure	HCPCS
P9057	Red blood cells, frozen/deglycerolized/washed, leukocytes reduced, irradiated, each unit	Procedure	HCPCS
P9058	Red blood cells, leukocytes reduced, cmv-negative, irradiated, each unit	Procedure	HCPCS
9904	transfusion of packed cells	Procedure	ICD-9
0381	Blood and blood products-packed red cells	Procedure	Revenue
<b>Surgical Managements</b>			
<b>Hysteroscopic Polypectomy</b>			
58558	Hysteroscopy, surgical; with sampling (biopsy) of endometrium and/or polypectomy, with or without D & C	Procedure	CPT-4

**Appendix E. List of International Classification of Diseases, Ninth Revision (ICD-9-CM), Healthcare Common Procedure Coding System (HCPCS), Current Procedural Terminology, Fourth Edition (CPT-4), Current Procedural Terminology, Third Edition (CPT Category III), and Revenue Codes Used to Define Medical, Transfusion, or Surgical Managements in this Request**

Code	Description	Code Category	Code Type
<b>Hysteroscopic/Laparoscopic/Abdominal Myomectomy</b>			
218.0	Submucous leiomyoma of uterus	Diagnosis	ICD-9-CM
218	Uterine leiomyoma	Diagnosis	ICD-9-CM <sup>A</sup>
218.1	Intramural leiomyoma of uterus	Diagnosis	ICD-9-CM <sup>A</sup>
218.2	Subserous leiomyoma of uterus	Diagnosis	ICD-9-CM <sup>A</sup>
218.9	Leiomyoma of uterus, unspecified	Diagnosis	ICD-9-CM <sup>A</sup>
56309	LAP SURG; W/REMOV LEIOMYOMATA (SINGL/MX)	Procedure	CPT-4
56354	HYSTEROSCOPY SURG; W/REMOV LEIOMYOMATA	Procedure	CPT-4
58140	Myomectomy, excision of fibroid tumor(s) of uterus, 1 to 4 intramural myoma(s) with total weight of 250 g or less and/or removal of surface myomas; abdominal approach	Procedure	CPT-4
58145	Myomectomy, excision of fibroid tumor(s) of uterus, 1 to 4 intramural myoma(s) with total weight of 250 g or less and/or removal of surface myomas; vaginal approach	Procedure	CPT-4
58146	Myomectomy, excision of fibroid tumor(s) of uterus, 5 or more intramural myomas and/or intramural myomas with total weight greater than 250 g, abdominal approach	Procedure	CPT-4
58545	Laparoscopy, surgical, myomectomy, excision; 1 to 4 intramural myomas with total weight of 250 g or less and/or removal of surface myomas	Procedure	CPT-4
58546	Laparoscopy, surgical, myomectomy, excision; 5 or more intramural myomas and/or intramural myomas with total weight greater than 250 g	Procedure	CPT-4
58561	Hysteroscopy, surgical; with removal of leiomyomata	Procedure	CPT-4
58994	Hysteroscopy; With Removal Of Submucous Leiomyomata (any Method)	Procedure	CPT-4
68.19	Other diagnostic procedures on uterus and supporting structures	Procedure	ICD-9-CM <sup>B</sup>
68.29	Other excision or destruction of lesion of uterus	Procedure	ICD-9-CM <sup>B</sup>
69.19	Other excision or destruction of uterus and supporting structures	Procedure	ICD-9-CM <sup>B</sup>
<b>Dilation and Curettage (with or without hysteroscopy)</b>			
57558	Dilation and curettage of cervical stump	Procedure	CPT-4
57820	Dilation and curettage of cervical stump	Procedure	CPT-4
58120	Dilation and curettage, diagnostic and/or therapeutic (nonobstetrical)	Procedure	CPT-4
69.0	Dilation and curettage of uterus	Procedure	ICD-9-CM
69.09	Other dilation and curettage of uterus	Procedure	ICD-9-CM
69.5	Aspiration curettage of uterus	Procedure	ICD-9-CM
69.59	Other aspiration curettage of uterus	Procedure	ICD-9-CM
<b>Hysteroscopy (Not Listed in Other Surgical Managements)</b>			
00952	Anesthesia for vaginal procedures (including biopsy of labia, vagina, cervix or endometrium); hysteroscopy and/or hysterosalpingography	Procedure	CPT-4
56352	HYSTEROSCOPY SURG; W/LYSIS INTRAUTERINE ADHESION	Procedure	CPT-4
56353	HYSTEROSCOPY SURG; W/DIVIS/RESECT SEPTUM	Procedure	CPT-4
56355	HYSTEROSCOPY SURG; W/REMOV IMPACTED F B	Procedure	CPT-4
56399	UNLISTED PROC-LAP/HYSTEROSCOPY	Procedure	CPT-4
58559	Hysteroscopy, surgical; with lysis of intrauterine adhesions (any method)	Procedure	CPT-4
58560	Hysteroscopy, surgical; with division or resection of intrauterine septum (any method)	Procedure	CPT-4
58562	Hysteroscopy, surgical; with removal of impacted foreign body	Procedure	CPT-4

**Appendix E. List of International Classification of Diseases, Ninth Revision (ICD-9-CM), Healthcare Common Procedure Coding System (HCPCS), Current Procedural Terminology, Fourth Edition (CPT-4), Current Procedural Terminology, Third Edition (CPT Category III), and Revenue Codes Used to Define Medical, Transfusion, or Surgical Managements in this Request**

Code	Description	Code Category	Code Type
58565	Hysteroscopy, surgical; with bilateral fallopian tube cannulation to induce occlusion by placement of permanent implants	Procedure	CPT-4
58992	Hysteroscopy; With Lysis Of Intrauterine Adhesions Or Resection Of Intrauterine Septum (any Method)	Procedure	CPT-4
58995	Hysteroscopy	Procedure	CPT-4
G9823	Endometrial sampling or hysteroscopy with biopsy and results documented	Procedure	HCPCS
G9824	Endometrial sampling or hysteroscopy with biopsy and results not documented	Procedure	HCPCS
S2255	Hysteroscopy, surgical; with occlusion of oviducts bilaterally by micro-inserts for permanent sterilization	Procedure	HCPCS
68.12	Hysteroscopy	Procedure	ICD-9-CM
68.14	Open biopsy of uterine ligaments	Procedure	ICD-9-CM
68.16	Closed biopsy of uterine ligaments	Procedure	ICD-9-CM
<b>Hysterectomy</b>			
68.3	Subtotal abdominal hysterectomy	Diagnosis	ICD-9-CM
68.31	Laparoscopic supracervical hysterectomy [LSH]	Diagnosis	ICD-9-CM
68.39	Other and unspecified subtotal abdominal hysterectomy	Diagnosis	ICD-9-CM
68.4	Total abdominal hysterectomy	Diagnosis	ICD-9-CM
68.41	Laparoscopic total abdominal hysterectomy	Diagnosis	ICD-9-CM
68.49	Other and unspecified total abdominal hysterectomy	Diagnosis	ICD-9-CM
68.5	Vaginal hysterectomy	Diagnosis	ICD-9-CM
68.51	Laparoscopically assisted vaginal hysterectomy (LAVH)	Diagnosis	ICD-9-CM
68.59	Other and unspecified vaginal hysterectomy	Diagnosis	ICD-9-CM
68.6	Radical abdominal hysterectomy	Diagnosis	ICD-9-CM
68.61	Laparoscopic radical abdominal hysterectomy	Diagnosis	ICD-9-CM
68.69	Other and unspecified radical abdominal hysterectomy	Diagnosis	ICD-9-CM
68.7	Radical vaginal hysterectomy	Diagnosis	ICD-9-CM
68.71	Laparoscopic radical vaginal hysterectomy [LRVH]	Diagnosis	ICD-9-CM
68.79	Other and unspecified radical vaginal hysterectomy	Diagnosis	ICD-9-CM
68.9	Other and unspecified hysterectomy	Diagnosis	ICD-9-CM
618.5	Prolapse of vaginal vault after hysterectomy	Diagnosis	ICD-9-CM
00846	Anesthesia for intraperitoneal procedures in lower abdomen including laparoscopy; radical hysterectomy	Procedure	CPT-4
00855	Anesthesia for intraperitoneal procedures in lower abdomen including laparoscopy; cesarean hysterectomy	Procedure	CPT-4
00944	Anesthesia for vaginal procedures (including biopsy of labia, vagina, cervix or endometrium); vaginal hysterectomy	Procedure	CPT-4
01962	Anesthesia for urgent hysterectomy following delivery	Procedure	CPT-4
01963	Anesthesia for cesarean hysterectomy without any labor analgesia/anesthesia care	Procedure	CPT-4
01969	Anesthesia for cesarean hysterectomy following neuraxial labor analgesia/anesthesia (List separately in addition to code for primary procedure performed)	Procedure	CPT-4
51925	closure of vesicouterine fistula; w/hysterectomy	Procedure	CPT-4
58150	tah w/wo removal of tube w/wo removal of ovary;	Procedure	CPT-4



**Appendix E. List of International Classification of Diseases, Ninth Revision (ICD-9-CM), Healthcare Common Procedure Coding System (HCPCS), Current Procedural Terminology, Fourth Edition (CPT-4), Current Procedural Terminology, Third Edition (CPT Category III), and Revenue Codes Used to Define Medical, Transfusion, or Surgical Managements in this Request**

Code	Description	Code Category	Code Type
58152	tah; w/wo remv tube-ovry w/colpo-urethrocytopex	Procedure	CPT-4
58180	supracerv abd hysterectomy w/wo remov tube-ovary	Procedure	CPT-4
58200	tah incl part vaginect w/pelv lymph node sampl	Procedure	CPT-4
58205	Total Hysterectomy, Extended, Corpus Cancer, Including Partial	Procedure	CPT-4
58210	rad abd hyst w/bilat tot pelvic lymphadenect bx	Procedure	CPT-4
58260	vag hyst 250 gm/<	Procedure	CPT-4
58262	vag hyst 250 gm/< w/rmvl tube&/ovary	Procedure	CPT-4
58263	vag hyst 250 gm/< w/rmvl tube ovary w/rpr ntrcl	Procedure	CPT-4
58265	Vaginal Hysterectomy With Plastic Repair Of Vagina, Anterior	Procedure	CPT-4
58267	vag hyst 250 gm/< w/colpo-urtcstopexy	Procedure	CPT-4
58270	vag hyst 250 gm/< w/rpr ntrcl	Procedure	CPT-4
58275	vag hyst with total or partial vaginectomy;	Procedure	CPT-4
58280	vag hyst w/tot/part vaginectomy; w/repr enterocl	Procedure	CPT-4
58285	vaginal hysterectomy radical	Procedure	CPT-4
58290	vag hyst for uterus greater than 250 grams;	Procedure	CPT-4
58291	vag hyst utrus >250 gms; w/remv tube &/ ovary	Procedure	CPT-4
58292	vag hyst utrus>250 gms; remv t&/o rep enterocl	Procedure	CPT-4
58293	vag hyst utrus > 250 gms; w/colpo-urethrocytopexy	Procedure	CPT-4
58294	vag hyst uterus > 250 grams; w/repair enterocele	Procedure	CPT-4
58541	laps supracrv hyst 250 g/<	Procedure	CPT-4
58542	laps supracrv hyst 250 g/< rmvl tube/ovary	Procedure	CPT-4
58543	laps supracrv hyst >250 g	Procedure	CPT-4
58544	laps supracrv hyst >250 g rmvl tube/ovary	Procedure	CPT-4
58548	laps w/rad hyst w/bilat lmpadec rmvl tube/ovary	Procedure	CPT-4
58550	laparscpy surg w/vag hyst uterus 250 gms/less;	Procedure	CPT-4
58552	lap vag hyst utrus 250 gms/<; w/remv tube&/ovry	Procedure	CPT-4
58553	laparscpy surgical w/vag hyst uterus > 250 gms;	Procedure	CPT-4
58554	lap w/vag hyst utrus >250 gms; w/remv tube&/ovry	Procedure	CPT-4
58570	laparoscopy w total hysterectomy uterus 250 g/<	Procedure	CPT-4
58571	laps total hysterectomy 250 g/<w tube/ovary	Procedure	CPT-4
58572	laparoscopy total hysterectomy uterus>250 g	Procedure	CPT-4
58573	laparoscopy tot hysterectomy >250 g w tube/ovary	Procedure	CPT-4
58951	rescj prim prtl mal w/bsomntc tah&lmpadec	Procedure	CPT-4
58953	bilat s-o w/omentect tah&radl dissect debulking;	Procedure	CPT-4
58954	bil s-o w/omentect tah&radl dbulk; pelv lymphect	Procedure	CPT-4
58956	bil salpingoophorect w/tot omentect tah malig	Procedure	CPT-4
59100	hysterotomy abdominal	Procedure	CPT-4
59135	Surgical treatment of ectopic pregnancy; interstitial, uterine pregnancy requiring total hysterectomy	Procedure	CPT-4
59525	subtotal/total hysterectomy after c-sect deliv	Procedure	CPT-4
59560	Cesarean Section With Hysterectomy, Subtotal, Including	Procedure	CPT-4
59561	Cesarean Section With Hysterectomy, Subtotal, Including	Procedure	CPT-4

**Appendix E. List of International Classification of Diseases, Ninth Revision (ICD-9-CM), Healthcare Common Procedure Coding System (HCPCS), Current Procedural Terminology, Fourth Edition (CPT-4), Current Procedural Terminology, Third Edition (CPT Category III), and Revenue Codes Used to Define Medical, Transfusion, or Surgical Managements in this Request**

<b>Code</b>	<b>Description</b>	<b>Code Category</b>	<b>Code Type</b>
59580	Cesarean Section With Hysterectomy, Total, Including	Procedure	CPT-4
59581	Cesarean Section With Hysterectomy, Total, Including	Procedure	CPT-4
S2078	Laparoscopic supracervical hysterectomy (subtotal hysterectomy), with or without removal of tube(s), with or without removal of ovary(s)	Procedure	HCPCS
683	subtotal abdominal hysterectomy	Procedure	ICD-9-CM
684	total abdominal hysterectomy	Procedure	ICD-9-CM
685	vaginal hysterectomy	Procedure	ICD-9-CM
686	radical abdominal hysterectomy	Procedure	ICD-9-CM
687	radical vaginal hysterectomy	Procedure	ICD-9-CM
688	pelvic evisceration	Procedure	ICD-9-CM
689	hysterectomy nos	Procedure	ICD-9-CM
6831	laparoscopic supracervical hysterectomy	Procedure	ICD-9-CM
6839	other and unspecified subtotal abdominal hysterect	Procedure	ICD-9-CM
6841	laparoscopic total abdominal hysterectomy	Procedure	ICD-9-CM
6849	other and unspecified total abdominal hysterectomy	Procedure	ICD-9-CM
6851	laparoscopically assisted vaginal hysterectomy	Procedure	ICD-9-CM
6859	other and unspecified vaginal hysterectomy	Procedure	ICD-9-CM
6861	laparoscopic radical abdominal hysterectomy	Procedure	ICD-9-CM
6869	other and unspecified radical abdominal hysterecto	Procedure	ICD-9-CM
6871	laparoscopic radical vaginal hysterectomy	Procedure	ICD-9-CM
6879	other and unspecified radical vaginal hysterectomy	Procedure	ICD-9-CM
<b>Endometrial Ablation (Thermal, Cryo, Section)</b>			
0009T	Endometrial cryoablation with ultrasonic guidance	Procedure	CPT Category III
56351	HYSTEROSCOPY SURG; W/SAMPL ENDOMETRIUM W/WO D&C	Procedure	CPT-4
56356	HYSTEROSCOPY SURG; W/ENDOMETRIAL ABLATION	Procedure	CPT-4
58353	Endometrial ablation, thermal, without hysteroscopic guidance	Procedure	CPT-4
58356	Endometrial cryoablation with ultrasonic guidance, including endometrial curettage, when performed	Procedure	CPT-4
58558	HYSTEROSCOPY BX ENDOMETRIUM&/POLYPC W/WO D&C	Procedure	CPT-4
58563	Hysteroscopy, surgical; with endometrial ablation (eg, endometrial resection, electrosurgical ablation, thermoablation)	Procedure	CPT-4
58996	Hysteroscopy; With Endometrial Ablation (any Method)	Procedure	CPT-4
68.23	Endometrial ablation	Procedure	ICD-9-CM
<b>Uterine Artery Embolization</b>			
37210	Uterine fibroid embolization (UFE, embolization of the uterine arteries to treat uterine fibroids, leiomyomata), percutaneous approach inclusive of vascular access, vessel selection, embolization, and all radiological supervision and interpretation, intraprocedural roadmapping, and imaging guidance necessary to complete the procedure	Procedure	CPT-4
S2250	Uterine artery embolization for uterine fibroids	Procedure	HCPCS
68.24	Uterine artery embolization [UAE] with coils	Procedure	ICD-9-CM
68.25	Uterine artery embolization [UAE] without coils	Procedure	ICD-9-CM

<sup>A</sup>Myomectomy diagnosis codes and <sup>B</sup>myomectomy procedure codes are used in combination to detect myomectomy.

