



Disclaimer

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

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

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

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

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.

Overview for Request: cder_mpl1r_wp155

Request ID: cder_mpl1r_wp155_nsdp_v01

Request Description: The purpose of this request was to calculate the number of treated patients and time to treatment among patients diagnosed with cutaneous small-vessel vasculitis (CSVV) in the IBM® MarketScan® Research Databases who had prior use of four medical products: direct oral anticoagulants (DOACs), warfarin, allopurinol, and propylthiouracil. The post-CSVV treatments of interest were predinose/prednisolone alone as well as prednisone/prednisolone combined with an autoimmune medication. The results of this query were used for subsequent Patient Episode Retrieval (PEPR) sampling to further evaluate treatment patterns among patients with CSVV.

Sentinel Routine Querying Module: Cohort Identification and Descriptive Analysis module, version 9.0.1

Data Source: This query was executed on the 100% MarketScan database on December 19, 2019. This report includes data from October 19, 2010 - December 31, 2018. See Appendix A for the dates of available data used in this report.

Cohort Eligibility Criteria: Members were required to be enrolled in health plans with both medical and drug coverage for at least 183 days prior to their event, during which gaps in coverage of up to 45 days were allowed. Only individuals aged 21 or older were included.

Index Event of Interest: The index event was a diagnosis for CSVV in an outpatient or inpatient setting. We defined CSVV using International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) and International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) diagnosis codes. See Appendix B for a list of codes used to define CSVV.

Study Design: Among patients indexed with a diagnosis of CSVV in an outpatient setting, we created separate cohorts to compare post-CSVV treatment patterns among those with prior use of four drug groups of interest: warfarin, direct oral anticoagulants (DOACs), allopurinol, or propylthiouracil. For each of the four study medical products, we evaluated for two distinct treatment outcomes:

Treatment outcome #1. Index on patients with an incident CSVV event (183-day washout) in an outpatient setting and prior use of specified study drug within 90 days prior to CSVV, but no prior use in preceding 183 to 91 days. Within 90 days of CSVV, evaluate for Prednisone or Prednisolone dispensing.

Treatment outcome #2. Index on patients with an incident CSVV event (183-day washout) in an outpatient setting and prior use of specified study drug within 90 days prior to CSVV, but no prior use in preceding 183 to 91 days. Within 90 days of CSVV, evaluate for combination of Prednisone or Prednisolone dispensing and an autoimmune medication.

We also created four cohorts of patients indexed with a diagnosis of CSVV in an inpatient setting, one for each study medical product. Patients in these cohorts were required to have an incident CSVV event (183-day washout) in an inpatient setting and prior use of specified study drug within the 90 days prior to CSVV, but no prior use in preceding 183 to 91 days. No treatment outcome was evaluated.

See Appendix C.1 for a list of generic and brand names of medical products and C.2 for a list of Healthcare Common Procedure Coding System (HCPCS) and Current Procedural Terminology, Fourth Edition (CPT-4) procedure codes used to define treatment outcomes.

Overview for Request: cder_mpl1r_wp155

Each of the 12 cohorts additionally shared the following characteristics:

1. Follow up continued for 90 days the CSVV diagnosis. Episodes were censored by patient death, disenrollment, query end date, Data Partner end date, or a dispensing for a specified drug treatment.
2. Patients were required to have a diagnosis of atrial fibrillation within the 183 days prior to CSVV.
3. Patients may not have had any prior use of other study drugs within 183 days prior to CSVV. For example, the cohort that includes patients with prior DOAC use within 90 days of CSVV should exclude anyone with prior use of warfarin, allopurinol, or propylthiouracil in the prior 183 days.
4. Patients with any of the following within 183 days prior to CSVV were excluded:
 - Select autoimmune diagnoses or medications
 - Kidney transplant or dialysis
 - Hip or knee replacement, deep vein thrombosis, pulmonary embolism

See Appendices D.1 for International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) and International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) diagnosis codes, Healthcare Common Procedure Coding System (HCPCS) and Current Procedural Terminology, Fourth Edition (CPT-4) procedure codes, and D.2 for a list of generic and brand names of medical products used to define Inclusion and Exclusion Criteria.

Please see Appendix E for the specifications of parameters used in this analysis.

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

Table of Contents

Glossary	List of Terms Found in this Report and their Definitions
Table 1a	Baseline Characteristics for Individuals who have Outpatient Cutaneous Small-Vessel Vasculitis (CSVV) with Prior Direct Oral Anticoagulants (DOACs) Use and Subsequent Prednisone/Prednisolone Treatment in the IBM® MarketScan® Research Databases from October 19, 2010 - December 31, 2018
Table 1b	Baseline Characteristics for Individuals who have Outpatient Cutaneous Small-Vessel Vasculitis (CSVV) with Prior Warfarin Use and Subsequent Prednisone/Prednisolone Treatment in the IBM® MarketScan® Research Databases from October 19, 2010 - December 31, 2018
Table 1c	Baseline Characteristics for Individuals who have Outpatient Cutaneous Small-Vessel Vasculitis (CSVV) with Prior Allopurinol Use and Subsequent Prednisone/Prednisolone Treatment in the IBM® MarketScan® Research Databases from October 19, 2010 - December 31, 2018
Table 1d	Baseline Characteristics for Individuals who have Outpatient Cutaneous Small-Vessel Vasculitis (CSVV) with Prior Propylthiouracil Use in the IBM® MarketScan® Research Databases from October 19, 2010 - December 31, 2018
Table 1e	Baseline Characteristics for Individuals who have Inpatient Cutaneous Small-Vessel Vasculitis (CSVV) with Prior Direct Oral Anticoagulants (DOACs) Use in the IBM® MarketScan® Research Databases from October 19, 2010 - December 31, 2018
Table 1f	Baseline Characteristics for Individuals who have Inpatient Cutaneous Small-Vessel Vasculitis (CSVV) with Prior Warfarin Use in the IBM® MarketScan® Research Databases from October 19, 2010 - December 31, 2018
Table 1g	Baseline Characteristics for Individuals who have Inpatient Cutaneous Small-Vessel Vasculitis (CSVV) with Prior Allopurinol Use in the IBM® MarketScan® Research Databases from October 19, 2010 - December 31, 2018
Table 1h	Baseline Characteristics for Individuals who have Inpatient Cutaneous Small-Vessel Vasculitis (CSVV) with Prior Propylthiouracil Use in the IBM® MarketScan® Research Databases from October 19, 2010 - December 31, 2018
Table 2	Summary of Cutaneous Small-Vessel Vasculitis (CSVV) Cases and post-CSVV Treatment Events in IBM® MarketScan® Research Databases between October 19, 2010 and December 31, 2018
Table 3a	Summary of Follow-up Times to Outcome Event, and Censoring Due to Death, Disenrollment, and Data Partner End Date; by Censor Day Category
Table 3b	Descriptive Statistics of Follow-up Times to Outcome and Censoring due to Death, Disenrollment, and Data Partner End Date
Table 4a	Full Code Distribution of Outpatient Cutaneous Small-Vessel Vasculitis (CSVV) with Prior Direct Oral Anticoagulants (DOACs) Use
Table 4b	Total Code Counts of Outpatient Cutaneous Small-Vessel Vasculitis (CSVV) with Prior Direct Oral Anticoagulants (DOACs) Use
Table 5a	Full Code Distribution of Outpatient Cutaneous Small-Vessel Vasculitis (CSVV) with Prior Warfarin Use
Table 5b	Total Code Counts of Outpatient Cutaneous Small-Vessel Vasculitis (CSVV) with Prior Warfarin Use
Table 6a	Full Code Distribution of Outpatient Cutaneous Small-Vessel Vasculitis (CSVV) with Prior Allopurinol Use

Table of Contents

Table 6b	Total Code Counts of Outpatient Cutaneous Small-Vessel Vasculitis (CSVV) with Prior Allopurinol Use
Table 7a	Full Code Distribution of Inpatient Cutaneous Small-Vessel Vasculitis (CSVV) with Prior Direct Oral Anticoagulants (DOACs) Use
Table 7b	Total Code Counts of Inpatient Cutaneous Small-Vessel Vasculitis (CSVV) with Prior Direct Oral Anticoagulants (DOACs) Use
Table 8a	Full Code Distribution of Inpatient Cutaneous Small-Vessel Vasculitis (CSVV) with Prior Warfarin Use
Table 8b	Total Code Counts of Inpatient Cutaneous Small-Vessel Vasculitis (CSVV) with Prior Warfarin Use
Table 9a	Full Code Distribution of Inpatient Cutaneous Small-Vessel Vasculitis (CSVV) with Prior Allopurinol Use
Table 9b	Total Code Counts of Inpatient Cutaneous Small-Vessel Vasculitis (CSVV) with Prior Allopurinol Use
Appendix A	Dates of Available Data for Each Data Partner (DP) as of Request Distribution Date (December 19, 2019)
Appendix B	List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) and International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes Used to Define Exposures in this Request
Appendix C.1	List of Generic and Brand Drug Names Used to Define Treatment Outcomes in this Request
Appendix C.2	List of Healthcare Common Procedure Coding System (HCPCS) and Current Procedural Terminology, Fourth Edition (CPT-4) Procedure Codes Used to Define Treatment Outcomes in this Request
Appendix D.1	List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes and Healthcare Common Procedure Coding System (HCPCS) and Current Procedural Terminology, Fourth Edition (CPT-4) Procedure Codes Used to Define Inclusion and Exclusion Criteria in this Request
Appendix D.2	List of Generic and Brand Medical Product Names Used to Define Inclusion and Exclusion Criteria in this Request
Appendix E	Specifications Defining Parameters in this Request

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

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

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

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

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

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

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

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

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

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

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

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

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

Days Supplied - number of days supplied for all dispensings in qualifying treatment episodes.

Eligible Members - number of members eligible for an incident treatment episode (defined by the drug/exposure and event washout periods) with drug and medical coverage during the query period.

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

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

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

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

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

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

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

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

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

Minimum Days Supplied - specifies a minimum number of days in length of the days supplied for the episode to be

Minimum Episode Duration - specifies a minimum number of days in length of the episode for it to be considered. Applied after any gaps are bridged and extension days added to the length of the exposure episode.

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

Principal Diagnosis (PDX) - diagnosis or condition established to be chiefly responsible for admission of the patient to the hospital. 'P' = principal diagnosis, 'S' = secondary diagnosis, 'X' = unspecified diagnosis, '.' = blank. Along with the Care Setting values, forms the Caresetting/PDX parameter.

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

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

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

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

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

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

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

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

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

*all terms may not be used in this report

Table 1a. Baseline Characteristics for Individuals who have Outpatient Cutaneous Small-Vessel Vasculitis (CSVV) with Prior Direct Oral Anticoagulants (DOACs) Use and Subsequent Prednisone/Prednisolone Treatment in the IBM® MarketScan® Research Databases from October 19, 2010 - December 31, 2018

Characteristic¹	Number	Percent
Number of episodes	51	100%
Number of unique patients	51	100%
Demographics	Mean	Standard Deviation
Mean Age (years)	72.4	12.3
Age (years)	Number	Percent
21-64	18	35.3%
65-74	12	23.5%
75-84	13	25.5%
85+	8	15.7%
Sex		
Female	19	37.3%
Male	32	62.7%
Race		
Unknown	51	100.0%
Year		
2010	0	0.0%
2011	2	3.9%
2012	4	7.8%
2013	16	31.4%
2014	6	11.8%
2015	7	13.7%
2016	7	13.7%
2017	9	17.6%
2018	0	0.0%

¹All metrics are based on total number of episodes per group, except for sex, race, and Hispanic origin which are based on total number of unique patients

Table 1b. Baseline Characteristics for Individuals who have Outpatient Cutaneous Small-Vessel Vasculitis (CSVV) with Prior Warfarin Use and Subsequent Prednisone/Prednisolone Treatment in the IBM® MarketScan® Research Databases from October 19, 2010 - December 31, 2018

Characteristic¹	Number	Percent
Number of episodes	65	100%
Number of unique patients	65	100%
Demographics	Mean	Standard Deviation
Mean Age (years)	79.1	9
Age (years)	Number	Percent
21-64	7	10.8%
65-74	9	13.8%
75-84	32	49.2%
85+	17	26.2%
Sex		
Female	31	47.7%
Male	34	52.3%
Race		
Unknown	65	100.0%
Year		
2010	4	6.2%
2011	15	23.1%
2012	8	12.3%
2013	16	24.6%
2014	9	13.8%
2015	5	7.7%
2016	6	9.2%
2017	0	0.0%
2018	2	3.1%

¹All metrics are based on total number of episodes per group, except for sex, race, and Hispanic origin which are based on total number of unique patients

Table 1c. Baseline Characteristics for Individuals who have Outpatient Cutaneous Small-Vessel Vasculitis (CSVV) with Prior Allopurinol Use and Subsequent Prednisone/Prednisolone Treatment in the IBM® MarketScan® Research Databases from October 19, 2010 - December 31, 2018

Characteristic¹	Number	Percent
Number of episodes	3	100%
Number of unique patients	3	100%
Demographics	Mean	Standard Deviation
Mean Age (years)	78	9.8
Age (years)	Number	Percent
21-64	0	0.0%
65-74	1	33.3%
75-84	1	33.3%
85+	1	33.3%
Sex		
Female	1	33.3%
Male	2	66.7%
Race		
Unknown	3	100.0%
Year		
2010	0	0.0%
2011	0	0.0%
2012	0	0.0%
2013	1	33.3%
2014	0	0.0%
2015	1	33.3%
2016	1	33.3%
2017	0	0.0%
2018	0	0.0%

¹All metrics are based on total number of episodes per group, except for sex, race, and Hispanic origin which are based on total number of unique patients

Table 1d. Baseline Characteristics for Individuals who have Outpatient Cutaneous Small-Vessel Vasculitis (CSVV) with Prior Propylthiouracil Use in the IBM® MarketScan® Research Databases from October 19, 2010 - December 31, 2018

Characteristic¹	Number	Percent
Number of episodes	0	100%
Number of unique patients	0	100%
Demographics	Mean	Standard Deviation
Mean Age (years)	0	0
Age (years)	Number	Percent
21-64	0	0.0%
65-74	0	0.0%
75-84	0	0.0%
85+	0	0.0%
Sex		
Female	0	0.0%
Male	0	0.0%
Race		
Unknown	0	0.0%
Year		
2010	0	0.0%
2011	0	0.0%
2012	0	0.0%
2013	0	0.0%
2014	0	0.0%
2015	0	0.0%
2016	0	0.0%
2017	0	0.0%
2018	0	0.0%

¹All metrics are based on total number of episodes per group, except for sex, race, and Hispanic origin which are based on total number of unique patients

Table 1e. Baseline Characteristics for Individuals who have Inpatient Cutaneous Small-Vessel Vasculitis (CSVV) with Prior Direct Oral Anticoagulants (DOACs) Use in the IBM® MarketScan® Research Databases from October 19, 2010 - December 31, 2018

Characteristic¹	Number	Percent
Number of episodes	5	100%
Number of unique patients	5	100%
Demographics	Mean	Standard Deviation
Mean Age (years)	71.2	16.8
Age (years)	Number	Percent
21-64	2	40.0%
65-74	1	20.0%
75-84	1	20.0%
85+	1	20.0%
Sex		
Female	2	40.0%
Male	3	60.0%
Race		
Unknown	5	100.0%
Year		
2010	0	0.0%
2011	0	0.0%
2012	0	0.0%
2013	1	20.0%
2014	2	40.0%
2015	0	0.0%
2016	1	20.0%
2017	0	0.0%
2018	1	20.0%

¹All metrics are based on total number of episodes per group, except for sex, race, and Hispanic origin which are based on total number of unique patients

Table 1f. Baseline Characteristics for Individuals who have Inpatient Cutaneous Small-Vessel Vasculitis (CSVV) with Prior Warfarin Use in the IBM® MarketScan® Research Databases from October 19, 2010 - December 31, 2018

Characteristic¹	Number	Percent
Number of episodes	5	100%
Number of unique patients	5	100%
Demographics	Mean	Standard Deviation
Mean Age (years)	66.1	12
Age (years)	Number	Percent
21-64	4	80.0%
65-74	0	0.0%
75-84	0	0.0%
85+	1	20.0%
Sex		
Female	2	40.0%
Male	3	60.0%
Race		
Unknown	5	100.0%
Year		
2010	1	20.0%
2011	1	20.0%
2012	2	40.0%
2013	0	0.0%
2014	0	0.0%
2015	1	20.0%
2016	0	0.0%
2017	0	0.0%
2018	0	0.0%

¹All metrics are based on total number of episodes per group, except for sex, race, and Hispanic origin which are based on total number of unique patients

Table 1g. Baseline Characteristics for Individuals who have Inpatient Cutaneous Small-Vessel Vasculitis (CSVV) with Prior Allopurinol Use in the IBM® MarketScan® Research Databases from October 19, 2010 - December 31, 2018

Characteristic¹	Number	Percent
Number of episodes	3	100%
Number of unique patients	3	100%
Demographics	Mean	Standard Deviation
Mean Age (years)	61.2	23
Age (years)	Number	Percent
21-64	2	66.7%
65-74	0	0.0%
75-84	0	0.0%
85+	1	33.3%
Sex		
Female	2	66.7%
Male	1	33.3%
Race		
Unknown	3	100.0%
Year		
2010	0	0.0%
2011	1	33.3%
2012	0	0.0%
2013	0	0.0%
2014	1	33.3%
2015	0	0.0%
2016	0	0.0%
2017	1	33.3%
2018	0	0.0%

¹All metrics are based on total number of episodes per group, except for sex, race, and Hispanic origin which are based on total number of unique patients

Table 1h. Baseline Characteristics for Individuals who have Inpatient Cutaneous Small-Vessel Vasculitis (CSVV) with Prior Propylthiouracil Use in the IBM® MarketScan® Research Databases from October 19, 2010 - December 31, 2018

Characteristic¹	Number	Percent
Number of episodes	0	100%
Number of unique patients	0	100%
Demographics	Mean	Standard Deviation
Mean Age (years)	0	0
Age (years)	Number	Percent
21-64	0	0.0%
65-74	0	0.0%
75-84	0	0.0%
85+	0	0.0%
Sex		
Female	0	0.0%
Male	0	0.0%
Race		
Unknown	0	0.0%
Year		
2010	0	0.0%
2011	0	0.0%
2012	0	0.0%
2013	0	0.0%
2014	0	0.0%
2015	0	0.0%
2016	0	0.0%
2017	0	0.0%
2018	0	0.0%

¹All metrics are based on total number of episodes per group, except for sex, race, and Hispanic origin which are based on total number of unique patients

Table 2. Summary of Cutaneous Small Vessel Vasculitis (CSVV) Cases and post-CSVV Treatment Events in IBM® MarketScan® Research Databases between October 19, 2010 and December 31, 2018

	CSVV cases	CSVV Cases with subsequent treatment
October 19, 2010 - December 31, 2018		
Outpatient CSVV With Prior Direct Oral Anticoagulant (DOAC) Use and Subsequent Prednisone/Prednisolone Treatment	51	4
Outpatient CSVV With Prior DOAC Use and Subsequent Prednisone/Prednisolone and Autoimmune Treatment	51	0
Outpatient CSVV With Prior Warfarin Use and Subsequent Prednisone/Prednisolone Treatment	65	7
Outpatient CSVV With Prior Warfarin Use and Subsequent Prednisone/Prednisolone and Autoimmune Treatment	65	2
Outpatient CSVV With Prior Allopurinol Use and Subsequent Prednisone/Prednisolone Treatment	3	1
Outpatient CSVV With Prior Allopurinol Use and Subsequent Prednisone/Prednisolone and Autoimmune Treatment	3	0
Outpatient CSVV With Prior Propylthiouracil Use and Subsequent Prednisone/Prednisolone Treatment	0	0
Outpatient CSVV With Prior Propylthiouracil Use and Subsequent Prednisone/Prednisolone and Autoimmune Treatment	0	0
Inpatient CSVV With Prior DOAC Use	5	0
Inpatient CSVV With Prior Warfarin Use	5	0
Inpatient CSVV With Prior Allopurinol Use	3	0
Inpatient CSVV With Prior Propylthiouracil Use	0	0

Table 3a. Summary of Follow-up Times to Outcome Event, and Censoring Due to Death, Disenrollment, and Data Partner End Date; by Censor Day Category

	Total Number of Members Censored	Censoring Due to Disenrollment ¹	Censoring Due to Death ¹	Censoring Due to Data Partner End Date ¹	Censoring Due to Query Period End ¹	Censoring Due to Episode End ¹	Censoring Due to Subsequent Treatment ¹
October 19, 2010 - December 31, 2018							
Outpatient Cutaneous Small-Vessel Vasculitis (CSVV) with prior Direct Oral Anticoagulants (DOACs) use and subsequent Prednisone/Prednisolone							
Censoring days category							
0-9 days	2	0	0	0	0	0	2
10-19 days	1	1	0	0	0	0	0
20-29 days	2	1	0	0	0	0	1
30-39 days	0	0	0	0	0	0	0
40-49 days	3	2	0	0	0	0	1
50-59 days	1	1	0	0	0	0	0
60-69 days	1	1	0	0	0	0	0
70-79 days	0	0	0	0	0	0	0
80-90 days	41	1	0	0	0	40	0
Outpatient CSVV with prior DOAC use and subsequent Prednisone/Prednisolone and Autoimmune Medication							
Censoring days category							
0-9 days	0	0	0	0	0	0	0
10-19 days	1	1	0	0	0	0	0
20-29 days	1	1	0	0	0	0	0
30-39 days	0	0	0	0	0	0	0
40-49 days	2	2	0	0	0	0	0
50-59 days	2	2	0	0	0	0	0
60-69 days	2	2	0	0	0	0	0
70-79 days	0	0	0	0	0	0	0
80-90 days	43	1	0	0	0	42	0
Outpatient CSVV with prior Warfarin use and subsequent Prednisone/Prednisolone							
Censoring days category							
0-9 days	5	0	0	0	0	0	5
10-19 days	1	0	0	0	0	0	1
20-29 days	0	0	0	0	0	0	0
30-39 days	0	0	0	0	0	0	0
40-49 days	1	0	0	0	0	0	1
50-59 days	3	3	0	1	0	0	0

Table 3a. Summary of Follow-up Times to Outcome Event, and Censoring Due to Death, Disenrollment, and Data Partner End Date; by Censor Day Category

	Total Number of Members Censored	Censoring Due to Disenrollment ¹	Censoring Due to Death ¹	Censoring Due to Data Partner End Date ¹	Censoring Due to Query Period End ¹	Censoring Due to Episode End ¹	Censoring Due to Subsequent Treatment ¹
60-69 days	0	0	0	0	0	0	0
70-79 days	0	0	0	0	0	0	0
80-90 days	55	1	0	0	0	54	0
Outpatient CSVV with prior Warfarin use and subsequent Prednisone/Prednisolone and Autoimmune Medication							
Censoring days category							
0-9 days	0	0	0	0	0	0	0
10-19 days	1	0	0	0	0	0	1
20-29 days	0	0	0	0	0	0	0
30-39 days	1	0	0	0	0	0	1
40-49 days	0	0	0	0	0	0	0
50-59 days	3	3	0	1	0	0	0
60-69 days	0	0	0	0	0	0	0
70-79 days	0	0	0	0	0	0	0
80-90 days	60	1	0	0	0	59	0
Outpatient CSVV with prior Allopurinol use and subsequent Prednisone/Prednisolone							
Censoring days category							
0-9 days	1	0	0	0	0	0	1
10-19 days	0	0	0	0	0	0	0
20-29 days	0	0	0	0	0	0	0
30-39 days	0	0	0	0	0	0	0
40-49 days	0	0	0	0	0	0	0
50-59 days	0	0	0	0	0	0	0
60-69 days	0	0	0	0	0	0	0
70-79 days	0	0	0	0	0	0	0
80-90 days	2	0	0	0	0	2	0
Outpatient CSVV with prior Allopurinol use and subsequent Prednisone/Prednisolone and Autoimmune Medication							
Censoring days category							
0-9 days	0	0	0	0	0	0	0
10-19 days	0	0	0	0	0	0	0
20-29 days	0	0	0	0	0	0	0
30-39 days	0	0	0	0	0	0	0

Table 3a. Summary of Follow-up Times to Outcome Event, and Censoring Due to Death, Disenrollment, and Data Partner End Date; by Censor Day Category

	Total Number of Members Censored	Censoring Due to Disenrollment ¹	Censoring Due to Death ¹	Censoring Due to Data Partner End Date ¹	Censoring Due to Query Period End ¹	Censoring Due to Episode End ¹	Censoring Due to Subsequent Treatment ¹
40-49 days	0	0	0	0	0	0	0
50-59 days	0	0	0	0	0	0	0
60-69 days	0	0	0	0	0	0	0
70-79 days	0	0	0	0	0	0	0
80-90 days	3	0	0	0	0	3	0
Outpatient CSVV with prior Propylthiouracil use and subsequent Prednisone/Prednisolone							
Censoring days category							
0-9 days	0	0	0	0	0	0	0
10-19 days	0	0	0	0	0	0	0
20-29 days	0	0	0	0	0	0	0
30-39 days	0	0	0	0	0	0	0
40-49 days	0	0	0	0	0	0	0
50-59 days	0	0	0	0	0	0	0
60-69 days	0	0	0	0	0	0	0
70-79 days	0	0	0	0	0	0	0
80-90 days	0	0	0	0	0	0	0
Outpatient CSVV with prior Propylthiouracil use and subsequent Prednisone/Prednisolone and Autoimmune Medication							
Censoring days category							
0-9 days	0	0	0	0	0	0	0
10-19 days	0	0	0	0	0	0	0
20-29 days	0	0	0	0	0	0	0
30-39 days	0	0	0	0	0	0	0
40-49 days	0	0	0	0	0	0	0
50-59 days	0	0	0	0	0	0	0
60-69 days	0	0	0	0	0	0	0
70-79 days	0	0	0	0	0	0	0
80-90 days	0	0	0	0	0	0	0
Inpatient CSVV with prior DOAC use							
Censoring days category							
0-9 days	0	0	0	0	0	0	0
10-19 days	0	0	0	0	0	0	0

Table 3a. Summary of Follow-up Times to Outcome Event, and Censoring Due to Death, Disenrollment, and Data Partner End Date; by Censor Day Category

	Total Number of Members Censored	Censoring Due to Disenrollment ¹	Censoring Due to Death ¹	Censoring Due to Data Partner End Date ¹	Censoring Due to Query Period End ¹	Censoring Due to Episode End ¹	Censoring Due to Subsequent Treatment ¹
20-29 days	0	0	0	0	0	0	0
30-39 days	0	0	0	0	0	0	0
40-49 days	0	0	0	0	0	0	0
50-59 days	0	0	0	0	0	0	0
60-69 days	0	0	0	0	0	0	0
70-79 days	1	1	0	1	0	0	0
80-90 days	4	0	0	0	0	4	0
Inpatient CSVV with prior Warfarin use							
Censoring days category							
0-9 days	0	0	0	0	0	0	0
10-19 days	0	0	0	0	0	0	0
20-29 days	0	0	0	0	0	0	0
30-39 days	0	0	0	0	0	0	0
40-49 days	1	1	0	0	0	0	0
50-59 days	1	1	0	0	0	0	0
60-69 days	0	0	0	0	0	0	0
70-79 days	0	0	0	0	0	0	0
80-90 days	3	0	0	0	0	3	0
Inpatient CSVV with prior Allopurinol use							
Censoring days category							
0-9 days	0	0	0	0	0	0	0
10-19 days	0	0	0	0	0	0	0
20-29 days	0	0	0	0	0	0	0
30-39 days	0	0	0	0	0	0	0
40-49 days	0	0	0	0	0	0	0
50-59 days	1	1	0	0	0	0	0
60-69 days	0	0	0	0	0	0	0
70-79 days	0	0	0	0	0	0	0
80-90 days	2	0	0	0	0	2	0

Table 3a. Summary of Follow-up Times to Outcome Event, and Censoring Due to Death, Disenrollment, and Data Partner End Date; by Censor Day Category

	Total Number of Members Censored	Censoring Due to Disenrollment¹	Censoring Due to Death¹	Censoring Due to Data Partner End Date¹	Censoring Due to Query Period End¹	Censoring Due to Episode End¹	Censoring Due to Subsequent Treatment¹
Inpatient CSVV with prior Propylthiouracil use							
Censoring days category							
0-9 days	0	0	0	0	0	0	0
10-19 days	0	0	0	0	0	0	0
20-29 days	0	0	0	0	0	0	0
30-39 days	0	0	0	0	0	0	0
40-49 days	0	0	0	0	0	0	0
50-59 days	0	0	0	0	0	0	0
60-69 days	0	0	0	0	0	0	0
70-79 days	0	0	0	0	0	0	0
80-90 days	0	0	0	0	0	0	0

¹Episodes can be censored for multiple reasons on the same day (disenrollment, death, and/or Data Partner end date) and categories are therefore not mutually exclusive

