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

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

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

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

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Overview for Request: care_mpl1r_wp004

Request ID: care_mpl1r_wp004_nsdv_v01

Request Description: This request examined baseline demographic and clinical characteristics among patients with chronic obstructive pulmonary disease (COPD) exacerbations, COPD general diagnoses, asthma exacerbations, asthma general diagnoses, and oral corticosteroid and/or antibiotic users with a previous COPD or asthma diagnosis in the Sentinel Distributed Database (SDD).

Sentinel Routine Querying Module: Cohort Identification and Descriptive Analysis (CIDA) tool, Version 9.2.1

Data Source: We distributed this request to 14 Sentinel Data Partners (DPs) on March 23, 2020. The study period included data from January 1, 2008 through September 30, 2019. Please see Appendix A for a list of dates of available data for each Data Partner.

Study Design: We identified counts and proportions of diagnoses and medication exposures. Only the first qualifying (index) diagnosis or medication dispensing for each member was included; cohort re-entry was not allowed. For cohorts defined by diagnoses, we examined the distributions of care settings (emergency department or ambulatory visits) on the index date. For both diagnosis and medication exposure cohorts, we assessed a set of clinical characteristics with various evaluation windows in relation to the index date. We did not assess outcome events in this request. This is a Type 2 analysis as described in the Query Request Package (QRP) documentation.

Exposures of Interest: We defined the diagnoses of interest including COPD exacerbations, COPD general diagnoses, asthma exacerbations, and asthma general diagnoses, using International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) and Tenth Revision, Clinical Modification (ICD-10-CM) diagnosis codes. Please see Appendix B for a list of ICD-9 and ICD-10 diagnosis codes used to define diagnoses in this request. We defined the medication exposures of interest including, oral corticosteroid (OCS), antibiotics, and same-day OCS and antibiotics, using ambulatory dispensing data and National Drug Codes (NDCs). The medication exposures were defined as incident use with no evidence of OCS and/or antibiotics dispensings in the 30 days prior to the index date. Each medication exposure of interest was evaluated individually for the COPD and asthma cohorts. Please see Appendix C for a list of generic and brand names of medical products and Appendix D for a list of Healthcare Common Procedure Coding System (HCPCS) codes used to define medication exposures in this request.

Cohort Eligibility criteria: We required members to be continuously enrolled in health plans with medical and drug coverage in the 365 days prior to their index date, during which gaps in coverage of up to 45 days were allowed. For the COPD cohorts, we included the age groups of 40-64 and 65+ years, and for the asthma cohorts, we included the age groups of 18-39, 40-64 and 65+ years. For all cohorts, we required at least one dispensing of inhaled corticosteroid (ICS)-containing, long-acting beta agonist (LABA)-containing, or long-acting muscarinic antagonist (LAMA)-containing medication in the 365 days prior to the index date. We further required no evidence of alpha-1-antitrypsin deficiency, sarcoidosis, cystic fibrosis, bronchiectasis, interstitial lung disease, pneumoconiosis and miscellaneous other lung diseases in the 365 days prior to and including the index date. For the COPD cohorts only, we required at least one COPD diagnosis in the 365 days prior to the index date, and no evidence of asthma diagnoses in the 365 days prior to and including the index date. For the asthma cohorts only, we required at least one asthma diagnosis in the 365 days prior to the index date, and no evidence of COPD diagnoses in the 365 days prior to and including the index date. All medication exposure cohorts were evaluated to a limited three or more days of supply for all index, incidence, and inclusion definitions. For the antibiotic cohorts only, we additionally excluded index exposures if there was evidence of antibiotic use on the 15th day post-index.

Please see Appendix E for a list of generic and brand names of medical products and Appendix F for a list of ICD-9-CM and ICD-10-CM diagnosis codes used to define inclusion and exclusion criteria in this request.

Baseline Characteristics: For all cohorts, we considered the following demographic characteristics on the index date of diagnosis or medication dispensing: age, sex, race, and calendar year. For all diagnoses cohorts, we examined the distributions of care settings (emergency department or ambulatory visits) on the index date. For both diagnoses and medication exposures cohorts, we assessed a set of clinical characteristics with various evaluation windows in relation to the index date (-7 to 7 days, -14 to 14 days, 0 to 14 days, 1 to 14 days, on day 0 only, and on day 1 only). Please see Table 1s for a detailed list of clinical characteristics included for each cohort.