**Appendix F. List of Generic and Brand Names of Medical Products Used to Define Medical, Transfusion, or Surgical Managements in this Request**

<b>Generic Name</b>	<b>Brand Name</b>
<b>Medical Managements</b>	
<b>Levonorgestrel Intrauterine System Device (IUD)</b>	
Levonorgestrel	Kyleena
Levonorgestrel	Liletta
Levonorgestrel	Mirena
Levonorgestrel	Skyla
<b>Antifibrinolytic</b>	
Desmopressin Acetate	DDAVP
Desmopressin Acetate	Desmopressin
Desmopressin Acetate	Stimate
Aminocaproic Acid	Amicar
Aminocaproic Acid	Aminocaproic Acid
Tranexamic Acid	Cyklokapron
Tranexamic Acid	Lysteda
Tranexamic Acid	Tranexamic Acid
<b>Contraception (Combined Oral Contraceptives And Progestin-Only Contraceptives)</b>	
Desogestrel-Ethinyl Estradiol	Cyclessa (28)
Desogestrel-Ethinyl Estradiol	Velivet Triphasic Regimen (28)
Desogestrel-Ethinyl Estradiol	Caziant (28)
Desogestrel-Ethinyl Estradiol	Cesia (28)
Desogestrel-Ethinyl Estradiol	Desogen
Desogestrel-Ethinyl Estradiol	Ortho-Cept (28)
Desogestrel-Ethinyl Estradiol	Reclipsen (28)
Desogestrel-Ethinyl Estradiol	Apri
Desogestrel-Ethinyl Estradiol	Emoquette
Desogestrel-Ethinyl Estradiol	Desogestrel-ethinyl Estradiol
Desogestrel-Ethinyl Estradiol	Juleber
Desogestrel-Ethinyl Estradiol	Cyred
Desogestrel-Ethinyl Estradiol	Solia
Desogestrel-Ethinyl Estradiol	Enskyce
Desogestrel-Ethinyl Estradiol/Ethinyl Estradiol	Desog-e.estradiol/e.estradiol
Desogestrel-Ethinyl Estradiol/Ethinyl Estradiol	Kariva (28)
Desogestrel-Ethinyl Estradiol/Ethinyl Estradiol	Kimidess (28)
Desogestrel-Ethinyl Estradiol/Ethinyl Estradiol	Pimtrea (28)
Desogestrel-Ethinyl Estradiol/Ethinyl Estradiol	Mircette (28)
Desogestrel-Ethinyl Estradiol/Ethinyl Estradiol	Azurette (28)
Desogestrel-Ethinyl Estradiol/Ethinyl Estradiol	Viorele (28)
Desogestrel-Ethinyl Estradiol/Ethinyl Estradiol	Bekyree (28)
Drospirenone/Ethinyl Estradiol/Levomefolate Calcium	Drospirenone-e.estradiol-lm.FA
Drospirenone/Ethinyl Estradiol/Levomefolate Calcium	Beyaz
Drospirenone/Ethinyl Estradiol/Levomefolate Calcium	Rajani
Drospirenone/Ethinyl Estradiol/Levomefolate Calcium	Safyral
Ethinyl Estradiol/Levomefolate Calcium	Natazia

**Appendix F. List of Generic and Brand Names of Medical Products Used to Define Medical, Transfusion, or Surgical Managements in this Request**

<b>Generic Name</b>	<b>Brand Name</b>
Ethinyl Estradiol/Drospirenone	Gianvi (28)
Ethinyl Estradiol/Drospirenone	Loryna (28)
Ethinyl Estradiol/Drospirenone	YAZ (28)
Ethinyl Estradiol/Drospirenone	Vestura (28)
Ethinyl Estradiol/Drospirenone	Nikki (28)
Ethinyl Estradiol/Drospirenone	Drospirenone-ethinyl estradiol
Ethinyl Estradiol/Drospirenone	Ocella
Ethinyl Estradiol/Drospirenone	Syeda
Ethinyl Estradiol/Drospirenone	Yasmin (28)
Ethinyl Estradiol/Drospirenone	Zarah
Ethinyl Estradiol/Drospirenone	Kelnor 1/35 (28)
Ethinyl Estradiol/Drospirenone	Zovia 1/35E (28)
Ethinyl Estradiol/Drospirenone	Ethinyl Estradiol Diacetate-Ethinyl Estradiol
Ethinyl Estradiol/Drospirenone	Zovia 1/50E (28)
Ethinyl Estradiol/Drospirenone	Demulen 1/50 (28)
Ethinyl Estradiol/Drospirenone	Camrese Lo
Ethinyl Estradiol/Drospirenone	L norgest/e.estradiol-e.estradiol
Ethinyl Estradiol/Drospirenone	LoSeasonique
Ethinyl Estradiol/Drospirenone	Amethia Lo
Ethinyl Estradiol/Drospirenone	Rivelsa
Ethinyl Estradiol/Drospirenone	Quartette
Ethinyl Estradiol/Drospirenone	Fayosim
Ethinyl Estradiol/Drospirenone	Camrese
Ethinyl Estradiol/Drospirenone	Seasonique
Ethinyl Estradiol/Drospirenone	Amethia
Ethinyl Estradiol/Drospirenone	Ashlyna
Ethinyl Estradiol/Drospirenone	Daysee
Ethinyl Estradiol/Drospirenone	levonorgestrel-ethinyl estradiol
Ethinyl Estradiol/Drospirenone	Lessina
Ethinyl Estradiol/Drospirenone	Aviane
Ethinyl Estradiol/Drospirenone	Orsythia
Ethinyl Estradiol/Drospirenone	Vienna
Ethinyl Estradiol/Drospirenone	Falmina (28)
Ethinyl Estradiol/Drospirenone	Lutera (28)
Ethinyl Estradiol/Drospirenone	Aubra
Ethinyl Estradiol/Drospirenone	Delyla (28)
Ethinyl Estradiol/Drospirenone	Sronyx
Ethinyl Estradiol/Drospirenone	Larissia
Ethinyl Estradiol/Drospirenone	Jolessa
Ethinyl Estradiol/Drospirenone	Introvale
Ethinyl Estradiol/Drospirenone	Setlakin
Ethinyl Estradiol/Drospirenone	Seasonale contraceptive
Ethinyl Estradiol/Drospirenone	Quasense

**Appendix F. List of Generic and Brand Names of Medical Products Used to Define Medical, Transfusion, or Surgical Managements in this Request**

<b>Generic Name</b>	<b>Brand Name</b>
Levonorgestrel-Ethinyl Estradiol	Portia
Levonorgestrel-Ethinyl Estradiol	Altavera (28)
Levonorgestrel-Ethinyl Estradiol	Levora-28
Levonorgestrel-Ethinyl Estradiol	Chateal
Levonorgestrel-Ethinyl Estradiol	Nordette (28)
Levonorgestrel-Ethinyl Estradiol	Levora 0.15/30 (28)
Levonorgestrel-Ethinyl Estradiol	Marlissa
Levonorgestrel-Ethinyl Estradiol	Nordette
Levonorgestrel-Ethinyl Estradiol	Kurvelo
Levonorgestrel-Ethinyl Estradiol	Enpresse
Levonorgestrel-Ethinyl Estradiol	Myzilra
Levonorgestrel-Ethinyl Estradiol	Levonest (28)
Levonorgestrel-Ethinyl Estradiol	Trivora (28)
Levonorgestrel-Ethinyl Estradiol	levonorg-eth estrad triphasic
Levonorgestrel-Ethinyl Estradiol	Lybrel
Levonorgestrel-Ethinyl Estradiol	Amethyst
Norethindrone	Ortho Micronor
Norethindrone	norethindrone (contraceptive)
Norethindrone	Errin
Norethindrone	Camila
Norethindrone	Deblitane
Norethindrone	Sharobel
Norethindrone	Lyza
Norethindrone	Norlyroc
Norethindrone	Nor-QD
Norethindrone	Nora-BE
Norethindrone	Jolivette
Norethindrone	Micronor (28)
Norethindrone	Jencycla
Norethindrone	Heather
Norethindrone Acetate-Ethinyl Estradiol	norethindrone ac-eth estradiol
Norethindrone Acetate-Ethinyl Estradiol	Junel 1/20 (21)
Norethindrone Acetate-Ethinyl Estradiol	Gildess 1/20 (21)
Norethindrone Acetate-Ethinyl Estradiol	Larin 1/20 (21)
Norethindrone Acetate-Ethinyl Estradiol	Loestrin 1/20 (21)
Norethindrone Acetate-Ethinyl Estradiol	Microgestin 1/20 (21)
Norethindrone Acetate-Ethinyl Estradiol	Junel 1.5/30 (21)
Norethindrone Acetate-Ethinyl Estradiol	Gildess 1.5/30 (21)
Norethindrone Acetate-Ethinyl Estradiol	Larin 1.5/30 (21)
Norethindrone Acetate-Ethinyl Estradiol	Loestrin 1.5/30 (21)
Norethindrone Acetate-Ethinyl Estradiol	Microgestin 1.5/30 (21)
Norethindrone Acetate-Ethinyl Estradiol/Ferrous Fumarate	Lo Loestrin Fe
Norethindrone Acetate-Ethinyl Estradiol/Ferrous Fumarate	Lo Minastrin Fe

**Appendix F. List of Generic and Brand Names of Medical Products Used to Define Medical, Transfusion, or Surgical Managements in this Request**

<b>Generic Name</b>	<b>Brand Name</b>
Norethindrone Acetate-Ethinyl Estradiol/Ferrous Fumarate	Taytulla
Norethindrone Acetate-Ethinyl Estradiol/Ferrous Fumarate	Junel Fe 24
Norethindrone Acetate-Ethinyl Estradiol/Ferrous Fumarate	norethindrone-e.estradiol-iron
Norethindrone Acetate-Ethinyl Estradiol/Ferrous Fumarate	Loestrin 24 Fe
Norethindrone Acetate-Ethinyl Estradiol/Ferrous Fumarate	Junel FE 1/20 (28)
Norethindrone Acetate-Ethinyl Estradiol/Ferrous Fumarate	Gildess FE 1/20 (28)
Norethindrone Acetate-Ethinyl Estradiol/Ferrous Fumarate	Gildess 24 Fe
Norethindrone Acetate-Ethinyl Estradiol/Ferrous Fumarate	Larin Fe 1/20 (28)
Norethindrone Acetate-Ethinyl Estradiol/Ferrous Fumarate	Larin 24 Fe
Norethindrone Acetate-Ethinyl Estradiol/Ferrous Fumarate	Microgestin FE 1/20 (28)
Norethindrone Acetate-Ethinyl Estradiol/Ferrous Fumarate	Loestrin Fe 1/20 (28-Day)
Norethindrone Acetate-Ethinyl Estradiol/Ferrous Fumarate	Tarina Fe 1/20 (28)
Norethindrone Acetate-Ethinyl Estradiol/Ferrous Fumarate	Microgestin 24 FE
Norethindrone Acetate-Ethinyl Estradiol/Ferrous Fumarate	Lomedia 24 Fe
Norethindrone Acetate-Ethinyl Estradiol/Ferrous Fumarate	Blisovi 24 Fe
Norethindrone Acetate-Ethinyl Estradiol/Ferrous Fumarate	Blisovi Fe 1/20 (28)
Norethindrone Acetate-Ethinyl Estradiol/Ferrous Fumarate	Minastrin 24 Fe
Norethindrone Acetate-Ethinyl Estradiol/Ferrous Fumarate	Mibelas 24 Fe
Norethindrone Acetate-Ethinyl Estradiol/Ferrous Fumarate	Junel FE 1.5/30 (28)
Norethindrone Acetate-Ethinyl Estradiol/Ferrous Fumarate	Gildess FE 1.5/30 (28)
Norethindrone Acetate-Ethinyl Estradiol/Ferrous Fumarate	Larin Fe 1.5/30 (28)
Norethindrone Acetate-Ethinyl Estradiol/Ferrous Fumarate	Loestrin Fe 1.5/30 (28-Day)
Norethindrone Acetate-Ethinyl Estradiol/Ferrous Fumarate	Microgestin Fe 1.5/30 (28)
Norethindrone Acetate-Ethinyl Estradiol/Ferrous Fumarate	Blisovi Fe 1.5/30 (28)
Norethindrone Acetate-Ethinyl Estradiol/Ferrous Fumarate	Estrostep Fe-28
Norethindrone Acetate-Ethinyl Estradiol/Ferrous Fumarate	Tri-Ligest Fe
Norethindrone Acetate-Ethinyl Estradiol/Ferrous Fumarate	Tilia Fe
Norethindrone-Ethinyl Estradiol	Ortho-Novum 1/35 (28)
Norethindrone-Ethinyl Estradiol	Nortrel 1/35 (21)
Norethindrone-Ethinyl Estradiol	Nortrel 1/35 (28)
Norethindrone-Ethinyl Estradiol	Cyclafem 1/35 (28)
Norethindrone-Ethinyl Estradiol	Dasetta 1/35 (28)
Norethindrone-Ethinyl Estradiol	Necon 1/35 (28)
Norethindrone-Ethinyl Estradiol	Norinyl 1/35 (28)
Norethindrone-Ethinyl Estradiol	Pirmella
Norethindrone-Ethinyl Estradiol	Alyacen 1/35 (28)
Norethindrone-Ethinyl Estradiol	Ovcon-50 (28)
Norethindrone-Ethinyl Estradiol	Zenchant (28)
Norethindrone-Ethinyl Estradiol	Ovcon-35 (28)
Norethindrone-Ethinyl Estradiol	Balziva (28)
Norethindrone-Ethinyl Estradiol	Gildagia
Norethindrone-Ethinyl Estradiol	Philith
Norethindrone-Ethinyl Estradiol	Vyfemla (28)

**Appendix F. List of Generic and Brand Names of Medical Products Used to Define Medical, Transfusion, or Surgical Managements in this Request**