Table 3b. Descriptive Statistics of Follow-up Times to Outcome and Censoring due to Death, Disenrollment, and Data Partner End Date

	Summary Statistics for Length of Follow-Up Time in Days							
	Number of Episodes	Minimum	Q1	Median	Q3	Maximum	Mean	Standard Deviation
Outpatient Cutaneous Small-Vessel Vasculitis (CSVV) with prior Direct Oral Anticoagulants (DOACs) use and subsequent Prednisone/Prednisolone	51	2	90	90	90	90	78.61	24.68
Outpatient CSVV with prior DOAC use and subsequent Prednisone/Prednisolone and Autoimmune Medication	51	14	90	90	90	90	82.82	17.86
Outpatient CSVV with prior Warfarin use and subsequent Prednisone/Prednisolone	65	3	90	90	90	90	79.85	25.55
Outpatient CSVV with prior Warfarin use and subsequent Prednisone/Prednisolone and Autoimmune Medication	65	11	90	90	90	90	86.18	14.07
Outpatient CSVV with prior Allopurinol use and subsequent Prednisone/Prednisolone	3	4	90	90	90	90	61.33	49.65
Outpatient CSVV with prior Allopurinol use and subsequent Prednisone/Prednisolone and Autoimmune Medication	3	90	90	90	90	90	90	0.00
Outpatient CSVV with prior Propylthiouracil use and subsequent Prednisone/Prednisolone	0	0	0	0	0	0	0	0
Outpatient CSVV with prior Propylthiouracil use and subsequent Prednisone/Prednisolone and Autoimmune Medication	0	0	0	0	0	0	0	0
Inpatient CSVV with prior DOAC use	5	77	90	90	90	90	87.40	5.81
Inpatient CSVV with prior Warfarin use	5	41	58	90	90	90	73.80	22.98
Inpatient CSVV with prior Allopurinol use	3	50	50	90	90	90	76.67	23.09
Inpatient CSVV with prior Propylthiouracil use	0	0	0	0	0	0	0.00	0.00

Table 4a. Full Code Distribution of Outpatient Cutaneous Small-Vessel Vasculitis (CSVV) with Prior Direct Oral Anticoagulants (DOACs) Use

Code	Code Description	Code Category	Code Type	Overall Counts	Encounter Care Setting
709.1	Vascular Disorder Of Skin	Diagnosis	ICD-9-CM	16	Ambulatory Visit (AV)
287.0	Allergic Purpura	Diagnosis	ICD-9-CM	7	AV
D69.0	Allergic Purpura	Diagnosis	ICD-10-CM	6	AV
L95.8	Other Vasculitis Limited To The Skin	Diagnosis	ICD-10-CM	5	AV
446.29	Other Specified Hypersensitivity Angiitis	Diagnosis	ICD-9-CM	4	AV
L95.9	Vasculitis Limited To The Skin, Unspecified	Diagnosis	ICD-10-CM	2	AV
L95.8	Other Vasculitis Limited To The Skin	Diagnosis	ICD-10-CM	1	Other Ambulatory Visit (OA)
L95.9	Vasculitis Limited To The Skin, Unspecified	Diagnosis	ICD-10-CM	1	OA
L95.9	Vasculitis Limited To The Skin, Unspecified	Diagnosis	ICD-10-CM	1	AV
L95.9	Vasculitis Limited To The Skin, Unspecified	Diagnosis	ICD-10-CM	1	OA
M31.0	Hypersensitivity Angiitis	Diagnosis	ICD-10-CM	1	OA
L95.9	Vasculitis Limited To The Skin, Unspecified	Diagnosis	ICD-10-CM	1	AV
446.29	Other Specified Hypersensitivity Angiitis	Diagnosis	ICD-9-CM	1	AV
446.29	Other Specified Hypersensitivity Angiitis	Diagnosis	ICD-9-CM	1	OA
709.1	Vascular Disorder Of Skin	Diagnosis	ICD-9-CM	1	AV
446.29	Other Specified Hypersensitivity Angiitis	Diagnosis	ICD-9-CM	1	Emergency Department (ED)
287.0	Allergic Purpura	Diagnosis	ICD-9-CM	1	OA
446.29	Other Specified Hypersensitivity Angiitis	Diagnosis	ICD-9-CM	1	OA
287.0	Allergic Purpura	Diagnosis	ICD-9-CM	1	OA
446.29	Other Specified Hypersensitivity Angiitis	Diagnosis	ICD-9-CM	1	OA
L95.8	Other Vasculitis Limited To The Skin	Diagnosis	ICD-10-CM	1	AV

Table 4b. Total Code Counts of Outpatient Cutaneous Small-Vessel Vasculitis (CSVV) with Prior Direct Oral Anticoagulants (DOACs) Use

Code	Code Description	Code Category	Code Type	Overall Counts
709.1	Vascular Disorder Of Skin	Diagnosis	ICD-9-CM	17
287.0	Allergic Purpura	Diagnosis	ICD-9-CM	9
446.29	Other Specified Hypersensitivity Angiitis	Diagnosis	ICD-9-CM	9
L95.8	Other Vasculitis Limited To The Skin	Diagnosis	ICD-10-CM	7
D69.0	Allergic Purpura	Diagnosis	ICD-10-CM	6
L95.9	Vasculitis Limited To The Skin, Unspecified	Diagnosis	ICD-10-CM	6
M31.0	Hypersensitivity Angiitis	Diagnosis	ICD-10-CM	1

Table 5a. Full Code Distribution of Outpatient Cutaneous Small-Vessel Vasculitis (CSVV) with Prior Warfarin Use

Code	Code Description	Code Category	Code Type	Overall Counts	Encounter Care Setting
709.1	Vascular Disorder Of Skin	Diagnosis	ICD-9-CM	19	Ambulatory Visit (AV)
287.0	Allergic Purpura	Diagnosis	ICD-9-CM	10	AV
446.29	Other Specified Hypersensitivity Angiitis	Diagnosis	ICD-9-CM	4	AV
287.0	Allergic Purpura	Diagnosis	ICD-9-CM	4	Other Ambulatory Visit (OA)
446.29	Other Specified Hypersensitivity Angiitis	Diagnosis	ICD-9-CM	4	OA
L95.8	Other Vasculitis Limited To The Skin	Diagnosis	ICD-10-CM	4	AV
709.1	Vascular Disorder Of Skin	Diagnosis	ICD-9-CM	3	OA
709.1	Vascular Disorder Of Skin	Diagnosis	ICD-9-CM	2	AV
287.0	Allergic Purpura	Diagnosis	ICD-9-CM	2	AV
D69.0	Allergic Purpura	Diagnosis	ICD-10-CM	2	AV
L95.8	Other Vasculitis Limited To The Skin	Diagnosis	ICD-10-CM	1	OA
M31.0	Hypersensitivity Angiitis	Diagnosis	ICD-10-CM	1	OA
L95.8	Other Vasculitis Limited To The Skin	Diagnosis	ICD-10-CM		OA
446.20	Unspecified Hypersensitivity Angiitis	Diagnosis	ICD-9-CM	1	AV
709.1	Vascular Disorder Of Skin	Diagnosis	ICD-9-CM	1	AV
709.1	Vascular Disorder Of Skin	Diagnosis	ICD-9-CM	1	AV
287.0	Allergic Purpura	Diagnosis	ICD-9-CM		AV
287.0	Allergic Purpura	Diagnosis	ICD-9-CM	1	Emergency Department (ED)
709.1	Vascular Disorder Of Skin	Diagnosis	ICD-9-CM	1	ED
446.29	Other Specified Hypersensitivity Angiitis	Diagnosis	ICD-9-CM		ED
709.1	Vascular Disorder Of Skin	Diagnosis	ICD-9-CM	1	ED
L95.9	Vasculitis Limited To The Skin, Unspecified	Diagnosis	ICD-10-CM	1	AV
L95.8	Other Vasculitis Limited To The Skin	Diagnosis	ICD-10-CM	1	ED
L95.8	Other Vasculitis Limited To The Skin	Diagnosis	ICD-10-CM	1	ED

Table 5b. Total Code Counts of Outpatient Cutaneous Small-Vessel Vasculitis (CSVV) with Prior Warfarin Use

Code	Code Description	Code Category	Code Type	Overall Counts
709.1	Vascular Disorder Of Skin	Diagnosis	ICD-9-CM	28
287.0	Allergic Purpura	Diagnosis	ICD-9-CM	18
446.29	Other Specified Hypersensitivity Angiitis	Diagnosis	ICD-9-CM	9
L95.8	Other Vasculitis Limited To The Skin	Diagnosis	ICD-10-CM	8
D69.0	Allergic Purpura	Diagnosis	ICD-10-CM	2
M31.0	Hypersensitivity Angiitis	Diagnosis	ICD-10-CM	1
446.20	Unspecified Hypersensitivity Angiitis	Diagnosis	ICD-9-CM	1
L95.9	Vasculitis Limited To The Skin, Unspecified	Diagnosis	ICD-10-CM	1

Table 6a. Full Code Distribution of Outpatient Cutaneous Small-Vessel Vasculitis (CSVV) with Prior Allopurinol Use

Code	Code Description	Code Category	Code Type	Overall Counts	Encounter Care Setting
287.0	Allergic Purpura	Diagnosis	ICD-9-CM	1	Ambulatory Visit (AV)
446.29	Other Specified Hypersensitivity Angiitis	Diagnosis	ICD-9-CM	1	Other Ambulatory Visit (OA)
L95.9	Vasculitis Limited To The Skin, Unspecified	Diagnosis	ICD-10-CM	1	AV

Table 6b. Total Code Counts of Outpatient Cutaneous Small-Vessel Vasculitis (CSVV) with Prior Allopurinol Use

Code	Code Description	Code Category	Code Type	Overall Counts
287.0	Allergic Purpura	Diagnosis	ICD-9-CM	1
446.29	Other Specified Hypersensitivity Angiitis	Diagnosis	ICD-9-CM	1
L95.9	Vasculitis Limited To The Skin, Unspecified	Diagnosis	ICD-10-CM	1

Table 7a. Full Code Distribution of Inpatient Cutaneous Small-Vessel Vasculitis (CSVV) with Prior Direct Oral Anticoagulants (DOACs) Use

Code	Code Description	Code Category	Code Type	Overall Counts	Encounter Care Setting
709.1	Vascular Disorder Of Skin	Diagnosis	ICD-9-CM	1	Inpatient Hospital Stay-Secondary (IPS)
446.29	Other Specified Hypersensitivity Angiitis	Diagnosis	ICD-9-CM		IPS
287.0	Allergic Purpura	Diagnosis	ICD-9-CM		IPS
287.0	Allergic Purpura	Diagnosis	ICD-9-CM	1	IPS
287.0	Allergic Purpura	Diagnosis	ICD-9-CM	1	Inpatient Hospital Stay (IPX)
M31.0	Hypersensitivity Angiitis	Diagnosis	ICD-10-CM	1	IPS
L95.9	Vasculitis Limited To The Skin, Unspecified	Diagnosis	ICD-10-CM		IPS
M31.0	Hypersensitivity Angiitis	Diagnosis	ICD-10-CM	1	IPS

Table 7b. Total Code Counts of Inpatient Cutaneous Small-Vessel Vasculitis (CSVV) with Prior Direct Oral Anticoagulants (DOACs) Use

Code	Code Description	Code Category	Code Type	Overall Counts
287.0	Allergic Purpura	Diagnosis	ICD-9-CM	3
M31.0	Hypersensitivity Angiitis	Diagnosis	ICD-10-CM	2
446.29	Other Specified Hypersensitivity Angiitis	Diagnosis	ICD-9-CM	1
709.1	Vascular Disorder Of Skin	Diagnosis	ICD-9-CM	1
L95.9	Vasculitis Limited To The Skin, Unspecified	Diagnosis	ICD-10-CM	1

Table 8a. Full Code Distribution of Inpatient Cutaneous Small-Vessel Vasculitis (CSVV) with Prior Warfarin Use

Code	Code Description	Code Category	Code Type	Overall Counts	Encounter Care Setting
446.29	Other Specified Hypersensitivity Angiitis	Diagnosis	ICD-9-CM	3	Inpatient Hospital Stay-Secondary (IPS)
446.20	Unspecified Hypersensitivity Angiitis	Diagnosis	ICD-9-CM	1	IPS
287.0	Allergic Purpura	Diagnosis	ICD-9-CM	1	IPS

Table 8b. Total Code Counts of Inpatient Cutaneous Small-Vessel Vasculitis (CSVV) with Prior Warfarin Use

Code	Code Description	Code Category	Code Type	Overall Counts
446.29	Other Specified Hypersensitivity Angiitis	Diagnosis	ICD-9-CM	3
287.0	Allergic Purpura	Diagnosis	ICD-9-CM	1
446.20	Unspecified Hypersensitivity Angiitis	Diagnosis	ICD-9-CM	1

Table 9a. Full Code Distribution of Inpatient Cutaneous Small-Vessel Vasculitis (CSVV) with Prior Allopurinol Use

Code	Code Description	Code Category	Code Type	Overall Counts	Encounter Care Setting
446.29	Other Specified Hypersensitivity Angiitis	Diagnosis	ICD-9-CM	1	Inpatient Hospital Stay-Primary (IP)
446.29	Other Specified Hypersensitivity Angiitis	Diagnosis	ICD-9-CM	1	Inpatient Hospital Stay-Secondary (IPS)
D69.0	Allergic Purpura	Diagnosis	ICD-9-CM	1	IPS

Table 9b. Total Code Counts of Inpatient Cutaneous Small-Vessel Vasculitis (CSVV) with Prior Allopurinol Use

Code	Code Description	Code Category	Code Type	Overall Counts
446.29	Other Specified Hypersensitivity Angiitis	Diagnosis	ICD-9-CM	2
D69.0	Allergic Purpura	Diagnosis	ICD-10-CM	1

Appendix A: Dates of Available Data for Each Data Partner (DP) as of Request Distribution Date (December 19, 2019)

Data Partner	DP Start Date	DP End Date
IBM® MarketScan® Research Databases*	01/01/2010	09/30/2018

* The IBM® MarketScan® Research Databases includes a sample of 135 million employees, dependents, and retirees in the United States with primary or Medicare supplemental coverage through privately insured fee-for-service, point-of-service, or capitated health plans. The IBM® MarketScan® Research Databases are based on a large convenience sample. Because the sample is not random, it may contain biases or fail to generalize well to other populations. Data come mostly from large employers; medium and small firms may be underrepresented. For more information on the IBM® MarketScan® Research Databases, please review the White Paper here:

<https://www.ibm.com/downloads/cas/OWZWJ0QO>

Appendix B. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) and International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes Used to Define Exposures in this Request

Code	Description	Code Type	Code Category
Cutaneous Small-Vessel Vasculitis			
287.0	Allergic purpura	ICD-9-CM	Diagnosis
446.2	Hypersensitivity angiitis	ICD-9-CM	Diagnosis
446.20	Unspecified hypersensitivity angiitis	ICD-9-CM	Diagnosis
446.29	Other specified hypersensitivity angiitis	ICD-9-CM	Diagnosis
709.1	Vascular disorder of skin	ICD-9-CM	Diagnosis
D69.0	Allergic purpura	ICD-10-CM	Diagnosis
L95.0	Livedoid vasculitis	ICD-10-CM	Diagnosis
L95.8	Other vasculitis limited to the skin	ICD-10-CM	Diagnosis
L95.9	Vasculitis limited to the skin, unspecified	ICD-10-CM	Diagnosis
M31.0	Hypersensitivity angiitis	ICD-10-CM	Diagnosis

Appendix C.1. List of Generic and Brand Drug Names Used to Define Treatment Outcomes in this Request

Generic Name	Brand Name
Prednisone	
prednisone	Deltasone
prednisone	Prednisone Intensol
prednisone	Rayos
prednisone	Sterapred
prednisone	Prednisone
Prednisolone	
gentamicin sulfate/prednisolone acetate	Pred-G
gentamicin sulfate/prednisolone acetate	Pred-G S.O.P.
methylprednisolone	Medrol
methylprednisolone	Medrol (Pak)
methylprednisolone	Meprolone Unipak
methylprednisolone	Methylpred DP
methylprednisolone	methylprednisolone
methylprednisolone acetate	Depo-Medrol
methylprednisolone acetate	methylprednisolone acetate
methylprednisolone acetate	P-Care D40
methylprednisolone acetate	P-Care D80
methylprednisolone acetate	ReadySharp Methylprednisolone
methylprednisolone acetate in sodium chloride,iso-osmotic/PF	methylpred ac(PF)-NaCl,iso-osm
methylprednisolone acetate in sterile water for injection	methylprednisolone acet-water
methylprednisolone acetate/bupivacaine HCl	Physicians EZ Use M-Pred
methylprednisolone acetate/bupivacaine HCl in sterile water	methylprednisol ac-bupivac-wat
methylprednisolone acetate/norflurane/HFC 245fa	Medroloan II SUIK
methylprednisolone acetate/norflurane/HFC 245fa	Medroloan SUIK
methylprednisolone acetate/norflurane/HFC 245fa	P-Care D40G
methylprednisolone acetate/norflurane/HFC 245fa	P-Care D80G
methylprednisolone sodium succinate	A-Methapred
methylprednisolone sodium succinate	methylprednisolone sodium succ
methylprednisolone sodium succinate	Solu-Medrol
methylprednisolone sodium succinate/PF	Solu-Medrol (PF)
neomycin sulfate/polymyxin B sulfate/prednisolone	Poly-Pred
prednisolone	Millipred
prednisolone	Millipred DP
prednisolone	prednisolone
prednisolone	Prelone
prednisolone acetate	Flo-Pred
prednisolone acetate	Omnipred
prednisolone acetate	Pred Forte
prednisolone acetate	Pred Mild
prednisolone acetate	prednisolone acetate
prednisolone acetate/bromfenac sodium	prednisolone acetate-bromfenac
prednisolone acetate/gatifloxacin	prednisolone acet-gatifloxacin
prednisolone acetate/gatifloxacin/bromfenac sodium	prednisol ace-gatiflox-bromfen
prednisolone acetate/gatifloxacin/nepafenac	prednisolone-gatiflox-nepafen
prednisolone acetate/moxifloxacin HCl	prednisolone-moxifloxacin HCl

Appendix C.1. List of Generic and Brand Drug Names Used to Define Treatment Outcomes in this Request

Generic Name	Brand Name
prednisolone acetate/moxifloxacin HCl/bromfenac sodium	prednisolone-moxiflox-bromfen
prednisolone acetate/moxifloxacin HCl/nepafenac	prednisolone-moxiflo-nepafenac
prednisolone acetate/nepafenac	prednisolone acetate-nepafenac
prednisolone acetate/PF	prednisolone acetate (PF)
prednisolone sodium phosphate	Millipred
prednisolone sodium phosphate	Orapred
prednisolone sodium phosphate	Orapred ODT
prednisolone sodium phosphate	Pediapred
prednisolone sodium phosphate	Prednisol
prednisolone sodium phosphate	prednisolone sodium phosphate
prednisolone sodium phosphate	Veripred 20
prednisolone sodium phosphate/bromfenac sodium	prednisolone sod ph-bromfenac
prednisolone sodium phosphate/gatifloxacin	prednisolone sod ph-gatifloxac
prednisolone sodium phosphate/gatifloxacin/bromfenac sodium	prednisoln sp-gatiflox-bromfen
prednisolone sodium phosphate/moxifloxacin HCl	prednisolone sod ph-moxiflox
Prednisolone Sodium Phosphate/Peak Flow Meter	Asmalpred
Prednisolone Sodium Phosphate/Peak Flow Meter	Asmalpred Plus
sulfacetamide sodium/prednisolone acetate	Blephamide
sulfacetamide sodium/prednisolone acetate	Blephamide S.O.P.
sulfacetamide sodium/prednisolone sodium phosphate	sulfacetamide-prednisolone
Autoimmune Medications	
azathioprine sodium	azathioprine sodium
methotrexate sodium/PF	methotrexate sodium (PF)
methotrexate sodium	methotrexate sodium
azathioprine	azathioprine
azathioprine	Imuran
azathioprine	Azasan
colchicine	colchicine
probenecid/colchicine	probenecid-colchicine
colchicine	Colcrys
colchicine	Mitigare
cyclophosphamide	cyclophosphamide
cyclosporine, modified	cyclosporine modified
cyclosporine	cyclosporine
cyclosporine, modified	Gengraf
cyclosporine, modified	Neoral
cyclosporine	Sandimmune
dapsone	dapsone
methotrexate sodium	Methotrexate (Anti-Rheumatic)
methotrexate	Xatmep
methotrexate sodium	Trexall
methotrexate sodium	Rheumatrex
mycophenolate mofetil	CellCept
mycophenolate mofetil	mycophenolate mofetil
dapsone	Aczone

Appendix C.2. List of Healthcare Common Procedure Coding System (HCPCS) and Current Procedural Terminology, Fourth Edition (CPT-4) Procedure Codes Used to Define Treatment Outcomes in this Request

Code	Description	Code Type	Code Category
Select Autoimmune Medications			
J7500	Azathioprine, oral, 50 mg	HCPCS	Procedure
J7501	Azathioprine, parenteral, 100 mg	HCPCS	Procedure
J9070	Cyclophosphamide, 100 mg	HCPCS	Procedure
J7502	Cyclosporine, oral, 100 mg	HCPCS	Procedure
J7515	Cyclosporine, oral, 25 mg	HCPCS	Procedure
J7516	Cyclosporine, parenteral, 250 mg	HCPCS	Procedure
80158	Cyclosporine	CPT-4	Procedure
J1438	Injection, etanercept, 25 mg (code may be used for medicare when drug administered under the direct supervision of a physician, not for use when drug is self administered)	HCPCS	Procedure
J8610	Methotrexate, oral, 2.5 mg	HCPCS	Procedure
J9250	Methotrexate sodium, 5 mg	HCPCS	Procedure
J9260	Methotrexate sodium, 50 mg	HCPCS	Procedure
J7517	Mycophenolate mofetil, oral, 250 mg	HCPCS	Procedure
J7518	Mycophenolic acid, oral, 180 mg	HCPCS	Procedure
Q5115	Injection, rituximab-abbs, biosimilar, (Truxima), 10 mg	HCPCS	Procedure
J9312	Injection, rituximab, 10 mg	HCPCS	Procedure
J9311	Injection, rituximab 10 mg and hyaluronidase	HCPCS	Procedure

Appendix D.1. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes and Healthcare Common Procedure Coding System (HCPCS) and Current Procedural Terminology, Fourth Edition (CPT-4) Procedure Codes Used to Define Inclusion and Exclusion Criteria in this Request

Code	Description	Code Type	Code Category
Atrial Fibrillation			
427.31	Atrial fibrillation	ICD-9-CM	Diagnosis
427.32	Atrial flutter	ICD-9-CM	Diagnosis
427.3	Atrial fibrillation and flutter	ICD-9-CM	Diagnosis
I48.0	Paroxysmal atrial fibrillation	ICD-10-CM	Diagnosis
I48.1	Persistent atrial fibrillation	ICD-10-CM	Diagnosis
I48.2	Chronic atrial fibrillation	ICD-10-CM	Diagnosis
I48.3	Typical atrial flutter	ICD-10-CM	Diagnosis
I48.4	Atypical atrial flutter	ICD-10-CM	Diagnosis
I48.91	Unspecified atrial fibrillation	ICD-10-CM	Diagnosis
I48.92	Unspecified atrial flutter	ICD-10-CM	Diagnosis
Select Autoimmune Disorders			
273.2	Other paraproteinemias	ICD-9-CM	Diagnosis
373.34	Discoid lupus erythematosus of eyelid	ICD-9-CM	Diagnosis
555	Regional enteritis	ICD-9-CM	Diagnosis
555.0	Regional enteritis of small intestine	ICD-9-CM	Diagnosis
555.1	Regional enteritis of large intestine	ICD-9-CM	Diagnosis
555.2	Regional enteritis of small intestine with large intestine	ICD-9-CM	Diagnosis
555.9	Regional enteritis of unspecified site	ICD-9-CM	Diagnosis
695.4	Lupus erythematosus	ICD-9-CM	Diagnosis
710.0	Systemic lupus erythematosus	ICD-9-CM	Diagnosis
710.2	Sicca syndrome	ICD-9-CM	Diagnosis
710.3	Dermatomyositis	ICD-9-CM	Diagnosis
710.4	Polymyositis	ICD-9-CM	Diagnosis
714	Rheumatoid arthritis and other inflammatory polyarthropathies	ICD-9-CM	Diagnosis
714.0	Rheumatoid arthritis	ICD-9-CM	Diagnosis
714.2	Other rheumatoid arthritis with visceral or systemic involvement	ICD-9-CM	Diagnosis
714.30	Polyarticular juvenile rheumatoid arthritis, chronic or unspecified	ICD-9-CM	Diagnosis
714.31	Polyarticular juvenile rheumatoid arthritis, acute	ICD-9-CM	Diagnosis
714.32	Pauciarticular juvenile rheumatoid arthritis	ICD-9-CM	Diagnosis
714.33	Monoarticular juvenile rheumatoid arthritis	ICD-9-CM	Diagnosis
V82.1	Screening for rheumatoid arthritis	ICD-9-CM	Diagnosis
D89.1	Cryoglobulinemia	ICD-10-CM	Diagnosis
H01.121	Discoid lupus erythematosus of right upper eyelid	ICD-10-CM	Diagnosis
H01.122	Discoid lupus erythematosus of right lower eyelid	ICD-10-CM	Diagnosis
H01.123	Discoid lupus erythematosus of right eye, unspecified eyelid	ICD-10-CM	Diagnosis
H01.124	Discoid lupus erythematosus of left upper eyelid	ICD-10-CM	Diagnosis
H01.125	Discoid lupus erythematosus of left lower eyelid	ICD-10-CM	Diagnosis
H01.126	Discoid lupus erythematosus of left eye, unspecified eyelid	ICD-10-CM	Diagnosis
H01.129	Discoid lupus erythematosus of unspecified eye, unspecified eyelid	ICD-10-CM	Diagnosis
K50.00	Crohn's disease of small intestine without complications	ICD-10-CM	Diagnosis

Appendix D.1. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes and Healthcare Common Procedure Coding System (HCPCS) and Current Procedural Terminology, Fourth Edition (CPT-4) Procedure Codes Used to Define Inclusion and Exclusion Criteria in this Request

Code	Description	Code Type	Code Category
K50.011	Crohn's disease of small intestine with rectal bleeding	ICD-10-CM	Diagnosis
K50.012	Crohn's disease of small intestine with intestinal obstruction	ICD-10-CM	Diagnosis
K50.013	Crohn's disease of small intestine with fistula	ICD-10-CM	Diagnosis
K50.014	Crohn's disease of small intestine with abscess	ICD-10-CM	Diagnosis
K50.018	Crohn's disease of small intestine with other complication	ICD-10-CM	Diagnosis
K50.019	Crohn's disease of small intestine with unspecified complications	ICD-10-CM	Diagnosis
K50.10	Crohn's disease of large intestine without complications	ICD-10-CM	Diagnosis
K50.111	Crohn's disease of large intestine with rectal bleeding	ICD-10-CM	Diagnosis
K50.112	Crohn's disease of large intestine with intestinal obstruction	ICD-10-CM	Diagnosis
K50.113	Crohn's disease of large intestine with fistula	ICD-10-CM	Diagnosis
K50.114	Crohn's disease of large intestine with abscess	ICD-10-CM	Diagnosis
K50.118	Crohn's disease of large intestine with other complication	ICD-10-CM	Diagnosis
K50.119	Crohn's disease of large intestine with unspecified complications	ICD-10-CM	Diagnosis
K50.80	Crohn's disease of both small and large intestine without complications	ICD-10-CM	Diagnosis
K50.811	Crohn's disease of both small and large intestine with rectal bleeding	ICD-10-CM	Diagnosis
K50.812	Crohn's disease of both small and large intestine with intestinal obstruction	ICD-10-CM	Diagnosis
K50.813	Crohn's disease of both small and large intestine with fistula	ICD-10-CM	Diagnosis
K50.814	Crohn's disease of both small and large intestine with abscess	ICD-10-CM	Diagnosis
K50.818	Crohn's disease of both small and large intestine with other complication	ICD-10-CM	Diagnosis
K50.819	Crohn's disease of both small and large intestine with unspecified complications	ICD-10-CM	Diagnosis
K50.90	Crohn's disease, unspecified, without complications	ICD-10-CM	Diagnosis
K50.911	Crohn's disease, unspecified, with rectal bleeding	ICD-10-CM	Diagnosis
K50.912	Crohn's disease, unspecified, with intestinal obstruction	ICD-10-CM	Diagnosis
K50.913	Crohn's disease, unspecified, with fistula	ICD-10-CM	Diagnosis
K50.914	Crohn's disease, unspecified, with abscess	ICD-10-CM	Diagnosis
K50.918	Crohn's disease, unspecified, with other complication	ICD-10-CM	Diagnosis
K50.919	Crohn's disease, unspecified, with unspecified complications	ICD-10-CM	Diagnosis
L93.0	Discoid lupus erythematosus	ICD-10-CM	Diagnosis
L93.1	Subacute cutaneous lupus erythematosus	ICD-10-CM	Diagnosis
L93.2	Other local lupus erythematosus	ICD-10-CM	Diagnosis
M05.20	Rheumatoid vasculitis with rheumatoid arthritis of unspecified site	ICD-10-CM	Diagnosis
M05.211	Rheumatoid vasculitis with rheumatoid arthritis of right shoulder	ICD-10-CM	Diagnosis
M05.212	Rheumatoid vasculitis with rheumatoid arthritis of left shoulder	ICD-10-CM	Diagnosis
M05.219	Rheumatoid vasculitis with rheumatoid arthritis of unspecified shoulder	ICD-10-CM	Diagnosis
M05.221	Rheumatoid vasculitis with rheumatoid arthritis of right elbow	ICD-10-CM	Diagnosis
M05.222	Rheumatoid vasculitis with rheumatoid arthritis of left elbow	ICD-10-CM	Diagnosis
M05.229	Rheumatoid vasculitis with rheumatoid arthritis of unspecified elbow	ICD-10-CM	Diagnosis
M05.231	Rheumatoid vasculitis with rheumatoid arthritis of right wrist	ICD-10-CM	Diagnosis
M05.232	Rheumatoid vasculitis with rheumatoid arthritis of left wrist	ICD-10-CM	Diagnosis
M05.239	Rheumatoid vasculitis with rheumatoid arthritis of unspecified wrist	ICD-10-CM	Diagnosis
M05.241	Rheumatoid vasculitis with rheumatoid arthritis of right hand	ICD-10-CM	Diagnosis