Overview for Request: care_mpl1r_wp004

Please see Appendix G for a list of generic and brand names of medical products, Appendix H for a list of HCPCS codes, and Appendix I for a list of ICD-9-CM and ICD-10-CM diagnosis codes used to define baseline characteristics in this request.

Please see Appendix J for specifications defining parameters in this request and Appendix K for specifications defining parameters for baseline characteristics used in this request.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Stockpiling - user controlled method of adjusting dispensing dates to ensure non-overlapping days supply.

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 Patients with Chronic Obstructive Pulmonary Disease (COPD) Exacerbation During Emergency (ED) or Ambulatory (AV) Care Settings in the Sentinel Distributed Database (SDD) between January 1, 2008 and September 30, 2019

| Characteristic ¹ | Number | |
|---|-----------|--------------------|
| Number of unique patients | 1,125,204 | |
| Demographics | Mean | Standard Deviation |
| Mean Age (Years) | 71.3 | 10.3 |
| Age (Years) | Number | Percent |
| 40-64 | 278,761 | 24.8% |
| 65+ | 846,443 | 75.2% |
| Sex | | |
| Female | 654,276 | 58.1% |
| Male | 470,928 | 41.9% |
| Race | | |
| Unknown | 103,069 | 9.2% |
| American Indian or Alaska Native | 6,439 | 0.6% |
| Asian | 10,885 | 1.0% |
| Black or African American | 71,422 | 6.3% |
| Native Hawaiian or Other Pacific Islander | 979 | 0.1% |
| White | 932,410 | 82.9% |
| Ethnicity | | |
| Hispanic Origin | 13,459 | 1.2% |
| Year | | |
| 2008 | 11,494 | 1.0% |
| 2009 | 14,686 | 1.3% |
| 2010 | 14,043 | 1.2% |
| 2011 | 122,743 | 10.9% |
| 2012 | 106,640 | 9.5% |
| 2013 | 107,098 | 9.5% |
| 2014 | 115,601 | 10.3% |
| 2015 | 127,100 | 11.3% |
| 2016 | 145,086 | 12.9% |
| 2017 | 145,903 | 13.0% |
| 2018 | 138,878 | 12.3% |
| 2019 | 75,932 | 6.7% |
| Stratification by Index Care Setting ² | | |
| Emergency Department (ED) | | |
| COPD exacerbation codes (ED) [0,0] ^{2,3} | 148,808 | 13.2% |
| COPD exacerbation codes (ED) [0,0] ² and (antibiotic or OCS) [-7,7] ² | 120,778 | 10.7% |
| COPD exacerbation codes (ED) [0,0] ² and (antibiotic or OCS) [-14,14] ² | 126,555 | 11.2% |
| COPD exacerbation codes (ED) [0,0] ² and antibiotic [-7,7] ² | 95,509 | 8.5% |
| COPD exacerbation codes (ED) [0,0] ² and antibiotic [-14,14] ² | 102,615 | 9.1% |
| COPD exacerbation codes (ED) [0,0] ² and OCS [-7,7] ² | 99,078 | 8.8% |
| COPD exacerbation codes (ED) [0,0] ² and OCS [-14,14] ² | 106,028 | 9.4% |
| COPD exacerbation codes (ED) [0,0] ² and antibiotic and OCS [-7,7] ² | 73,809 | 6.6% |
| COPD exacerbation codes (ED) [0,0] ² and antibiotic and OCS [-14,14] ² | 82,088 | 7.3% |

Table 1a. Baseline Characteristics for Patients with Chronic Obstructive Pulmonary Disease (COPD) Exacerbation During Emergency (ED) or Ambulatory (AV) Care Settings in the Sentinel Distributed Database (SDD) between January 1, 2008 and September 30, 2019