<b>Generic Name</b>	<b>Brand Name</b>
Norethindrone-Ethinyl Estradiol	Briellyn
Norethindrone-Ethinyl Estradiol	Ortho-Novum 7/7/7 (28)
Norethindrone-Ethinyl Estradiol	Nortrel 7/7/7 (28)
Norethindrone-Ethinyl Estradiol	Cyclafem 7/7/7 (28)
Norethindrone-Ethinyl Estradiol	Dasetta 7/7/7 (28)
Norethindrone-Ethinyl Estradiol	Necon 7/7/7 (28)
Norethindrone-Ethinyl Estradiol	Ortho-Novum 7/7/7 (21)
Norethindrone-Ethinyl Estradiol	Alyacen 7/7/7 (28)
Norethindrone-Ethinyl Estradiol	Aranelle (28)
Norethindrone-Ethinyl Estradiol	Tri-Norinyl (28)
Norethindrone-Ethinyl Estradiol	Leena 28
Norethindrone-Ethinyl Estradiol	Modicon (28)
Norethindrone-Ethinyl Estradiol	Nortrel 0.5/35 (28)
Norethindrone-Ethinyl Estradiol	Wera (28)
Norethindrone-Ethinyl Estradiol	Necon 0.5/35 (28)
Norethindrone-Ethinyl Estradiol	Brevicon (28)
Norethindrone-Ethinyl Estradiol	Necon 10/11 (28)
Norethindrone-Ethinyl Estradiol/Ferrous Fumarate	Zeosa
Norethindrone-Ethinyl Estradiol/Ferrous Fumarate	noreth-ethinyl estradiol-iron
Norethindrone-Ethinyl Estradiol/Ferrous Fumarate	Femcon Fe
Norethindrone-Ethinyl Estradiol/Ferrous Fumarate	Zenchent Fe
Norethindrone-Ethinyl Estradiol/Ferrous Fumarate	Wymzya Fe
Norethindrone-Ethinyl Estradiol/Ferrous Fumarate	Layolis Fe
Norethindrone-Ethinyl Estradiol/Ferrous Fumarate	Generess Fe
Norethindrone-Ethinyl Estradiol/Ferrous Fumarate	Kaitlib Fe
Norethindrone-Mestranol	Necon 1/50 (28)
Norethindrone-Mestranol	Norinyl 1+50 (28)
Norgestimate-Ethinyl Estradiol	Ortho Tri-Cyclen LO (28)
Norgestimate-Ethinyl Estradiol	Ortho Tri-Cyclen (28)
Norgestimate-Ethinyl Estradiol	Tri-Lo-Sprintec
Norgestimate-Ethinyl Estradiol	norgestimate-ethinyl estradiol
Norgestimate-Ethinyl Estradiol	Tri-Sprintec (28)
Norgestimate-Ethinyl Estradiol	Tri-Previfem (28)
Norgestimate-Ethinyl Estradiol	Tri-Estarylla
Norgestimate-Ethinyl Estradiol	Tri-Lo-Estarylla
Norgestimate-Ethinyl Estradiol	Tri-Linyah
Norgestimate-Ethinyl Estradiol	TriNessa (28)
Norgestimate-Ethinyl Estradiol	TriNessa Lo
Norgestimate-Ethinyl Estradiol	Tri-Lo-Marzia
Norgestimate-Ethinyl Estradiol	Ortho-Cyclen (28)
Norgestimate-Ethinyl Estradiol	Sprintec (28)
Norgestimate-Ethinyl Estradiol	Previfem
Norgestimate-Ethinyl Estradiol	Estarylla

**Appendix F. List of Generic and Brand Names of Medical Products Used to Define Medical, Transfusion, or Surgical Managements in this Request**

<b>Generic Name</b>	<b>Brand Name</b>
Norgestimate-Ethinyl Estradiol	Mono-Linyah
Norgestimate-Ethinyl Estradiol	Mononessa (28)
Norgestimate-Ethinyl Estradiol	Femynor
Norgestrel-Ethinyl Estradiol	Lo-Ovral (28)
Norgestrel-Ethinyl Estradiol	Cryselle (28)
Norgestrel-Ethinyl Estradiol	Elinest
Norgestrel-Ethinyl Estradiol	norgestrel-ethinyl estradiol
Norgestrel-Ethinyl Estradiol	Low-Ogestrel (28)
Norgestrel-Ethinyl Estradiol	Lo-Ovral (8)
Norgestrel-Ethinyl Estradiol	Ogestrel (28)
Norgestrel-Ethinyl Estradiol	Ovral (21)
Norgestrel-Ethinyl Estradiol	Ovral (28)
<b>Transfusion Managements</b>	
<b>Conjugated Estrogen</b>	
Estrogens, Conjugated, Synthetic A	Cenestin
Estrogens, Conjugated, Synthetic B	Enjuvia
Estrogens, Conjugated	Premarin
Estrogens, Conjugated/Medroxyprogesterone Acetate	Prempro
Estrogens, Conjugated/Bazedoxifene Acetate	Duavee
Estrogens, Conjugated/Medroxyprogesterone Acetate	Premphase



**Appendix G. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), Healthcare Common Procedure Coding System (HCPCS), and Revenue Codes Used to Define Covariates in this Request**

Code	Description	Code Category	Code Type
<b>Gynecological Disorders</b>			
<b>Adenomyosis</b>			
617.0	Endometriosis of uterus	Diagnosis	ICD-9-CM
<b>Endometrial Hyperplasia</b>			
621.30	Endometrial hyperplasia, unspecified	Diagnosis	ICD-9-CM
621.3	Endometrial hyperplasia	Diagnosis	ICD-9-CM
621.31	Simple endometrial hyperplasia without atypia	Diagnosis	ICD-9-CM
621.32	Complex endometrial hyperplasia without atypia	Diagnosis	ICD-9-CM
621.33	Endometrial hyperplasia with atypia	Diagnosis	ICD-9-CM
621.34	Benign endometrial hyperplasia	Diagnosis	ICD-9-CM
<b>Endometriosis</b>			
617.0	Endometriosis of uterus	Diagnosis	ICD-9-CM
617.1	Endometriosis of ovary	Diagnosis	ICD-9-CM
617.2	Endometriosis of fallopian tube	Diagnosis	ICD-9-CM
617.3	Endometriosis of pelvic peritoneum	Diagnosis	ICD-9-CM
617.4	Endometriosis of rectovaginal septum and vagina	Diagnosis	ICD-9-CM
<b>Gynecological Cancer</b>			
179	Malignant neoplasm of uterus, part unspecified	Diagnosis	ICD-9-CM
180	Malignant neoplasm of cervix uteri	Diagnosis	ICD-9-CM
180.0	Malignant neoplasm of endocervix	Diagnosis	ICD-9-CM
180.1	Malignant neoplasm of exocervix	Diagnosis	ICD-9-CM
180.8	Malignant neoplasm of other specified sites of cervix	Diagnosis	ICD-9-CM
180.9	Malignant neoplasm of cervix uteri, unspecified site	Diagnosis	ICD-9-CM
181	Malignant neoplasm of placenta	Diagnosis	ICD-9-CM
182	Malignant neoplasm of body of uterus	Diagnosis	ICD-9-CM
182.0	Malignant neoplasm of corpus uteri, except isthmus	Diagnosis	ICD-9-CM
182.1	Malignant neoplasm of isthmus	Diagnosis	ICD-9-CM
182.8	Malignant neoplasm of other specified sites of body of uterus	Diagnosis	ICD-9-CM
183	Malignant neoplasm of ovary and other uterine adnexa	Diagnosis	ICD-9-CM
183.0	Malignant neoplasm of ovary	Diagnosis	ICD-9-CM
183.2	Malignant neoplasm of fallopian tube	Diagnosis	ICD-9-CM
183.3	Malignant neoplasm of broad ligament of uterus	Diagnosis	ICD-9-CM
183.4	Malignant neoplasm of parametrium of uterus	Diagnosis	ICD-9-CM
183.5	Malignant neoplasm of round ligament of uterus	Diagnosis	ICD-9-CM
183.8	Malignant neoplasm of other specified sites of uterine adnexa	Diagnosis	ICD-9-CM
183.9	Malignant neoplasm of uterine adnexa, unspecified site	Diagnosis	ICD-9-CM
184	Malignant neoplasm of other and unspecified female genital organs	Diagnosis	ICD-9-CM
184.0	Malignant neoplasm of vagina	Diagnosis	ICD-9-CM
184.1	Malignant neoplasm of labia majora	Diagnosis	ICD-9-CM
184.3	Malignant neoplasm of clitoris	Diagnosis	ICD-9-CM
184.4	Malignant neoplasm of vulva, unspecified site	Diagnosis	ICD-9-CM
184.8	Malignant neoplasm of other specified sites of female genital organs	Diagnosis	ICD-9-CM
184.9	Malignant neoplasm of female genital organ, site unspecified	Diagnosis	ICD-9-CM

**Appendix G. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), Healthcare Common Procedure Coding System (HCPCS), and Revenue Codes Used to Define Covariates in this Request**

<b>Code</b>	<b>Description</b>	<b>Code Category</b>	<b>Code Type</b>
198.6	Secondary malignant neoplasm of ovary	Diagnosis	ICD-9-CM
198.82	Secondary malignant neoplasm of genital organs	Diagnosis	ICD-9-CM
236.0	Neoplasm of uncertain behavior of uterus	Diagnosis	ICD-9-CM
236.2	Neoplasm of uncertain behavior of ovary	Diagnosis	ICD-9-CM
236.3	Neoplasm of uncertain behavior of other and unspecified female genital organs	Diagnosis	ICD-9-CM
<b>Ovarian Cyst</b>			
620.0	Follicular cyst of ovary	Diagnosis	ICD-9-CM
620.1	Corpus luteum cyst or hematoma	Diagnosis	ICD-9-CM
620.2	Other and unspecified ovarian cyst	Diagnosis	ICD-9-CM
<b>Uterine Fibroids/Leiomyoma</b>			
218	UTERINE LEIOMYOMA	Diagnosis	ICD-9-CM
218.0	SUBMUCOUS LEIOMYOMA OF UTERUS	Diagnosis	ICD-9-CM
218	UTERINE LEIOMYOMA	Diagnosis	ICD-9-CM
218.0	SUBMUCOUS LEIOMYOMA OF UTERUS	Diagnosis	ICD-9-CM
218.1	INTRAMURAL LEIOMYOMA OF UTERUS	Diagnosis	ICD-9-CM
218.1	INTRAMURAL LEIOMYOMA OF UTERUS	Diagnosis	ICD-9-CM
218.2	SUBSEROUS LEIOMYOMA OF UTERUS	Diagnosis	ICD-9-CM
218.2	SUBSEROUS LEIOMYOMA OF UTERUS	Diagnosis	ICD-9-CM
218.9	LEIOMYOMA OF UTERUS UNSPECIFIED	Diagnosis	ICD-9-CM
218.9	LEIOMYOMA OF UTERUS UNSPECIFIED	Diagnosis	ICD-9-CM
<b>Uterine or Cervical Polyp</b>			
621.0	Polyp of corpus uteri	Diagnosis	ICD-9-CM
622.7	Mucous polyp of cervix	Diagnosis	ICD-9-CM
<b>Von Willebrand's Disease</b>			
286.4	Von Willebrand's disease	Diagnosis	ICD-9-CM
<b>Severe Anemia</b>			
C1010	Whole blood or red blood cells, leukoreduced, cmv negative, each unit	Procedure	HCPCS
C1016	Whole blood or red blood cells, leukoreduced, frozen, deglycerol, washed, each unit	Procedure	HCPCS
C1020	Each unit red blood cells, frozen/deglycerolized/washed, leukocyte-reduced, irradiated	Procedure	HCPCS
C1021	Red blood cells, leukocyte-reduced, cmv negative, irradiated, each unit	Procedure	HCPCS
P9016	Red blood cells, leukocytes reduced, each unit	Procedure	HCPCS
P9021	Red blood cells, each unit	Procedure	HCPCS
P9022	Red blood cells, washed, each unit	Procedure	HCPCS
P9038	Red blood cells, irradiated, each unit	Procedure	HCPCS
P9039	Red blood cells, deglycerolized, each unit	Procedure	HCPCS
P9040	Red blood cells, leukocytes reduced, irradiated, each unit	Procedure	HCPCS
P9051	Whole blood or red blood cells, leukocytes reduced, cmv-negative, each unit	Procedure	HCPCS
P9054	Each unit whole blood or red blood cells, leukocytes reduced, frozen, deglycerol, washed	Procedure	HCPCS
P9057	Red blood cells, frozen/deglycerolized/washed, leukocytes reduced, irradiated, each unit	Procedure	HCPCS
P9058	Red blood cells, leukocytes reduced, cmv-negative, irradiated, each unit	Procedure	HCPCS
9904	transfusion of packed cells	Procedure	ICD-9-CM
0381	Blood and blood products-packed red cells	Procedure	Revenue

**Appendix G. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), Healthcare Common Procedure Coding System (HCPCS), and Revenue Codes Used to Define Covariates in this Request**

Code	Description	Code Category	Code Type
<b>Vaginal Bleed</b>			
623.8	Other specified noninflammatory disorder of vagina	Diagnosis	ICD-9-CM
623.9	Unspecified noninflammatory disorder of vagina	Diagnosis	ICD-9-CM
626.2	Excessive or frequent menstruation	Diagnosis	ICD-9-CM
626.3	Puberty bleeding	Diagnosis	ICD-9-CM
626.6	Metrorrhagia	Diagnosis	ICD-9-CM
626.8	Other disorder of menstruation and other abnormal bleeding from female genital tract	Diagnosis	ICD-9-CM
626.9	Unspecified disorder of menstruation and other abnormal bleeding from female genital tract	Diagnosis	ICD-9-CM
627.0	Menopausal and postmenopausal disorders	Diagnosis	ICD-9-CM
627.1	Postmenopausal bleeding	Diagnosis	ICD-9-CM
627.4	Symptomatic states associated with artificial menopause	Diagnosis	ICD-9-CM

**Appendix H. List of Generic and Brand Names of Medical Products Used to Define Covariates in this Request**

<b>Generic Name</b>	<b>Brand Name</b>
<b>Cardiovascular and Antidiabetic Agents</b>	
<b>Angiotensin-Converting-Enzyme (ACE) Inhibitors</b>	
Amlodipine Besylate/Benazepril Hcl	amlodipine-benazepril
Amlodipine Besylate/Benazepril Hcl	Lotrel
Benazepril Hcl	benazepril
Benazepril Hcl	Lotensin
Benazepril Hcl/Hydrochlorothiazide	benazepril-hydrochlorothiazide
Benazepril Hcl/Hydrochlorothiazide	Lotensin HCT
Captopril	captopril
Captopril/Hydrochlorothiazide	captopril-hydrochlorothiazide
Enalapril Maleate	enalapril maleate
Enalapril Maleate	Epaned
Enalapril Maleate	Vasotec
Enalapril Maleate/Hydrochlorothiazide	enalapril-hydrochlorothiazide
Enalapril Maleate/Hydrochlorothiazide	Vaseretic
Enalaprilat Dihydrate	enalaprilat
Fosinopril Sodium	fosinopril
Fosinopril Sodium	Monopril
Fosinopril Sodium/Hydrochlorothiazide	fosinopril-hydrochlorothiazide
Lisinopril	lisinopril
Lisinopril	Prinivil
Lisinopril	Qbrelis
Lisinopril	Zestril
Lisinopril/Dietary Supplement,Comb.10	Lytensopril
Lisinopril/Dietary Supplement,Comb.10	Lytensopril-90
Lisinopril/Hydrochlorothiazide	lisinopril-hydrochlorothiazide
Lisinopril/Hydrochlorothiazide	Prinzide
Lisinopril/Hydrochlorothiazide	Zestoretic
Moexipril Hcl	moexipril
Moexipril Hcl	Univasc
Moexipril Hcl/Hydrochlorothiazide	moexipril-hydrochlorothiazide
Moexipril Hcl/Hydrochlorothiazide	Uniretic
Perindopril Arginine/Amlodipine Besylate	Prestalia
Perindopril Erbumine	Aceon
Perindopril Erbumine	perindopril erbumine
Quinapril Hcl	Accupril
Quinapril Hcl	quinapril
Quinapril Hcl/Hydrochlorothiazide	Accuretic
Quinapril Hcl/Hydrochlorothiazide	quinapril-hydrochlorothiazide
Ramipril	Altace
Ramipril	ramipril
Trandolapril	Mavik
Trandolapril	trandolapril
Trandolapril/Verapamil Hcl	Tarka
Trandolapril/Verapamil Hcl	trandolapril-verapamil