Appendix D.1. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes and Healthcare Common Procedure Coding System (HCPCS) and Current Procedural Terminology, Fourth Edition (CPT-4) Procedure Codes Used to Define Inclusion and Exclusion Criteria in this Request

Code	Description	Code Type	Code Category
M05.242	Rheumatoid vasculitis with rheumatoid arthritis of left hand	ICD-10-CM	Diagnosis
M05.249	Rheumatoid vasculitis with rheumatoid arthritis of unspecified hand	ICD-10-CM	Diagnosis
M05.251	Rheumatoid vasculitis with rheumatoid arthritis of right hip	ICD-10-CM	Diagnosis
M05.252	Rheumatoid vasculitis with rheumatoid arthritis of left hip	ICD-10-CM	Diagnosis
M05.259	Rheumatoid vasculitis with rheumatoid arthritis of unspecified hip	ICD-10-CM	Diagnosis
M05.261	Rheumatoid vasculitis with rheumatoid arthritis of right knee	ICD-10-CM	Diagnosis
M05.262	Rheumatoid vasculitis with rheumatoid arthritis of left knee	ICD-10-CM	Diagnosis
M05.269	Rheumatoid vasculitis with rheumatoid arthritis of unspecified knee	ICD-10-CM	Diagnosis
M05.271	Rheumatoid vasculitis with rheumatoid arthritis of right ankle and foot	ICD-10-CM	Diagnosis
M05.272	Rheumatoid vasculitis with rheumatoid arthritis of left ankle and foot	ICD-10-CM	Diagnosis
M05.279	Rheumatoid vasculitis with rheumatoid arthritis of unspecified ankle and foot	ICD-10-CM	Diagnosis
M05.29	Rheumatoid vasculitis with rheumatoid arthritis of multiple sites	ICD-10-CM	Diagnosis
M05.30	Rheumatoid heart disease with rheumatoid arthritis of unspecified site	ICD-10-CM	Diagnosis
M05.311	Rheumatoid heart disease with rheumatoid arthritis of right shoulder	ICD-10-CM	Diagnosis
M05.312	Rheumatoid heart disease with rheumatoid arthritis of left shoulder	ICD-10-CM	Diagnosis
M05.319	Rheumatoid heart disease with rheumatoid arthritis of unspecified shoulder	ICD-10-CM	Diagnosis
M05.321	Rheumatoid heart disease with rheumatoid arthritis of right elbow	ICD-10-CM	Diagnosis
M05.322	Rheumatoid heart disease with rheumatoid arthritis of left elbow	ICD-10-CM	Diagnosis
M05.329	Rheumatoid heart disease with rheumatoid arthritis of unspecified elbow	ICD-10-CM	Diagnosis
M05.331	Rheumatoid heart disease with rheumatoid arthritis of right wrist	ICD-10-CM	Diagnosis
M05.332	Rheumatoid heart disease with rheumatoid arthritis of left wrist	ICD-10-CM	Diagnosis
M05.339	Rheumatoid heart disease with rheumatoid arthritis of unspecified wrist	ICD-10-CM	Diagnosis
M05.341	Rheumatoid heart disease with rheumatoid arthritis of right hand	ICD-10-CM	Diagnosis
M05.342	Rheumatoid heart disease with rheumatoid arthritis of left hand	ICD-10-CM	Diagnosis
M05.349	Rheumatoid heart disease with rheumatoid arthritis of unspecified hand	ICD-10-CM	Diagnosis
M05.351	Rheumatoid heart disease with rheumatoid arthritis of right hip	ICD-10-CM	Diagnosis
M05.352	Rheumatoid heart disease with rheumatoid arthritis of left hip	ICD-10-CM	Diagnosis
M05.359	Rheumatoid heart disease with rheumatoid arthritis of unspecified hip	ICD-10-CM	Diagnosis
M05.361	Rheumatoid heart disease with rheumatoid arthritis of right knee	ICD-10-CM	Diagnosis
M05.362	Rheumatoid heart disease with rheumatoid arthritis of left knee	ICD-10-CM	Diagnosis
M05.369	Rheumatoid heart disease with rheumatoid arthritis of unspecified knee	ICD-10-CM	Diagnosis
M05.371	Rheumatoid heart disease with rheumatoid arthritis of right ankle and foot	ICD-10-CM	Diagnosis
M05.372	Rheumatoid heart disease with rheumatoid arthritis of left ankle and foot	ICD-10-CM	Diagnosis
M05.379	Rheumatoid heart disease with rheumatoid arthritis of unspecified ankle and foot	ICD-10-CM	Diagnosis
M05.39	Rheumatoid heart disease with rheumatoid arthritis of multiple sites	ICD-10-CM	Diagnosis
M05.40	Rheumatoid myopathy with rheumatoid arthritis of unspecified site	ICD-10-CM	Diagnosis
M05.411	Rheumatoid myopathy with rheumatoid arthritis of right shoulder	ICD-10-CM	Diagnosis
M05.412	Rheumatoid myopathy with rheumatoid arthritis of left shoulder	ICD-10-CM	Diagnosis
M05.419	Rheumatoid myopathy with rheumatoid arthritis of unspecified shoulder	ICD-10-CM	Diagnosis
M05.421	Rheumatoid myopathy with rheumatoid arthritis of right elbow	ICD-10-CM	Diagnosis

Appendix D.1. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes and Healthcare Common Procedure Coding System (HCPCS) and Current Procedural Terminology, Fourth Edition (CPT-4) Procedure Codes Used to Define Inclusion and Exclusion Criteria in this Request

Code	Description	Code Type	Code Category
M05.422	Rheumatoid myopathy with rheumatoid arthritis of left elbow	ICD-10-CM	Diagnosis
M05.429	Rheumatoid myopathy with rheumatoid arthritis of unspecified elbow	ICD-10-CM	Diagnosis
M05.431	Rheumatoid myopathy with rheumatoid arthritis of right wrist	ICD-10-CM	Diagnosis
M05.432	Rheumatoid myopathy with rheumatoid arthritis of left wrist	ICD-10-CM	Diagnosis
M05.439	Rheumatoid myopathy with rheumatoid arthritis of unspecified wrist	ICD-10-CM	Diagnosis
M05.441	Rheumatoid myopathy with rheumatoid arthritis of right hand	ICD-10-CM	Diagnosis
M05.442	Rheumatoid myopathy with rheumatoid arthritis of left hand	ICD-10-CM	Diagnosis
M05.449	Rheumatoid myopathy with rheumatoid arthritis of unspecified hand	ICD-10-CM	Diagnosis
M05.451	Rheumatoid myopathy with rheumatoid arthritis of right hip	ICD-10-CM	Diagnosis
M05.452	Rheumatoid myopathy with rheumatoid arthritis of left hip	ICD-10-CM	Diagnosis
M05.459	Rheumatoid myopathy with rheumatoid arthritis of unspecified hip	ICD-10-CM	Diagnosis
M05.461	Rheumatoid myopathy with rheumatoid arthritis of right knee	ICD-10-CM	Diagnosis
M05.462	Rheumatoid myopathy with rheumatoid arthritis of left knee	ICD-10-CM	Diagnosis
M05.469	Rheumatoid myopathy with rheumatoid arthritis of unspecified knee	ICD-10-CM	Diagnosis
M05.471	Rheumatoid myopathy with rheumatoid arthritis of right ankle and foot	ICD-10-CM	Diagnosis
M05.472	Rheumatoid myopathy with rheumatoid arthritis of left ankle and foot	ICD-10-CM	Diagnosis
M05.479	Rheumatoid myopathy with rheumatoid arthritis of unspecified ankle and foot	ICD-10-CM	Diagnosis
M05.49	Rheumatoid myopathy with rheumatoid arthritis of multiple sites	ICD-10-CM	Diagnosis
M05.50	Rheumatoid polyneuropathy with rheumatoid arthritis of unspecified site	ICD-10-CM	Diagnosis
M05.511	Rheumatoid polyneuropathy with rheumatoid arthritis of right shoulder	ICD-10-CM	Diagnosis
M05.512	Rheumatoid polyneuropathy with rheumatoid arthritis of left shoulder	ICD-10-CM	Diagnosis
M05.519	Rheumatoid polyneuropathy with rheumatoid arthritis of unspecified shoulder	ICD-10-CM	Diagnosis
M05.521	Rheumatoid polyneuropathy with rheumatoid arthritis of right elbow	ICD-10-CM	Diagnosis
M05.522	Rheumatoid polyneuropathy with rheumatoid arthritis of left elbow	ICD-10-CM	Diagnosis
M05.529	Rheumatoid polyneuropathy with rheumatoid arthritis of unspecified elbow	ICD-10-CM	Diagnosis
M05.531	Rheumatoid polyneuropathy with rheumatoid arthritis of right wrist	ICD-10-CM	Diagnosis
M05.532	Rheumatoid polyneuropathy with rheumatoid arthritis of left wrist	ICD-10-CM	Diagnosis
M05.539	Rheumatoid polyneuropathy with rheumatoid arthritis of unspecified wrist	ICD-10-CM	Diagnosis
M05.541	Rheumatoid polyneuropathy with rheumatoid arthritis of right hand	ICD-10-CM	Diagnosis
M05.542	Rheumatoid polyneuropathy with rheumatoid arthritis of left hand	ICD-10-CM	Diagnosis
M05.549	Rheumatoid polyneuropathy with rheumatoid arthritis of unspecified hand	ICD-10-CM	Diagnosis
M05.551	Rheumatoid polyneuropathy with rheumatoid arthritis of right hip	ICD-10-CM	Diagnosis
M05.552	Rheumatoid polyneuropathy with rheumatoid arthritis of left hip	ICD-10-CM	Diagnosis
M05.559	Rheumatoid polyneuropathy with rheumatoid arthritis of unspecified hip	ICD-10-CM	Diagnosis
M05.561	Rheumatoid polyneuropathy with rheumatoid arthritis of right knee	ICD-10-CM	Diagnosis
M05.562	Rheumatoid polyneuropathy with rheumatoid arthritis of left knee	ICD-10-CM	Diagnosis
M05.569	Rheumatoid polyneuropathy with rheumatoid arthritis of unspecified knee	ICD-10-CM	Diagnosis
M05.571	Rheumatoid polyneuropathy with rheumatoid arthritis of right ankle and foot	ICD-10-CM	Diagnosis
M05.572	Rheumatoid polyneuropathy with rheumatoid arthritis of left ankle and foot	ICD-10-CM	Diagnosis

Appendix D.1. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes and Healthcare Common Procedure Coding System (HCPCS) and Current Procedural Terminology, Fourth Edition (CPT-4) Procedure Codes Used to Define Inclusion and Exclusion Criteria in this Request

Code	Description	Code Type	Code Category
M05.579	Rheumatoid polyneuropathy with rheumatoid arthritis of unspecified ankle and foot	ICD-10-CM	Diagnosis
M05.59	Rheumatoid polyneuropathy with rheumatoid arthritis of multiple sites	ICD-10-CM	Diagnosis
M05.60	Rheumatoid arthritis of unspecified site with involvement of other organs and systems	ICD-10-CM	Diagnosis
M05.611	Rheumatoid arthritis of right shoulder with involvement of other organs and systems	ICD-10-CM	Diagnosis
M05.612	Rheumatoid arthritis of left shoulder with involvement of other organs and systems	ICD-10-CM	Diagnosis
M05.619	Rheumatoid arthritis of unspecified shoulder with involvement of other organs and systems	ICD-10-CM	Diagnosis
M05.621	Rheumatoid arthritis of right elbow with involvement of other organs and systems	ICD-10-CM	Diagnosis
M05.622	Rheumatoid arthritis of left elbow with involvement of other organs and systems	ICD-10-CM	Diagnosis
M05.629	Rheumatoid arthritis of unspecified elbow with involvement of other organs and systems	ICD-10-CM	Diagnosis
M05.631	Rheumatoid arthritis of right wrist with involvement of other organs and systems	ICD-10-CM	Diagnosis
M05.632	Rheumatoid arthritis of left wrist with involvement of other organs and systems	ICD-10-CM	Diagnosis
M05.639	Rheumatoid arthritis of unspecified wrist with involvement of other organs and systems	ICD-10-CM	Diagnosis
M05.641	Rheumatoid arthritis of right hand with involvement of other organs and systems	ICD-10-CM	Diagnosis
M05.642	Rheumatoid arthritis of left hand with involvement of other organs and systems	ICD-10-CM	Diagnosis
M05.649	Rheumatoid arthritis of unspecified hand with involvement of other organs and systems	ICD-10-CM	Diagnosis
M05.651	Rheumatoid arthritis of right hip with involvement of other organs and systems	ICD-10-CM	Diagnosis
M05.652	Rheumatoid arthritis of left hip with involvement of other organs and systems	ICD-10-CM	Diagnosis
M05.659	Rheumatoid arthritis of unspecified hip with involvement of other organs and systems	ICD-10-CM	Diagnosis
M05.661	Rheumatoid arthritis of right knee with involvement of other organs and systems	ICD-10-CM	Diagnosis
M05.662	Rheumatoid arthritis of left knee with involvement of other organs and systems	ICD-10-CM	Diagnosis
M05.669	Rheumatoid arthritis of unspecified knee with involvement of other organs and systems	ICD-10-CM	Diagnosis

Appendix D.1. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes and Healthcare Common Procedure Coding System (HCPCS) and Current Procedural Terminology, Fourth Edition (CPT-4) Procedure Codes Used to Define Inclusion and Exclusion Criteria in this Request

Code	Description	Code Type	Code Category
M05.671	Rheumatoid arthritis of right ankle and foot with involvement of other organs and systems	ICD-10-CM	Diagnosis
M05.672	Rheumatoid arthritis of left ankle and foot with involvement of other organs and systems	ICD-10-CM	Diagnosis
M05.679	Rheumatoid arthritis of unspecified ankle and foot with involvement of other organs and systems	ICD-10-CM	Diagnosis
M05.69	Rheumatoid arthritis of multiple sites with involvement of other organs and systems	ICD-10-CM	Diagnosis
M05.70	Rheumatoid arthritis with rheumatoid factor of unspecified site without organ or systems involvement	ICD-10-CM	Diagnosis
M05.711	Rheumatoid arthritis with rheumatoid factor of right shoulder without organ or systems involvement	ICD-10-CM	Diagnosis
M05.712	Rheumatoid arthritis with rheumatoid factor of left shoulder without organ or systems involvement	ICD-10-CM	Diagnosis
M05.719	Rheumatoid arthritis with rheumatoid factor of unspecified shoulder without organ or systems involvement	ICD-10-CM	Diagnosis
M05.721	Rheumatoid arthritis with rheumatoid factor of right elbow without organ or systems involvement	ICD-10-CM	Diagnosis
M05.722	Rheumatoid arthritis with rheumatoid factor of left elbow without organ or systems involvement	ICD-10-CM	Diagnosis
M05.729	Rheumatoid arthritis with rheumatoid factor of unspecified elbow without organ or systems involvement	ICD-10-CM	Diagnosis
M05.731	Rheumatoid arthritis with rheumatoid factor of right wrist without organ or systems involvement	ICD-10-CM	Diagnosis
M05.732	Rheumatoid arthritis with rheumatoid factor of left wrist without organ or systems involvement	ICD-10-CM	Diagnosis
M05.739	Rheumatoid arthritis with rheumatoid factor of unspecified wrist without organ or systems involvement	ICD-10-CM	Diagnosis
M05.741	Rheumatoid arthritis with rheumatoid factor of right hand without organ or systems involvement	ICD-10-CM	Diagnosis
M05.742	Rheumatoid arthritis with rheumatoid factor of left hand without organ or systems involvement	ICD-10-CM	Diagnosis
M05.749	Rheumatoid arthritis with rheumatoid factor of unspecified hand without organ or systems involvement	ICD-10-CM	Diagnosis
M05.751	Rheumatoid arthritis with rheumatoid factor of right hip without organ or systems involvement	ICD-10-CM	Diagnosis
M05.752	Rheumatoid arthritis with rheumatoid factor of left hip without organ or systems involvement	ICD-10-CM	Diagnosis
M05.759	Rheumatoid arthritis with rheumatoid factor of unspecified hip without organ or systems involvement	ICD-10-CM	Diagnosis

Appendix D.1. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes and Healthcare Common Procedure Coding System (HCPCS) and Current Procedural Terminology, Fourth Edition (CPT-4) Procedure Codes Used to Define Inclusion and Exclusion Criteria in this Request

Code	Description	Code Type	Code Category
M05.761	Rheumatoid arthritis with rheumatoid factor of right knee without organ or systems involvement	ICD-10-CM	Diagnosis
M05.762	Rheumatoid arthritis with rheumatoid factor of left knee without organ or systems involvement	ICD-10-CM	Diagnosis
M05.769	Rheumatoid arthritis with rheumatoid factor of unspecified knee without organ or systems involvement	ICD-10-CM	Diagnosis
M05.771	Rheumatoid arthritis with rheumatoid factor of right ankle and foot without organ or systems involvement	ICD-10-CM	Diagnosis
M05.772	Rheumatoid arthritis with rheumatoid factor of left ankle and foot without organ or systems involvement	ICD-10-CM	Diagnosis
M05.779	Rheumatoid arthritis with rheumatoid factor of unspecified ankle and foot without organ or systems involvement	ICD-10-CM	Diagnosis
M05.79	Rheumatoid arthritis with rheumatoid factor of multiple sites without organ or systems involvement	ICD-10-CM	Diagnosis
M05.80	Other rheumatoid arthritis with rheumatoid factor of unspecified site	ICD-10-CM	Diagnosis
M05.811	Other rheumatoid arthritis with rheumatoid factor of right shoulder	ICD-10-CM	Diagnosis
M05.812	Other rheumatoid arthritis with rheumatoid factor of left shoulder	ICD-10-CM	Diagnosis
M05.819	Other rheumatoid arthritis with rheumatoid factor of unspecified shoulder	ICD-10-CM	Diagnosis
M05.821	Other rheumatoid arthritis with rheumatoid factor of right elbow	ICD-10-CM	Diagnosis
M05.822	Other rheumatoid arthritis with rheumatoid factor of left elbow	ICD-10-CM	Diagnosis
M05.829	Other rheumatoid arthritis with rheumatoid factor of unspecified elbow	ICD-10-CM	Diagnosis
M05.831	Other rheumatoid arthritis with rheumatoid factor of right wrist	ICD-10-CM	Diagnosis
M05.832	Other rheumatoid arthritis with rheumatoid factor of left wrist	ICD-10-CM	Diagnosis
M05.839	Other rheumatoid arthritis with rheumatoid factor of unspecified wrist	ICD-10-CM	Diagnosis
M05.841	Other rheumatoid arthritis with rheumatoid factor of right hand	ICD-10-CM	Diagnosis
M05.842	Other rheumatoid arthritis with rheumatoid factor of left hand	ICD-10-CM	Diagnosis
M05.849	Other rheumatoid arthritis with rheumatoid factor of unspecified hand	ICD-10-CM	Diagnosis
M05.851	Other rheumatoid arthritis with rheumatoid factor of right hip	ICD-10-CM	Diagnosis
M05.852	Other rheumatoid arthritis with rheumatoid factor of left hip	ICD-10-CM	Diagnosis
M05.859	Other rheumatoid arthritis with rheumatoid factor of unspecified hip	ICD-10-CM	Diagnosis
M05.861	Other rheumatoid arthritis with rheumatoid factor of right knee	ICD-10-CM	Diagnosis
M05.862	Other rheumatoid arthritis with rheumatoid factor of left knee	ICD-10-CM	Diagnosis
M05.869	Other rheumatoid arthritis with rheumatoid factor of unspecified knee	ICD-10-CM	Diagnosis
M05.871	Other rheumatoid arthritis with rheumatoid factor of right ankle and foot	ICD-10-CM	Diagnosis
M05.872	Other rheumatoid arthritis with rheumatoid factor of left ankle and foot	ICD-10-CM	Diagnosis
M05.879	Other rheumatoid arthritis with rheumatoid factor of unspecified ankle and foot	ICD-10-CM	Diagnosis
M05.89	Other rheumatoid arthritis with rheumatoid factor of multiple sites	ICD-10-CM	Diagnosis
M05.9	Rheumatoid arthritis with rheumatoid factor, unspecified	ICD-10-CM	Diagnosis
M06.00	Rheumatoid arthritis without rheumatoid factor, unspecified site	ICD-10-CM	Diagnosis
M06.011	Rheumatoid arthritis without rheumatoid factor, right shoulder	ICD-10-CM	Diagnosis
M06.012	Rheumatoid arthritis without rheumatoid factor, left shoulder	ICD-10-CM	Diagnosis

Appendix D.1. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes and Healthcare Common Procedure Coding System (HCPCS) and Current Procedural Terminology, Fourth Edition (CPT-4) Procedure Codes Used to Define Inclusion and Exclusion Criteria in this Request

Code	Description	Code Type	Code Category
M06.019	Rheumatoid arthritis without rheumatoid factor, unspecified shoulder	ICD-10-CM	Diagnosis
M06.021	Rheumatoid arthritis without rheumatoid factor, right elbow	ICD-10-CM	Diagnosis
M06.022	Rheumatoid arthritis without rheumatoid factor, left elbow	ICD-10-CM	Diagnosis
M06.029	Rheumatoid arthritis without rheumatoid factor, unspecified elbow	ICD-10-CM	Diagnosis
M06.031	Rheumatoid arthritis without rheumatoid factor, right wrist	ICD-10-CM	Diagnosis
M06.032	Rheumatoid arthritis without rheumatoid factor, left wrist	ICD-10-CM	Diagnosis
M06.039	Rheumatoid arthritis without rheumatoid factor, unspecified wrist	ICD-10-CM	Diagnosis
M06.041	Rheumatoid arthritis without rheumatoid factor, right hand	ICD-10-CM	Diagnosis
M06.042	Rheumatoid arthritis without rheumatoid factor, left hand	ICD-10-CM	Diagnosis
M06.049	Rheumatoid arthritis without rheumatoid factor, unspecified hand	ICD-10-CM	Diagnosis
M06.051	Rheumatoid arthritis without rheumatoid factor, right hip	ICD-10-CM	Diagnosis
M06.052	Rheumatoid arthritis without rheumatoid factor, left hip	ICD-10-CM	Diagnosis
M06.059	Rheumatoid arthritis without rheumatoid factor, unspecified hip	ICD-10-CM	Diagnosis
M06.061	Rheumatoid arthritis without rheumatoid factor, right knee	ICD-10-CM	Diagnosis
M06.062	Rheumatoid arthritis without rheumatoid factor, left knee	ICD-10-CM	Diagnosis
M06.069	Rheumatoid arthritis without rheumatoid factor, unspecified knee	ICD-10-CM	Diagnosis
M06.071	Rheumatoid arthritis without rheumatoid factor, right ankle and foot	ICD-10-CM	Diagnosis
M06.072	Rheumatoid arthritis without rheumatoid factor, left ankle and foot	ICD-10-CM	Diagnosis
M06.079	Rheumatoid arthritis without rheumatoid factor, unspecified ankle and foot	ICD-10-CM	Diagnosis
M06.08	Rheumatoid arthritis without rheumatoid factor, vertebrae	ICD-10-CM	Diagnosis
M06.09	Rheumatoid arthritis without rheumatoid factor, multiple sites	ICD-10-CM	Diagnosis
M06.1	Adult-onset Still's disease	ICD-10-CM	Diagnosis
M06.20	Rheumatoid bursitis, unspecified site	ICD-10-CM	Diagnosis
M06.211	Rheumatoid bursitis, right shoulder	ICD-10-CM	Diagnosis
M06.212	Rheumatoid bursitis, left shoulder	ICD-10-CM	Diagnosis
M06.219	Rheumatoid bursitis, unspecified shoulder	ICD-10-CM	Diagnosis
M06.221	Rheumatoid bursitis, right elbow	ICD-10-CM	Diagnosis
M06.222	Rheumatoid bursitis, left elbow	ICD-10-CM	Diagnosis
M06.229	Rheumatoid bursitis, unspecified elbow	ICD-10-CM	Diagnosis
M06.231	Rheumatoid bursitis, right wrist	ICD-10-CM	Diagnosis
M06.232	Rheumatoid bursitis, left wrist	ICD-10-CM	Diagnosis
M06.239	Rheumatoid bursitis, unspecified wrist	ICD-10-CM	Diagnosis
M06.241	Rheumatoid bursitis, right hand	ICD-10-CM	Diagnosis
M06.242	Rheumatoid bursitis, left hand	ICD-10-CM	Diagnosis
M06.249	Rheumatoid bursitis, unspecified hand	ICD-10-CM	Diagnosis
M06.251	Rheumatoid bursitis, right hip	ICD-10-CM	Diagnosis
M06.252	Rheumatoid bursitis, left hip	ICD-10-CM	Diagnosis
M06.259	Rheumatoid bursitis, unspecified hip	ICD-10-CM	Diagnosis
M06.261	Rheumatoid bursitis, right knee	ICD-10-CM	Diagnosis
M06.262	Rheumatoid bursitis, left knee	ICD-10-CM	Diagnosis
M06.269	Rheumatoid bursitis, unspecified knee	ICD-10-CM	Diagnosis
M06.271	Rheumatoid bursitis, right ankle and foot	ICD-10-CM	Diagnosis

Appendix D.1. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes and Healthcare Common Procedure Coding System (HCPCS) and Current Procedural Terminology, Fourth Edition (CPT-4) Procedure Codes Used to Define Inclusion and Exclusion Criteria in this Request