**Appendix H. List of Generic and Brand Names of Medical Products Used to Define Covariates in this Request**

Generic Name	Brand Name
<b>Aldosterone Receptor Antagonist</b>	
Eplerenone	eplerenone
Eplerenone	Inspira
Spirolactone	Aldactone
Spirolactone	spironolactone
Spirolactone/Hydrochlorothiazide	Aldactazide
Spirolactone/Hydrochlorothiazide	spironolacton-hydrochlorothiaz
<b>Angiotensin II Receptor Blocker</b>	
Amlodipine Besylate/Olmesartan Medoxomil	amlodipine-olmesartan
Amlodipine Besylate/Olmesartan Medoxomil	Azor
Amlodipine Besylate/Valsartan	amlodipine-valsartan
Amlodipine Besylate/Valsartan	Exforge
Amlodipine Besylate/Valsartan/Hydrochlorothiazide	amlodipine-valsartan-hcthiazid
Amlodipine Besylate/Valsartan/Hydrochlorothiazide	Exforge HCT
Azilsartan Medoxomil	Edarbi
Azilsartan Medoxomil/Chlorthalidone	Edarbyclor
Candesartan Cilexetil	Atacand
Candesartan Cilexetil	candesartan
Candesartan Cilexetil/Hydrochlorothiazide	Atacand HCT
Candesartan Cilexetil/Hydrochlorothiazide	candesartan-hydrochlorothiazide
Eprosartan Mesylate	eprosartan
Eprosartan Mesylate	Teveten
Eprosartan Mesylate/Hydrochlorothiazide	Teveten HCT
Irbesartan	Avapro
Irbesartan	irbesartan
Irbesartan/Hydrochlorothiazide	Avalide
Irbesartan/Hydrochlorothiazide	irbesartan-hydrochlorothiazide
Losartan Potassium	Cozaar
Losartan Potassium	losartan
Losartan Potassium/Hydrochlorothiazide	Hyzaar
Losartan Potassium/Hydrochlorothiazide	losartan-hydrochlorothiazide
Nebivolol Hcl/Valsartan	Byvalson
Olmesartan Medoxomil	Benicar
Olmesartan Medoxomil	olmesartan
Olmesartan Medoxomil/Amlodipine Besylate/Hydrochlorothiazide	olmesartan-amlodipin-hcthiazid
Olmesartan Medoxomil/Amlodipine Besylate/Hydrochlorothiazide	Tribenzor
Olmesartan Medoxomil/Hydrochlorothiazide	Benicar HCT
Olmesartan Medoxomil/Hydrochlorothiazide	olmesartan-hydrochlorothiazide
Sacubitril/Valsartan	Entresto
Telmisartan	Micardis
Telmisartan	telmisartan
Telmisartan/Amlodipine Besylate	telmisartan-amlodipine
Telmisartan/Amlodipine Besylate	Twynsta
Telmisartan/Hydrochlorothiazide	Micardis HCT
Telmisartan/Hydrochlorothiazide	telmisartan-hydrochlorothiazid

**Appendix H. List of Generic and Brand Names of Medical Products Used to Define Covariates in this Request**

<b>Generic Name</b>	<b>Brand Name</b>
Valsartan	Diovan
Valsartan	valsartan
Valsartan/Hydrochlorothiazide	Diovan HCT
Valsartan/Hydrochlorothiazide	valsartan-hydrochlorothiazide
<b>Antianginal Vasodilator</b>	
Amyl Nitrite	amyl nitrite
Isosorbide Dinitrate	Dilatrate-SR
Isosorbide Dinitrate	ISOCHRON
Isosorbide Dinitrate	IsoDitrate
Isosorbide Dinitrate	Isordil
Isosorbide Dinitrate	Isordil Titradose
Isosorbide Dinitrate	isosorbide dinitrate
Isosorbide Dinitrate/Hydralazine Hcl	BiDil
Isosorbide Mononitrate	Imdur
Isosorbide Mononitrate	Ismo
Isosorbide Mononitrate	isosorbide mononitrate
Isosorbide Mononitrate	Monoket
Nitroglycerin	GoNitro
Nitroglycerin	Minitran
Nitroglycerin	Nitro-Bid
Nitroglycerin	Nitro-Dur
Nitroglycerin	nitroglycerin
Nitroglycerin	Nitrolingual
Nitroglycerin	Nitromist
Nitroglycerin	Nitronal
Nitroglycerin	NitroQuick
Nitroglycerin	Nitrostat
Nitroglycerin	Nitro-Time
Nitroglycerin In 5 % Dextrose In Water	nitroglycerin in 5 % dextrose
<b>Beta Blocker</b>	
Acebutolol Hcl	acebutolol
Acebutolol Hcl	Sectral
Atenolol	atenolol
Atenolol	Senormin
Atenolol	Tenormin
Atenolol/Chlorthalidone	atenolol-chlorthalidone
Atenolol/Chlorthalidone	Tenoretic 100
Atenolol/Chlorthalidone	Tenoretic 50
Betaxolol Hcl	betaxolol
Betaxolol Hcl	Kerlone
Bisoprolol Fumarate	bisoprolol fumarate
Bisoprolol Fumarate	Zebeta
Bisoprolol Fumarate/Hydrochlorothiazide	bisoprolol-hydrochlorothiazide
Bisoprolol Fumarate/Hydrochlorothiazide	Ziac
Carteolol Hcl	Cartrol

**Appendix H. List of Generic and Brand Names of Medical Products Used to Define Covariates in this Request**

<b>Generic Name</b>	<b>Brand Name</b>
Carvedilol	carvedilol
Carvedilol	Coreg
Carvedilol Phosphate	Coreg CR
Esmolol Hcl	Brevibloc
Esmolol Hcl	esmolol
Esmolol Hcl In Sodium Chloride, Iso-Osmotic	Brevibloc in NaCl (iso-osm)
Labetalol Hcl	labetalol
Labetalol Hcl	Normodyne
Labetalol Hcl	Trandate
Metoprolol Succinate	metoprolol succinate
Metoprolol Succinate	Toprol XL
Metoprolol Succinate/Hydrochlorothiazide	Dutoprol
Metoprolol Succinate/Hydrochlorothiazide	metoprolol su-hydrochlorothiaz
Metoprolol Tartrate	Lopressor
Metoprolol Tartrate	metoprolol tartrate
Metoprolol Tartrate/Dietary Supplement,Comb.10	Hypertensolol
Metoprolol Tartrate/Hydrochlorothiazide	Lopressor HCT
Metoprolol Tartrate/Hydrochlorothiazide	metoprolol ta-hydrochlorothiaz
Nadolol	Corgard
Nadolol	nadolol
Nadolol/Bendroflumethiazide	Corzide
Nadolol/Bendroflumethiazide	nadolol-bendroflumethiazide
Nebivolol Hcl	Bystolic
Penbutolol Sulfate	Levatol
Pindolol	pindolol
Pindolol	Visken
Propranolol Hcl	Hemangeol
Propranolol Hcl	Inderal
Propranolol Hcl	Inderal LA
Propranolol Hcl	Inderal XL
Propranolol Hcl	InnoPran XL
Propranolol Hcl	propranolol
Propranolol Hcl/Hydrochlorothiazide	propranolol-hydrochlorothiazid
Sotalol Hcl	Betapace
Sotalol Hcl	Betapace AF
Sotalol Hcl	Sorine
Sotalol Hcl	sotalol
Sotalol Hcl	Sotalol AF
Sotalol Hcl	Sotylize
Timolol Maleate	Blocadren
Timolol Maleate	timolol maleate
<b>Calcium Channel Blocker</b>	
Aliskiren Hemifumarate/Amlodipine Besylate	Tekamlo
Aliskiren Hemifumarate/Amlodipine/Hydrochlorothiazide	Amturnide
Amlodipine Besylate	amlodipine

**Appendix H. List of Generic and Brand Names of Medical Products Used to Define Covariates in this Request**

<b>Generic Name</b>	<b>Brand Name</b>
Amlodipine Besylate	Norvasc
Amlodipine Besylate/Atorvastatin Calcium	amlodipine-atorvastatin
Amlodipine Besylate/Atorvastatin Calcium	Caduet
Amlodipine Besylate/Benazepril Hcl	amlodipine-benazepril
Amlodipine Besylate/Benazepril Hcl	Lotrel
Amlodipine Besylate/Olmesartan Medoxomil	amlodipine-olmesartan
Amlodipine Besylate/Olmesartan Medoxomil	Azor
Amlodipine Besylate/Valsartan	amlodipine-valsartan
Amlodipine Besylate/Valsartan	Exforge
Amlodipine Besylate/Valsartan/Hydrochlorothiazide	amlodipine-valsartan-hcthiazid
Amlodipine Besylate/Valsartan/Hydrochlorothiazide	Exforge HCT
Clevidipine Butyrate	Cleviprex
Diltiazem Hcl	Cardizem
Diltiazem Hcl	Cardizem CD
Diltiazem Hcl	Cardizem LA
Diltiazem Hcl	Cartia XT
Diltiazem Hcl	Dilacor XR
Diltiazem Hcl	DILT-CD
Diltiazem Hcl	Diltia XT
Diltiazem Hcl	diltiazem HCl
Diltiazem Hcl	DILT-XR
Diltiazem Hcl	Diltzac ER
Diltiazem Hcl	Matzim LA
Diltiazem Hcl	Taztia XT
Diltiazem Hcl	Tiazac
Diltiazem Hcl In 0.9 % Sodium Chloride	diltiazem HCl in 0.9% NaCl
Diltiazem Hcl/Dextrose 5 % In Water	diltiazem in dextrose 5 %
Felodipine	felodipine
Isradipine	DynaCirc CR
Isradipine	isradipine
Nicardipine Hcl	Cardene IV
Nicardipine Hcl	Cardene SR
Nicardipine Hcl	nicardipine
Nicardipine Hcl In 0.9 % Sodium Chloride	nicardipine in 0.9 % NaCl
Nicardipine In 5 % Dextrose In Water	nicardipine in 5 % dextrose
Nicardipine In Dextrose, Iso-Osmotic	Cardene IV in dextrose
Nicardipine In Sodium Chloride, Iso-Osmotic	Cardene IV in sodium chloride
Nifedipine	Adalat CC
Nifedipine	Afeditab CR
Nifedipine	Nifediac CC
Nifedipine	Nifedical XL
Nifedipine	nifedipine
Nifedipine	Procardia
Nifedipine	Procardia XL
Nimodipine	nimodipine



**Appendix H. List of Generic and Brand Names of Medical Products Used to Define Covariates in this Request**

<b>Generic Name</b>	<b>Brand Name</b>
Nimodipine	Nymalize
Nisoldipine	nisoldipine
Nisoldipine	Sular
Olmesartan Medoxomil/Amlodipine Besylate/Hydrochlorothiazide	olmesartan-amlodipin-hcthiazid
Olmesartan Medoxomil/Amlodipine Besylate/Hydrochlorothiazide	Tribenzor
Perindopril Arginine/Amlodipine Besylate	Prestalia
Telmisartan/Amlodipine Besylate	telmisartan-amlodipine
Telmisartan/Amlodipine Besylate	Twynsta
Trandolapril/Verapamil Hcl	Tarka
Trandolapril/Verapamil Hcl	trandolapril-verapamil
Verapamil Hcl	Calan
Verapamil Hcl	Calan SR
Verapamil Hcl	Covera-HS
Verapamil Hcl	Isoptin SR
Verapamil Hcl	verapamil
Verapamil Hcl	Verelan
Verapamil Hcl	Verelan PM
Ziconotide Acetate	Prialt
<b>Diuretic</b>	
Acetazolamide	acetazolamide
Acetazolamide	Diamox Sequels
Acetazolamide Sodium	acetazolamide sodium
Aliskiren Hemifumarate/Hydrochlorothiazide	Tekturna HCT
Amiloride Hcl	amiloride
Amiloride Hcl	Midamor
Amiloride Hcl/Hydrochlorothiazide	amiloride-hydrochlorothiazide
Amlodipine Besylate/Valsartan/Hydrochlorothiazide	amlodipine-valsartan-hcthiazid
Amlodipine Besylate/Valsartan/Hydrochlorothiazide	Exforge HCT
Ammonium Chloride	ammonium chloride
Atenolol/Chlorthalidone	atenolol-chlorthalidone
Atenolol/Chlorthalidone	Tenoretic 100
Atenolol/Chlorthalidone	Tenoretic 50
Azilsartan Medoxomil/Chlorthalidone	Edarbyclor
Benazepril Hcl/Hydrochlorothiazide	benazepril-hydrochlorothiazide
Benazepril Hcl/Hydrochlorothiazide	Lotensin HCT
Bisoprolol Fumarate/Hydrochlorothiazide	bisoprolol-hydrochlorothiazide
Bisoprolol Fumarate/Hydrochlorothiazide	Ziac
Bumetanide	bumetanide
Candesartan Cilexetil/Hydrochlorothiazide	Atacand HCT
Candesartan Cilexetil/Hydrochlorothiazide	candesartan-hydrochlorothiazid
Captopril/Hydrochlorothiazide	captopril-hydrochlorothiazide
Chlorothiazide	chlorothiazide
Chlorothiazide	Diuril
Chlorothiazide Sodium	chlorothiazide sodium
Chlorothiazide Sodium	Diuril IV

**Appendix H. List of Generic and Brand Names of Medical Products Used to Define Covariates in this Request**

<b>Generic Name</b>	<b>Brand Name</b>
Chlorthalidone	chlorthalidone
Chlorthalidone	Thalitone
Clonidine Hcl/Chlorthalidone	Clorpres
Conivaptan Hcl/Dextrose 5 % In Water	Vaprisol
Enalapril Maleate/Hydrochlorothiazide	enalapril-hydrochlorothiazide
Enalapril Maleate/Hydrochlorothiazide	Vaseretic
Eplerenone	eplerenone
Eplerenone	Inspira
Eprosartan Mesylate/Hydrochlorothiazide	Teveten HCT
Ethacrynate Sodium	ethacrynate sodium
Ethacrynate Sodium	Sodium Edecrin
Ethacrynic Acid	Edecrin
Ethacrynic Acid	ethacrynic acid
Fosinopril Sodium/Hydrochlorothiazide	fosinopril-hydrochlorothiazide
Furosemide	furosemide
Furosemide	Lasix
Furosemide In 0.9 % Sodium Chloride	furosemide in 0.9 % NaCl
Furosemide/Dextrose 5 % In Water	furosemide in dextrose 5 %
Glycerin	Introl
Hydrochlorothiazide	hydrochlorothiazide
Hydrochlorothiazide	Microzide
Indapamide	indapamide
Irbesartan/Hydrochlorothiazide	Avalide
Irbesartan/Hydrochlorothiazide	irbesartan-hydrochlorothiazide
Lisinopril/Hydrochlorothiazide	lisinopril-hydrochlorothiazide
Lisinopril/Hydrochlorothiazide	Prinzide
Lisinopril/Hydrochlorothiazide	Zestoretic
Losartan Potassium/Hydrochlorothiazide	Hyzaar
Losartan Potassium/Hydrochlorothiazide	losartan-hydrochlorothiazide
Mannitol	mannitol 10 %
Mannitol	mannitol 15 %
Mannitol	mannitol 20 %
Mannitol	mannitol 25 %
Mannitol	mannitol 5 %
Mannitol	Osmitrol 10 %
Mannitol	Osmitrol 15 %
Mannitol	Osmitrol 20 %
Mannitol	Osmitrol 5 %
Methazolamide	methazolamide
Methazolamide	Neptazane
Methyclothiazide	Enduron
Methyclothiazide	methyclothiazide
Methyldopa/Hydrochlorothiazide	methyldopa-hydrochlorothiazide
Metolazone	metolazone
Metolazone	Zaroxolyn

**Appendix H. List of Generic and Brand Names of Medical Products Used to Define Covariates in this Request**

<b>Generic Name</b>	<b>Brand Name</b>
Metoprolol Succinate/Hydrochlorothiazide	Dutoprol
Metoprolol Succinate/Hydrochlorothiazide	metoprolol su-hydrochlorothiaz
Metoprolol Tartrate/Hydrochlorothiazide	Lopressor HCT
Metoprolol Tartrate/Hydrochlorothiazide	metoprolol ta-hydrochlorothiaz
Moexipril Hcl/Hydrochlorothiazide	moexipril-hydrochlorothiazide
Moexipril Hcl/Hydrochlorothiazide	Uniretic
Nadolol/Bendroflumethiazide	Corzide
Nadolol/Bendroflumethiazide	nadolol-bendroflumethiazide
Olmesartan Medoxomil/Amlodipine Besylate/Hydrochlorothiazide	olmesartan-amlodipin-hcthiazid
Olmesartan Medoxomil/Amlodipine Besylate/Hydrochlorothiazide	Tribenzor
Olmesartan Medoxomil/Hydrochlorothiazide	Benicar HCT
Olmesartan Medoxomil/Hydrochlorothiazide	olmesartan-hydrochlorothiazide
Propranolol Hcl/Hydrochlorothiazide	propranolol-hydrochlorothiazid
Quinapril Hcl/Hydrochlorothiazide	Accuretic
Quinapril Hcl/Hydrochlorothiazide	quinapril-hydrochlorothiazide
Spirolactone	Aldactone
Spirolactone	spironolactone
Spirolactone/Hydrochlorothiazide	Aldactazide
Spirolactone/Hydrochlorothiazide	spironolacton-hydrochlorothiaz
Telmisartan/Hydrochlorothiazide	Micardis HCT
Telmisartan/Hydrochlorothiazide	telmisartan-hydrochlorothiazid
Tolvaptan	Samsca
Toremide	Demadex
Toremide	toremide
Triamterene	Dyrenium
Triamterene/Hydrochlorothiazide	Dyazide
Triamterene/Hydrochlorothiazide	Maxzide
Triamterene/Hydrochlorothiazide	Maxzide-25mg
Triamterene/Hydrochlorothiazide	triamterene-hydrochlorothiazid
Valsartan/Hydrochlorothiazide	Diovan HCT
Valsartan/Hydrochlorothiazide	valsartan-hydrochlorothiazide
<b>Insulin</b>	
Insulin Aspart	Novolog
Insulin Aspart	Novolog Flexpen
Insulin Aspart	Novolog PenFill
Insulin Aspart Protamine Human/Insulin Aspart	Novolog Mix 70-30
Insulin Aspart Protamine Human/Insulin Aspart	Novolog Mix 70-30 FlexPen
Insulin Degludec	Tresiba FlexTouch U-100
Insulin Degludec	Tresiba FlexTouch U-200
Insulin Detemir	Levemir
Insulin Detemir	Levemir Flexpen
Insulin Detemir	Levemir FlexTouch
Insulin Glargine,Human Recombinant Analog	Basaglar KwikPen
Insulin Glargine,Human Recombinant Analog	Lantus
Insulin Glargine,Human Recombinant Analog	Lantus Solostar

**Appendix H. List of Generic and Brand Names of Medical Products Used to Define Covariates in this Request**

<b>Generic Name</b>	<b>Brand Name</b>
Insulin Glargine, Human Recombinant Analog	Toujeo SoloStar
Insulin Glulisine	Apidra
Insulin Glulisine	Apidra SoloStar
Insulin Lispro	Humalog
Insulin Lispro	Humalog KwikPen
Insulin Lispro	Humalog Pen
Insulin Lispro Protamine And Insulin Lispro	Humalog Mix 50-50
Insulin Lispro Protamine And Insulin Lispro	Humalog Mix 50-50 KwikPen
Insulin Lispro Protamine And Insulin Lispro	Humalog Mix 75-25
Insulin Lispro Protamine And Insulin Lispro	Humalog Mix 75-25 KwikPen
Insulin Regular, Human	Afrezza
Insulin Regular, Human	Humulin R U-500 (Conc) Kwikpen
Insulin Regular, Human	Humulin R U-500 (Concentrated)
<b>Non-Statin Lipid Lowering Drug</b>	
Alirocumab	Praluent Pen
Alirocumab	Praluent Syringe
Colesevelam Hcl	WelChol
Colestipol Hcl	Colestid
Colestipol Hcl	colestipol
Evolocumab	Repatha Pushtronex
Evolocumab	Repatha SureClick
Evolocumab	Repatha Syringe
Ezetimibe	ezetimibe
Ezetimibe	Zetia
Fenofibrate	fenofibrate
Fenofibrate	Fenoglide
Fenofibrate	Lipofen
Fenofibrate	Lofibra
Fenofibrate Nanocrystallized	fenofibrate nanocrystallized
Fenofibrate Nanocrystallized	Tricor
Fenofibrate Nanocrystallized	Triglide
Fenofibrate, Micronized	Antara
Fenofibrate, Micronized	fenofibrate micronized
Fenofibrate, Micronized	Lofibra
Fenofibric Acid	fenofibric acid
Fenofibric Acid	Fibricor
Fenofibric Acid (Choline)	fenofibric acid (choline)
Fenofibric Acid (Choline)	Trilipix
Fish Oil/Omega-3 Fatty Acids/Vit E/Folic Acid/B6-B12	CardioVid PLUS
Gemfibrozil	gemfibrozil
Gemfibrozil	Lopid
Icosapent Ethyl	Vascepa
Lomitapide Mesylate	Juxtapid
Methionine/Inositol/Choline/Folic Acid	Lipochol Plus
Mipomersen Sodium	Kynamro

**Appendix H. List of Generic and Brand Names of Medical Products Used to Define Covariates in this Request**

<b>Generic Name</b>	<b>Brand Name</b>
Niacin	niacin
Niacin	Niacor
Niacin	Niaspan Extended-Release
Omega-3 Acid Ethyl Esters	Lovaza
Omega-3 Acid Ethyl Esters	omega-3 acid ethyl esters
<b>Oral Antidiabetic Agent</b>	
Acarbose	acarbose
Acarbose	Precose
Alogliptin Benzoate	alogliptin
Alogliptin Benzoate	Nesina
Alogliptin Benzoate/Metformin Hcl	alogliptin-metformin
Alogliptin Benzoate/Metformin Hcl	Kazano
Alogliptin Benzoate/Pioglitazone Hcl	alogliptin-pioglitazone
Alogliptin Benzoate/Pioglitazone Hcl	Oseni
Bromocriptine Mesylate	Cycloset
Canagliflozin	Invokana
Canagliflozin/Metformin Hcl	Invokamet
Canagliflozin/Metformin Hcl	Invokamet XR
Chlorpropamide	chlorpropamide
Dapagliflozin Propanediol	Farxiga
Dapagliflozin Propanediol/Metformin Hcl	Xigduo XR
Empagliflozin	Jardiance
Empagliflozin/Linagliptin	Glyxambi
Empagliflozin/Metformin Hcl	Synjardy
Empagliflozin/Metformin Hcl	Synjardy XR
Glimepiride	Amaryl
Glimepiride	glimepiride
Glipizide	glipizide
Glipizide	Glucotrol
Glipizide	Glucotrol XL
Glipizide/Metformin Hcl	glipizide-metformin
Glipizide/Metformin Hcl	Metaglip
Glyburide	Diabeta
Glyburide	glyburide
Glyburide, Micronized	glyburide micronized
Glyburide, Micronized	Glynase
Glyburide/Metformin Hcl	Glucovance
Glyburide/Metformin Hcl	glyburide-metformin
Linagliptin	Tradjenta
Linagliptin/Metformin Hcl	Jentadueto
Linagliptin/Metformin Hcl	Jentadueto XR
Metformin Hcl	Fortamet
Metformin Hcl	Glucophage
Metformin Hcl	Glucophage XR
Metformin Hcl	Glumetza

**Appendix H. List of Generic and Brand Names of Medical Products Used to Define Covariates in this Request**

<b>Generic Name</b>	<b>Brand Name</b>
Metformin Hcl	metformin
Metformin Hcl	Riomet
Metformin/Amino Acids Comb. #7/Herbal Comb.#125/Choline	Appformin-D
Metformin/Caffeine/Amino Acids#7/Herbal Comb#125/Choline Bit	Appformin
Mifepristone	Korlym
Miglitol	Glyset
Miglitol	miglitol
Nateglinide	nateglinide
Nateglinide	Starlix
Pioglitazone Hcl	Actos
Pioglitazone Hcl	pioglitazone
Pioglitazone Hcl/Glimepiride	DUETACT
Pioglitazone Hcl/Glimepiride	pioglitazone-glimepiride
Pioglitazone Hcl/Metformin Hcl	Actoplus MET
Pioglitazone Hcl/Metformin Hcl	Actoplus Met XR
Pioglitazone Hcl/Metformin Hcl	pioglitazone-metformin
Repaglinide	Prandin
Repaglinide	repaglinide
Repaglinide/Metformin Hcl	Prandimet
Repaglinide/Metformin Hcl	repaglinide-metformin
Rosiglitazone Maleate	Avandia
Rosiglitazone Maleate/Glimepiride	Avandaryl
Rosiglitazone Maleate/Metformin Hcl	Avandamet
Saxagliptin Hcl	Onglyza
Saxagliptin Hcl/Metformin Hcl	Kombiglyze XR
Sitagliptin Phosphate	Januvia
Sitagliptin Phosphate/Metformin Hcl	Janumet
Sitagliptin Phosphate/Metformin Hcl	Janumet XR
Sitagliptin Phosphate/Simvastatin	Juvisync
Tolazamide	tolazamide
Tolbutamide	tolbutamide
<b>Other Antihypertensive Medication</b>	
Aliskiren Hemifumarate	Tekturna
Aliskiren Hemifumarate/Amlodipine Besylate	Tekamlo
Aliskiren Hemifumarate/Amlodipine/Hydrochlorothiazide	Amturnide
Aliskiren Hemifumarate/Hydrochlorothiazide	Tekturna HCT
Aliskiren/Valsartan	Valturna
Ambrisentan	Letairis
Bosentan	Tracleer
Clonidine	Catapres-TTS-1
Clonidine	Catapres-TTS-2
Clonidine	Catapres-TTS-3
Clonidine	clonidine
Clonidine Hcl	Catapres
Clonidine Hcl	clonidine HCl

**Appendix H. List of Generic and Brand Names of Medical Products Used to Define Covariates in this Request**

<b>Generic Name</b>	<b>Brand Name</b>
Clonidine Hcl	Nexiclon XR
Clonidine Hcl/Chlorthalidone	Clorpres
Doxazosin Mesylate	Cardura
Doxazosin Mesylate	Cardura XL
Doxazosin Mesylate	doxazosin
Epoprostenol Sodium (Arginine)	Veletri
Epoprostenol Sodium (Glycine)	epoprostenol (glycine)
Epoprostenol Sodium (Glycine)	Flolan
Fenoldopam Mesylate	Corlopam
Fenoldopam Mesylate	fenoldopam
Guanabenz Acetate	guanabenz
Guanfacine Hcl	guanfacine
Guanfacine Hcl	Tenex
Hydralazine Hcl	hydralazine
Iloprost Tromethamine	Ventavis
Isosorbide Dinitrate/Hydralazine Hcl	BiDil
Isoxsuprine Hcl	isoxsuprine
Macitentan	Opsumit
Mecamylamine Hcl	Vecamyl
Methyldopa	methyldopa
Methyldopa/Hydrochlorothiazide	methyldopa-hydrochlorothiazide
Methyldopate Hcl	methyldopate
Metyrosine	Demser
Minoxidil	minoxidil
Nitroprusside Sodium	Nitropress
Nitroprusside Sodium	sodium nitroprusside
Nitroprusside Sodium In 0.9 % Sodium Chloride	Nipride RTU
Papaverine Hcl	papaverine
Phenoxybenzamine Hcl	Dibenzyline
Phenoxybenzamine Hcl	phenoxybenzamine
Phentolamine Mesylate	phentolamine
Prazosin Hcl	Minipress
Prazosin Hcl	prazosin
Reserpine	reserpine
Riociguat	Adempas
Selexipag	Uptravi
Sildenafil Citrate	Revatio
Sildenafil Citrate	sildenafil
Tadalafil	Adcirca
Terazosin Hcl	Hytrin
Terazosin Hcl	terazosin
Treprostinil	Tyvaso
Treprostinil Diolamine	Orenitram
Treprostinil Sodium	Remodulin
Treprostinil/Nebulizer Accessories	Tyvaso Refill Kit

**Appendix H. List of Generic and Brand Names of Medical Products Used to Define Covariates in this Request**

<b>Generic Name</b>	<b>Brand Name</b>
Treprostinil/Nebulizer And Accessories	Tyvaso Institutional Start Kit
Treprostinil/Nebulizer And Accessories	Tyvaso Starter Kit
<b>Statin</b>	
Amlodipine Besylate/Atorvastatin Calcium	amlodipine-atorvastatin
Amlodipine Besylate/Atorvastatin Calcium	Caduet
Atorvastatin Calcium	atorvastatin
Atorvastatin Calcium	Lipitor
Ezetimibe/Atorvastatin Calcium	Liptruzet
Ezetimibe/Simvastatin	ezetimibe-simvastatin
Ezetimibe/Simvastatin	Vytorin 10-10
Ezetimibe/Simvastatin	Vytorin 10-20
Ezetimibe/Simvastatin	Vytorin 10-40
Ezetimibe/Simvastatin	Vytorin 10-80
Fluvastatin Sodium	fluvastatin
Fluvastatin Sodium	Lescol
Fluvastatin Sodium	Lescol XL
Lovastatin	Altoprev
Lovastatin	lovastatin
Lovastatin	Mevacor
Niacin/Lovastatin	Advicor
Niacin/Simvastatin	Simcor
Pitavastatin Calcium	Livalo
Pravastatin Sodium	Pravachol
Pravastatin Sodium	pravastatin
Rosuvastatin Calcium	Crestor
Rosuvastatin Calcium	rosuvastatin
Simvastatin	simvastatin
Simvastatin	Zocor
<b>Medications that Increase Bleeding Risk</b>	
<b>Antiplatelet Agent</b>	
Abciximab	Reopro
Anagrelide Hcl	Agrylin
Anagrelide Hcl	anagrelide
Aspirin	Durlaza
Aspirin/Dipyridamole	Aggrenox
Aspirin/Dipyridamole	aspirin-dipyridamole
Aspirin/Omeprazole	Yosprala
Cangrelor Tetrasodium	Kengreal
Cilostazol	cilostazol
Cilostazol	Pletal
Clopidogrel Bisulfate	clopidogrel
Clopidogrel Bisulfate	Plavix
Dipyridamole	dipyridamole
Dipyridamole	Persantine
Eptifibatide	eptifibatide