Code	Description	Code Type	Code Category
M06.272	Rheumatoid bursitis, left ankle and foot	ICD-10-CM	Diagnosis
M06.279	Rheumatoid bursitis, unspecified ankle and foot	ICD-10-CM	Diagnosis
M06.28	Rheumatoid bursitis, vertebrae	ICD-10-CM	Diagnosis
M06.29	Rheumatoid bursitis, multiple sites	ICD-10-CM	Diagnosis
M06.30	Rheumatoid nodule, unspecified site	ICD-10-CM	Diagnosis
M06.311	Rheumatoid nodule, right shoulder	ICD-10-CM	Diagnosis
M06.312	Rheumatoid nodule, left shoulder	ICD-10-CM	Diagnosis
M06.319	Rheumatoid nodule, unspecified shoulder	ICD-10-CM	Diagnosis
M06.321	Rheumatoid nodule, right elbow	ICD-10-CM	Diagnosis
M06.322	Rheumatoid nodule, left elbow	ICD-10-CM	Diagnosis
M06.329	Rheumatoid nodule, unspecified elbow	ICD-10-CM	Diagnosis
M06.331	Rheumatoid nodule, right wrist	ICD-10-CM	Diagnosis
M06.332	Rheumatoid nodule, left wrist	ICD-10-CM	Diagnosis
M06.339	Rheumatoid nodule, unspecified wrist	ICD-10-CM	Diagnosis
M06.341	Rheumatoid nodule, right hand	ICD-10-CM	Diagnosis
M06.342	Rheumatoid nodule, left hand	ICD-10-CM	Diagnosis
M06.349	Rheumatoid nodule, unspecified hand	ICD-10-CM	Diagnosis
M06.351	Rheumatoid nodule, right hip	ICD-10-CM	Diagnosis
M06.352	Rheumatoid nodule, left hip	ICD-10-CM	Diagnosis
M06.359	Rheumatoid nodule, unspecified hip	ICD-10-CM	Diagnosis
M06.361	Rheumatoid nodule, right knee	ICD-10-CM	Diagnosis
M06.362	Rheumatoid nodule, left knee	ICD-10-CM	Diagnosis
M06.369	Rheumatoid nodule, unspecified knee	ICD-10-CM	Diagnosis
M06.371	Rheumatoid nodule, right ankle and foot	ICD-10-CM	Diagnosis
M06.372	Rheumatoid nodule, left ankle and foot	ICD-10-CM	Diagnosis
M06.379	Rheumatoid nodule, unspecified ankle and foot	ICD-10-CM	Diagnosis
M06.38	Rheumatoid nodule, vertebrae	ICD-10-CM	Diagnosis
M06.39	Rheumatoid nodule, multiple sites	ICD-10-CM	Diagnosis
M06.80	Other specified rheumatoid arthritis, unspecified site	ICD-10-CM	Diagnosis
M06.811	Other specified rheumatoid arthritis, right shoulder	ICD-10-CM	Diagnosis
M06.812	Other specified rheumatoid arthritis, left shoulder	ICD-10-CM	Diagnosis
M06.819	Other specified rheumatoid arthritis, unspecified shoulder	ICD-10-CM	Diagnosis
M06.821	Other specified rheumatoid arthritis, right elbow	ICD-10-CM	Diagnosis
M06.822	Other specified rheumatoid arthritis, left elbow	ICD-10-CM	Diagnosis
M06.829	Other specified rheumatoid arthritis, unspecified elbow	ICD-10-CM	Diagnosis
M06.831	Other specified rheumatoid arthritis, right wrist	ICD-10-CM	Diagnosis
M06.832	Other specified rheumatoid arthritis, left wrist	ICD-10-CM	Diagnosis
M06.839	Other specified rheumatoid arthritis, unspecified wrist	ICD-10-CM	Diagnosis
M06.841	Other specified rheumatoid arthritis, right hand	ICD-10-CM	Diagnosis
M06.842	Other specified rheumatoid arthritis, left hand	ICD-10-CM	Diagnosis
M06.849	Other specified rheumatoid arthritis, unspecified hand	ICD-10-CM	Diagnosis
M06.851	Other specified rheumatoid arthritis, right hip	ICD-10-CM	Diagnosis

Appendix D.1. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes and Healthcare Common Procedure Coding System (HCPCS) and Current Procedural Terminology, Fourth Edition (CPT-4) Procedure Codes Used to Define Inclusion and Exclusion Criteria in this Request

Code	Description	Code Type	Code Category
M06.852	Other specified rheumatoid arthritis, left hip	ICD-10-CM	Diagnosis
M06.859	Other specified rheumatoid arthritis, unspecified hip	ICD-10-CM	Diagnosis
M06.861	Other specified rheumatoid arthritis, right knee	ICD-10-CM	Diagnosis
M06.862	Other specified rheumatoid arthritis, left knee	ICD-10-CM	Diagnosis
M06.869	Other specified rheumatoid arthritis, unspecified knee	ICD-10-CM	Diagnosis
M06.871	Other specified rheumatoid arthritis, right ankle and foot	ICD-10-CM	Diagnosis
M06.872	Other specified rheumatoid arthritis, left ankle and foot	ICD-10-CM	Diagnosis
M06.879	Other specified rheumatoid arthritis, unspecified ankle and foot	ICD-10-CM	Diagnosis
M06.88	Other specified rheumatoid arthritis, vertebrae	ICD-10-CM	Diagnosis
M06.89	Other specified rheumatoid arthritis, multiple sites	ICD-10-CM	Diagnosis
M06.9	Rheumatoid arthritis, unspecified	ICD-10-CM	Diagnosis
M08.00	Unspecified juvenile rheumatoid arthritis of unspecified site	ICD-10-CM	Diagnosis
M08.011	Unspecified juvenile rheumatoid arthritis, right shoulder	ICD-10-CM	Diagnosis
M08.012	Unspecified juvenile rheumatoid arthritis, left shoulder	ICD-10-CM	Diagnosis
M08.019	Unspecified juvenile rheumatoid arthritis, unspecified shoulder	ICD-10-CM	Diagnosis
M08.021	Unspecified juvenile rheumatoid arthritis, right elbow	ICD-10-CM	Diagnosis
M08.022	Unspecified juvenile rheumatoid arthritis, left elbow	ICD-10-CM	Diagnosis
M08.029	Unspecified juvenile rheumatoid arthritis, unspecified elbow	ICD-10-CM	Diagnosis
M08.031	Unspecified juvenile rheumatoid arthritis, right wrist	ICD-10-CM	Diagnosis
M08.032	Unspecified juvenile rheumatoid arthritis, left wrist	ICD-10-CM	Diagnosis
M08.039	Unspecified juvenile rheumatoid arthritis, unspecified wrist	ICD-10-CM	Diagnosis
M08.041	Unspecified juvenile rheumatoid arthritis, right hand	ICD-10-CM	Diagnosis
M08.042	Unspecified juvenile rheumatoid arthritis, left hand	ICD-10-CM	Diagnosis
M08.049	Unspecified juvenile rheumatoid arthritis, unspecified hand	ICD-10-CM	Diagnosis
M08.051	Unspecified juvenile rheumatoid arthritis, right hip	ICD-10-CM	Diagnosis
M08.052	Unspecified juvenile rheumatoid arthritis, left hip	ICD-10-CM	Diagnosis
M08.059	Unspecified juvenile rheumatoid arthritis, unspecified hip	ICD-10-CM	Diagnosis
M08.061	Unspecified juvenile rheumatoid arthritis, right knee	ICD-10-CM	Diagnosis
M08.062	Unspecified juvenile rheumatoid arthritis, left knee	ICD-10-CM	Diagnosis
M08.069	Unspecified juvenile rheumatoid arthritis, unspecified knee	ICD-10-CM	Diagnosis
M08.071	Unspecified juvenile rheumatoid arthritis, right ankle and foot	ICD-10-CM	Diagnosis
M08.072	Unspecified juvenile rheumatoid arthritis, left ankle and foot	ICD-10-CM	Diagnosis
M08.079	Unspecified juvenile rheumatoid arthritis, unspecified ankle and foot	ICD-10-CM	Diagnosis
M08.08	Unspecified juvenile rheumatoid arthritis, vertebrae	ICD-10-CM	Diagnosis
M08.09	Unspecified juvenile rheumatoid arthritis, multiple sites	ICD-10-CM	Diagnosis
M08.20	Juvenile rheumatoid arthritis with systemic onset, unspecified site	ICD-10-CM	Diagnosis
M08.211	Juvenile rheumatoid arthritis with systemic onset, right shoulder	ICD-10-CM	Diagnosis
M08.212	Juvenile rheumatoid arthritis with systemic onset, left shoulder	ICD-10-CM	Diagnosis
M08.219	Juvenile rheumatoid arthritis with systemic onset, unspecified shoulder	ICD-10-CM	Diagnosis
M08.221	Juvenile rheumatoid arthritis with systemic onset, right elbow	ICD-10-CM	Diagnosis
M08.222	Juvenile rheumatoid arthritis with systemic onset, left elbow	ICD-10-CM	Diagnosis
M08.229	Juvenile rheumatoid arthritis with systemic onset, unspecified elbow	ICD-10-CM	Diagnosis

Appendix D.1. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes and Healthcare Common Procedure Coding System (HCPCS) and Current Procedural Terminology, Fourth Edition (CPT-4) Procedure Codes Used to Define Inclusion and Exclusion Criteria in this Request

Code	Description	Code Type	Code Category
M08.231	Juvenile rheumatoid arthritis with systemic onset, right wrist	ICD-10-CM	Diagnosis
M08.232	Juvenile rheumatoid arthritis with systemic onset, left wrist	ICD-10-CM	Diagnosis
M08.239	Juvenile rheumatoid arthritis with systemic onset, unspecified wrist	ICD-10-CM	Diagnosis
M08.241	Juvenile rheumatoid arthritis with systemic onset, right hand	ICD-10-CM	Diagnosis
M08.242	Juvenile rheumatoid arthritis with systemic onset, left hand	ICD-10-CM	Diagnosis
M08.249	Juvenile rheumatoid arthritis with systemic onset, unspecified hand	ICD-10-CM	Diagnosis
M08.251	Juvenile rheumatoid arthritis with systemic onset, right hip	ICD-10-CM	Diagnosis
M08.252	Juvenile rheumatoid arthritis with systemic onset, left hip	ICD-10-CM	Diagnosis
M08.259	Juvenile rheumatoid arthritis with systemic onset, unspecified hip	ICD-10-CM	Diagnosis
M08.261	Juvenile rheumatoid arthritis with systemic onset, right knee	ICD-10-CM	Diagnosis
M08.262	Juvenile rheumatoid arthritis with systemic onset, left knee	ICD-10-CM	Diagnosis
M08.269	Juvenile rheumatoid arthritis with systemic onset, unspecified knee	ICD-10-CM	Diagnosis
M08.271	Juvenile rheumatoid arthritis with systemic onset, right ankle and foot	ICD-10-CM	Diagnosis
M08.272	Juvenile rheumatoid arthritis with systemic onset, left ankle and foot	ICD-10-CM	Diagnosis
M08.279	Juvenile rheumatoid arthritis with systemic onset, unspecified ankle and foot	ICD-10-CM	Diagnosis
M08.28	Juvenile rheumatoid arthritis with systemic onset, vertebrae	ICD-10-CM	Diagnosis
M08.29	Juvenile rheumatoid arthritis with systemic onset, multiple sites	ICD-10-CM	Diagnosis
M08.3	Juvenile rheumatoid polyarthritis (seronegative)	ICD-10-CM	Diagnosis
M08.40	Pauciarticular juvenile rheumatoid arthritis, unspecified site	ICD-10-CM	Diagnosis
M08.411	Pauciarticular juvenile rheumatoid arthritis, right shoulder	ICD-10-CM	Diagnosis
M08.412	Pauciarticular juvenile rheumatoid arthritis, left shoulder	ICD-10-CM	Diagnosis
M08.419	Pauciarticular juvenile rheumatoid arthritis, unspecified shoulder	ICD-10-CM	Diagnosis
M08.421	Pauciarticular juvenile rheumatoid arthritis, right elbow	ICD-10-CM	Diagnosis
M08.422	Pauciarticular juvenile rheumatoid arthritis, left elbow	ICD-10-CM	Diagnosis
M08.429	Pauciarticular juvenile rheumatoid arthritis, unspecified elbow	ICD-10-CM	Diagnosis
M08.431	Pauciarticular juvenile rheumatoid arthritis, right wrist	ICD-10-CM	Diagnosis
M08.432	Pauciarticular juvenile rheumatoid arthritis, left wrist	ICD-10-CM	Diagnosis
M08.439	Pauciarticular juvenile rheumatoid arthritis, unspecified wrist	ICD-10-CM	Diagnosis
M08.441	Pauciarticular juvenile rheumatoid arthritis, right hand	ICD-10-CM	Diagnosis
M08.442	Pauciarticular juvenile rheumatoid arthritis, left hand	ICD-10-CM	Diagnosis
M08.449	Pauciarticular juvenile rheumatoid arthritis, unspecified hand	ICD-10-CM	Diagnosis
M08.451	Pauciarticular juvenile rheumatoid arthritis, right hip	ICD-10-CM	Diagnosis
M08.452	Pauciarticular juvenile rheumatoid arthritis, left hip	ICD-10-CM	Diagnosis
M08.459	Pauciarticular juvenile rheumatoid arthritis, unspecified hip	ICD-10-CM	Diagnosis
M08.461	Pauciarticular juvenile rheumatoid arthritis, right knee	ICD-10-CM	Diagnosis
M08.462	Pauciarticular juvenile rheumatoid arthritis, left knee	ICD-10-CM	Diagnosis
M08.469	Pauciarticular juvenile rheumatoid arthritis, unspecified knee	ICD-10-CM	Diagnosis
M08.471	Pauciarticular juvenile rheumatoid arthritis, right ankle and foot	ICD-10-CM	Diagnosis
M08.472	Pauciarticular juvenile rheumatoid arthritis, left ankle and foot	ICD-10-CM	Diagnosis
M08.479	Pauciarticular juvenile rheumatoid arthritis, unspecified ankle and foot	ICD-10-CM	Diagnosis
M08.48	Pauciarticular juvenile rheumatoid arthritis, vertebrae	ICD-10-CM	Diagnosis
M08.80	Other juvenile arthritis, unspecified site	ICD-10-CM	Diagnosis

Appendix D.1. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes and Healthcare Common Procedure Coding System (HCPCS) and Current Procedural Terminology, Fourth Edition (CPT-4) Procedure Codes Used to Define Inclusion and Exclusion Criteria in this Request

Code	Description	Code Type	Code Category
M08.811	Other juvenile arthritis, right shoulder	ICD-10-CM	Diagnosis
M08.812	Other juvenile arthritis, left shoulder	ICD-10-CM	Diagnosis
M08.819	Other juvenile arthritis, unspecified shoulder	ICD-10-CM	Diagnosis
M08.821	Other juvenile arthritis, right elbow	ICD-10-CM	Diagnosis
M08.822	Other juvenile arthritis, left elbow	ICD-10-CM	Diagnosis
M08.829	Other juvenile arthritis, unspecified elbow	ICD-10-CM	Diagnosis
M08.831	Other juvenile arthritis, right wrist	ICD-10-CM	Diagnosis
M08.832	Other juvenile arthritis, left wrist	ICD-10-CM	Diagnosis
M08.839	Other juvenile arthritis, unspecified wrist	ICD-10-CM	Diagnosis
M08.841	Other juvenile arthritis, right hand	ICD-10-CM	Diagnosis
M08.842	Other juvenile arthritis, left hand	ICD-10-CM	Diagnosis
M08.849	Other juvenile arthritis, unspecified hand	ICD-10-CM	Diagnosis
M08.851	Other juvenile arthritis, right hip	ICD-10-CM	Diagnosis
M08.852	Other juvenile arthritis, left hip	ICD-10-CM	Diagnosis
M08.859	Other juvenile arthritis, unspecified hip	ICD-10-CM	Diagnosis
M08.861	Other juvenile arthritis, right knee	ICD-10-CM	Diagnosis
M08.862	Other juvenile arthritis, left knee	ICD-10-CM	Diagnosis
M08.869	Other juvenile arthritis, unspecified knee	ICD-10-CM	Diagnosis
M08.871	Other juvenile arthritis, right ankle and foot	ICD-10-CM	Diagnosis
M08.872	Other juvenile arthritis, left ankle and foot	ICD-10-CM	Diagnosis
M08.879	Other juvenile arthritis, unspecified ankle and foot	ICD-10-CM	Diagnosis
M08.88	Other juvenile arthritis, other specified site	ICD-10-CM	Diagnosis
M08.89	Other juvenile arthritis, multiple sites	ICD-10-CM	Diagnosis
M08.90	Juvenile arthritis, unspecified, unspecified site	ICD-10-CM	Diagnosis
M08.911	Juvenile arthritis, unspecified, right shoulder	ICD-10-CM	Diagnosis
M08.912	Juvenile arthritis, unspecified, left shoulder	ICD-10-CM	Diagnosis
M08.919	Juvenile arthritis, unspecified, unspecified shoulder	ICD-10-CM	Diagnosis
M08.921	Juvenile arthritis, unspecified, right elbow	ICD-10-CM	Diagnosis
M08.922	Juvenile arthritis, unspecified, left elbow	ICD-10-CM	Diagnosis
M08.929	Juvenile arthritis, unspecified, unspecified elbow	ICD-10-CM	Diagnosis
M08.931	Juvenile arthritis, unspecified, right wrist	ICD-10-CM	Diagnosis
M08.932	Juvenile arthritis, unspecified, left wrist	ICD-10-CM	Diagnosis
M08.939	Juvenile arthritis, unspecified, unspecified wrist	ICD-10-CM	Diagnosis
M08.941	Juvenile arthritis, unspecified, right hand	ICD-10-CM	Diagnosis
M08.942	Juvenile arthritis, unspecified, left hand	ICD-10-CM	Diagnosis
M08.949	Juvenile arthritis, unspecified, unspecified hand	ICD-10-CM	Diagnosis
M08.951	Juvenile arthritis, unspecified, right hip	ICD-10-CM	Diagnosis
M08.952	Juvenile arthritis, unspecified, left hip	ICD-10-CM	Diagnosis
M08.959	Juvenile arthritis, unspecified, unspecified hip	ICD-10-CM	Diagnosis
M08.961	Juvenile arthritis, unspecified, right knee	ICD-10-CM	Diagnosis
M08.962	Juvenile arthritis, unspecified, left knee	ICD-10-CM	Diagnosis
M08.969	Juvenile arthritis, unspecified, unspecified knee	ICD-10-CM	Diagnosis

Appendix D.1. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes and Healthcare Common Procedure Coding System (HCPCS) and Current Procedural Terminology, Fourth Edition (CPT-4) Procedure Codes Used to Define Inclusion and Exclusion Criteria in this Request

Code	Description	Code Type	Code Category
M08.971	Juvenile arthritis, unspecified, right ankle and foot	ICD-10-CM	Diagnosis
M08.972	Juvenile arthritis, unspecified, left ankle and foot	ICD-10-CM	Diagnosis
M08.979	Juvenile arthritis, unspecified, unspecified ankle and foot	ICD-10-CM	Diagnosis
M08.98	Juvenile arthritis, unspecified, vertebrae	ICD-10-CM	Diagnosis
M08.99	Juvenile arthritis, unspecified, multiple sites	ICD-10-CM	Diagnosis
M32.0	Drug-induced systemic lupus erythematosus	ICD-10-CM	Diagnosis
M32.10	Systemic lupus erythematosus, organ or system involvement unspecified	ICD-10-CM	Diagnosis
M32.11	Endocarditis in systemic lupus erythematosus	ICD-10-CM	Diagnosis
M32.12	Pericarditis in systemic lupus erythematosus	ICD-10-CM	Diagnosis
M32.13	Lung involvement in systemic lupus erythematosus	ICD-10-CM	Diagnosis
M32.14	Glomerular disease in systemic lupus erythematosus	ICD-10-CM	Diagnosis
M32.15	Tubulo-interstitial nephropathy in systemic lupus erythematosus	ICD-10-CM	Diagnosis
M32.19	Other organ or system involvement in systemic lupus erythematosus	ICD-10-CM	Diagnosis
M32.8	Other forms of systemic lupus erythematosus	ICD-10-CM	Diagnosis
M32.9	Systemic lupus erythematosus, unspecified	ICD-10-CM	Diagnosis
M33.00	Juvenile dermatomyositis, organ involvement unspecified	ICD-10-CM	Diagnosis
M33.01	Juvenile dermatomyositis with respiratory involvement	ICD-10-CM	Diagnosis
M33.02	Juvenile dermatomyositis with myopathy	ICD-10-CM	Diagnosis
M33.03	Juvenile dermatomyositis without myopathy	ICD-10-CM	Diagnosis
M33.09	Juvenile dermatomyositis with other organ involvement	ICD-10-CM	Diagnosis
M33.10	Other dermatomyositis, organ involvement unspecified	ICD-10-CM	Diagnosis
M33.11	Other dermatomyositis with respiratory involvement	ICD-10-CM	Diagnosis
M33.12	Other dermatomyositis with myopathy	ICD-10-CM	Diagnosis
M33.13	Other dermatomyositis without myopathy	ICD-10-CM	Diagnosis
M33.19	Other dermatomyositis with other organ involvement	ICD-10-CM	Diagnosis
M33.20	Polymyositis, organ involvement unspecified	ICD-10-CM	Diagnosis
M33.21	Polymyositis with respiratory involvement	ICD-10-CM	Diagnosis
M33.22	Polymyositis with myopathy	ICD-10-CM	Diagnosis
M33.29	Polymyositis with other organ involvement	ICD-10-CM	Diagnosis
M33.90	Dermatopolymyositis, unspecified, organ involvement unspecified	ICD-10-CM	Diagnosis
M33.91	Dermatopolymyositis, unspecified with respiratory involvement	ICD-10-CM	Diagnosis
M33.92	Dermatopolymyositis, unspecified with myopathy	ICD-10-CM	Diagnosis
M33.93	Dermatopolymyositis, unspecified without myopathy	ICD-10-CM	Diagnosis
M33.99	Dermatopolymyositis, unspecified with other organ involvement	ICD-10-CM	Diagnosis
M35.00	Sicca syndrome, unspecified	ICD-10-CM	Diagnosis
M35.01	Sicca syndrome with keratoconjunctivitis	ICD-10-CM	Diagnosis
M35.02	Sicca syndrome with lung involvement	ICD-10-CM	Diagnosis
M35.03	Sicca syndrome with myopathy	ICD-10-CM	Diagnosis
M35.04	Sicca syndrome with tubulo-interstitial nephropathy	ICD-10-CM	Diagnosis
M35.09	Sicca syndrome with other organ involvement	ICD-10-CM	Diagnosis
M36.0	Dermato(poly)myositis in neoplastic disease	ICD-10-CM	Diagnosis
Z13.828	Encounter for screening for other musculoskeletal disorder	ICD-10-CM	Diagnosis

Appendix D.1. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes and Healthcare Common Procedure Coding System (HCPCS) and Current Procedural Terminology, Fourth Edition (CPT-4) Procedure Codes Used to Define Inclusion and Exclusion Criteria in this Request

Code	Description	Code Type	Code Category
Select Autoimmune Medications			
J0129	Injection, abatacept, 10 mg (code may be used for medicare when drug administered under the direct supervision of a physician, not for use when drug is self administered)	HCPCS	Procedure
J0135	Injection, adalimumab, 20 mg	HCPCS	Procedure
J7500	Azathioprine, oral, 50 mg	HCPCS	Procedure
J7501	Azathioprine, parenteral, 100 mg	HCPCS	Procedure
J0717	Injection, certolizumab pegol, 1 mg (code may be used for medicare when drug administered under the direct supervision of a physician, not for use when drug is self administered)	HCPCS	Procedure
J9070	Cyclophosphamide, 100 mg	HCPCS	Procedure
J7502	Cyclosporine, oral, 100 mg	HCPCS	Procedure
J7515	Cyclosporine, oral, 25 mg	HCPCS	Procedure
J7516	Cyclosporine, parenteral, 250 mg	HCPCS	Procedure
80158	Cyclosporine	CPT-4	Procedure
J7637	Dexamethasone, inhalation solution, compounded product, administered through dme, concentrated form, per milligram	HCPCS	Procedure
J7638	Dexamethasone, inhalation solution, compounded product, administered through dme, unit dose form, per milligram	HCPCS	Procedure
C9048	Dexamethasone, lacrimal ophthalmic insert, 0.1 mg	HCPCS	Procedure
J8540	Dexamethasone, oral, 0.25 mg	HCPCS	Procedure
80420	Dexamethasone suppression panel, 48 hour This panel must include the following: Free cortisol, urine (82530 x 2) Cortisol (82533 x 2) Volume measurement for timed collection (81050 x 2)	CPT-4	Procedure
J1095	Injection, dexamethasone 9 percent, intraocular, 1 microgram	HCPCS	Procedure
J1094	Injection, dexamethasone acetate, 1 mg	HCPCS	Procedure
J1438	Injection, etanercept, 25 mg (code may be used for medicare when drug administered under the direct supervision of a physician, not for use when drug is self administered)	HCPCS	Procedure
J1602	Injection, golimumab, 1 mg, for intravenous use	HCPCS	Procedure
Q5104	Injection, infliximab-abda, biosimilar, (renflexis), 10 mg	HCPCS	Procedure
Q5103	Injection, infliximab-dyyb, biosimilar, (inflectra), 10 mg	HCPCS	Procedure
Q5109	Injection, infliximab-qbtx, biosimilar, (ixifi), 10 mg	HCPCS	Procedure
J1745	Injection, infliximab, excludes biosimilar, 10 mg	HCPCS	Procedure
J8610	Methotrexate, oral, 2.5 mg	HCPCS	Procedure
J9250	Methotrexate sodium, 5 mg	HCPCS	Procedure
J9260	Methotrexate sodium, 50 mg	HCPCS	Procedure
J7517	Mycophenolate mofetil, oral, 250 mg	HCPCS	Procedure
J7518	Mycophenolic acid, oral, 180 mg	HCPCS	Procedure
Q5115	Injection, rituximab-abbs, biosimilar, (Truxima), 10 mg	HCPCS	Procedure
J9312	Injection, rituximab, 10 mg	HCPCS	Procedure
J9311	Injection, rituximab 10 mg and hyaluronidase	HCPCS	Procedure

Appendix D.1. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes and Healthcare Common Procedure Coding System (HCPCS) and Current Procedural Terminology, Fourth Edition (CPT-4) Procedure Codes Used to Define Inclusion and Exclusion Criteria in this Request

Code	Description	Code Type	Code Category
J3262	Injection, tocilizumab, 1 mg	HCPCS	Procedure
Kidney Transplant			
556	Transplant of kidney	ICD-9-PCS	Procedure
5561	Renal autotransplantation	ICD-9-PCS	Procedure
5569	Other kidney transplantation	ICD-9-PCS	Procedure
OTS00ZZ	Complications of transplanted kidney	ICD-10-PCS	Procedure
OTS10ZZ	Kidney replaced by transplant	ICD-10-PCS	Procedure
OTY00Z0	Unspecified complication of kidney transplant	ICD-10-PCS	Procedure
OTY00Z1	Kidney transplant rejection	ICD-10-PCS	Procedure
OTY00Z2	Kidney transplant failure	ICD-10-PCS	Procedure
OTY10Z0	Kidney transplant infection	ICD-10-PCS	Procedure
OTY10Z1	Other complication of kidney transplant	ICD-10-PCS	Procedure
OTY10Z2	Encounter for aftercare following kidney transplant	ICD-10-PCS	Procedure
99681	Kidney transplant status	ICD-9-CM	Diagnosis
V420	Reposition Right Kidney, Open Approach	ICD-9-CM	Diagnosis
T86.10	Reposition Left Kidney, Open Approach	ICD-10-CM	Diagnosis
T86.11	Transplantation of Right Kidney, Allogeneic, Open Approach	ICD-10-CM	Diagnosis
T86.12	Transplantation of Right Kidney, Syngeneic, Open Approach	ICD-10-CM	Diagnosis
T86.13	Transplantation of Right Kidney, Zooplastic, Open Approach	ICD-10-CM	Diagnosis
T86.19	Transplantation of Left Kidney, Allogeneic, Open Approach	ICD-10-CM	Diagnosis
Z48.22	Transplantation of Left Kidney, Syngeneic, Open Approach	ICD-10-CM	Diagnosis
Z94.0	Transplantation of Left Kidney, Zooplastic, Open Approach	ICD-10-CM	Diagnosis
Dialysis			
792.5	Cloudy (hemodialysis) (peritoneal) dialysis affluent	ICD-9-CM	Diagnosis
V45.1	Renal dialysis status	ICD-9-CM	Diagnosis
V45.11	Renal dialysis status	ICD-9-CM	Diagnosis
V45.12	Noncompliance with renal dialysis	ICD-9-CM	Diagnosis
V56.0	Encounter for extracorporeal dialysis	ICD-9-CM	Diagnosis
V56.1	Fitting and adjustment of extracorporeal dialysis catheter	ICD-9-CM	Diagnosis
V56.2	Fitting and adjustment of peritoneal dialysis catheter	ICD-9-CM	Diagnosis
V56.3	Encounter for adequacy testing for dialysis	ICD-9-CM	Diagnosis
V56.31	Encounter for adequacy testing for hemodialysis	ICD-9-CM	Diagnosis
V56.32	Encounter for adequacy testing for peritoneal dialysis	ICD-9-CM	Diagnosis
V56.8	Encounter other dialysis	ICD-9-CM	Diagnosis
R88.0	Cloudy (hemodialysis) (peritoneal) dialysis effluent	ICD-10-CM	Diagnosis
Z49.01	Encounter for fitting and adjustment of extracorporeal dialysis catheter	ICD-10-CM	Diagnosis
Z49.02	Encounter for fitting and adjustment of peritoneal dialysis catheter	ICD-10-CM	Diagnosis
Z49.31	Encounter for adequacy testing for hemodialysis	ICD-10-CM	Diagnosis
Z49.32	Encounter for adequacy testing for peritoneal dialysis	ICD-10-CM	Diagnosis
Z91.15	Patient's noncompliance with renal dialysis	ICD-10-CM	Diagnosis
Z99.2	Dependence on renal dialysis	ICD-10-CM	Diagnosis

Appendix D.1. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes and Healthcare Common Procedure Coding System (HCPCS) and Current Procedural Terminology, Fourth Edition (CPT-4) Procedure Codes Used to Define Inclusion and Exclusion Criteria in this Request