**Appendix H. List of Generic and Brand Names of Medical Products Used to Define Covariates in this Request**

<b>Generic Name</b>	<b>Brand Name</b>
Eptifibatide	Integrilin
Prasugrel Hcl	Effient
Ticagrelor	Brilinta
Ticlopidine Hcl	ticlopidine
Tirofiban Hcl Monohydrate	Aggrastat Concentrate
Tirofiban Hcl Monohydrate In 0.9 % Sodium Chloride	Aggrastat in sodium chloride
Vorapaxar Sulfate	Zontivity
<b>Aspirin</b>	
Aspirin	aspirin
Aspirin	Durlaza
Aspirin	Easprin
Aspirin	Zorprin
Aspirin/Caffeine/Dihydrocodeine Bitartrate	aspirin-caffeine-dihydrocodein
Aspirin/Caffeine/Dihydrocodeine Bitartrate	Synalgos-DC
Aspirin/Dipyridamole	Aggrenox
Aspirin/Dipyridamole	aspirin-dipyridamole
Aspirin/Omeprazole	Yosprala
Aspirin/Salicylamide/Acetaminophen/Caffeine	Levacet
Butalbital/Aspirin/Caffeine	Butalbital Compound
Butalbital/Aspirin/Caffeine	butalbital-aspirin-caffeine
Butalbital/Aspirin/Caffeine	Fiorinal
Carisoprodol/Aspirin	Carisoprodol Compound
Carisoprodol/Aspirin	carisoprodol-aspirin
Carisoprodol/Aspirin/Codeine Phosphate	Carisoprodol Compound-Codeine
Carisoprodol/Aspirin/Codeine Phosphate	carisoprodol-ASA-codeine
Choline Salicylate/Magnesium Salicylate	choline,magnesium salicylate
Choline Salicylate/Magnesium Salicylate	Choline-Mag Trisalicylate
Codeine Phosphate/Butalbital/Aspirin/Caffeine	Ascomp with Codeine
Codeine Phosphate/Butalbital/Aspirin/Caffeine	Butalbital Compound W/Codeine
Codeine Phosphate/Butalbital/Aspirin/Caffeine	Butalbital Compound-Codeine
Codeine Phosphate/Butalbital/Aspirin/Caffeine	codeine-butalbital-ASA-caff
Codeine Phosphate/Butalbital/Aspirin/Caffeine	Fiorinal-Codeine #3
Diflunisal	diflunisal
Magnesium Salicylate	MST 600
Orphenadrine Citrate/Aspirin/Caffeine	Norgesic Forte
Orphenadrine Citrate/Aspirin/Caffeine	Orphenadrine Compound
Orphenadrine Citrate/Aspirin/Caffeine	Orphenadrine Compound Forte
Orphenadrine Citrate/Aspirin/Caffeine	Orphenadrine Compound-DS
Orphenadrine Citrate/Aspirin/Caffeine	orphenadrine-ASA-caffeine
Oxycodone Hcl/Aspirin	Endodan
Oxycodone Hcl/Aspirin	oxycodone-aspirin
Oxycodone Hcl/Aspirin	Percodan
Oxycodone Hcl/Oxycodone Terephthalate/Aspirin	oxycodone HCl-oxycodone-ASA
Salicylamide/Acetaminophen	Frenadol
Salicylamide/Acetaminophen/Phenyltoloxamine	Anabar

**Appendix H. List of Generic and Brand Names of Medical Products Used to Define Covariates in this Request**

<b>Generic Name</b>	<b>Brand Name</b>
Salicylamide/Acetaminophen/Phenyltoloxamine	Be-Flex Plus
Salicylamide/Acetaminophen/Phenyltoloxamine	Duraxin
Salicylamide/Acetaminophen/Phenyltoloxamine	Ed-Flex
Salicylamide/Acetaminophen/Phenyltoloxamine/Caffeine	Cafgesic
Salicylamide/Acetaminophen/Phenyltoloxamine/Caffeine	Durabac
Salsalate	Disalcid
Salsalate	salsalate
Sodium Thiosalicylate	Thiocyl
<b>Cephalosporin Antibiotic</b>	
Cefaclor	Ceclor
Cefaclor	cefaclor
Cefadroxil	cefadroxil
Cefadroxil	Duricef
Cefazolin Sodium	cefazolin
Cefazolin Sodium In 0.9 % Sodium Chloride	cefazolin in 0.9% sod chloride
Cefazolin Sodium/Dextrose 5 % In Water	cefazolin in dextrose 5 %
Cefazolin Sodium/Dextrose, Iso-Osmotic	cefazolin in dextrose (iso-os)
Cefazolin Sodium/Water For Injection,Sterile	cefazolin in sterile water
Cefdinir	cefdinir
Cefdinir	Omnicef
Cefditoren Pivoxil	cefditoren pivoxil
Cefditoren Pivoxil	Spectracef
Cefepime Hcl	cefepime
Cefepime Hcl	Maxipime
Cefepime Hcl In Dextrose 5 % In Water	cefepime in dextrose 5 %
Cefepime Hcl In Iso-Osmotic Dextrose	cefepime in dextrose,iso-osm
Cefixime	cefixime
Cefixime	Suprax
Cefotaxime Sodium	cefotaxime
Cefotaxime Sodium	Claforan
Cefotaxime Sodium/Dextrose, Iso-Osmotic	Claforan in dextrose(iso-osm)
Cefotetan Disodium	Cefotan
Cefotetan Disodium	cefotetan
Cefotetan Disodium In Iso-Osmotic Dextrose	cefotetan in dextrose, iso-osm
Cefoxitin Sodium	cefoxitin
Cefoxitin Sodium/Dextrose 5 % In Water	Mefoxin in dextrose (iso-osm)
Cefoxitin Sodium/Dextrose, Iso-Osmotic	cefoxitin in dextrose, iso-osm
Cefpodoxime Proxetil	cefpodoxime
Cefprozil	cefprozil
Ceftaroline Fosamil Acetate	Teflaro
Ceftazidime	ceftazidime
Ceftazidime	Fortaz
Ceftazidime	TAZICEF
Ceftazidime In Dextrose 5% And Water	ceftazidime in D5W
Ceftazidime Sodium In Iso-Osmotic Dextrose	Fortaz in dextrose 5 %

**Appendix H. List of Generic and Brand Names of Medical Products Used to Define Covariates in this Request**

<b>Generic Name</b>	<b>Brand Name</b>
Ceftazidime/Avibactam Sodium	Avycaz
Ceftibuten	Cedax
Ceftibuten	ceftibuten
Ceftolozane Sulfate/Tazobactam Sodium	Zerbaxa
Ceftriaxone Sodium	ceftriaxone
Ceftriaxone Sodium	Rocephin
Ceftriaxone Sodium In Iso-Osmotic Dextrose	ceftriaxone in dextrose,iso-os
Cefuroxime Axetil	Ceftin
Cefuroxime Axetil	cefuroxime axetil
Cefuroxime Sodium	cefuroxime sodium
Cefuroxime Sodium	Zinacef
Cefuroxime Sodium/Dextrose, Iso-Osmotic	cefuroxime-dextrose (iso-osm)
Cefuroxime Sodium/Dextrose, Iso-Osmotic	Zinacef in dextrose (iso-osm)
Cefuroxime Sodium/Water For Injection,Sterile	Zinacef in Sterile Water
Cephalexin	cephalexin
Cephalexin	Daxbia
Cephalexin	Keflex
<b>Cyclooxygenase-2 (Cox-2) Inhibitors</b>	
Celecoxib	Celebrex
Celecoxib	celecoxib
<b>Fondaparinux</b>	
Fondaparinux Sodium	Arixtra
Fondaparinux Sodium	fondaparinux
<b>Heparin And Low Molecular Weight Heparin</b>	
Dalteparin Sodium, Porcine	Fragmin
Enoxaparin Sodium	enoxaparin
Enoxaparin Sodium	Lovenox
Heparin Sodium, Porcine	heparin (porcine)
Heparin Sodium, Porcine	Heparin Lock
Heparin Sodium, Porcine	heparin lock flush
Heparin Sodium, Porcine	heparin lock flush (porcine)
Heparin Sodium, Porcine	Hep-Lock Flush
Heparin Sodium, Porcine In 0.45 % Sodium Chloride	heparin(porcine) in 0.45% NaCl
Heparin Sodium, Porcine In 0.9 % Sodium Chloride	heparin (porcine) in 0.9% NaCl
Heparin Sodium, Porcine In 0.9 % Sodium Chloride/Pf	heparin (porcine) in NaCl (PF)
Heparin Sodium, Porcine/Dextrose 5 % In Water	heparin (porcine) in 5 % dex
Heparin Sodium, Porcine/Dextrose 5 % In Water/Pf	heparin (porcine) in D5W (PF)
Heparin Sodium, Porcine/Pf	Hep Flush-10 (PF)
Heparin Sodium, Porcine/Pf	Heparin LockFlush(Porcine)(PF)
Heparin Sodium, Porcine/Pf	heparin, porcine (PF)
Heparin Sodium, Porcine/Pf	Hep-Lock U/P PF
Heparin Sodium, Porcine/Pf	Monoject Prefill (PF)
Heparin Sodium, Porcine/Pf	Monoject Prefill Advanced (PF)
Tinzaparin Sodium, Porcine	Innohep

**Appendix H. List of Generic and Brand Names of Medical Products Used to Define Covariates in this Request**

<b>Generic Name</b>	<b>Brand Name</b>
<b>Prescription Non-Steroidal Anti-Inflammatory Drug (NSAID)</b>	
Celecoxib	Celebrex
Celecoxib	celecoxib
Diclofenac Epolamine	Flector
Diclofenac Potassium	Cambia
Diclofenac Potassium	Cataflam
Diclofenac Potassium	diclofenac potassium
Diclofenac Potassium	Zipsor
Diclofenac Sodium	diclofenac sodium
Diclofenac Sodium	Dyloject
Diclofenac Sodium	Voltaren
Diclofenac Sodium	Voltaren-XR
Diclofenac Sodium/Misoprostol	Arthrotec 50
Diclofenac Sodium/Misoprostol	Arthrotec 75
Diclofenac Sodium/Misoprostol	diclofenac-misoprostol
Diclofenac Submicronized	Zorvolex
Etodolac	etodolac
Etodolac	Lodine
Fenoprofen Calcium	fenoprofen
Fenoprofen Calcium	Fenortho
Fenoprofen Calcium	Nalfon
Flurbiprofen	Ansaid
Flurbiprofen	flurbiprofen
Hydrocodone/Ibuprofen	hydrocodone-ibuprofen
Hydrocodone/Ibuprofen	Ibudone
Hydrocodone/Ibuprofen	Reprexain
Hydrocodone/Ibuprofen	Vicoprofen
Hydrocodone/Ibuprofen	Xylon 10
Ibuprofen	Caldolor
Ibuprofen	ibuprofen
Ibuprofen	Motrin
Ibuprofen Lysine/Pf	ibuprofen lysine (PF)
Ibuprofen Lysine/Pf	NeoProfen (ibuprofen lysn)(PF)
Ibuprofen/Caffeine/Vitamins B1, B2, B6, & B12	IC400
Ibuprofen/Caffeine/Vitamins B1, B2, B6, & B12	IC800
Ibuprofen/Dietary Supplement,Misc. Cb.11	Theraprofen-60
Ibuprofen/Dietary Supplement,Misc. Cb.11	Theraprofen-90
Ibuprofen/Famotidine	Duexis
Ibuprofen/Oxycodone Hcl	Combunox
Ibuprofen/Oxycodone Hcl	ibuprofen-oxycodone
Indomethacin	Indocin
Indomethacin	indomethacin
Indomethacin Sodium	Indocin
Indomethacin Sodium	indomethacin sodium
Indomethacin, Submicronized	Tivorbex

**Appendix H. List of Generic and Brand Names of Medical Products Used to Define Covariates in this Request**

<b>Generic Name</b>	<b>Brand Name</b>
Ketoprofen	ketoprofen
Ketorolac Tromethamine	ketorolac
Ketorolac Tromethamine	ReadySharp ketorolac
Ketorolac Tromethamine	Sprix
Ketorolac Tromethamine	Toradol
Meclofenamate Sodium	meclofenamate
Mefenamic Acid	mefenamic acid
Mefenamic Acid	Ponstel
Meloxicam	meloxicam
Meloxicam	Mobic
Meloxicam, Submicronized	Vivlodex
Nabumetone	nabumetone
Nabumetone	Relafen
Naproxen	EC-Naprosyn
Naproxen	Naprosyn
Naproxen	naproxen
Naproxen Sodium	Anaprox
Naproxen Sodium	Anaprox DS
Naproxen Sodium	Naprelan CR
Naproxen Sodium	Naprelan CR Dose Card
Naproxen Sodium	naproxen sodium
Naproxen/Dietary Supplement,Misc. Cb.11	Theraproxen
Naproxen/Dietary Supplement,Misc. Cb.11	Theraproxen-90
Naproxen/Esomeprazole Magnesium	Vimovo
Oxaprozin	Daypro
Oxaprozin	oxaprozin
Piroxicam	Feldene
Piroxicam	piroxicam
Piroxicam/Dietary Supplement,Misc. Cb.11	Therafeldamine
Sulindac	Clinoril
Sulindac	sulindac
Sumatriptan Succinate/Naproxen Sodium	Treximet
Tolmetin Sodium	tolmetin
<b>Serotonin–Norepinephrine Reuptake Inhibitor (SNRI)</b>	
Desvenlafaxine	desvenlafaxine
Desvenlafaxine	Khedezla
Desvenlafaxine Fumarate	desvenlafaxine fumarate
Desvenlafaxine Succinate	Pristiq
Duloxetine Hcl	Cymbalta
Duloxetine Hcl	duloxetine
Duloxetine Hcl	Irenka
Levomilnacipran Hcl	Fetzima
Milnacipran Hcl	Savella
Venlafaxine Hcl	Effexor
Venlafaxine Hcl	Effexor XR

**Appendix H. List of Generic and Brand Names of Medical Products Used to Define Covariates in this Request**

<b>Generic Name</b>	<b>Brand Name</b>
Venlafaxine Hcl	venlafaxine
<b>Selective Serotonin Reuptake Inhibitor (SSRI)</b>	
Citalopram Hydrobromide	Celexa
Citalopram Hydrobromide	citalopram
Escitalopram Oxalate	escitalopram oxalate
Escitalopram Oxalate	Lexapro
Fluoxetine Hcl	fluoxetine
Fluoxetine Hcl	Prozac
Fluoxetine Hcl	Prozac Weekly
Fluoxetine Hcl	Rapiflux
Fluoxetine Hcl	Sarafem
Fluoxetine Hcl	Selfemra
Fluoxetine Hcl/Dietary Supplement,Misc Comb17	Gaboxetine
Fluoxetine Hcl/Dietary Supplement,Misc.Combo8	Sentroxatine
Fluvoxamine Maleate	fluvoxamine
Fluvoxamine Maleate	Luvox CR
Paroxetine Hcl	paroxetine HCl
Paroxetine Hcl	Paxil
Paroxetine Hcl	Paxil CR
Paroxetine Mesylate	Pexeva
Sertraline Hcl	sertraline
Sertraline Hcl	Zoloft
<b>Medications Listed On Label As Having Clinically Significant Interactions With Warfarin Or Novel Oral Anticoagulants (NOACs) (Inhibitors And Substrates)</b>	
<b>Cytochrome P450 3A4 (Cyp3A4) And P-Glycoprotein (P-Gp) Inhibitors And Substrates</b>	
Atazanavir Sulfate	Reyataz
Atazanavir Sulfate/Cobicistat	Evotaz
Chloramphenicol Sod Succinate	chloramphenicol sod succinate
Conivaptan Hcl/Dextrose 5 % In Water	Vaprisol
Darunavir Ethanolate	Prezista
Darunavir Ethanolate/Cobicistat	Prezcobix
Fluconazole	Diflucan
Fluconazole	fluconazole
Fluconazole In Dextrose, Iso-Osmotic	Diflucan in dextrose (iso-osm)
Fluconazole In Dextrose, Iso-Osmotic	fluconazole in dextrose(iso-o)
Fluconazole In Sodium Chloride, Iso-Osmotic	Diflucan in NaCl (iso-osm)
Fluconazole In Sodium Chloride, Iso-Osmotic	fluconazole in NaCl (iso-osm)
Fosamprenavir Calcium	Lexiva
Indinavir Sulfate	Crixivan
Itraconazole	itraconazole
Itraconazole	Onmel
Itraconazole	Sporanox
Itraconazole	Sporanox Pulsepak
Ketoconazole	ketoconazole
Ketoconazole	Nizoral