Code	Description	Code Type	Code Category
90935	Hemodialysis procedure with single evaluation by a physician or other qualified health care professional	CPT-4	Procedure
90937	Hemodialysis procedure requiring repeated evaluation(s) with or without substantial revision of dialysis prescription	CPT-4	Procedure
90939	Hemodialysis access flow study to determine blood flow in grafts and arteriovenous fistulae by an indicator dilution method, hook-up; transcutaneous measurement and disconnection	CPT-4	Procedure
90940	Hemodialysis access flow study to determine blood flow in grafts and arteriovenous fistulae by an indicator method	CPT-4	Procedure
90941	Hemodialysis, For Acute Renal Failure And Or Intoxication,	CPT-4	Procedure
90942	Hemodialysis, For Acute Renal Failure And Or Intoxication,	CPT-4	Procedure
90943	Hemodialysis, For Acute Renal Failure And Or Intoxication,	CPT-4	Procedure
90944	Hemodialysis, For Acute Renal Failure And Or Intoxication,	CPT-4	Procedure
90945	Dialysis procedure other than hemodialysis (eg, peritoneal dialysis, hemofiltration, or other continuous renal replacement therapies), with single evaluation by a physician or other qualified health care professional	CPT-4	Procedure
90947	Dialysis procedure other than hemodialysis (eg, peritoneal dialysis, hemofiltration, or other continuous renal replacement therapies) requiring repeated evaluations by a physician or other qualified health care professional, with or without substantial revision of dialysis prescription	CPT-4	Procedure
90951	End-stage renal disease (ESRD) related services monthly, for patients younger than 2 years of age to include monitoring for the adequacy of nutrition, assessment of growth and development, and counseling of parents; with 4 or more face-to-face visits by a physician or other qualified health care professional per month	CPT-4	Procedure
90952	End-stage renal disease (ESRD) related services monthly, for patients younger than 2 years of age to include monitoring for the adequacy of nutrition, assessment of growth and development, and counseling of parents; with 2-3 face-to-face visits by a physician or other qualified health care professional per month	CPT-4	Procedure
90953	End-stage renal disease (ESRD) related services monthly, for patients younger than 2 years of age to include monitoring for the adequacy of nutrition, assessment of growth and development, and counseling of parents; with 1 face-to-face visit by a physician or other qualified health care professional per month	CPT-4	Procedure
90954	End-stage renal disease (ESRD) related services monthly, for patients 2-11 years of age to include monitoring for the adequacy of nutrition, assessment of growth and development, and counseling of parents; with 4 or more face-to-face visits by a physician or other qualified health care professional per month	CPT-4	Procedure

Appendix D.1. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes and Healthcare Common Procedure Coding System (HCPCS) and Current Procedural Terminology, Fourth Edition (CPT-4) Procedure Codes Used to Define Inclusion and Exclusion Criteria in this Request

Code	Description	Code Type	Code Category
90955	End-stage renal disease (ESRD) related services monthly, for patients 2-11 years of age to include monitoring for the adequacy of nutrition, assessment of growth and development, and counseling of parents; with 2-3 face-to-face visits by a physician or other qualified health care professional per month	CPT-4	Procedure
90956	End-stage renal disease (ESRD) related services monthly, for patients 2-11 years of age to include monitoring for the adequacy of nutrition, assessment of growth and development, and counseling of parents; with 1 face-to-face visit by a physician or other qualified health care professional per month	CPT-4	Procedure
90957	End-stage renal disease (ESRD) related services monthly, for patients 12-19 years of age to include monitoring for the adequacy of nutrition, assessment of growth and development, and counseling of parents; with 4 or more face-to-face visits by a physician or other qualified health care professional per month	CPT-4	Procedure
90958	End-stage renal disease (ESRD) related services monthly, for patients 12-19 years of age to include monitoring for the adequacy of nutrition, assessment of growth and development, and counseling of parents; with 2-3 face-to-face visits by a physician or other qualified health care professional per month	CPT-4	Procedure
90959	End-stage renal disease (ESRD) related services monthly, for patients 12-19 years of age to include monitoring for the adequacy of nutrition, assessment of growth and development, and counseling of parents; with 1 face-to-face visit by a physician or other qualified health care professional per month	CPT-4	Procedure
90960	End-stage renal disease (ESRD) related services monthly, for patients 20 years of age and older; with 4 or more face-to-face visits by a physician or other qualified health care professional per month	CPT-4	Procedure
90961	End-stage renal disease (ESRD) related services monthly, for patients 20 years of age and older; with 2-3 face-to-face visits by a physician or other qualified health care professional per month	CPT-4	Procedure
90962	End-stage renal disease (ESRD) related services monthly, for patients 20 years of age and older; with 1 face-to-face visit by a physician or other qualified health care professional per month	CPT-4	Procedure
90963	End-stage renal disease (ESRD) related services for home dialysis per full month, for patients younger than 2 years of age to include monitoring for the adequacy of nutrition, assessment of growth and development, and counseling of parents	CPT-4	Procedure
90964	End-stage renal disease (ESRD) related services for home dialysis per full month, for patients 2-11 years of age to include monitoring for the adequacy of nutrition, assessment of growth and development, and counseling of parents	CPT-4	Procedure

Appendix D.1. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes and Healthcare Common Procedure Coding System (HCPCS) and Current Procedural Terminology, Fourth Edition (CPT-4) Procedure Codes Used to Define Inclusion and Exclusion Criteria in this Request

Code	Description	Code Type	Code Category
90965	End-stage renal disease (ESRD) related services for home dialysis per full month, for patients 12-19 years of age to include monitoring for the adequacy of nutrition, assessment of growth and development, and counseling of parents	CPT-4	Procedure
90966	End-stage renal disease (ESRD) related services for home dialysis per full month, for patients 20 years of age and older	CPT-4	Procedure
90967	End-stage renal disease (ESRD) related services for dialysis less than a full month of service, per day; for patients younger than 2 years of age	CPT-4	Procedure
90968	End-stage renal disease (ESRD) related services for dialysis less than a full month of service, per day; for patients 2-11 years of age	CPT-4	Procedure
90969	End-stage renal disease (ESRD) related services for dialysis less than a full month of service, per day; for patients 12-19 years of age	CPT-4	Procedure
90970	End-stage renal disease (ESRD) related services for dialysis less than a full month of service, per day; for patients 20 years of age and older	CPT-4	Procedure
90976	Peritoneal Dialysis For End-stage Renal Disease (esrd),	CPT-4	Procedure
90977	Peritoneal Dialysis For End-stage Renal Disease (esrd),	CPT-4	Procedure
90978	Peritoneal Dialysis For End-stage Renal Disease (esrd),	CPT-4	Procedure
90979	Peritoneal Dialysis For End-stage Renal Disease (esrd),	CPT-4	Procedure
90982	Peritoneal Dialysis For End-stage Renal Disease (esrd),	CPT-4	Procedure
90983	Peritoneal Dialysis For End-stage Renal Disease (esrd),	CPT-4	Procedure
90984	Peritoneal Dialysis For End-stage Renal Disease (esrd),	CPT-4	Procedure
90985	Peritoneal Dialysis For End-stage Renal Disease (esrd),	CPT-4	Procedure
90988	Supervision Of Hemodialysis In Hospital Or Other Facility (excluding Home Dialysis), On Monthly Basis	CPT-4	Procedure
90989	Dialysis training, patient, including helper where applicable, any mode, completed course	CPT-4	Procedure
90990	Hemodialysis Training And/or Counseling	CPT-4	Procedure
90991	Home Hemodialysis Care, Outpatient, For Those Services Either Provided By The Physician Primarily Responsible	CPT-4	Procedure
90992	Peritoneal Dialysis Training And/or Counseling	CPT-4	Procedure
90993	Dialysis training, patient, including helper where applicable, any mode, course not completed, per training session	CPT-4	Procedure
90994	Supervision Of Chronic Ambulatory Peritoneal Dialysis (capd), Home Or Out-patient (monthly)	CPT-4	Procedure
90995	End Stage Renal Disease (esrd) Related Services, Per Full Month	CPT-4	Procedure
90996	Continuous Arteriovenous Hemofiltration (cavh) (per Day)	CPT-4	Procedure
90997	Hemoperfusion (eg, with activated charcoal or resin)	CPT-4	Procedure
90998	End Stage Renal Disease (esrd) Related Services (less Than Full Month), Per Day	CPT-4	Procedure
90999	Unlisted dialysis procedure, inpatient or outpatient	CPT-4	Procedure

Appendix D.1. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes and Healthcare Common Procedure Coding System (HCPCS) and Current Procedural Terminology, Fourth Edition (CPT-4) Procedure Codes Used to Define Inclusion and Exclusion Criteria in this Request

Code	Description	Code Type	Code Category
Anticoagulant Alternative Indication			
4534	Acute venous embolism and thrombosis of deep vessels of lower extremity	ICD-9-CM	Diagnosis
45340	Acute venous embolism and thrombosis of unspecified deep vessels of lower extremity	ICD-9-CM	Diagnosis
45341	Acute venous embolism and thrombosis of deep vessels of proximal lower extremity	ICD-9-CM	Diagnosis
45342	Acute venous embolism and thrombosis of deep vessels of distal lower extremity	ICD-9-CM	Diagnosis
4511	Phlebitis and thrombophlebitis of deep veins of lower extremities	ICD-9-CM	Diagnosis
45111	Phlebitis and thrombophlebitis of femoral vein (deep) (superficial)	ICD-9-CM	Diagnosis
45119	Phlebitis and thrombophlebitis of deep veins of lower extremities, other	ICD-9-CM	Diagnosis
4512	Phlebitis and thrombophlebitis of lower extremities, unspecified	ICD-9-CM	Diagnosis
45181	Phlebitis and thrombophlebitis of iliac vein	ICD-9-CM	Diagnosis
45183	Phlebitis and thrombophlebitis of deep veins of upper extremities	ICD-9-CM	Diagnosis
45384	Phlebitis and thrombophlebitis of upper extremities, unspecified	ICD-9-CM	Diagnosis
I80.10	Phlebitis and thrombophlebitis of unspecified femoral vein	ICD-10-CM	Diagnosis
I80.11	Phlebitis and thrombophlebitis of right femoral vein	ICD-10-CM	Diagnosis
I80.12	Phlebitis and thrombophlebitis of left femoral vein	ICD-10-CM	Diagnosis
I80.13	Phlebitis and thrombophlebitis of femoral vein, bilateral	ICD-10-CM	Diagnosis
I80.201	Phlebitis and thrombophlebitis of unspecified deep vessels of right lower extremity	ICD-10-CM	Diagnosis
I80.202	Phlebitis and thrombophlebitis of unspecified deep vessels of left lower extremity	ICD-10-CM	Diagnosis
I80.203	Phlebitis and thrombophlebitis of unspecified deep vessels of lower extremities, bilateral	ICD-10-CM	Diagnosis
I80.209	Phlebitis and thrombophlebitis of unspecified deep vessels of unspecified lower extremity	ICD-10-CM	Diagnosis
I80.211	Phlebitis and thrombophlebitis of right iliac vein	ICD-10-CM	Diagnosis
I80.212	Phlebitis and thrombophlebitis of left iliac vein	ICD-10-CM	Diagnosis
I80.213	Phlebitis and thrombophlebitis of iliac vein, bilateral	ICD-10-CM	Diagnosis
I80.219	Phlebitis and thrombophlebitis of unspecified iliac vein	ICD-10-CM	Diagnosis
I80.221	Phlebitis and thrombophlebitis of right popliteal vein	ICD-10-CM	Diagnosis
I80.222	Phlebitis and thrombophlebitis of left popliteal vein	ICD-10-CM	Diagnosis
I80.223	Phlebitis and thrombophlebitis of popliteal vein, bilateral	ICD-10-CM	Diagnosis
I80.229	Phlebitis and thrombophlebitis of unspecified popliteal vein	ICD-10-CM	Diagnosis
I80.231	Phlebitis and thrombophlebitis of right tibial vein	ICD-10-CM	Diagnosis
I80.232	Phlebitis and thrombophlebitis of left tibial vein	ICD-10-CM	Diagnosis
I80.233	Phlebitis and thrombophlebitis of tibial vein, bilateral	ICD-10-CM	Diagnosis
I80.239	Phlebitis and thrombophlebitis of unspecified tibial vein	ICD-10-CM	Diagnosis
I80.291	Phlebitis and thrombophlebitis of other deep vessels of right lower extremity	ICD-10-CM	Diagnosis
I80.292	Phlebitis and thrombophlebitis of other deep vessels of left lower extremity	ICD-10-CM	Diagnosis

Appendix D.1. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes and Healthcare Common Procedure Coding System (HCPCS) and Current Procedural Terminology, Fourth Edition (CPT-4) Procedure Codes Used to Define Inclusion and Exclusion Criteria in this Request

Code	Description	Code Type	Code Category
I80.293	Phlebitis and thrombophlebitis of other deep vessels of lower extremity, bilateral	ICD-10-CM	Diagnosis
I80.299	Phlebitis and thrombophlebitis of other deep vessels of unspecified lower extremity	ICD-10-CM	Diagnosis
I80.3	Phlebitis and thrombophlebitis of lower extremities, unspecified	ICD-10-CM	Diagnosis
I80.8	Phlebitis and thrombophlebitis of other sites	ICD-10-CM	Diagnosis
I82.401	Acute embolism and thrombosis of unspecified deep veins of right lower extremity	ICD-10-CM	Diagnosis
I82.402	Acute embolism and thrombosis of unspecified deep veins of left lower extremity	ICD-10-CM	Diagnosis
I82.403	Acute embolism and thrombosis of unspecified deep veins of lower extremity, bilateral	ICD-10-CM	Diagnosis
I82.409	Acute embolism and thrombosis of unspecified deep veins of unspecified lower extremity	ICD-10-CM	Diagnosis
I82.411	Acute embolism and thrombosis of right femoral vein	ICD-10-CM	Diagnosis
I82.412	Acute embolism and thrombosis of left femoral vein	ICD-10-CM	Diagnosis
I82.413	Acute embolism and thrombosis of femoral vein, bilateral	ICD-10-CM	Diagnosis
I82.419	Acute embolism and thrombosis of unspecified femoral vein	ICD-10-CM	Diagnosis
I82.421	Acute embolism and thrombosis of right iliac vein	ICD-10-CM	Diagnosis
I82.422	Acute embolism and thrombosis of left iliac vein	ICD-10-CM	Diagnosis
I82.423	Acute embolism and thrombosis of iliac vein, bilateral	ICD-10-CM	Diagnosis
I82.429	Acute embolism and thrombosis of unspecified iliac vein	ICD-10-CM	Diagnosis
I82.431	Acute embolism and thrombosis of right popliteal vein	ICD-10-CM	Diagnosis
I82.432	Acute embolism and thrombosis of left popliteal vein	ICD-10-CM	Diagnosis
I82.433	Acute embolism and thrombosis of popliteal vein, bilateral	ICD-10-CM	Diagnosis
I82.439	Acute embolism and thrombosis of unspecified popliteal vein	ICD-10-CM	Diagnosis
I82.441	Acute embolism and thrombosis of right tibial vein	ICD-10-CM	Diagnosis
I82.442	Acute embolism and thrombosis of left tibial vein	ICD-10-CM	Diagnosis
I82.443	Acute embolism and thrombosis of tibial vein, bilateral	ICD-10-CM	Diagnosis
I82.449	Acute embolism and thrombosis of unspecified tibial vein	ICD-10-CM	Diagnosis
I82.491	Acute embolism and thrombosis of other specified deep vein of right lower extremity	ICD-10-CM	Diagnosis
I82.492	Acute embolism and thrombosis of other specified deep vein of left lower extremity	ICD-10-CM	Diagnosis
I82.493	Acute embolism and thrombosis of other specified deep vein of lower extremity, bilateral	ICD-10-CM	Diagnosis
I82.499	Acute embolism and thrombosis of other specified deep vein of unspecified lower extremity	ICD-10-CM	Diagnosis
I82.4Y1	Acute embolism and thrombosis of unspecified deep veins of right proximal lower extremity	ICD-10-CM	Diagnosis

Appendix D.1. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes and Healthcare Common Procedure Coding System (HCPCS) and Current Procedural Terminology, Fourth Edition (CPT-4) Procedure Codes Used to Define Inclusion and Exclusion Criteria in this Request

Code	Description	Code Type	Code Category
I82.4Y2	Acute embolism and thrombosis of unspecified deep veins of left proximal lower extremity	ICD-10-CM	Diagnosis
I82.4Y3	Acute embolism and thrombosis of unspecified deep veins of proximal lower extremity, bilateral	ICD-10-CM	Diagnosis
I82.4Y9	Acute embolism and thrombosis of unspecified deep veins of unspecified proximal lower extremity	ICD-10-CM	Diagnosis
I82.4Z1	Acute embolism and thrombosis of unspecified deep veins of right distal lower extremity	ICD-10-CM	Diagnosis
I82.4Z2	Acute embolism and thrombosis of unspecified deep veins of left distal lower extremity	ICD-10-CM	Diagnosis
I82.4Z3	Acute embolism and thrombosis of unspecified deep veins of distal lower extremity, bilateral	ICD-10-CM	Diagnosis
I82.4Z9	Acute embolism and thrombosis of unspecified deep veins of unspecified distal lower extremity	ICD-10-CM	Diagnosis
I82.A11	Acute embolism and thrombosis of right axillary vein	ICD-10-CM	Diagnosis
I82.A12	Acute embolism and thrombosis of left axillary vein	ICD-10-CM	Diagnosis
I82.A13	Acute embolism and thrombosis of axillary vein, bilateral	ICD-10-CM	Diagnosis
I82.A19	Acute embolism and thrombosis of unspecified axillary vein	ICD-10-CM	Diagnosis
4151	Pulmonary embolism and infarction	ICD-9-CM	Diagnosis
41511	Iatrogenic pulmonary embolism and infarction	ICD-9-CM	Diagnosis
41512	Septic pulmonary embolism	ICD-9-CM	Diagnosis
41519	Other pulmonary embolism and infarction	ICD-9-CM	Diagnosis
I26.01	Septic pulmonary embolism with acute cor pulmonale	ICD-10-CM	Diagnosis
I26.09	Other pulmonary embolism with acute cor pulmonale	ICD-10-CM	Diagnosis
I26.90	Septic pulmonary embolism without acute cor pulmonale	ICD-10-CM	Diagnosis
I26.99	Other pulmonary embolism without acute cor pulmonale	ICD-10-CM	Diagnosis
T80.0XXA	Air embolism following infusion, transfusion and therapeutic injection, initial encounter	ICD-10-CM	Diagnosis
T81.718A	Complication of other artery following a procedure, not elsewhere classified, initial encounter	ICD-10-CM	Diagnosis
T81.72XA	Complication of vein following a procedure, not elsewhere classified, initial encounter	ICD-10-CM	Diagnosis
T82.817A	Embolism due to cardiac prosthetic devices, implants and grafts, initial encounter	ICD-10-CM	Diagnosis
T82.818A	Embolism due to vascular prosthetic devices, implants and grafts, initial encounter	ICD-10-CM	Diagnosis
V436	Joint replaced by other means	ICD-9-CM	Diagnosis
V4360	Unspecified joint replacement	ICD-9-CM	Diagnosis
V4361	Shoulder joint replacement	ICD-9-CM	Diagnosis
V4362	Elbow joint replacement	ICD-9-CM	Diagnosis
V4363	Wrist joint replacement	ICD-9-CM	Diagnosis

Appendix D.1. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes and Healthcare Common Procedure Coding System (HCPCS) and Current Procedural Terminology, Fourth Edition (CPT-4) Procedure Codes Used to Define Inclusion and Exclusion Criteria in this Request

Code	Description	Code Type	Code Category
V4364	Hip joint replacement	ICD-9-CM	Diagnosis
V4365	Knee joint replacement	ICD-9-CM	Diagnosis
V4366	Ankle joint replacement	ICD-9-CM	Diagnosis
V4369	Other joint replacement	ICD-9-CM	Diagnosis
815	JOINT REPLACEMENT LOWER EXTREMITY	ICD-9-PCS	Procedure
8151	TOTAL HIP REPLACEMENT	ICD-9-PCS	Procedure
8152	PARTIAL HIP REPLACEMENT	ICD-9-PCS	Procedure
8153	REVISION OF HIP REPLACEMENT NOS	ICD-9-PCS	Procedure
8154	TOTAL KNEE REPLACEMENT	ICD-9-PCS	Procedure
8155	REVISION OF KNEE REPLACEMENT NOS	ICD-9-PCS	Procedure
8156	TOTAL ANKLE REPLACEMENT	ICD-9-PCS	Procedure
8157	REPLACEMENT OF JOINT OF FOOT&TOE	ICD-9-PCS	Procedure
8159	REV JOINT REPLCMT LOWER EXTREM NEC	ICD-9-PCS	Procedure
818	ARTHROPLASTY&REPAIR SHOULDER&ELBOW	ICD-9-PCS	Procedure
8180	OTHER TOTAL SHOULDER REPLACEMENT	ICD-9-PCS	Procedure
8181	PARTIAL SHOULDER REPLACEMENT	ICD-9-PCS	Procedure
8182	REPAIR RECURRENT DISLOC SHOULDER	ICD-9-PCS	Procedure
8183	OTHER REPAIR OF SHOULDER	ICD-9-PCS	Procedure
8184	TOTAL ELBOW REPLACEMENT	ICD-9-PCS	Procedure
8185	OTHER REPAIR OF ELBOW	ICD-9-PCS	Procedure
24363	REPLACE ELBOW JOINT	CPT-4	Procedure
27130	TOTAL HIP ARTHROPLASTY	CPT-4	Procedure
27132	TOTAL HIP ARTHROPLASTY	CPT-4	Procedure
27134	REVISE HIP JOINT REPLACEMENT	CPT-4	Procedure
27137	REVISE HIP JOINT REPLACEMENT	CPT-4	Procedure
27138	REVISE HIP JOINT REPLACEMENT	CPT-4	Procedure
27447	TOTAL KNEE ARTHROPLASTY	CPT-4	Procedure
Z96.60	Presence of unspecified orthopedic joint implant	ICD-10-CM	Diagnosis
Z96.611	Presence of right artificial shoulder joint	ICD-10-CM	Diagnosis
Z96.612	Presence of left artificial shoulder joint	ICD-10-CM	Diagnosis
Z96.619	Presence of unspecified artificial shoulder joint	ICD-10-CM	Diagnosis
Z96.621	Presence of right artificial elbow joint	ICD-10-CM	Diagnosis
Z96.622	Presence of left artificial elbow joint	ICD-10-CM	Diagnosis
Z96.629	Presence of unspecified artificial elbow joint	ICD-10-CM	Diagnosis
Z96.631	Presence of right artificial wrist joint	ICD-10-CM	Diagnosis
Z96.632	Presence of left artificial wrist joint	ICD-10-CM	Diagnosis
Z96.639	Presence of unspecified artificial wrist joint	ICD-10-CM	Diagnosis
Z96.641	Presence of right artificial hip joint	ICD-10-CM	Diagnosis
Z96.642	Presence of left artificial hip joint	ICD-10-CM	Diagnosis
Z96.643	Presence of artificial hip joint, bilateral	ICD-10-CM	Diagnosis
Z96.649	Presence of unspecified artificial hip joint	ICD-10-CM	Diagnosis
Z96.651	Presence of right artificial knee joint	ICD-10-CM	Diagnosis

Appendix D.1. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes and Healthcare Common Procedure Coding System (HCPCS) and Current Procedural Terminology, Fourth Edition (CPT-4) Procedure Codes Used to Define Inclusion and Exclusion Criteria in this Request

Code	Description	Code Type	Code Category
Z96.652	Presence of left artificial knee joint	ICD-10-CM	Diagnosis
Z96.653	Presence of artificial knee joint, bilateral	ICD-10-CM	Diagnosis
Z96.659	Presence of unspecified artificial knee joint	ICD-10-CM	Diagnosis
Z96.661	Presence of right artificial ankle joint	ICD-10-CM	Diagnosis
Z96.662	Presence of left artificial ankle joint	ICD-10-CM	Diagnosis
Z96.669	Presence of unspecified artificial ankle joint	ICD-10-CM	Diagnosis
Z96.691	Finger-joint replacement of right hand	ICD-10-CM	Diagnosis
Z96.692	Finger-joint replacement of left hand	ICD-10-CM	Diagnosis
Z96.693	Finger-joint replacement, bilateral	ICD-10-CM	Diagnosis
Z96.698	Presence of other orthopedic joint implants	ICD-10-CM	Diagnosis
Z96.7	Presence of other bone and tendon implants	ICD-10-CM	Diagnosis
ORQE0ZZ	Repair Right Sternoclavicular Joint, Open Approach	ICD-10-PCS	Procedure
ORQE3ZZ	Repair Right Sternoclavicular Joint, Percutaneous Approach	ICD-10-PCS	Procedure
ORQE4ZZ	Repair Right Sternoclavicular Joint, Percutaneous Endoscopic Approach	ICD-10-PCS	Procedure
ORQEXZZ	Repair Right Sternoclavicular Joint, External Approach	ICD-10-PCS	Procedure
ORQF0ZZ	Repair Left Sternoclavicular Joint, Open Approach	ICD-10-PCS	Procedure
ORQF3ZZ	Repair Left Sternoclavicular Joint, Percutaneous Approach	ICD-10-PCS	Procedure
ORQF4ZZ	Repair Left Sternoclavicular Joint, Percutaneous Endoscopic Approach	ICD-10-PCS	Procedure
ORQFXZZ	Repair Left Sternoclavicular Joint, External Approach	ICD-10-PCS	Procedure
ORQG0ZZ	Repair Right Acromioclavicular Joint, Open Approach	ICD-10-PCS	Procedure
ORQG3ZZ	Repair Right Acromioclavicular Joint, Percutaneous Approach	ICD-10-PCS	Procedure
ORQG4ZZ	Repair Right Acromioclavicular Joint, Percutaneous Endoscopic Approach	ICD-10-PCS	Procedure
ORQGXZZ	Repair Right Acromioclavicular Joint, External Approach	ICD-10-PCS	Procedure
ORQH0ZZ	Repair Left Acromioclavicular Joint, Open Approach	ICD-10-PCS	Procedure
ORQH3ZZ	Repair Left Acromioclavicular Joint, Percutaneous Approach	ICD-10-PCS	Procedure
ORQH4ZZ	Repair Left Acromioclavicular Joint, Percutaneous Endoscopic Approach	ICD-10-PCS	Procedure
ORQHXZZ	Repair Left Acromioclavicular Joint, External Approach	ICD-10-PCS	Procedure
ORQJ0ZZ	Repair Right Shoulder Joint, Open Approach	ICD-10-PCS	Procedure
ORQJ3ZZ	Repair Right Shoulder Joint, Percutaneous Approach	ICD-10-PCS	Procedure
ORQJ4ZZ	Repair Right Shoulder Joint, Percutaneous Endoscopic Approach	ICD-10-PCS	Procedure
ORQJXZZ	Repair Right Shoulder Joint, External Approach	ICD-10-PCS	Procedure
ORQK0ZZ	Repair Left Shoulder Joint, Open Approach	ICD-10-PCS	Procedure
ORQK3ZZ	Repair Left Shoulder Joint, Percutaneous Approach	ICD-10-PCS	Procedure
ORQK4ZZ	Repair Left Shoulder Joint, Percutaneous Endoscopic Approach	ICD-10-PCS	Procedure
ORQKXZZ	Repair Left Shoulder Joint, External Approach	ICD-10-PCS	Procedure
ORQL0ZZ	Repair Right Elbow Joint, Open Approach	ICD-10-PCS	Procedure
ORQL3ZZ	Repair Right Elbow Joint, Percutaneous Approach	ICD-10-PCS	Procedure
ORQL4ZZ	Repair Right Elbow Joint, Percutaneous Endoscopic Approach	ICD-10-PCS	Procedure
ORQLXZZ	Repair Right Elbow Joint, External Approach	ICD-10-PCS	Procedure
ORQM0ZZ	Repair Left Elbow Joint, Open Approach	ICD-10-PCS	Procedure
ORQM3ZZ	Repair Left Elbow Joint, Percutaneous Approach	ICD-10-PCS	Procedure
ORQM4ZZ	Repair Left Elbow Joint, Percutaneous Endoscopic Approach	ICD-10-PCS	Procedure

Appendix D.1. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes and Healthcare Common Procedure Coding System (HCPCS) and Current Procedural Terminology, Fourth Edition (CPT-4) Procedure Codes Used to Define Inclusion and Exclusion Criteria in this Request

Code	Description	Code Type	Code Category
ORQMXZZ	Repair Left Elbow Joint, External Approach	ICD-10-PCS	Procedure
ORRE07Z	Replacement of Right Sternoclavicular Joint with Autologous Tissue Substitute, Open Approach	ICD-10-PCS	Procedure
ORRE0JZ	Replacement of Right Sternoclavicular Joint with Synthetic Substitute, Open Approach	ICD-10-PCS	Procedure
ORRE0KZ	Replacement of Right Sternoclavicular Joint with Nonautologous Tissue Substitute, Open Approach	ICD-10-PCS	Procedure
ORRF07Z	Replacement of Left Sternoclavicular Joint with Autologous Tissue Substitute, Open Approach	ICD-10-PCS	Procedure
ORRF0JZ	Replacement of Left Sternoclavicular Joint with Synthetic Substitute, Open Approach	ICD-10-PCS	Procedure
ORRF0KZ	Replacement of Left Sternoclavicular Joint with Nonautologous Tissue Substitute, Open Approach	ICD-10-PCS	Procedure
ORRG07Z	Replacement of Right Acromioclavicular Joint with Autologous Tissue Substitute, Open Approach	ICD-10-PCS	Procedure
ORRG0JZ	Replacement of Right Acromioclavicular Joint with Synthetic Substitute, Open Approach	ICD-10-PCS	Procedure
ORRG0KZ	Replacement of Right Acromioclavicular Joint with Nonautologous Tissue Substitute, Open Approach	ICD-10-PCS	Procedure
ORRH07Z	Replacement of Left Acromioclavicular Joint with Autologous Tissue Substitute, Open Approach	ICD-10-PCS	Procedure
ORRH0JZ	Replacement of Left Acromioclavicular Joint with Synthetic Substitute, Open Approach	ICD-10-PCS	Procedure
ORRH0KZ	Replacement of Left Acromioclavicular Joint with Nonautologous Tissue Substitute, Open Approach	ICD-10-PCS	Procedure
ORRJ07Z	Replacement of Right Shoulder Joint with Autologous Tissue Substitute, Open Approach	ICD-10-PCS	Procedure
ORRJ0J6	Replacement of Right Shoulder Joint with Synthetic Substitute, Humeral Surface, Open Approach	ICD-10-PCS	Procedure
ORRJ0J7	Replacement of Right Shoulder Joint with Synthetic Substitute, Glenoid Surface, Open Approach	ICD-10-PCS	Procedure
ORRJ0JZ	Replacement of Right Shoulder Joint with Synthetic Substitute, Open Approach	ICD-10-PCS	Procedure
ORRJ0KZ	Replacement of Right Shoulder Joint with Nonautologous Tissue Substitute, Open Approach	ICD-10-PCS	Procedure
ORRK07Z	Replacement of Left Shoulder Joint with Autologous Tissue Substitute, Open Approach	ICD-10-PCS	Procedure
ORRK0J6	Replacement of Left Shoulder Joint with Synthetic Substitute, Humeral Surface, Open Approach	ICD-10-PCS	Procedure
ORRK0J7	Replacement of Left Shoulder Joint with Synthetic Substitute, Glenoid Surface, Open Approach	ICD-10-PCS	Procedure

Appendix D.1. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes and Healthcare Common Procedure Coding System (HCPCS) and Current Procedural Terminology, Fourth Edition (CPT-4) Procedure Codes Used to Define Inclusion and Exclusion Criteria in this Request

Code	Description	Code Type	Code Category
ORRK0JZ	Replacement of Left Shoulder Joint with Synthetic Substitute, Open Approach	ICD-10-PCS	Procedure
ORRK0KZ	Replacement of Left Shoulder Joint with Nonautologous Tissue Substitute, Open Approach	ICD-10-PCS	Procedure
ORRL07Z	Replacement of Right Elbow Joint with Autologous Tissue Substitute, Open Approach	ICD-10-PCS	Procedure
ORRL0JZ	Replacement of Right Elbow Joint with Synthetic Substitute, Open Approach	ICD-10-PCS	Procedure
ORRL0KZ	Replacement of Right Elbow Joint with Nonautologous Tissue Substitute, Open Approach	ICD-10-PCS	Procedure
ORRM07Z	Replacement of Left Elbow Joint with Autologous Tissue Substitute, Open Approach	ICD-10-PCS	Procedure
ORRM0JZ	Replacement of Left Elbow Joint with Synthetic Substitute, Open Approach	ICD-10-PCS	Procedure
ORRM0KZ	Replacement of Left Elbow Joint with Nonautologous Tissue Substitute, Open Approach	ICD-10-PCS	Procedure
ORSE04Z	Reposition Right Sternoclavicular Joint with Internal Fixation Device, Open Approach	ICD-10-PCS	Procedure
ORSE0ZZ	Reposition Right Sternoclavicular Joint, Open Approach	ICD-10-PCS	Procedure
ORSF04Z	Reposition Left Sternoclavicular Joint with Internal Fixation Device, Open Approach	ICD-10-PCS	Procedure
ORSF0ZZ	Reposition Left Sternoclavicular Joint, Open Approach	ICD-10-PCS	Procedure
ORSG04Z	Reposition Right Acromioclavicular Joint with Internal Fixation Device, Open Approach	ICD-10-PCS	Procedure
ORSG0ZZ	Reposition Right Acromioclavicular Joint, Open Approach	ICD-10-PCS	Procedure
ORSH04Z	Reposition Left Acromioclavicular Joint with Internal Fixation Device, Open Approach	ICD-10-PCS	Procedure
ORSH0ZZ	Reposition Left Acromioclavicular Joint, Open Approach	ICD-10-PCS	Procedure
ORSJ04Z	Reposition Right Shoulder Joint with Internal Fixation Device, Open Approach	ICD-10-PCS	Procedure
ORSJ0ZZ	Reposition Right Shoulder Joint, Open Approach	ICD-10-PCS	Procedure
ORSK04Z	Reposition Left Shoulder Joint with Internal Fixation Device, Open Approach	ICD-10-PCS	Procedure
ORSK0ZZ	Reposition Left Shoulder Joint, Open Approach	ICD-10-PCS	Procedure
ORUE07Z	Supplement Right Sternoclavicular Joint with Autologous Tissue Substitute, Open Approach	ICD-10-PCS	Procedure
ORUE0JZ	Supplement Right Sternoclavicular Joint with Synthetic Substitute, Open Approach	ICD-10-PCS	Procedure
ORUE0KZ	Supplement Right Sternoclavicular Joint with Nonautologous Tissue Substitute, Open Approach	ICD-10-PCS	Procedure
ORUE37Z	Supplement Right Sternoclavicular Joint with Autologous Tissue Substitute, Percutaneous Approach	ICD-10-PCS	Procedure
ORUE3JZ	Supplement Right Sternoclavicular Joint with Synthetic Substitute, Percutaneous Approach	ICD-10-PCS	Procedure

Appendix D.1. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes and Healthcare Common Procedure Coding System (HCPCS) and Current Procedural Terminology, Fourth Edition (CPT-4) Procedure Codes Used to Define Inclusion and Exclusion Criteria in this Request

Code	Description	Code Type	Code Category
ORUE3KZ	Supplement Right Sternoclavicular Joint with Nonautologous Tissue Substitute, Percutaneous Approach	ICD-10-PCS	Procedure
ORUE47Z	Supplement Right Sternoclavicular Joint with Autologous Tissue Substitute, Percutaneous Endoscopic Approach	ICD-10-PCS	Procedure
ORUE4JZ	Supplement Right Sternoclavicular Joint with Synthetic Substitute, Percutaneous Endoscopic Approach	ICD-10-PCS	Procedure
ORUE4KZ	Supplement Right Sternoclavicular Joint with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach	ICD-10-PCS	Procedure
ORUF07Z	Supplement Left Sternoclavicular Joint with Autologous Tissue Substitute, Open Approach	ICD-10-PCS	Procedure
ORUF0JZ	Supplement Left Sternoclavicular Joint with Synthetic Substitute, Open Approach	ICD-10-PCS	Procedure
ORUF0KZ	Supplement Left Sternoclavicular Joint with Nonautologous Tissue Substitute, Open Approach	ICD-10-PCS	Procedure
ORUF37Z	Supplement Left Sternoclavicular Joint with Autologous Tissue Substitute, Percutaneous Approach	ICD-10-PCS	Procedure
ORUF3JZ	Supplement Left Sternoclavicular Joint with Synthetic Substitute, Percutaneous Approach	ICD-10-PCS	Procedure
ORUF3KZ	Supplement Left Sternoclavicular Joint with Nonautologous Tissue Substitute, Percutaneous Approach	ICD-10-PCS	Procedure
ORUF47Z	Supplement Left Sternoclavicular Joint with Autologous Tissue Substitute, Percutaneous Endoscopic Approach	ICD-10-PCS	Procedure
ORUF4JZ	Supplement Left Sternoclavicular Joint with Synthetic Substitute, Percutaneous Endoscopic Approach	ICD-10-PCS	Procedure
ORUF4KZ	Supplement Left Sternoclavicular Joint with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach	ICD-10-PCS	Procedure
ORUG07Z	Supplement Right Acromioclavicular Joint with Autologous Tissue Substitute, Open Approach	ICD-10-PCS	Procedure
ORUG0JZ	Supplement Right Acromioclavicular Joint with Synthetic Substitute, Open Approach	ICD-10-PCS	Procedure
ORUG0KZ	Supplement Right Acromioclavicular Joint with Nonautologous Tissue Substitute, Open Approach	ICD-10-PCS	Procedure
ORUG37Z	Supplement Right Acromioclavicular Joint with Autologous Tissue Substitute, Percutaneous Approach	ICD-10-PCS	Procedure
ORUG3JZ	Supplement Right Acromioclavicular Joint with Synthetic Substitute, Percutaneous Approach	ICD-10-PCS	Procedure
ORUG3KZ	Supplement Right Acromioclavicular Joint with Nonautologous Tissue Substitute, Percutaneous Approach	ICD-10-PCS	Procedure
ORUG47Z	Supplement Right Acromioclavicular Joint with Autologous Tissue Substitute, Percutaneous Endoscopic Approach	ICD-10-PCS	Procedure

Appendix D.1. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes and Healthcare Common Procedure Coding System (HCPCS) and Current Procedural Terminology, Fourth Edition (CPT-4) Procedure Codes Used to Define Inclusion and Exclusion Criteria in this Request

Code	Description	Code Type	Code Category
ORUG4JZ	Supplement Right Acromioclavicular Joint with Synthetic Substitute, Percutaneous Endoscopic Approach	ICD-10-PCS	Procedure
ORUG4KZ	Supplement Right Acromioclavicular Joint with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach	ICD-10-PCS	Procedure
ORUH07Z	Supplement Left Acromioclavicular Joint with Autologous Tissue Substitute, Open Approach	ICD-10-PCS	Procedure
ORUH0JZ	Supplement Left Acromioclavicular Joint with Synthetic Substitute, Open Approach	ICD-10-PCS	Procedure
ORUH0KZ	Supplement Left Acromioclavicular Joint with Nonautologous Tissue Substitute, Open Approach	ICD-10-PCS	Procedure
ORUH37Z	Supplement Left Acromioclavicular Joint with Autologous Tissue Substitute, Percutaneous Approach	ICD-10-PCS	Procedure
ORUH3JZ	Supplement Left Acromioclavicular Joint with Synthetic Substitute, Percutaneous Approach	ICD-10-PCS	Procedure
ORUH3KZ	Supplement Left Acromioclavicular Joint with Nonautologous Tissue Substitute, Percutaneous Approach	ICD-10-PCS	Procedure
ORUH47Z	Supplement Left Acromioclavicular Joint with Autologous Tissue Substitute, Percutaneous Endoscopic Approach	ICD-10-PCS	Procedure
ORUH4JZ	Supplement Left Acromioclavicular Joint with Synthetic Substitute, Percutaneous Endoscopic Approach	ICD-10-PCS	Procedure
ORUH4KZ	Supplement Left Acromioclavicular Joint with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach	ICD-10-PCS	Procedure
ORUJ07Z	Supplement Right Shoulder Joint with Autologous Tissue Substitute, Open Approach	ICD-10-PCS	Procedure
ORUJ0JZ	Supplement Right Shoulder Joint with Synthetic Substitute, Open Approach	ICD-10-PCS	Procedure
ORUJ0KZ	Supplement Right Shoulder Joint with Nonautologous Tissue Substitute, Open Approach	ICD-10-PCS	Procedure
ORUJ37Z	Supplement Right Shoulder Joint with Autologous Tissue Substitute, Percutaneous Approach	ICD-10-PCS	Procedure
ORUJ3JZ	Supplement Right Shoulder Joint with Synthetic Substitute, Percutaneous Approach	ICD-10-PCS	Procedure
ORUJ3KZ	Supplement Right Shoulder Joint with Nonautologous Tissue Substitute, Percutaneous Approach	ICD-10-PCS	Procedure
ORUJ47Z	Supplement Right Shoulder Joint with Autologous Tissue Substitute, Percutaneous Endoscopic Approach	ICD-10-PCS	Procedure
ORUJ4JZ	Supplement Right Shoulder Joint with Synthetic Substitute, Percutaneous Endoscopic Approach	ICD-10-PCS	Procedure
ORUJ4KZ	Supplement Right Shoulder Joint with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach	ICD-10-PCS	Procedure
ORUK07Z	Supplement Left Shoulder Joint with Autologous Tissue Substitute, Open Approach	ICD-10-PCS	Procedure

Appendix D.1. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes and Healthcare Common Procedure Coding System (HCPCS) and Current Procedural Terminology, Fourth Edition (CPT-4) Procedure Codes Used to Define Inclusion and Exclusion Criteria in this Request

Code	Description	Code Type	Code Category
ORUK0JZ	Supplement Left Shoulder Joint with Synthetic Substitute, Open Approach	ICD-10-PCS	Procedure
ORUK0KZ	Supplement Left Shoulder Joint with Nonautologous Tissue Substitute, Open Approach	ICD-10-PCS	Procedure
ORUK37Z	Supplement Left Shoulder Joint with Autologous Tissue Substitute, Percutaneous Approach	ICD-10-PCS	Procedure
ORUK3JZ	Supplement Left Shoulder Joint with Synthetic Substitute, Percutaneous Approach	ICD-10-PCS	Procedure
ORUK3KZ	Supplement Left Shoulder Joint with Nonautologous Tissue Substitute, Percutaneous Approach	ICD-10-PCS	Procedure
ORUK47Z	Supplement Left Shoulder Joint with Autologous Tissue Substitute, Percutaneous Endoscopic Approach	ICD-10-PCS	Procedure
ORUK4JZ	Supplement Left Shoulder Joint with Synthetic Substitute, Percutaneous Endoscopic Approach	ICD-10-PCS	Procedure
ORUK4KZ	Supplement Left Shoulder Joint with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach	ICD-10-PCS	Procedure
ORUL07Z	Supplement Right Elbow Joint with Autologous Tissue Substitute, Open Approach	ICD-10-PCS	Procedure
ORUL0JZ	Supplement Right Elbow Joint with Synthetic Substitute, Open Approach	ICD-10-PCS	Procedure
ORUL0KZ	Supplement Right Elbow Joint with Nonautologous Tissue Substitute, Open Approach	ICD-10-PCS	Procedure
ORUL37Z	Supplement Right Elbow Joint with Autologous Tissue Substitute, Percutaneous Approach	ICD-10-PCS	Procedure
ORUL3JZ	Supplement Right Elbow Joint with Synthetic Substitute, Percutaneous Approach	ICD-10-PCS	Procedure
ORUL3KZ	Supplement Right Elbow Joint with Nonautologous Tissue Substitute, Percutaneous Approach	ICD-10-PCS	Procedure
ORUL47Z	Supplement Right Elbow Joint with Autologous Tissue Substitute, Percutaneous Endoscopic Approach	ICD-10-PCS	Procedure
ORUL4JZ	Supplement Right Elbow Joint with Synthetic Substitute, Percutaneous Endoscopic Approach	ICD-10-PCS	Procedure
ORUL4KZ	Supplement Right Elbow Joint with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach	ICD-10-PCS	Procedure
ORUM07Z	Supplement Left Elbow Joint with Autologous Tissue Substitute, Open Approach	ICD-10-PCS	Procedure
ORUM0JZ	Supplement Left Elbow Joint with Synthetic Substitute, Open Approach	ICD-10-PCS	Procedure
ORUM0KZ	Supplement Left Elbow Joint with Nonautologous Tissue Substitute, Open Approach	ICD-10-PCS	Procedure
ORUM37Z	Supplement Left Elbow Joint with Autologous Tissue Substitute, Percutaneous Approach	ICD-10-PCS	Procedure
ORUM3JZ	Supplement Left Elbow Joint with Synthetic Substitute, Percutaneous Approach	ICD-10-PCS	Procedure

Appendix D.1. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes and Healthcare Common Procedure Coding System (HCPCS) and Current Procedural Terminology, Fourth Edition (CPT-4) Procedure Codes Used to Define Inclusion and Exclusion Criteria in this Request

Code	Description	Code Type	Code Category
ORUM3KZ	Supplement Left Elbow Joint with Nonautologous Tissue Substitute, Percutaneous Approach	ICD-10-PCS	Procedure
ORUM47Z	Supplement Left Elbow Joint with Autologous Tissue Substitute, Percutaneous Endoscopic Approach	ICD-10-PCS	Procedure
ORUM4JZ	Supplement Left Elbow Joint with Synthetic Substitute, Percutaneous Endoscopic Approach	ICD-10-PCS	Procedure
ORUM4KZ	Supplement Left Elbow Joint with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach	ICD-10-PCS	Procedure
OSR9019	Replacement of Right Hip Joint with Metal Synthetic Substitute, Cemented, Open Approach	ICD-10-PCS	Procedure
OSR901A	Replacement of Right Hip Joint with Metal Synthetic Substitute, Uncemented, Open Approach	ICD-10-PCS	Procedure
OSR901Z	Replacement of Right Hip Joint with Metal Synthetic Substitute, Open Approach	ICD-10-PCS	Procedure
OSR9029	Replacement of Right Hip Joint with Metal on Polyethylene Synthetic Substitute, Cemented, Open Approach	ICD-10-PCS	Procedure
OSR902A	Replacement of Right Hip Joint with Metal on Polyethylene Synthetic Substitute, Uncemented, Open Approach	ICD-10-PCS	Procedure
OSR902Z	Replacement of Right Hip Joint with Metal on Polyethylene Synthetic Substitute, Open Approach	ICD-10-PCS	Procedure
OSR9039	Replacement of Right Hip Joint with Ceramic Synthetic Substitute, Cemented, Open Approach	ICD-10-PCS	Procedure
OSR903A	Replacement of Right Hip Joint with Ceramic Synthetic Substitute, Uncemented, Open Approach	ICD-10-PCS	Procedure
OSR903Z	Replacement of Right Hip Joint with Ceramic Synthetic Substitute, Open Approach	ICD-10-PCS	Procedure
OSR9049	Replacement of Right Hip Joint with Ceramic on Polyethylene Synthetic Substitute, Cemented, Open Approach	ICD-10-PCS	Procedure
OSR904A	Replacement of Right Hip Joint with Ceramic on Polyethylene Synthetic Substitute, Uncemented, Open Approach	ICD-10-PCS	Procedure
OSR904Z	Replacement of Right Hip Joint with Ceramic on Polyethylene Synthetic Substitute, Open Approach	ICD-10-PCS	Procedure
OSR907Z	Replacement of Right Hip Joint with Autologous Tissue Substitute, Open Approach	ICD-10-PCS	Procedure
OSR90J9	Replacement of Right Hip Joint with Synthetic Substitute, Cemented, Open Approach	ICD-10-PCS	Procedure
OSR90JA	Replacement of Right Hip Joint with Synthetic Substitute, Uncemented, Open Approach	ICD-10-PCS	Procedure
OSR90JZ	Replacement of Right Hip Joint with Synthetic Substitute, Open Approach	ICD-10-PCS	Procedure
OSR90KZ	Replacement of Right Hip Joint with Nonautologous Tissue Substitute, Open Approach	ICD-10-PCS	Procedure

Appendix D.1. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes and Healthcare Common Procedure Coding System (HCPCS) and Current Procedural Terminology, Fourth Edition (CPT-4) Procedure Codes Used to Define Inclusion and Exclusion Criteria in this Request

Code	Description	Code Type	Code Category
OSRA009	Replacement of Right Hip Joint, Acetabular Surface with Polyethylene Synthetic Substitute, Cemented, Open Approach	ICD-10-PCS	Procedure
OSRA00A	Replacement of Right Hip Joint, Acetabular Surface with Polyethylene Synthetic Substitute, Uncemented, Open Approach	ICD-10-PCS	Procedure
OSRA00Z	Replacement of Right Hip Joint, Acetabular Surface with Polyethylene Synthetic Substitute, Open Approach	ICD-10-PCS	Procedure
OSRA019	Replacement of Right Hip Joint, Acetabular Surface with Metal Synthetic Substitute, Cemented, Open Approach	ICD-10-PCS	Procedure
OSRA01A	Replacement of Right Hip Joint, Acetabular Surface with Metal Synthetic Substitute, Uncemented, Open Approach	ICD-10-PCS	Procedure
OSRA01Z	Replacement of Right Hip Joint, Acetabular Surface with Metal Synthetic Substitute, Open Approach	ICD-10-PCS	Procedure
OSRA039	Replacement of Right Hip Joint, Acetabular Surface with Ceramic Synthetic Substitute, Cemented, Open Approach	ICD-10-PCS	Procedure
OSRA03A	Replacement of Right Hip Joint, Acetabular Surface with Ceramic Synthetic Substitute, Uncemented, Open Approach	ICD-10-PCS	Procedure
OSRA03Z	Replacement of Right Hip Joint, Acetabular Surface with Ceramic Synthetic Substitute, Open Approach	ICD-10-PCS	Procedure
OSRA07Z	Replacement of Right Hip Joint, Acetabular Surface with Autologous Tissue Substitute, Open Approach	ICD-10-PCS	Procedure
OSRA0J9	Replacement of Right Hip Joint, Acetabular Surface with Synthetic Substitute, Cemented, Open Approach	ICD-10-PCS	Procedure
OSRA0JA	Replacement of Right Hip Joint, Acetabular Surface with Synthetic Substitute, Uncemented, Open Approach	ICD-10-PCS	Procedure
OSRA0JZ	Replacement of Right Hip Joint, Acetabular Surface with Synthetic Substitute, Open Approach	ICD-10-PCS	Procedure
OSRA0KZ	Replacement of Right Hip Joint, Acetabular Surface with Nonautologous Tissue Substitute, Open Approach	ICD-10-PCS	Procedure
OSRB019	Replacement of Left Hip Joint with Metal Synthetic Substitute, Cemented, Open Approach	ICD-10-PCS	Procedure
OSRB01A	Replacement of Left Hip Joint with Metal Synthetic Substitute, Uncemented, Open Approach	ICD-10-PCS	Procedure
OSRB01Z	Replacement of Left Hip Joint with Metal Synthetic Substitute, Open Approach	ICD-10-PCS	Procedure
OSRB029	Replacement of Left Hip Joint with Metal on Polyethylene Synthetic Substitute, Cemented, Open Approach	ICD-10-PCS	Procedure
OSRB02A	Replacement of Left Hip Joint with Metal on Polyethylene Synthetic Substitute, Uncemented, Open Approach	ICD-10-PCS	Procedure
OSRB02Z	Replacement of Left Hip Joint with Metal on Polyethylene Synthetic Substitute, Open Approach	ICD-10-PCS	Procedure

Appendix D.1. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes and Healthcare Common Procedure Coding System (HCPCS) and Current Procedural Terminology, Fourth Edition (CPT-4) Procedure Codes Used to Define Inclusion and Exclusion Criteria in this Request

Code	Description	Code Type	Code Category
OSRB039	Replacement of Left Hip Joint with Ceramic Synthetic Substitute, Cemented, Open Approach	ICD-10-PCS	Procedure
OSRB03A	Replacement of Left Hip Joint with Ceramic Synthetic Substitute, Uncemented, Open Approach	ICD-10-PCS	Procedure
OSRB03Z	Replacement of Left Hip Joint with Ceramic Synthetic Substitute, Open Approach	ICD-10-PCS	Procedure
OSRB049	Replacement of Left Hip Joint with Ceramic on Polyethylene Synthetic Substitute, Cemented, Open Approach	ICD-10-PCS	Procedure
OSRB04A	Replacement of Left Hip Joint with Ceramic on Polyethylene Synthetic Substitute, Uncemented, Open Approach	ICD-10-PCS	Procedure
OSRB04Z	Replacement of Left Hip Joint with Ceramic on Polyethylene Synthetic Substitute, Open Approach	ICD-10-PCS	Procedure
OSRB07Z	Replacement of Left Hip Joint with Autologous Tissue Substitute, Open Approach	ICD-10-PCS	Procedure
OSRB0J9	Replacement of Left Hip Joint with Synthetic Substitute, Cemented, Open Approach	ICD-10-PCS	Procedure
OSRB0JA	Replacement of Left Hip Joint with Synthetic Substitute, Uncemented, Open Approach	ICD-10-PCS	Procedure
OSRB0JZ	Replacement of Left Hip Joint with Synthetic Substitute, Open Approach	ICD-10-PCS	Procedure
OSRBOKZ	Replacement of Left Hip Joint with Nonautologous Tissue Substitute, Open Approach	ICD-10-PCS	Procedure
OSRC07Z	Replacement of Right Knee Joint with Autologous Tissue Substitute, Open Approach	ICD-10-PCS	Procedure
OSRC0J9	Replacement of Right Knee Joint with Synthetic Substitute, Cemented, Open Approach	ICD-10-PCS	Procedure
OSRC0JA	Replacement of Right Knee Joint with Synthetic Substitute, Uncemented, Open Approach	ICD-10-PCS	Procedure
OSRC0JZ	Replacement of Right Knee Joint with Synthetic Substitute, Open Approach	ICD-10-PCS	Procedure
OSRCOKZ	Replacement of Right Knee Joint with Nonautologous Tissue Substitute, Open Approach	ICD-10-PCS	Procedure
OSRCOL9	Replacement of Right Knee Joint with Unicondylar Synthetic Substitute, Cemented, Open Approach	ICD-10-PCS	Procedure
OSRCOLA	Replacement of Right Knee Joint with Unicondylar Synthetic Substitute, Uncemented, Open Approach	ICD-10-PCS	Procedure
OSRCOLZ	Replacement of Right Knee Joint with Unicondylar Synthetic Substitute, Open Approach	ICD-10-PCS	Procedure
OSRD07Z	Replacement of Left Knee Joint with Autologous Tissue Substitute, Open Approach	ICD-10-PCS	Procedure
OSRD0J9	Replacement of Left Knee Joint with Synthetic Substitute, Cemented, Open Approach	ICD-10-PCS	Procedure

Appendix D.1. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes and Healthcare Common Procedure Coding System (HCPCS) and Current Procedural Terminology, Fourth Edition (CPT-4) Procedure Codes Used to Define Inclusion and Exclusion Criteria in this Request

Code	Description	Code Type	Code Category
OSRD0JA	Replacement of Left Knee Joint with Synthetic Substitute, Uncemented, Open Approach	ICD-10-PCS	Procedure
OSRD0JZ	Replacement of Left Knee Joint with Synthetic Substitute, Open Approach	ICD-10-PCS	Procedure
OSRD0KZ	Replacement of Left Knee Joint with Nonautologous Tissue Substitute, Open Approach	ICD-10-PCS	Procedure
OSRD0L9	Replacement of Left Knee Joint with Unicondylar Synthetic Substitute, Cemented, Open Approach	ICD-10-PCS	Procedure
OSRD0LA	Replacement of Left Knee Joint with Unicondylar Synthetic Substitute, Uncemented, Open Approach	ICD-10-PCS	Procedure
OSRD0LZ	Replacement of Left Knee Joint with Unicondylar Synthetic Substitute, Open Approach	ICD-10-PCS	Procedure
OSRE009	Replacement of Left Hip Joint, Acetabular Surface with Polyethylene Synthetic Substitute, Cemented, Open Approach	ICD-10-PCS	Procedure
OSRE00A	Replacement of Left Hip Joint, Acetabular Surface with Polyethylene Synthetic Substitute, Uncemented, Open Approach	ICD-10-PCS	Procedure
OSRE00Z	Replacement of Left Hip Joint, Acetabular Surface with Polyethylene Synthetic Substitute, Open Approach	ICD-10-PCS	Procedure
OSRE019	Replacement of Left Hip Joint, Acetabular Surface with Metal Synthetic Substitute, Cemented, Open Approach	ICD-10-PCS	Procedure
OSRE01A	Replacement of Left Hip Joint, Acetabular Surface with Metal Synthetic Substitute, Uncemented, Open Approach	ICD-10-PCS	Procedure
OSRE01Z	Replacement of Left Hip Joint, Acetabular Surface with Metal Synthetic Substitute, Open Approach	ICD-10-PCS	Procedure
OSRE039	Replacement of Left Hip Joint, Acetabular Surface with Ceramic Synthetic Substitute, Cemented, Open Approach	ICD-10-PCS	Procedure
OSRE03A	Replacement of Left Hip Joint, Acetabular Surface with Ceramic Synthetic Substitute, Uncemented, Open Approach	ICD-10-PCS	Procedure
OSRE03Z	Replacement of Left Hip Joint, Acetabular Surface with Ceramic Synthetic Substitute, Open Approach	ICD-10-PCS	Procedure
OSRE07Z	Replacement of Left Hip Joint, Acetabular Surface with Autologous Tissue Substitute, Open Approach	ICD-10-PCS	Procedure
OSRE0J9	Replacement of Left Hip Joint, Acetabular Surface with Synthetic Substitute, Cemented, Open Approach	ICD-10-PCS	Procedure
OSRE0JA	Replacement of Left Hip Joint, Acetabular Surface with Synthetic Substitute, Uncemented, Open Approach	ICD-10-PCS	Procedure
OSRE0JZ	Replacement of Left Hip Joint, Acetabular Surface with Synthetic Substitute, Open Approach	ICD-10-PCS	Procedure
OSRE0KZ	Replacement of Left Hip Joint, Acetabular Surface with Nonautologous Tissue Substitute, Open Approach	ICD-10-PCS	Procedure
OSRF07Z	Replacement of Right Ankle Joint with Autologous Tissue Substitute, Open Approach	ICD-10-PCS	Procedure