**Appendix H. List of Generic and Brand Names of Medical Products Used to Define Covariates in this Request**

<b>Generic Name</b>	<b>Brand Name</b>
Lopinavir/Ritonavir	Kaletra
Lopinavir/Ritonavir	lopinavir-ritonavir
Midazolam Hcl	midazolam
Midazolam Hcl In 0.9 % Sodium Chloride	midazolam in 0.9 % NaCl
Midazolam Hcl In 0.9 % Sodium Chloride/Pf	midazolam (PF) in 0.9 % NaCl
Midazolam Hcl In Dextrose 5% In Water	midazolam in dextrose 5 %
Midazolam Hcl/Dextrose 5%-Water/Pf	midazolam in dextrose 5 % (PF)
Midazolam Hcl/Pf	midazolam (PF)
Nefazodone Hcl	nefazodone
Nelfinavir Mesylate	Viracept
Ritonavir	Norvir
Ritonavir	Norvir Soft Gelatin
Saquinavir Mesylate	Invirase
Tipranavir	Aptivus
Tipranavir/Vitamin E Tpgs	Aptivus
Trandolapril/Verapamil Hcl	Tarka
Trandolapril/Verapamil Hcl	trandolapril-verapamil
Triazolam	Halcion
Triazolam	triazolam
Verapamil Hcl	Calan
Verapamil Hcl	Calan SR
Verapamil Hcl	Covera-HS
Verapamil Hcl	Isoptin SR
Verapamil Hcl	verapamil
Verapamil Hcl	Verelan
Verapamil Hcl	Verelan PM
<b>Fibrate</b>	
Fenofibrate	fenofibrate
Fenofibrate	Fenoglide
Fenofibrate	Lipofen
Fenofibrate	Lofibra
Fenofibrate Nanocrystallized	fenofibrate nanocrystallized
Fenofibrate Nanocrystallized	Tricor
Fenofibrate Nanocrystallized	Triglide
Fenofibrate,Micronized	Antara
Fenofibrate,Micronized	fenofibrate micronized
Fenofibrate,Micronized	Lofibra
Fenofibric Acid	fenofibric acid
Fenofibric Acid	Fibricor
Fenofibric Acid (Choline)	fenofibric acid (choline)
Fenofibric Acid (Choline)	Trilipix
Gemfibrozil	gemfibrozil
Gemfibrozil	Lopid
<b>Statin</b>	
Amlodipine Besylate/Atorvastatin Calcium	amlodipine-atorvastatin

**Appendix H. List of Generic and Brand Names of Medical Products Used to Define Covariates in this Request**

<b>Generic Name</b>	<b>Brand Name</b>
Amlodipine Besylate/Atorvastatin Calcium	Caduet
Atorvastatin Calcium	atorvastatin
Atorvastatin Calcium	Lipitor
Ezetimibe/Atorvastatin Calcium	Liptruzet
Ezetimibe/Simvastatin	ezetimibe-simvastatin
Ezetimibe/Simvastatin	Vytorin 10-10
Ezetimibe/Simvastatin	Vytorin 10-20
Ezetimibe/Simvastatin	Vytorin 10-40
Ezetimibe/Simvastatin	Vytorin 10-80
Fluvastatin Sodium	fluvastatin
Fluvastatin Sodium	Lescol
Fluvastatin Sodium	Lescol XL
Lovastatin	Altoprev
Lovastatin	lovastatin
Lovastatin	Mevacor
Niacin/Lovastatin	Advicor
Niacin/Simvastatin	Simcor
Pitavastatin Calcium	Livalo
Pravastatin Sodium	Pravachol
Pravastatin Sodium	pravastatin
Rosuvastatin Calcium	Crestor
Rosuvastatin Calcium	rosuvastatin
Simvastatin	simvastatin
Simvastatin	Zocor
<b>Other Medications That Inhibit Cyp3A4, P-Gp, Cytochrome P450 2C9 (Cyp2C9), Or Cytochrome P450 1A2 (Cyp1A2)</b>	
Amiodarone Hcl	amiodarone
Amiodarone Hcl	Cordarone
Amiodarone Hcl	Pacerone
Amiodarone Hcl/Dextrose 5 % In Water	amiodarone in dextrose 5 %
Amiodarone In Dextrose, Iso-Osmotic	Nexterone
Cimetidine	cimetidine
Cimetidine	Tagamet
Cimetidine Hcl	cimetidine HCl
Ciprofloxacin	Cipro
Ciprofloxacin	ciprofloxacin
Ciprofloxacin Hcl	Cipro
Ciprofloxacin Hcl	ciprofloxacin HCl
Ciprofloxacin Hcl	ProQuin XR
Ciprofloxacin Lactate	ciprofloxacin lactate
Ciprofloxacin Lactate/Dextrose 5 % In Water	Cipro in D5W
Ciprofloxacin Lactate/Dextrose 5 % In Water	ciprofloxacin in 5 % dextrose
Ciprofloxacin/Ciprofloxacin Hcl	Cipro XR
Ciprofloxacin/Ciprofloxacin Hcl	ciprofloxacin (mixture)
Clarithromycin	Biaxin
Clarithromycin	Biaxin XL



**Appendix H. List of Generic and Brand Names of Medical Products Used to Define Covariates in this Request**

<b>Generic Name</b>	<b>Brand Name</b>
Clarithromycin	Biaxin XL Pak
Clarithromycin	clarithromycin
Erythromycin Base	E-Mycin
Erythromycin Base	Ery-Tab
Erythromycin Base	erythromycin
Erythromycin Base	PCE
Erythromycin Ethylsuccinate	E.E.S. 200
Erythromycin Ethylsuccinate	E.E.S. 400
Erythromycin Ethylsuccinate	E.E.S. Granules
Erythromycin Ethylsuccinate	EryPed
Erythromycin Ethylsuccinate	EryPed 200
Erythromycin Ethylsuccinate	EryPed 400
Erythromycin Ethylsuccinate	erythromycin ethylsuccinate
Erythromycin Ethylsuccinate/Sulfisoxazole Acetyl	erythromycin-sulfisoxazole
Erythromycin Lactobionate	Erythrocin
Erythromycin Stearate	Erythrocin (as stearate)
Erythromycin Stearate	erythromycin stearate
Lansoprazole/Amoxicillin Trihydrate/Clarithromycin	amoxicil-clarithromy-lansopraz
Lansoprazole/Amoxicillin Trihydrate/Clarithromycin	Prevpac
Sulfamethoxazole/Trimethoprim	Bactrim
Sulfamethoxazole/Trimethoprim	Bactrim DS
Sulfamethoxazole/Trimethoprim	Septra
Sulfamethoxazole/Trimethoprim	Septra DS
Sulfamethoxazole/Trimethoprim	SMZ-TMP DS
Sulfamethoxazole/Trimethoprim	sulfamethoxazole-trimethoprim
Sulfamethoxazole/Trimethoprim	Sulfatrim
Trimethoprim	Primsol
Trimethoprim	trimethoprim
<b>Medications Listed On Label As Having Clinically Significant Interactions With Warfarin Or NOACs (Inducers)</b>	
<b>Cyp3A4 And P-Gp Inducers</b>	
Carbamazepine	carbamazepine
Carbamazepine	Carbatrol
Carbamazepine	Epitol
Carbamazepine	Equetro
Carbamazepine	Tegretol
Carbamazepine	Tegretol XR
Omacetaxine Mepesuccinate	Synribo
Phenytoin	Dilantin Infatabs
Phenytoin	Dilantin-125
Phenytoin	phenytoin
Phenytoin Sodium	phenytoin sodium
Phenytoin Sodium Extended	Dilantin
Phenytoin Sodium Extended	Dilantin Extended
Phenytoin Sodium Extended	Dilantin Kapseal
Phenytoin Sodium Extended	Phenytek

**Appendix H. List of Generic and Brand Names of Medical Products Used to Define Covariates in this Request**

<b>Generic Name</b>	<b>Brand Name</b>
Phenytoin Sodium Extended	phenytoin sodium extended
Rifampin	Rifadin
Rifampin	rifampin
Rifampin	Rimactane
Rifampin/Isoniazid	IsonaRif
Rifampin/Isoniazid	Rifamate
Rifampin/Isoniazid/Pyrazinamide	Rifater
<b>Cyp2C9 Inducers</b>	
Bosentan	Tracleer
Phenobarbital	phenobarbital
Phenobarbital Sodium	Luminal
Phenobarbital Sodium	phenobarbital sodium
Phenobarbital Sodium In 0.9 % Sodium Chloride	phenobarbital in 0.9 % sod chl
Phenobarbital/Hyoscyamine Sulf/Atropine Sulf/Scopolamine Hb	Antispasmodic
Phenobarbital/Hyoscyamine Sulf/Atropine Sulf/Scopolamine Hb	B-Donna
Phenobarbital/Hyoscyamine Sulf/Atropine Sulf/Scopolamine Hb	Belladonna-Phenobarbital
Phenobarbital/Hyoscyamine Sulf/Atropine Sulf/Scopolamine Hb	Donnatal
Phenobarbital/Hyoscyamine Sulf/Atropine Sulf/Scopolamine Hb	Donnatal Extentabs
Phenobarbital/Hyoscyamine Sulf/Atropine Sulf/Scopolamine Hb	Me-PB-Hyos
Phenobarbital/Hyoscyamine Sulf/Atropine Sulf/Scopolamine Hb	PB-HYOS
Phenobarbital/Hyoscyamine Sulf/Atropine Sulf/Scopolamine Hb	phenobarb-hyoscy-atropine-scop
Phenobarbital/Hyoscyamine Sulf/Atropine Sulf/Scopolamine Hb	Phenohydro
Phenobarbital/Hyoscyamine Sulf/Atropine Sulf/Scopolamine Hb	Quadrapax
Phenobarbital/Hyoscyamine Sulf/Atropine Sulf/Scopolamine Hb	RE-PB Hyos
Phenobarbital/Hyoscyamine Sulf/Atropine Sulf/Scopolamine Hb	SE-Donna PB Hyos
Phenobarbital/Hyoscyamine Sulf/Atropine Sulf/Scopolamine Hb	Servira
<b>Cyp1A2 Inducers</b>	
Aspirin/Omeprazole	Yosprala
Montelukast Sodium	montelukast
Montelukast Sodium	Singulair
Omeprazole/Clarithromycin/Amoxicillin Trihydrate	Omeclamox-Pak
Omeprazole/Sodium Bicarbonate	omeprazole-sodium bicarbonate
Omeprazole/Sodium Bicarbonate	Zegerid

**Appendix I. Specifications Defining Parameters for this Request**

This request investigated the incidence rate of serious uterine bleeding (SUB) among users of oral anticoagulants (rivaroxaban, apixaban, dabigatran, and warfarin) in preparation for a risk assessment amongst warfarin and novel oral anticoagulants (NOAC).

<p style="text-align: center;"> <b>Query Period:</b> October 19, 2010 to September 30, 2015  <b>Coverage Requirement:</b> Medical and Drug  <b>Pre-exposure enrollment (days):</b> 183  <b>Enrollment Gap:</b> 45 days  <b>Sex:</b> Female  <b>Age Groups:</b> 0-49, 50+ Years                 </p>											
Scenario	Drug/Exposure					Inclusion/Exclusion Criteria					
	Exposure	Incident with respect to:	Washout (days)	Cohort Definition	Exposure Episode Gap (days)	Exposure Extension Period (days)	Minimum Episode Duration (days)	Minimum Days Supplied (days)	Exposure Truncation Criteria	Episode Truncation Criteria	Conditions
1	Rivaroxaban, apixaban, dabigatran, or warfarin	Rivaroxaban, apixaban, dabigatran, edoxaban, or warfarin	183	Only the first valid treatment episode during the query period	3	3	1	1	End of treatment episode, identification of Health Outcome of Interest (HOI), disenrollment, death, end of available data	End of treatment episode, identification of HOI, disenrollment, death, end of available data	Deep vein thrombosis (DVT) / pulmonary embolism (PE); atrial fibrillation (AF) or atrial flutter; joint replacement surgery (knee or hip) Hysterectomy; vaginal bleeding (VB) managements under same day medical managements outcome (i.e., intrauterine device (IUD), contraceptives, antifibrinolytics, vaginal packing)
2	Rivaroxaban, apixaban, dabigatran, or warfarin	Rivaroxaban, apixaban, dabigatran, edoxaban, or warfarin	183	Only the first valid treatment episode during the query period	3	3	1	1	End of treatment episode, identification of HOI, disenrollment, death, end of available data	End of treatment episode, identification of HOI, disenrollment, death, end of available data	Deep vein thrombosis (DVT) / pulmonary embolism (PE); atrial fibrillation (AF) or atrial flutter; joint replacement surgery (knee or hip) Hysterectomy; vaginal bleeding (VB) managements under medical managements outcome (i.e., IUD, contraceptives, antifibrinolytics, vaginal packing)
3	Rivaroxaban, apixaban, dabigatran, or warfarin	Rivaroxaban, apixaban, dabigatran, edoxaban, or warfarin	183	Only the first valid treatment episode during the query period	3	3	1	1	End of treatment episode, identification of HOI, disenrollment, death, end of available data	End of treatment episode, identification of HOI, disenrollment, death, end of available data	Deep vein thrombosis (DVT) / pulmonary embolism (PE); atrial fibrillation (AF) or atrial flutter; joint replacement surgery (knee or hip) Hysterectomy; vaginal bleeding (VB) managements under same day medical managements outcome (i.e., IUD, contraceptives, antifibrinolytics, vaginal packing)