Appendix D.1. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes and Healthcare Common Procedure Coding System (HCPCS) and Current Procedural Terminology, Fourth Edition (CPT-4) Procedure Codes Used to Define Inclusion and Exclusion Criteria in this Request

Code	Description	Code Type	Code Category
OSRF0J9	Replacement of Right Ankle Joint with Synthetic Substitute, Cemented, Open Approach	ICD-10-PCS	Procedure
OSRF0JA	Replacement of Right Ankle Joint with Synthetic Substitute, Uncemented, Open Approach	ICD-10-PCS	Procedure
OSRF0JZ	Replacement of Right Ankle Joint with Synthetic Substitute, Open Approach	ICD-10-PCS	Procedure
OSRF0KZ	Replacement of Right Ankle Joint with Nonautologous Tissue Substitute, Open Approach	ICD-10-PCS	Procedure
OSRG07Z	Replacement of Left Ankle Joint with Autologous Tissue Substitute, Open Approach	ICD-10-PCS	Procedure
OSRG0J9	Replacement of Left Ankle Joint with Synthetic Substitute, Cemented, Open Approach	ICD-10-PCS	Procedure
OSRG0JA	Replacement of Left Ankle Joint with Synthetic Substitute, Uncemented, Open Approach	ICD-10-PCS	Procedure
OSRG0JZ	Replacement of Left Ankle Joint with Synthetic Substitute, Open Approach	ICD-10-PCS	Procedure
OSRG0KZ	Replacement of Left Ankle Joint with Nonautologous Tissue Substitute, Open Approach	ICD-10-PCS	Procedure
OSRH07Z	Replacement of Right Tarsal Joint with Autologous Tissue Substitute, Open Approach	ICD-10-PCS	Procedure
OSRH0JZ	Replacement of Right Tarsal Joint with Synthetic Substitute, Open Approach	ICD-10-PCS	Procedure
OSRH0KZ	Replacement of Right Tarsal Joint with Nonautologous Tissue Substitute, Open Approach	ICD-10-PCS	Procedure
OSRJ07Z	Replacement of Left Tarsal Joint with Autologous Tissue Substitute, Open Approach	ICD-10-PCS	Procedure
OSRJ0JZ	Replacement of Left Tarsal Joint with Synthetic Substitute, Open Approach	ICD-10-PCS	Procedure
OSRJ0KZ	Replacement of Left Tarsal Joint with Nonautologous Tissue Substitute, Open Approach	ICD-10-PCS	Procedure
OSRK07Z	Replacement of Right Metatarsal-Tarsal Joint with Autologous Tissue Substitute, Open Approach	ICD-10-PCS	Procedure
OSRK0JZ	Replacement of Right Metatarsal-Tarsal Joint with Synthetic Substitute, Open Approach	ICD-10-PCS	Procedure
OSRK0KZ	Replacement of Right Metatarsal-Tarsal Joint with Nonautologous Tissue Substitute, Open Approach	ICD-10-PCS	Procedure
OSRL07Z	Replacement of Left Metatarsal-Tarsal Joint with Autologous Tissue Substitute, Open Approach	ICD-10-PCS	Procedure
OSRL0JZ	Replacement of Left Metatarsal-Tarsal Joint with Synthetic Substitute, Open Approach	ICD-10-PCS	Procedure
OSRL0KZ	Replacement of Left Metatarsal-Tarsal Joint with Nonautologous Tissue Substitute, Open Approach	ICD-10-PCS	Procedure
OSRM07Z	Replacement of Right Metatarsal-Phalangeal Joint with Autologous Tissue Substitute, Open Approach	ICD-10-PCS	Procedure

Appendix D.1. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes and Healthcare Common Procedure Coding System (HCPCS) and Current Procedural Terminology, Fourth Edition (CPT-4) Procedure Codes Used to Define Inclusion and Exclusion Criteria in this Request

Code	Description	Code Type	Code Category
OSRM0JZ	Replacement of Right Metatarsal-Phalangeal Joint with Synthetic Substitute, Open Approach	ICD-10-PCS	Procedure
OSRM0KZ	Replacement of Right Metatarsal-Phalangeal Joint with Nonautologous Tissue Substitute, Open Approach	ICD-10-PCS	Procedure
OSRN07Z	Replacement of Left Metatarsal-Phalangeal Joint with Autologous Tissue Substitute, Open Approach	ICD-10-PCS	Procedure
OSRN0JZ	Replacement of Left Metatarsal-Phalangeal Joint with Synthetic Substitute, Open Approach	ICD-10-PCS	Procedure
OSRN0KZ	Replacement of Left Metatarsal-Phalangeal Joint with Nonautologous Tissue Substitute, Open Approach	ICD-10-PCS	Procedure
OSRP07Z	Replacement of Right Toe Phalangeal Joint with Autologous Tissue Substitute, Open Approach	ICD-10-PCS	Procedure
OSRP0JZ	Replacement of Right Toe Phalangeal Joint with Synthetic Substitute, Open Approach	ICD-10-PCS	Procedure
OSRP0KZ	Replacement of Right Toe Phalangeal Joint with Nonautologous Tissue Substitute, Open Approach	ICD-10-PCS	Procedure
OSRQ07Z	Replacement of Left Toe Phalangeal Joint with Autologous Tissue Substitute, Open Approach	ICD-10-PCS	Procedure
OSRQ0JZ	Replacement of Left Toe Phalangeal Joint with Synthetic Substitute, Open Approach	ICD-10-PCS	Procedure
OSRQ0KZ	Replacement of Left Toe Phalangeal Joint with Nonautologous Tissue Substitute, Open Approach	ICD-10-PCS	Procedure
OSRR019	Replacement of Right Hip Joint, Femoral Surface with Metal Synthetic Substitute, Cemented, Open Approach	ICD-10-PCS	Procedure
OSRR01A	Replacement of Right Hip Joint, Femoral Surface with Metal Synthetic Substitute, Uncemented, Open Approach	ICD-10-PCS	Procedure
OSRR01Z	Replacement of Right Hip Joint, Femoral Surface with Metal Synthetic Substitute, Open Approach	ICD-10-PCS	Procedure
OSRR039	Replacement of Right Hip Joint, Femoral Surface with Ceramic Synthetic Substitute, Cemented, Open Approach	ICD-10-PCS	Procedure
OSRR03A	Replacement of Right Hip Joint, Femoral Surface with Ceramic Synthetic Substitute, Uncemented, Open Approach	ICD-10-PCS	Procedure
OSRR03Z	Replacement of Right Hip Joint, Femoral Surface with Ceramic Synthetic Substitute, Open Approach	ICD-10-PCS	Procedure
OSRR07Z	Replacement of Right Hip Joint, Femoral Surface with Autologous Tissue Substitute, Open Approach	ICD-10-PCS	Procedure
OSRR0J9	Replacement of Right Hip Joint, Femoral Surface with Synthetic Substitute, Cemented, Open Approach	ICD-10-PCS	Procedure
OSRR0JA	Replacement of Right Hip Joint, Femoral Surface with Synthetic Substitute, Uncemented, Open Approach	ICD-10-PCS	Procedure

Appendix D.1. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes and Healthcare Common Procedure Coding System (HCPCS) and Current Procedural Terminology, Fourth Edition (CPT-4) Procedure Codes Used to Define Inclusion and Exclusion Criteria in this Request

Code	Description	Code Type	Code Category
OSRR0JZ	Replacement of Right Hip Joint, Femoral Surface with Synthetic Substitute, Open Approach	ICD-10-PCS	Procedure
OSRR0KZ	Replacement of Right Hip Joint, Femoral Surface with Nonautologous Tissue Substitute, Open Approach	ICD-10-PCS	Procedure
OSRS019	Replacement of Left Hip Joint, Femoral Surface with Metal Synthetic Substitute, Cemented, Open Approach	ICD-10-PCS	Procedure
OSRS01A	Replacement of Left Hip Joint, Femoral Surface with Metal Synthetic Substitute, Uncemented, Open Approach	ICD-10-PCS	Procedure
OSRS01Z	Replacement of Left Hip Joint, Femoral Surface with Metal Synthetic Substitute, Open Approach	ICD-10-PCS	Procedure
OSRS039	Replacement of Left Hip Joint, Femoral Surface with Ceramic Synthetic Substitute, Cemented, Open Approach	ICD-10-PCS	Procedure
OSRS03A	Replacement of Left Hip Joint, Femoral Surface with Ceramic Synthetic Substitute, Uncemented, Open Approach	ICD-10-PCS	Procedure
OSRS03Z	Replacement of Left Hip Joint, Femoral Surface with Ceramic Synthetic Substitute, Open Approach	ICD-10-PCS	Procedure
OSRS07Z	Replacement of Left Hip Joint, Femoral Surface with Autologous Tissue Substitute, Open Approach	ICD-10-PCS	Procedure
OSRS0J9	Replacement of Left Hip Joint, Femoral Surface with Synthetic Substitute, Cemented, Open Approach	ICD-10-PCS	Procedure
OSRS0JA	Replacement of Left Hip Joint, Femoral Surface with Synthetic Substitute, Uncemented, Open Approach	ICD-10-PCS	Procedure
OSRS0JZ	Replacement of Left Hip Joint, Femoral Surface with Synthetic Substitute, Open Approach	ICD-10-PCS	Procedure
OSRS0KZ	Replacement of Left Hip Joint, Femoral Surface with Nonautologous Tissue Substitute, Open Approach	ICD-10-PCS	Procedure
OSRT07Z	Replacement of Right Knee Joint, Femoral Surface with Autologous Tissue Substitute, Open Approach	ICD-10-PCS	Procedure
OSRT0J9	Replacement of Right Knee Joint, Femoral Surface with Synthetic Substitute, Cemented, Open Approach	ICD-10-PCS	Procedure
OSRT0JA	Replacement of Right Knee Joint, Femoral Surface with Synthetic Substitute, Uncemented, Open Approach	ICD-10-PCS	Procedure
OSRT0JZ	Replacement of Right Knee Joint, Femoral Surface with Synthetic Substitute, Open Approach	ICD-10-PCS	Procedure
OSRT0KZ	Replacement of Right Knee Joint, Femoral Surface with Nonautologous Tissue Substitute, Open Approach	ICD-10-PCS	Procedure
OSRU07Z	Replacement of Left Knee Joint, Femoral Surface with Autologous Tissue Substitute, Open Approach	ICD-10-PCS	Procedure
OSRU0J9	Replacement of Left Knee Joint, Femoral Surface with Synthetic Substitute, Cemented, Open Approach	ICD-10-PCS	Procedure

Appendix D.1. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes and Healthcare Common Procedure Coding System (HCPCS) and Current Procedural Terminology, Fourth Edition (CPT-4) Procedure Codes Used to Define Inclusion and Exclusion Criteria in this Request

Code	Description	Code Type	Code Category
OSRU0JA	Replacement of Left Knee Joint, Femoral Surface with Synthetic Substitute, Uncemented, Open Approach	ICD-10-PCS	Procedure
OSRU0JZ	Replacement of Left Knee Joint, Femoral Surface with Synthetic Substitute, Open Approach	ICD-10-PCS	Procedure
OSRU0KZ	Replacement of Left Knee Joint, Femoral Surface with Nonautologous Tissue Substitute, Open Approach	ICD-10-PCS	Procedure
OSRV07Z	Replacement of Right Knee Joint, Tibial Surface with Autologous Tissue Substitute, Open Approach	ICD-10-PCS	Procedure
OSRV0J9	Replacement of Right Knee Joint, Tibial Surface with Synthetic Substitute, Cemented, Open Approach	ICD-10-PCS	Procedure
OSRV0JA	Replacement of Right Knee Joint, Tibial Surface with Synthetic Substitute, Uncemented, Open Approach	ICD-10-PCS	Procedure
OSRV0JZ	Replacement of Right Knee Joint, Tibial Surface with Synthetic Substitute, Open Approach	ICD-10-PCS	Procedure
OSRV0KZ	Replacement of Right Knee Joint, Tibial Surface with Nonautologous Tissue Substitute, Open Approach	ICD-10-PCS	Procedure
OSRW07Z	Replacement of Left Knee Joint, Tibial Surface with Autologous Tissue Substitute, Open Approach	ICD-10-PCS	Procedure
OSRW0J9	Replacement of Left Knee Joint, Tibial Surface with Synthetic Substitute, Cemented, Open Approach	ICD-10-PCS	Procedure
OSRW0JA	Replacement of Left Knee Joint, Tibial Surface with Synthetic Substitute, Uncemented, Open Approach	ICD-10-PCS	Procedure
OSRW0JZ	Replacement of Left Knee Joint, Tibial Surface with Synthetic Substitute, Open Approach	ICD-10-PCS	Procedure
OSRW0KZ	Replacement of Left Knee Joint, Tibial Surface with Nonautologous Tissue Substitute, Open Approach	ICD-10-PCS	Procedure
OSW90JZ	Revision of Synthetic Substitute in Right Hip Joint, Open Approach	ICD-10-PCS	Procedure
OSW93JZ	Revision of Synthetic Substitute in Right Hip Joint, Percutaneous Approach	ICD-10-PCS	Procedure
OSW94JZ	Revision of Synthetic Substitute in Right Hip Joint, Percutaneous Endoscopic Approach	ICD-10-PCS	Procedure
OSWA0JZ	Revision of Synthetic Substitute in Right Hip Joint, Acetabular Surface, Open Approach	ICD-10-PCS	Procedure
OSWA3JZ	Revision of Synthetic Substitute in Right Hip Joint, Acetabular Surface, Percutaneous Approach	ICD-10-PCS	Procedure
OSWA4JZ	Revision of Synthetic Substitute in Right Hip Joint, Acetabular Surface, Percutaneous Endoscopic Approach	ICD-10-PCS	Procedure
OSWB0JZ	Revision of Synthetic Substitute in Left Hip Joint, Open Approach	ICD-10-PCS	Procedure
OSWB3JZ	Revision of Synthetic Substitute in Left Hip Joint, Percutaneous Approach	ICD-10-PCS	Procedure
OSWB4JZ	Revision of Synthetic Substitute in Left Hip Joint, Percutaneous Endoscopic Approach	ICD-10-PCS	Procedure

Appendix D.1. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes and Healthcare Common Procedure Coding System (HCPCS) and Current Procedural Terminology, Fourth Edition (CPT-4) Procedure Codes Used to Define Inclusion and Exclusion Criteria in this Request

Code	Description	Code Type	Code Category
OSWC0JC	Revision of Synthetic Substitute in Right Knee Joint, Patellar Surface, Open Approach	ICD-10-PCS	Procedure
OSWC0JZ	Revision of Synthetic Substitute in Right Knee Joint, Open Approach	ICD-10-PCS	Procedure
OSWC3JC	Revision of Synthetic Substitute in Right Knee Joint, Patellar Surface, Percutaneous Approach	ICD-10-PCS	Procedure
OSWC3JZ	Revision of Synthetic Substitute in Right Knee Joint, Percutaneous Approach	ICD-10-PCS	Procedure
OSWC4JC	Revision of Synthetic Substitute in Right Knee Joint, Patellar Surface, Percutaneous Endoscopic Approach	ICD-10-PCS	Procedure
OSWC4JZ	Revision of Synthetic Substitute in Right Knee Joint, Percutaneous Endoscopic Approach	ICD-10-PCS	Procedure
OSWD0JC	Revision of Synthetic Substitute in Left Knee Joint, Patellar Surface, Open Approach	ICD-10-PCS	Procedure
OSWD0JZ	Revision of Synthetic Substitute in Left Knee Joint, Open Approach	ICD-10-PCS	Procedure
OSWD3JC	Revision of Synthetic Substitute in Left Knee Joint, Patellar Surface, Percutaneous Approach	ICD-10-PCS	Procedure
OSWD3JZ	Revision of Synthetic Substitute in Left Knee Joint, Percutaneous Approach	ICD-10-PCS	Procedure
OSWD4JC	Revision of Synthetic Substitute in Left Knee Joint, Patellar Surface, Percutaneous Endoscopic Approach	ICD-10-PCS	Procedure
OSWD4JZ	Revision of Synthetic Substitute in Left Knee Joint, Percutaneous Endoscopic Approach	ICD-10-PCS	Procedure
OSWE0JZ	Revision of Synthetic Substitute in Left Hip Joint, Acetabular Surface, Open Approach	ICD-10-PCS	Procedure
OSWE3JZ	Revision of Synthetic Substitute in Left Hip Joint, Acetabular Surface, Percutaneous Approach	ICD-10-PCS	Procedure
OSWE4JZ	Revision of Synthetic Substitute in Left Hip Joint, Acetabular Surface, Percutaneous Endoscopic Approach	ICD-10-PCS	Procedure
OSWF0JZ	Revision of Synthetic Substitute in Right Ankle Joint, Open Approach	ICD-10-PCS	Procedure
OSWF3JZ	Revision of Synthetic Substitute in Right Ankle Joint, Percutaneous Approach	ICD-10-PCS	Procedure
OSWF4JZ	Revision of Synthetic Substitute in Right Ankle Joint, Percutaneous Endoscopic Approach	ICD-10-PCS	Procedure
OSWG0JZ	Revision of Synthetic Substitute in Left Ankle Joint, Open Approach	ICD-10-PCS	Procedure
OSWG3JZ	Revision of Synthetic Substitute in Left Ankle Joint, Percutaneous Approach	ICD-10-PCS	Procedure
OSWG4JZ	Revision of Synthetic Substitute in Left Ankle Joint, Percutaneous Endoscopic Approach	ICD-10-PCS	Procedure
OSWH0JZ	Revision of Synthetic Substitute in Right Tarsal Joint, Open Approach	ICD-10-PCS	Procedure
OSWH3JZ	Revision of Synthetic Substitute in Right Tarsal Joint, Percutaneous Approach	ICD-10-PCS	Procedure
OSWH4JZ	Revision of Synthetic Substitute in Right Tarsal Joint, Percutaneous Endoscopic Approach	ICD-10-PCS	Procedure
OSWJ0JZ	Revision of Synthetic Substitute in Left Tarsal Joint, Open Approach	ICD-10-PCS	Procedure
OSWJ3JZ	Revision of Synthetic Substitute in Left Tarsal Joint, Percutaneous Approach	ICD-10-PCS	Procedure

Appendix D.1. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes and Healthcare Common Procedure Coding System (HCPCS) and Current Procedural Terminology, Fourth Edition (CPT-4) Procedure Codes Used to Define Inclusion and Exclusion Criteria in this Request

Code	Description	Code Type	Code Category
OSWJ4JZ	Revision of Synthetic Substitute in Left Tarsal Joint, Percutaneous Endoscopic Approach	ICD-10-PCS	Procedure
OSWK0JZ	Revision of Synthetic Substitute in Right Metatarsal-Tarsal Joint, Open Approach	ICD-10-PCS	Procedure
OSWK3JZ	Revision of Synthetic Substitute in Right Metatarsal-Tarsal Joint, Percutaneous Approach	ICD-10-PCS	Procedure
OSWK4JZ	Revision of Synthetic Substitute in Right Metatarsal-Tarsal Joint, Percutaneous Endoscopic Approach	ICD-10-PCS	Procedure
OSWL0JZ	Revision of Synthetic Substitute in Left Metatarsal-Tarsal Joint, Open Approach	ICD-10-PCS	Procedure
OSWL3JZ	Revision of Synthetic Substitute in Left Metatarsal-Tarsal Joint, Percutaneous Approach	ICD-10-PCS	Procedure
OSWL4JZ	Revision of Synthetic Substitute in Left Metatarsal-Tarsal Joint, Percutaneous Endoscopic Approach	ICD-10-PCS	Procedure
OSWM0JZ	Revision of Synthetic Substitute in Right Metatarsal-Phalangeal Joint, Open Approach	ICD-10-PCS	Procedure
OSWM3JZ	Revision of Synthetic Substitute in Right Metatarsal-Phalangeal Joint, Percutaneous Approach	ICD-10-PCS	Procedure
OSWM4JZ	Revision of Synthetic Substitute in Right Metatarsal-Phalangeal Joint, Percutaneous Endoscopic Approach	ICD-10-PCS	Procedure
OSWN0JZ	Revision of Synthetic Substitute in Left Metatarsal-Phalangeal Joint, Open Approach	ICD-10-PCS	Procedure
OSWN3JZ	Revision of Synthetic Substitute in Left Metatarsal-Phalangeal Joint, Percutaneous Approach	ICD-10-PCS	Procedure
OSWN4JZ	Revision of Synthetic Substitute in Left Metatarsal-Phalangeal Joint, Percutaneous Endoscopic Approach	ICD-10-PCS	Procedure
OSWP0JZ	Revision of Synthetic Substitute in Right Toe Phalangeal Joint, Open Approach	ICD-10-PCS	Procedure
OSWP3JZ	Revision of Synthetic Substitute in Right Toe Phalangeal Joint, Percutaneous Approach	ICD-10-PCS	Procedure
OSWP4JZ	Revision of Synthetic Substitute in Right Toe Phalangeal Joint, Percutaneous Endoscopic Approach	ICD-10-PCS	Procedure
OSWQ0JZ	Revision of Synthetic Substitute in Left Toe Phalangeal Joint, Open Approach	ICD-10-PCS	Procedure
OSWQ3JZ	Revision of Synthetic Substitute in Left Toe Phalangeal Joint, Percutaneous Approach	ICD-10-PCS	Procedure
OSWQ4JZ	Revision of Synthetic Substitute in Left Toe Phalangeal Joint, Percutaneous Endoscopic Approach	ICD-10-PCS	Procedure
OSWR0JZ	Revision of Synthetic Substitute in Right Hip Joint, Femoral Surface, Open Approach	ICD-10-PCS	Procedure
OSWR3JZ	Revision of Synthetic Substitute in Right Hip Joint, Femoral Surface, Percutaneous Approach	ICD-10-PCS	Procedure

Appendix D.1. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes and Healthcare Common Procedure Coding System (HCPCS) and Current Procedural Terminology, Fourth Edition (CPT-4) Procedure Codes Used to Define Inclusion and Exclusion Criteria in this Request

Code	Description	Code Type	Code Category
OSWR4JZ	Revision of Synthetic Substitute in Right Hip Joint, Femoral Surface, Percutaneous Endoscopic Approach	ICD-10-PCS	Procedure
OSWS0JZ	Revision of Synthetic Substitute in Left Hip Joint, Femoral Surface, Open Approach	ICD-10-PCS	Procedure
OSWS3JZ	Revision of Synthetic Substitute in Left Hip Joint, Femoral Surface, Percutaneous Approach	ICD-10-PCS	Procedure
OSWS4JZ	Revision of Synthetic Substitute in Left Hip Joint, Femoral Surface, Percutaneous Endoscopic Approach	ICD-10-PCS	Procedure
OSWT0JZ	Revision of Synthetic Substitute in Right Knee Joint, Femoral Surface, Open Approach	ICD-10-PCS	Procedure
OSWT3JZ	Revision of Synthetic Substitute in Right Knee Joint, Femoral Surface, Percutaneous Approach	ICD-10-PCS	Procedure
OSWT4JZ	Revision of Synthetic Substitute in Right Knee Joint, Femoral Surface, Percutaneous Endoscopic Approach	ICD-10-PCS	Procedure
OSWU0JZ	Revision of Synthetic Substitute in Left Knee Joint, Femoral Surface, Open Approach	ICD-10-PCS	Procedure
OSWU3JZ	Revision of Synthetic Substitute in Left Knee Joint, Femoral Surface, Percutaneous Approach	ICD-10-PCS	Procedure
OSWU4JZ	Revision of Synthetic Substitute in Left Knee Joint, Femoral Surface, Percutaneous Endoscopic Approach	ICD-10-PCS	Procedure
OSWV0JZ	Revision of Synthetic Substitute in Right Knee Joint, Tibial Surface, Open Approach	ICD-10-PCS	Procedure
OSWV3JZ	Revision of Synthetic Substitute in Right Knee Joint, Tibial Surface, Percutaneous Approach	ICD-10-PCS	Procedure
OSWV4JZ	Revision of Synthetic Substitute in Right Knee Joint, Tibial Surface, Percutaneous Endoscopic Approach	ICD-10-PCS	Procedure
OSWW0JZ	Revision of Synthetic Substitute in Left Knee Joint, Tibial Surface, Open Approach	ICD-10-PCS	Procedure
OSWW3JZ	Revision of Synthetic Substitute in Left Knee Joint, Tibial Surface, Percutaneous Approach	ICD-10-PCS	Procedure
OSWW4JZ	Revision of Synthetic Substitute in Left Knee Joint, Tibial Surface, Percutaneous Endoscopic Approach	ICD-10-PCS	Procedure

Appendix D.2. List of Generic and Brand Medical Product Names Used to Define Inclusion and Exclusion Criteria in this Request

Generic Name	Brand Name
Direct Oral Anticoagulants	
dabigatran etexilate mesylate	Pradaxa
rivaroxaban	Xarelto
apixaban	Eliquis
edoxaban tosylate	Savaysa
Warfarin	
warfarin sodium	warfarin
warfarin sodium	Coumadin
warfarin sodium	Jantoven
Allopurinol	
allopurinol	allopurinol
allopurinol	Zyloprim
Propylthiouracil	
propylthiouracil	propylthiouracil
Select Autoimmune Medications	
azathioprine sodium	azathioprine sodium
azathioprine	azathioprine
azathioprine	Imuran
azathioprine	Azasan
colchicine	colchicine
probenecid/colchicine	probenecid-colchicine
colchicine	Colcrys
colchicine	Mitigare
cyclophosphamide	cyclophosphamide
cyclosporine, modified	cyclosporine modified
cyclosporine	cyclosporine
cyclosporine, modified	Gengraf
cyclosporine, modified	Neoral
cyclosporine	Sandimmune
dapsone	dapsone
dapsone	Aczone
dexamethasone sodium phosphate	dexamethasone sodium phosphate
dexamethasone sodium phosphate/PF	Active Injection Kit D (PF)
dexamethasone sodium phosphate	ReadySharp dexamethasone
dexamethasone sodium phosphate/PF	MAS Care-Pak (PF)
dexamethasone acetate and sodium phosphate in sterile water	dexamethasone ac, sod ph-water
dexamethasone acetate in sodium chloride, iso-osmotic	dexamethasone ace-NaCl,iso-osm
dexamethasone sodium phosphate/lidocaine HCl	Lidocidex-I
dexamethasone sodium phosphate/PF	DoubleDex (PF)
dexamethasone sodium phosphate/PF	dexamethasone sodium phos (PF)
dexamethasone	HiDex
dexamethasone	dexamethasone
dexamethasone	DexPak 13 Day
dexamethasone/saliva collection device	Cushings Syndrome Diagnostic
dexamethasone	Dxevo

Appendix D.2. List of Generic and Brand Medical Product Names Used to Define Inclusion and Exclusion Criteria in this Request

Generic Name	Brand Name
dexamethasone	ZonaCort
dexamethasone	TaperDex
dexamethasone	LoCort
dexamethasone	Decadron
dexamethasone	DexPak 10 day
dexamethasone	DexPak 6 Day
dexamethasone	Dexamethasone Intensol
dexamethasone	ZoDex
dexamethasone	Zema-Pak
dexamethasone	Baycadron
hepatitis B immune globulin/maltose	HepaGam B
Rho(D) immune globulin/maltose	WinRho SDF
immune globulin,gamma(IgG)/glycine/IgA average 46 mcg/mL	Gamunex-C
immune globulin,gamma(IgG)/glycine/IgA average 46 mcg/mL	Gammaked
immune globulin,gamm(IgG)/glycine/IgA greater than 50 mcg/mL	Gammagard Liquid
Rho(D) immune globulin	Rhophylac
leflunomide	leflunomide
leflunomide	Arava
methotrexate sodium/PF	methotrexate sodium (PF)
methotrexate sodium	methotrexate sodium
methotrexate sodium	Methotrexate (Anti-Rheumatic)
methotrexate	Xatmep
methotrexate sodium	Trexall
methotrexate sodium	Rheumatrex
methylprednisolone	methylprednisolone
methylprednisolone sodium succinate	methylprednisolone sodium succ
methylprednisolone acetate	methylprednisolone acetate
methylprednisolone acetate	Depo-Medrol
methylprednisolone	Medrol (Pak)
methylprednisolone acetate	P-Care D40
methylprednisolone acetate	P-Care D80
methylprednisolone acetate	ReadySharp Methylprednisolone
methylprednisolone sodium succinate/PF	Solu-Medrol (PF)
methylprednisolone sodium succinate	Solu-Medrol
methylprednisolone	Medrol
methylprednisolone acetate in sterile water for injection	methylprednisolone acet-water
methylprednisolone acetate/bupivacaine HCl in sterile water	methylprednisol ac-bupivac-wat
methylprednisolone acetate in sodium chloride,iso-osmotic/PF	methylpred ac(PF)-NaCl,iso-osm
methylprednisolone	Methylpred DP
methylprednisolone acetate/bupivacaine HCl	Physicians EZ Use M-Pred
methylprednisolone sodium succinate	A-Methapred
methylprednisolone	Meprolone Unipak
mycophenolate mofetil	CellCept
mycophenolate mofetil	mycophenolate mofetil
prednisone	prednisone

Appendix D.2. List of Generic and Brand Medical Product Names Used to Define Inclusion and Exclusion Criteria in this Request

Generic Name	Brand Name
prednisone	Sterapred
prednisone	Deltasone
prednisone	Rayos
prednisone	Prednisone Intensol
neomycin sulfate/polymyxin B sulfate/prednisolone	Poly-Pred
prednisolone	prednisolone
prednisolone	Millipred
prednisolone	Pre lone
prednisolone	Millipred DP
prednisolone acetate	prednisolone acetate
prednisolone acetate	Pred Forte
prednisolone acetate	Pred Mild
prednisolone acetate	Flo-Pred
prednisolone acetate	Omnipred
prednisolone acetate/bromfenac sodium	prednisolone acetate-bromfenac
prednisolone acetate/gatifloxacin	prednisolone acet-gatifloxacin
prednisolone acetate/gatifloxacin/bromfenac sodium	prednisol ace-gatiflox-bromfen
prednisolone acetate/gatifloxacin/nepafenac	prednisolone-gatiflox-nepafen
prednisolone acetate/moxifloxacin HCl	prednisolone-moxifloxacin HCl
prednisolone acetate/moxifloxacin HCl/bromfenac sodium	prednisolone-moxiflox-bromfen
prednisolone acetate/moxifloxacin HCl/nepafenac	prednisolone-moxiflo-nepafenac
prednisolone acetate/nepafenac	prednisolone acetate-nepafenac
prednisolone acetate/PF	prednisolone acetate (PF)
prednisolone sodium phosphate	prednisolone sodium phosphate
prednisolone sodium phosphate	Pediapred
prednisolone sodium phosphate	Orapred ODT
prednisolone sodium phosphate	Orapred
prednisolone sodium phosphate	Veripred 20
prednisolone sodium phosphate	Millipred
prednisolone sodium phosphate	Prednisol
prednisolone sodium phosphate/bromfenac sodium	prednisolone sod ph-bromfenac
prednisolone sodium phosphate/gatifloxacin	prednisolone sod ph-gatifloxac
prednisolone sodium phosphate/gatifloxacin/bromfenac sodium	prednisoln sp-gatiflox-bromfen
prednisolone sodium phosphate/moxifloxacin HCl	prednisolone sod ph-moxiflox
Prednisolone Sodium Phosphate/Peak Flow Meter	Asmalpred
Prednisolone Sodium Phosphate/Peak Flow Meter	Asmalpred Plus
sulfacetamide sodium/prednisolone acetate	Blephamide
sulfacetamide sodium/prednisolone acetate	Blephamide S.O.P.
sulfacetamide sodium/prednisolone sodium phosphate	sulfacetamide-prednisolone
gentamicin sulfate/prednisolone acetate	Pred-G
gentamicin sulfate/prednisolone acetate	Pred-G S.O.P.

Specifications Defining Parameters in this Request

This request utilized the Cohort Identification and Descriptive Analysis (CIDA) tool 9.0.0 to estimate rates of Cutaneous Small-Vessel Vasculitis (CSVV) among patients with prior anticoagulant use who have a treatment of prednisone/prednisolone and alternative autoimmune medication in the IBM® MarketScan® Research Databases.

Query period: October 19, 2010 - December 31, 2018
Coverage requirement: Medical and Drug Coverage
Pre-index enrollment requirement: 183 days
Post-index enrollment requirement: 0
Post-episode enrollment requirement for Type 2 analyses: 0
Enrollment gap: 45 days
Age groups: 21-64, 65-74, 75-84, 85+ years
Censor output categorization: 0-9, 10-19, 20-29, 30-39, 40-49, 50-59, 60-69, 70-79, 80-90 days
Envelope macro: Reclassify encounters during inpatient stay as inpatient
Distribution of index-defining codes: Yes
Freeze data: Yes

Exposure

Scenario	Index Exposure	Cohort definition	Incident exposure washout period	Incident with respect to:	Exposure episode length (days)	Care setting	Principal diagnosis position	Censor treatment episode at evidence of:
1	Cutaneous Small-Vessel Vasculitis (CSVV)	First valid exposure episodes during query period;	183 days	CSVV in any care setting	90	*Emergency department encounter; *Ambulatory visit; *Other ambulatory visit;	N/A	Death; Data Partner End Date; Query End Date
2	CSVV	First valid exposure episodes during query period;	183 days	CSVV in any care setting	90	*Emergency department encounter; *Ambulatory visit; *Other ambulatory visit;	N/A	Death; Data Partner End Date; Query End Date
3	CSVV	First valid exposure episodes during query period;	183 days	CSVV in any care setting	90	*Emergency department encounter; *Ambulatory visit; *Other ambulatory visit;	N/A	Death; Data Partner End Date; Query End Date

Specifications Defining Parameters in this Request

Scenario	Index Exposure	Cohort definition	Exposure				Principal diagnosis position	Censor treatment episode at evidence of:
			Incident exposure washout period	Incident with respect to:	Exposure episode length (days)	Care setting		
4	CSVV	First valid exposure episodes during query period;	183 days	CSVV in any care setting	90	*Emergency department encounter; *Ambulatory visit; *Other ambulatory visit;	N/A	Death; Data Partner End Date; Query End Date
5	CSVV	First valid exposure episodes during query period;	183 days	CSVV in any care setting	90	*Emergency department encounter; *Ambulatory visit; *Other ambulatory visit;	N/A	Death; Data Partner End Date; Query End Date
6	CSVV	First valid exposure episodes during query period;	183 days	CSVV in any care setting	90	*Emergency department encounter; *Ambulatory visit; *Other ambulatory visit;	N/A	Death; Data Partner End Date; Query End Date
7	CSVV	First valid exposure episodes during query period;	183 days	CSVV in any care setting	90	*Emergency department encounter; *Ambulatory visit; *Other ambulatory visit;	N/A	Death; Data Partner End Date; Query End Date
8	CSVV	First valid exposure episodes during query period;	183 days	CSVV in any care setting	90	*Emergency department encounter; *Ambulatory visit; *Other ambulatory visit;	N/A	Death; Data Partner End Date; Query End Date

Specifications Defining Parameters in this Request								
Scenario	Index Exposure	Cohort definition	Exposure				Principal diagnosis position	Censor treatment episode at evidence of:
			Incident exposure washout period	Incident with respect to:	Exposure episode length (days)	Care setting		
9	CSVV	First valid exposure episodes during query period;	183 days	CSVV in any care setting	90	Inpatient hospital stay; Non-acute institutional stay;	Any	Death; Data Partner End Date; Query End Date
10	CSVV	First valid exposure episodes during query period;	183 days	CSVV in any care setting	90	Inpatient hospital stay; Non-acute institutional stay;	Any	Death; Data Partner End Date; Query End Date
11	CSVV	First valid exposure episodes during query period;	183 days	CSVV in any care setting	90	Inpatient hospital stay; Non-acute institutional stay;	Any	Death; Data Partner End Date; Query End Date
12	CSVV	First valid exposure episodes during query period;	183 days	CSVV in any care setting	90	Inpatient hospital stay; Non-acute institutional stay;	Any	Death; Data Partner End Date; Query End Date

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

Specifications Defining Parameters in this Request

Inclusion/Exclusion Criteria						
Scenario	Inclusion/ Exclusion group	Criteria	Care setting	Evaluation period start (days)	Evaluation period end (days)	Exclude evidence of days supply if inclusion/exclusion evaluation period includes dispensings
1	Afib diagnosis AND	Inclusion	*Any care setting	-183	0	N/A
	DOAC Dispensing	Inclusion	*Any care setting	-90	0	Evaluation period should search for only evidence of a dispensing date
	DOAC Dispensing	Exclusion	*Any care setting	-183	-91	Evaluation period should search for only evidence of a dispensing date
	Select autoimmune disorders (rheumatoid arthritis, lupus, etc.) OR	Exclusion	*Any care setting	-183	0	N/A
	Select autoimmune disorder medication (abatacept, adalimumab, prednisone, etc.) OR	Exclusion	N/A	-183	0	Evaluation period should search for only evidence of a dispensing date
	Kidney transplant or dialysis event OR	Exclusion	*Any care setting	-183	0	N/A
	Anticoagulant alternative indication (Deep Vein Thrombosis (DVT), Pulmonary Embolism (PE), joint replacement surgery) OR	Exclusion	*Any care setting	-183	0	N/A
	Warfarin Dispensing OR	Exclusion	N/A	-183	0	Evaluation period should search for only evidence of a dispensing date
	Propylthiouracil Dispensing OR	Exclusion	N/A	-183	0	Evaluation period should search for only evidence of a dispensing date
	Allopurinol Dispensing OR	Exclusion	N/A	-183	0	Evaluation period should search for only evidence of a dispensing date

Specifications Defining Parameters in this Request

Inclusion/Exclusion Criteria

Scenario	Inclusion/ Exclusion group	Criteria	Care setting	Evaluation period start (days)	Evaluation period end (days)	Exclude evidence of days supply if inclusion/exclusion evaluation period includes dispensings
2	Afib diagnosis AND	Inclusion	*Any care setting	-183	0	N/A
	DOAC Dispensing	Inclusion	*Any care setting	-90	0	Evaluation period should search for only evidence of a dispensing date
	DOAC Dispensing	Exclusion	*Any care setting	-183	-91	Evaluation period should search for only evidence of a dispensing date
	Select autoimmune disorders (rheumatoid arthritis, lupus, etc.) OR	Exclusion	*Any care setting	-183	0	N/A
	Select autoimmune disorder medication (abatacept, adalimumab, prednisone, etc.) OR	Exclusion	N/A	-183	0	Evaluation period should search for only evidence of a dispensing date
	Kidney transplant or dialysis event OR	Exclusion	*Any care setting	-183	0	N/A
	Anticoagulant alternative indication (Deep Vein Thrombosis (DVT), Pulmonary Embolism (PE), joint replacement surgery) OR	Exclusion	*Any care setting	-183	0	N/A
	Warfarin Dispensing OR	Exclusion	N/A	-183	0	Evaluation period should search for only evidence of a dispensing date
	Propylthiouracil Dispensing OR	Exclusion	N/A	-183	0	Evaluation period should search for only evidence of a dispensing date
	Allopurinol Dispensing OR	Exclusion	N/A	-183	0	Evaluation period should search for only evidence of a dispensing date

Specifications Defining Parameters in this Request
Inclusion/Exclusion Criteria

Scenario	Inclusion/ Exclusion group	Criteria	Care setting	Evaluation period start (days)	Evaluation period end (days)	Exclude evidence of days supply if inclusion/exclusion evaluation period includes dispensings
3	Afib diagnosis AND	Inclusion	*Any care setting	-183	0	N/A
	Warfarin Dispensing	Inclusion	*Any care setting	-90	0	Evaluation period should search for only evidence of a dispensing date
	Warfarin Dispensing	Exclusion	*Any care setting	-183	-91	Evaluation period should search for only evidence of a dispensing date
	Select autoimmune disorders (rheumatoid arthritis, lupus, etc.) OR	Exclusion	*Any care setting	-183	0	N/A
	Select autoimmune disorder medication (abatacept, adalimumab, prednisone, etc.) OR	Exclusion	N/A	-183	0	Evaluation period should search for only evidence of a dispensing date
	Kidney transplant or dialysis event OR	Exclusion	*Any care setting	-183	0	N/A
	Anticoagulant alternative indication (Deep Vein Thrombosis (DVT), Pulmonary Embolism (PE), joint replacement surgery) OR	Exclusion	*Any care setting	-183	0	N/A
	DOAC Dispensing OR	Exclusion	N/A	-183	0	Evaluation period should search for only evidence of a dispensing date
	Propylthiouracil Dispensing OR	Exclusion	N/A	-183	0	Evaluation period should search for only evidence of a dispensing date
	Allopurinol Dispensing OR	Exclusion	N/A	-183	0	Evaluation period should search for only evidence of a dispensing date

Specifications Defining Parameters in this Request

Inclusion/Exclusion Criteria

Scenario	Inclusion/ Exclusion group	Criteria	Care setting	Evaluation period start (days)	Evaluation period end (days)	Exclude evidence of days supply if inclusion/exclusion evaluation period includes dispensings
4	Afib diagnosis AND	Inclusion	*Any care setting	-183	0	N/A
	Warfarin Dispensing	Inclusion	*Any care setting	-90	0	Evaluation period should search for only evidence of a dispensing date
	Warfarin Dispensing	Exclusion	*Any care setting	-183	-91	Evaluation period should search for only evidence of a dispensing date
	Select autoimmune disorders (rheumatoid arthritis, lupus, etc.) OR	Exclusion	*Any care setting	-183	0	N/A
	Select autoimmune disorder medication (abatacept, adalimumab, prednisone, etc.) OR	Exclusion	N/A	-183	0	Evaluation period should search for only evidence of a dispensing date
	Kidney transplant or dialysis event OR	Exclusion	*Any care setting	-183	0	N/A
	Anticoagulant alternative indication (Deep Vein Thrombosis (DVT), Pulmonary Embolism (PE), joint replacement surgery) OR	Exclusion	*Any care setting	-183	0	N/A
	DOAC Dispensing OR	Exclusion	N/A	-183	0	Evaluation period should search for only evidence of a dispensing date
	Propylthiouracil Dispensing OR	Exclusion	N/A	-183	0	Evaluation period should search for only evidence of a dispensing date
	Allopurinol Dispensing OR	Exclusion	N/A	-183	0	Evaluation period should search for only evidence of a dispensing date

Specifications Defining Parameters in this Request

Inclusion/Exclusion Criteria

Scenario	Inclusion/ Exclusion group	Criteria	Care setting	Evaluation period start (days)	Evaluation period end (days)	Exclude evidence of days supply if inclusion/exclusion evaluation period includes dispensings
	Afib	Inclusion	*Any care setting	-183	0	N/A
	Allopurinol Dispensing	Inclusion	*Any care setting	-90	0	Evaluation period should search for only evidence of a dispensing date
	Allopurinol Dispensing	Exclusion	*Any care setting	-183	-91	Evaluation period should search for only evidence of a dispensing date
	Select autoimmune disorders (rheumatoid arthritis, lupus, etc.) OR	Exclusion	*Any care setting	-183	0	N/A
	Select autoimmune disorder medication (abatacept, adalimumab, prednisone, etc.) OR	Exclusion	N/A	-183	0	Evaluation period should search for only evidence of a dispensing date
5	Kidney transplant or dialysis event OR	Exclusion	*Any care setting	-183	0	N/A
	Anticoagulant alternative indication (Deep Vein Thrombosis (DVT), Pulmonary Embolism (PE), joint replacement surgery) OR	Exclusion	*Any care setting	-183	0	N/A
	DOAC Dispensing OR	Exclusion	N/A	-183	0	Evaluation period should search for only evidence of a dispensing date
	Warfarin Dispensing OR	Exclusion	N/A	-183	0	Evaluation period should search for only evidence of a dispensing date
	Propylthiouracil Dispensing OR	Exclusion	N/A	-183	0	Evaluation period should search for only evidence of a dispensing date

Specifications Defining Parameters in this Request

Inclusion/Exclusion Criteria

Scenario	Inclusion/ Exclusion group	Criteria	Care setting	Evaluation period start (days)	Evaluation period end (days)	Exclude evidence of days supply if inclusion/exclusion evaluation period includes dispensings
6	Afib diagnosis AND	Inclusion	*Any care setting	-183	0	N/A
	Allopurinol Dispensing	Inclusion	*Any care setting	-90	0	Evaluation period should search for only evidence of a dispensing date
	Allopurinol Dispensing	Exclusion	*Any care setting	-183	-91	Evaluation period should search for only evidence of a dispensing date
	Select autoimmune disorders (rheumatoid arthritis, lupus, etc.) OR	Exclusion	*Any care setting	-183	0	N/A
	Select autoimmune disorder medication (abatacept, adalimumab, prednisone, etc.) OR	Exclusion	N/A	-183	0	Evaluation period should search for only evidence of a dispensing date
	Kidney transplant or dialysis event OR	Exclusion	*Any care setting	-183	0	N/A
	Anticoagulant alternative indication (Deep Vein Thrombosis (DVT), Pulmonary Embolism (PE), joint replacement surgery) OR	Exclusion	*Any care setting	-183	0	N/A
	DOAC Dispensing OR	Exclusion	N/A	-183	0	Evaluation period should search for only evidence of a dispensing date
	Warfarin Dispensing OR	Exclusion	N/A	-183	0	Evaluation period should search for only evidence of a dispensing date
	Propylthiouracil Dispensing OR	Exclusion	N/A	-183	0	Evaluation period should search for only evidence of a dispensing date

Specifications Defining Parameters in this Request

Inclusion/Exclusion Criteria

Scenario	Inclusion/ Exclusion group	Criteria	Care setting	Evaluation period start (days)	Evaluation period end (days)	Exclude evidence of days supply if inclusion/exclusion evaluation period includes dispensings
7	Afib diagnosis AND Propylthiouracil Dispensing	Inclusion	*Any care setting	-183	0	N/A
	Propylthiouracil Dispensing	Inclusion	*Any care setting	-90	0	Evaluation period should search for only evidence of a dispensing date
	Propylthiouracil Dispensing	Exclusion	*Any care setting	-183	-91	Evaluation period should search for only evidence of a dispensing date
	Select autoimmune disorders (rheumatoid arthritis, lupus, etc.) OR Select autoimmune disorder medication (abatacept, adalimumab, prednisone, etc.)	Exclusion	*Any care setting	-183	0	N/A
	Kidney transplant or dialysis event OR Anticoagulant alternative indication (Deep Vein Thrombosis (DVT), Pulmonary Embolism (PE), joint replacement surgery)	Exclusion	N/A	-183	0	Evaluation period should search for only evidence of a dispensing date
	Kidney transplant or dialysis event OR Anticoagulant alternative indication (Deep Vein Thrombosis (DVT), Pulmonary Embolism (PE), joint replacement surgery)	Exclusion	*Any care setting	-183	0	N/A
	DOAC Dispensing OR Warfarin Dispensing	Exclusion	N/A	-183	0	Evaluation period should search for only evidence of a dispensing date
	Warfarin Dispensing OR Allopurinol Dispensing	Exclusion	N/A	-183	0	Evaluation period should search for only evidence of a dispensing date
	Allopurinol Dispensing OR	Exclusion	N/A	-183	0	Evaluation period should search for only evidence of a dispensing date

Specifications Defining Parameters in this Request

Inclusion/Exclusion Criteria

Scenario	Inclusion/ Exclusion group	Criteria	Care setting	Evaluation period start (days)	Evaluation period end (days)	Exclude evidence of days supply if inclusion/exclusion evaluation period includes dispensings
8	Afib diagnosis AND	Inclusion	*Any care setting	-183	0	N/A
	Propylthiouracil Dispensing	Inclusion	*Any care setting	-90	0	Evaluation period should search for only evidence of a dispensing date
	Propylthiouracil Dispensing	Exclusion	*Any care setting	-183	-91	Evaluation period should search for only evidence of a dispensing date
	Select autoimmune disorders (rheumatoid arthritis, lupus, etc.) OR	Exclusion	*Any care setting	-183	0	N/A
	Select autoimmune disorder medication (abatacept, adalimumab, prednisone, etc.) OR	Exclusion	N/A	-183	0	Evaluation period should search for only evidence of a dispensing date
	Kidney transplant or dialysis event OR	Exclusion	*Any care setting	-183	0	N/A
	Anticoagulant alternative indication (Deep Vein Thrombosis (DVT), Pulmonary Embolism (PE), joint replacement surgery) OR	Exclusion	*Any care setting	-183	0	N/A
	DOAC Dispensing OR	Exclusion	N/A	-183	0	Evaluation period should search for only evidence of a dispensing date
	Warfarin Dispensing OR	Exclusion	N/A	-183	0	Evaluation period should search for only evidence of a dispensing date
	Allopurinol Dispensing OR	Exclusion	N/A	-183	0	Evaluation period should search for only evidence of a dispensing date

Specifications Defining Parameters in this Request

Inclusion/Exclusion Criteria

Scenario	Inclusion/ Exclusion group	Criteria	Care setting	Evaluation period start (days)	Evaluation period end (days)	Exclude evidence of days supply if inclusion/exclusion evaluation period includes dispensings
9	Afib diagnosis	Inclusion	*Any care setting	-183	0	N/A
	DOAC Dispensing	Inclusion	*Any care setting	-90	0	Evaluation period should search for only evidence of a dispensing date
	DOAC Dispensing	Exclusion	*Any care setting	-183	-91	Evaluation period should search for only evidence of a dispensing date
	Select autoimmune disorders (rheumatoid arthritis, lupus, etc.) OR	Exclusion	*Any care setting	-183	0	N/A
	Select autoimmune disorder medication (abatacept, adalimumab, prednisone, etc.) OR	Exclusion	N/A	-183	0	Evaluation period should search for only evidence of a dispensing date
	Kidney transplant or dialysis event OR	Exclusion	*Any care setting	-183	0	N/A
	Anticoagulant alternative indication (Deep Vein Thrombosis (DVT), Pulmonary Embolism (PE), joint replacement surgery) OR	Exclusion	*Any care setting	-183	0	N/A
	Warfarin Dispensing OR	Exclusion	N/A	-183	0	Evaluation period should search for only evidence of a dispensing date
	Propylthiouracil Dispensing OR	Exclusion	N/A	-183	0	Evaluation period should search for only evidence of a dispensing date
	Allopurinol Dispensing OR	Exclusion	N/A	-183	0	Evaluation period should search for only evidence of a dispensing date

Specifications Defining Parameters in this Request

Inclusion/Exclusion Criteria

Scenario	Inclusion/ Exclusion group	Criteria	Care setting	Evaluation period start (days)	Evaluation period end (days)	Exclude evidence of days supply if inclusion/exclusion evaluation period includes dispensings
10	Afib diagnosis	Inclusion	*Any care setting	-183	0	N/A
	Warfarin Dispensing	Inclusion	*Any care setting	-90	0	Evaluation period should search for only evidence of a dispensing date
	Warfarin Dispensing	Exclusion	*Any care setting	-183	-91	Evaluation period should search for only evidence of a dispensing date
	Select autoimmune disorders (rheumatoid arthritis, lupus, etc.) OR	Exclusion	*Any care setting	-183	0	N/A
	Select autoimmune disorder medication (abatacept, adalimumab, prednisone, etc.) OR	Exclusion	N/A	-183	0	Evaluation period should search for only evidence of a dispensing date
	Kidney transplant or dialysis event OR	Exclusion	*Any care setting	-183	0	N/A
	Anticoagulant alternative indication (Deep Vein Thrombosis (DVT), Pulmonary Embolism (PE), joint replacement surgery) OR	Exclusion	*Any care setting	-183	0	N/A
	DOAC Dispensing OR	Exclusion	N/A	-183	0	Evaluation period should search for only evidence of a dispensing date
	Propylthiouracil Dispensing OR	Exclusion	N/A	-183	0	Evaluation period should search for only evidence of a dispensing date
	Allopurinol Dispensing OR	Exclusion	N/A	-183	0	Evaluation period should search for only evidence of a dispensing date

Specifications Defining Parameters in this Request
Inclusion/Exclusion Criteria

Scenario	Inclusion/ Exclusion group	Criteria	Care setting	Evaluation period start (days)	Evaluation period end (days)	Exclude evidence of days supply if inclusion/exclusion evaluation period includes dispensings
11	Afib diagnosis	Inclusion	*Any care setting	-183	0	N/A
	Allopurinol Dispensing	Inclusion	*Any care setting	-90	0	Evaluation period should search for only evidence of a dispensing date
	Allopurinol Dispensing	Exclusion	*Any care setting	-183	-91	Evaluation period should search for only evidence of a dispensing date
	Select autoimmune disorders (rheumatoid arthritis, lupus, etc.) OR	Exclusion	*Any care setting	-183	0	N/A
	Select autoimmune disorder medication (abatacept, adalimumab, prednisone, etc.) OR	Exclusion	N/A	-183	0	Evaluation period should search for only evidence of a dispensing date
	Kidney transplant or dialysis event OR	Exclusion	*Any care setting	-183	0	N/A
	Anticoagulant alternative indication (Deep Vein Thrombosis (DVT), Pulmonary Embolism (PE), joint replacement surgery) OR	Exclusion	*Any care setting	-183	0	N/A
	DOAC Dispensing OR	Exclusion	N/A	-183	0	Evaluation period should search for only evidence of a dispensing date
	Propylthiouracil Dispensing OR	Exclusion	N/A	-183	0	Evaluation period should search for only evidence of a dispensing date
	Warfarin Dispensing OR	Exclusion	N/A	-183	0	Evaluation period should search for only evidence of a dispensing date

Specifications Defining Parameters in this Request

Inclusion/Exclusion Criteria

Scenario	Inclusion/ Exclusion group	Criteria	Care setting	Evaluation period start (days)	Evaluation period end (days)	Exclude evidence of days supply if inclusion/exclusion evaluation period includes dispensings
	Afib diagnosis	Inclusion	*Any care setting	-183	0	N/A
	Propylthiouracil Dispensing	Inclusion	*Any care setting	-90	0	Evaluation period should search for only evidence of a dispensing date
	Propylthiouracil Dispensing	Exclusion	*Any care setting	-183	-91	Evaluation period should search for only evidence of a dispensing date
	Select autoimmune disorders (rheumatoid arthritis, lupus, etc.) OR	Exclusion	*Any care setting	-183	0	N/A
	Select autoimmune disorder medication (abatacept, adalimumab, prednisone, etc.) OR	Exclusion	N/A	-183	0	Evaluation period should search for only evidence of a dispensing date
12	Kidney transplant or dialysis event OR	Exclusion	*Any care setting	-183	0	N/A
	Anticoagulant alternative indication (Deep Vein Thrombosis (DVT), Pulmonary Embolism (PE), joint replacement surgery) OR	Exclusion	*Any care setting	-183	0	N/A
	DOAC Dispensing OR	Exclusion	N/A	-183	0	Evaluation period should search for only evidence of a dispensing date
	Warfarin Dispensing OR	Exclusion	N/A	-183	0	Evaluation period should search for only evidence of a dispensing date
	Allopurinol Dispensing OR	Exclusion	N/A	-183	0	Evaluation period should search for only evidence of a dispensing date

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

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

Specifications Defining Parameters in this Request

Scenario	Event	Event Outcome					
		Incident event washout period (days)	Incident with respect to:	Care setting	Principal diagnosis position	Exclude evidence of days supply if event washout includes dispensings	Blackout period (days)
1	Prednisone OR Prednisolone	0	N/A	N/A	N/A	N/A	0
2	(Prednisone OR Prednisolone) AND Selected Autoimmune medications	0	N/A	N/A	N/A	N/A	0
3	Prednisone OR Prednisolone	0	N/A	N/A	N/A	N/A	0
4	(Prednisone OR Prednisolone) AND Selected Autoimmune medications	0	N/A	N/A	N/A	N/A	0
5	Prednisone OR Prednisolone	0	N/A	N/A	N/A	N/A	0
6	(Prednisone OR Prednisolone) AND Selected Autoimmune medications	0	N/A	N/A	N/A	N/A	0
7	Prednisone OR Prednisolone	0	N/A	N/A	N/A	N/A	0

Specifications Defining Parameters in this Request

Scenario	Event	Event Outcome					
		Incident event washout period (days)	Incident with respect to:	Care setting	Principal diagnosis position	Exclude evidence of days supply if event washout includes dispensings	Blackout period (days)
8	(Prednisone OR Prednisolone) AND Selected Autoimmune medications	0	N/A	N/A	N/A	N/A	0
9	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10	N/A	N/A	N/A	N/A	N/A	N/A	N/A
11	N/A	N/A	N/A	N/A	N/A	N/A	N/A
12	N/A	N/A	N/A	N/A	N/A	N/A	N/A

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

National Drug Codes (NDCs) are checked against First Data Bank's "FDB MedKnowledge®"