Appendix I. Specifications Defining Parameters for this Request

Scenario	Drug/Exposure								Inclusion/Exclusion Criteria	
	Exposure	Incident with respect to:	Washout (days)	Cohort Definition	Exposure Episode Gap (days)	Exposure Extension Period (days)	Minimum Episode Duration (days)	Minimum Days Supplied (days)	Exposure Truncation	Episode Criteria
4	Rivaroxaban, apixaban, dabigatran, or warfarin	Rivaroxaban, apixaban, dabigatran, edoxaban, or warfarin	183	Only the first valid treatment episode during the query period	3	3	1	1	End of treatment episode, identification of HOI, disenrollment, death, end of available data	Deep vein thrombosis (DVT) / pulmonary embolism (PE); atrial fibrillation (AF) or atrial flutter; joint replacement surgery (knee or hip) Hysterectomy; vaginal bleeding (VB) managements under transfusion managements outcome (i.e., RBC-specific transfusion with conjugated equine estrogen)
5	Rivaroxaban, apixaban, dabigatran, or warfarin	Rivaroxaban, apixaban, dabigatran, edoxaban, or warfarin	183	Only the first valid treatment episode during the query period	3	3	1	1	End of treatment episode, identification of HOI, disenrollment, death, end of available data	Deep vein thrombosis (DVT) / pulmonary embolism (PE); atrial fibrillation (AF) or atrial flutter; joint replacement surgery (knee or hip) Hysterectomy; vaginal bleeding (VB) managements under surgical managements outcome (i.e., hysteroscopic polypectomy, hysteroscopic/laparoscopic/abdominal myomectomy, dilation and curettage (D&C) with or without hysteroscopy, hysterectomy, hysteroscopy (not listed in other surgical managements), endometrial ablation (thermal, cryo, and section), uterine artery embolization)
6	Rivaroxaban, apixaban, dabigatran, or warfarin	Rivaroxaban, apixaban, dabigatran, edoxaban, or warfarin	183	Only the first valid treatment episode during the query period	3	3	1	1	End of treatment episode, identification of HOI, disenrollment, death, end of available data	Deep vein thrombosis (DVT) / pulmonary embolism (PE); atrial fibrillation (AF) or atrial flutter; joint replacement surgery (knee or hip) Hysterectomy; vaginal bleeding (VB) managements under surgical managements outcome (i.e., hysteroscopic polypectomy, hysteroscopic/laparoscopic/abdominal myomectomy, dilation and curettage (D&C) with or without hysteroscopy, hysterectomy, hysteroscopy (not listed in other surgical managements), endometrial ablation (thermal, cryo, and section), uterine artery embolization)

**Appendix I. Specifications Defining Parameters for this Request**

Scenario	Inclusion/Exclusion Criteria			Baseline Covariates		Event/Outcome			
	Include or Exclude	Care Setting	Lookback Period	Covariates	Covariate evaluation window (days)	Event/Outcome	Care Setting <sup>1</sup>	Event Washout (days)	Blackout Period
1	Inclusion	Any	-183, -1	See Appendix H	-183, -1	Medical Management Outcome, same day (see Appendix J Figure 1)	IP, ED, AV, or OA	0	0
	Exclusion	Any	-183, -1						
2	Inclusion	Any	-183, -1	See Appendix H	-183, -1	Medical Management Outcome, 5-day gap allowed for IUD, contraceptives, antifibrinolytics (see Appendix J Figure 2)	IP, ED, AV, or OA	0	0
	Exclusion	Any	-183, -1						
3	Inclusion	Any	-183, -1	See Appendix H	-183, -1	Medical Management Outcome, same day with post-index occurrence (see Appendix J, Figure 3)	IP, ED, AV, or OA	0	0
	Exclusion	Any	-183, -1						
4	Inclusion	Any	-183, -1	See Appendix H	-183, -1	Transfusion Management Outcome, same day, RBC-specific transfusion (see Appendix J, Figure 1)	IP, ED, AV, or OA	0	0
	Exclusion	Any	-183, -1						
5	Inclusion	Any	-183, -1	See Appendix H	-183, -1	Surgical Management Outcome, 30-day gap (see Appendix J, Figure 2)	IP, ED, AV, or OA	0	0
	Exclusion	Any	-183, -1						
6	Inclusion	Any	-183, -1	See Appendix H	-183, -1	Surgical Management Outcome, 60-day gap (see Appendix J, Figure 2)	IP, ED, AV, or OA	0	0
	Exclusion	Any	-183, -1						

<sup>1</sup>Ambulatory Visit (AV), Emergency Department (ED), Inpatient Hospital Stay (IP), Other Ambulatory Visit (OA)

International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM), Healthcare Common Procedure Coding System (HCPCS), Current Procedural Terminology, Fourth Edition (CPT-4) codes are provided by Optum360. National Drug Codes (NDC) codes are checked against First Data Bank's "National Drug Data File (NDDF®) Plus."

Appendix J. Diagrams Detailing the Outcomes in the Request

Figure 1

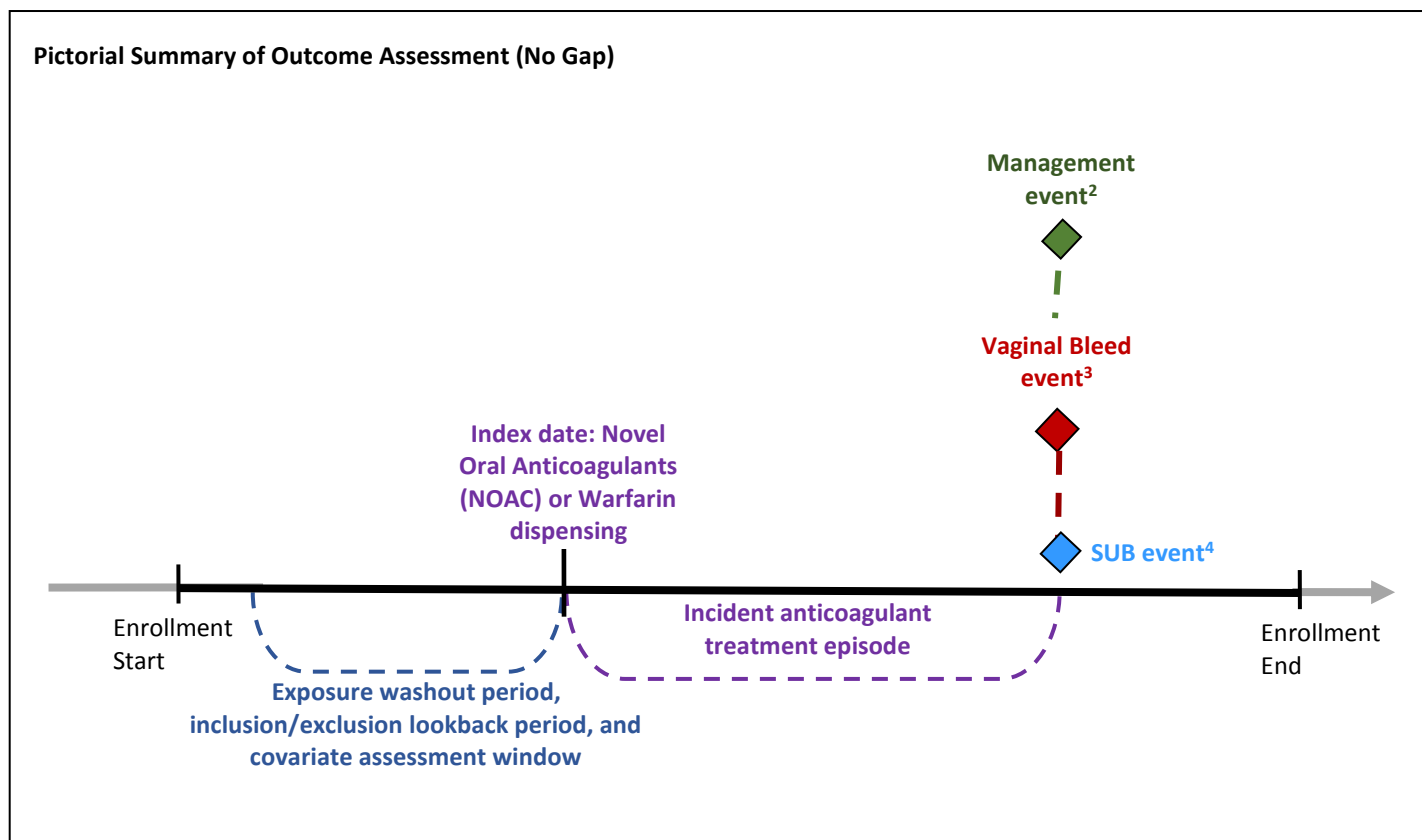
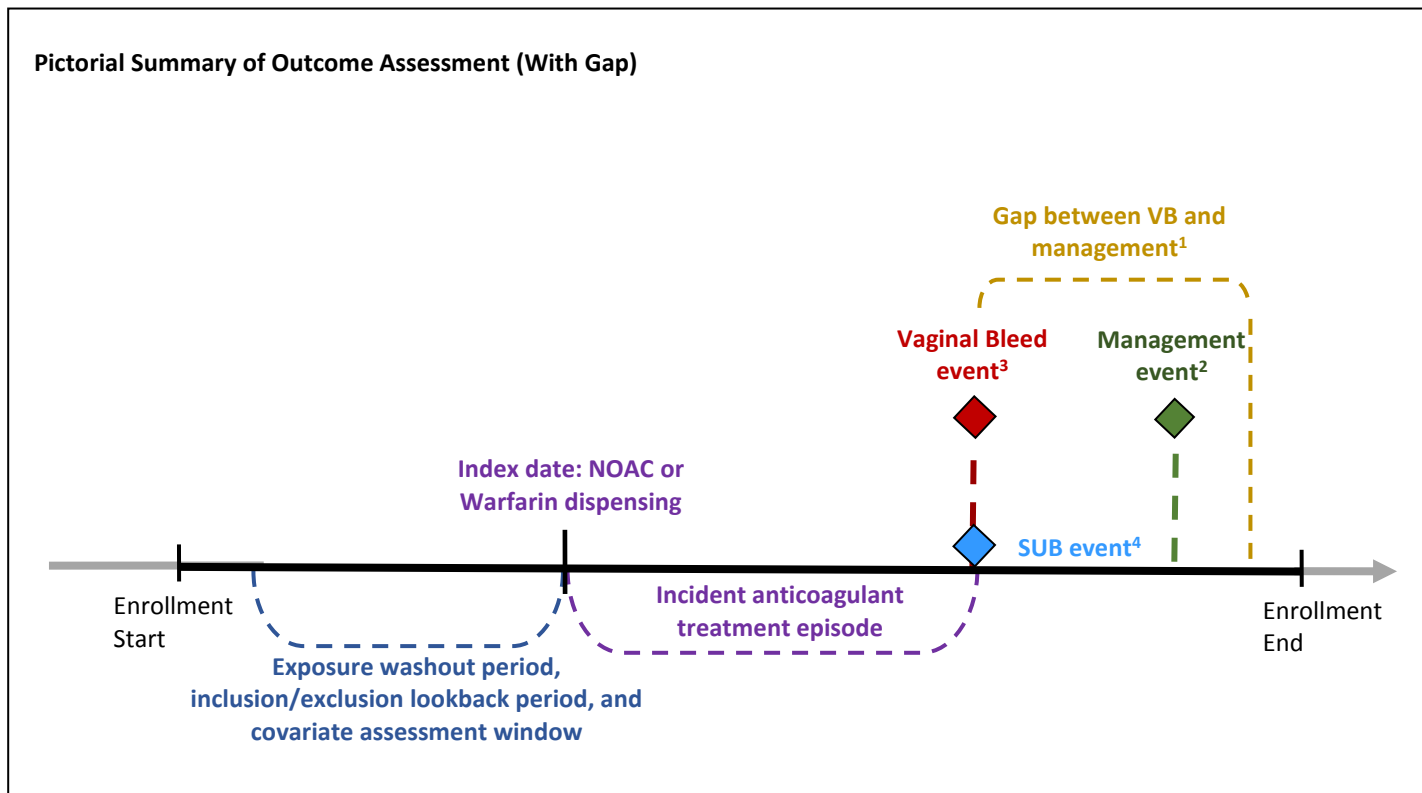
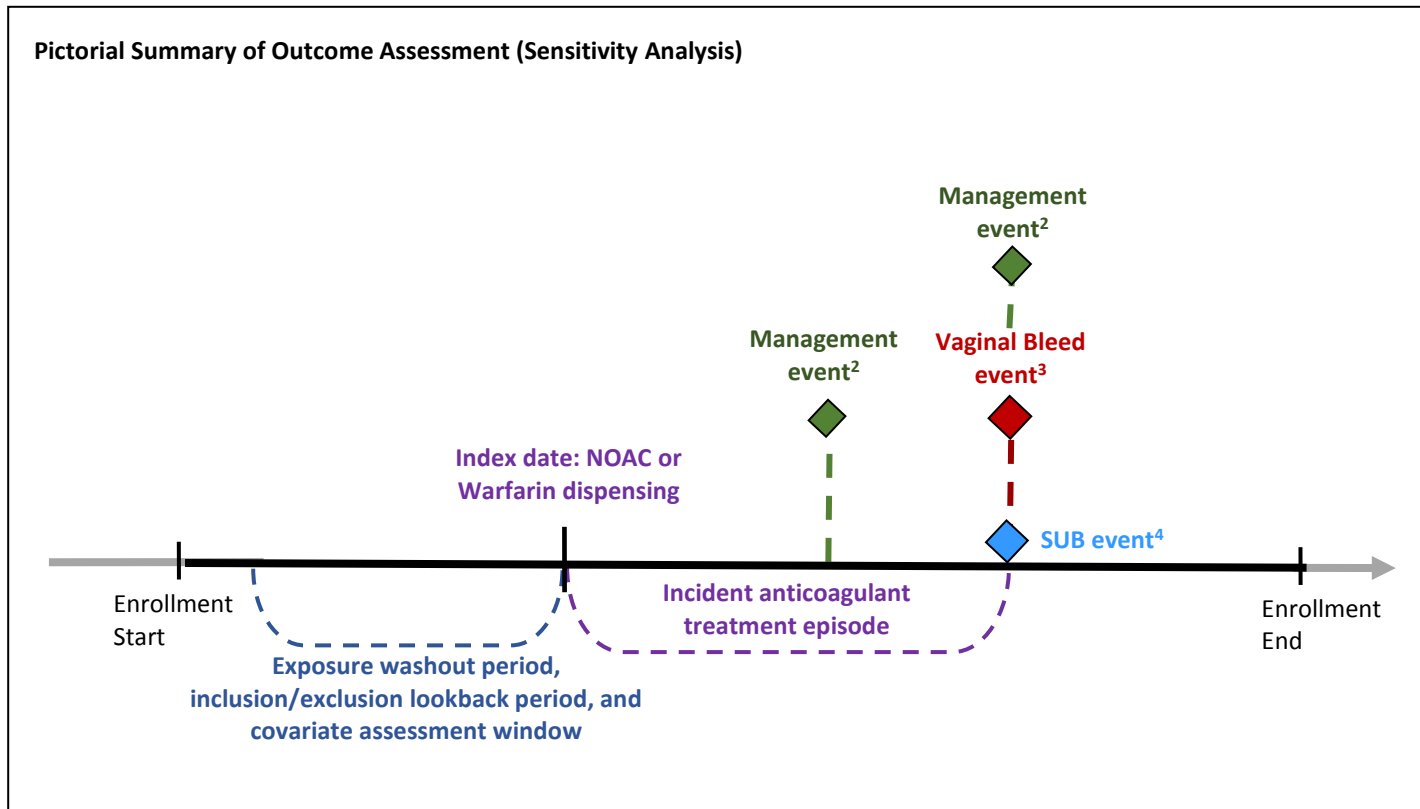


Figure 2



Appendix J. Diagrams Detailing the Outcomes in the Request

Figure 3



<sup>1</sup>Depending on the management outcome, the gap may be 5, 30 or 60 days.

<sup>2</sup>The exposure episode ended if one of the following occurred: end of treatment episode, identification of Health Outcome of Interest (HOI), disenrollment, death, or end of available data.

<sup>3</sup>Vaginal Bleed event date is the date a patient was diagnosed with vaginal bleed, and was taken as the date of Serious Uterine Bleed (SUB).

<sup>4</sup>SUB event date was taken as the date of HOI.