| | Number | Percent |
|---|-----------|---------|
| COPD exacerbation codes (ED) [0,0] ² and antibiotic and OCS [0,0] ² | 24,480 | 2.2% |
| Stratification by Index Care Setting | | |
| COPD exacerbation codes (ED) [0,0] ² and antibiotic and OCS [1,1] ² | 19,720 | 1.8% |
| COPD exacerbation codes (ED) [0,0] ² and any COPD (except 491.20) (IP ⁴) [0,14] ² | 27,290 | 2.4% |
| COPD exacerbation codes (ED) [0,0] ² and any COPD (except 491.20) (IP ⁴) [1,14] ² | 14,344 | 1.3% |
| Ambulatory Visits (AV) | | |
| COPD exacerbation codes (AV) [0,0] ^{2,3} | 1,082,314 | 96.2% |
| COPD exacerbation codes (AV) [0,0] ² and (antibiotic or OCS) [-7,7] ² | 721,072 | 64.1% |
| COPD exacerbation codes (AV) [0,0] ² and (antibiotic or OCS) [-14,14] ² | 784,659 | 69.7% |
| COPD exacerbation codes (AV) [0,0] ² and antibiotic [-7,7] ² | 594,301 | 52.8% |
| COPD exacerbation codes (AV) [0,0] ² and antibiotic [-14,14] ² | 654,976 | 58.2% |
| COPD exacerbation codes (AV) [0,0] ² and OCS [-7,7] ² | 533,427 | 47.4% |
| COPD exacerbation codes (AV) [0,0] ² and OCS [-14,14] ² | 594,755 | 52.9% |
| COPD exacerbation codes (AV) [0,0] ² and antibiotic and OCS [-7,7] ² | 406,656 | 36.1% |
| COPD exacerbation codes (AV) [0,0] ² and antibiotic and OCS [-14,14] ² | 465,072 | 41.3% |
| COPD exacerbation codes (AV) [0,0] ² and antibiotic and OCS [0,0] ² | 214,109 | 19.0% |
| COPD exacerbation codes (AV) [0,0] ² and antibiotic and OCS [1,1] ² | 28,122 | 2.5% |
| COPD exacerbation codes (AV) [0,0] ² and any COPD (except 491.20) (IP ⁴) [0,14] ² | 239,356 | 21.3% |
| COPD exacerbation codes (AV) [0,0] ² and any COPD (except 491.20) (IP ⁴) [1,14] ² | 85,754 | 7.6% |

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

²The notation [x,y] represents a baseline evaluation window from day x to day y, in relation to the index date which is day 0

³It is possible for an index exposure to be in more than one encounter type category. As a result, the sum of patients across all encounter type categories may not be equal to the total number of patients

⁴IP stands for inpatient care setting

Table 1b. Baseline Characteristics for Patients with Chronic Obstructive Pulmonary Disease (COPD) During Emergency (ED) or Ambulatory (AV) Care Settings in the Sentinel Distributed Database (SDD) between January 1, 2008 and September 30, 2019

| Characteristic¹ | Number | |
|--|---------------|---------------------------|
| Number of unique patients | 2,978,105 | |
| Demographics | Mean | Standard Deviation |
| Mean Age (Years) | 70.7 | 10.6 |
| Age (Years) | Number | Percent |
| 40-64 | 788,767 | 26.5% |
| 65+ | 2,189,338 | 73.5% |
| Sex | | |
| Female | 1,659,741 | 55.7% |
| Male | 1,318,364 | 44.3% |
| Race | | |
| Unknown | 334,055 | 11.2% |
| American Indian or Alaska Native | 15,691 | 0.5% |
| Asian | 36,286 | 1.2% |
| Black or African American | 214,740 | 7.2% |
| Native Hawaiian or Other Pacific Islander | 3,189 | 0.1% |
| White | 2,374,144 | 79.7% |
| Ethnicity | | |
| Hispanic Origin | 42,891 | 1.4% |
| Year | | |
| 2008 | 67,148 | 2.3% |
| 2009 | 61,119 | 2.1% |
| 2010 | 49,538 | 1.7% |
| 2011 | 512,161 | 17.2% |
| 2012 | 307,864 | 10.3% |
| 2013 | 285,177 | 9.6% |
| 2014 | 325,523 | 10.9% |
| 2015 | 301,165 | 10.1% |
| 2016 | 317,151 | 10.6% |
| 2017 | 297,678 | 10.0% |
| 2018 | 293,406 | 9.9% |
| 2019 | 160,175 | 5.4% |
| Stratification by Index Care Setting² | | |
| Emergency Department (ED) | | |
| COPD diagnosis codes (ED) [0,0] ^{2,3} | 180,439 | 6.1% |
| COPD diagnosis codes (ED) [0,0] ² and (antibiotic or OCS) [-7,7] ² | 78,291 | 2.6% |
| COPD diagnosis codes (ED) [0,0] ² and (antibiotic or OCS) [-14,14] ² | 91,447 | 3.1% |
| COPD diagnosis codes (ED) [0,0] ² and antibiotic [-7,7] ² | 61,931 | 2.1% |
| COPD diagnosis codes (ED) [0,0] ² and antibiotic [-14,14] ² | 73,109 | 2.5% |
| COPD diagnosis codes (ED) [0,0] ² and OCS [-7,7] ² | 44,305 | 1.5% |
| COPD diagnosis codes (ED) [0,0] ² and OCS [-14,14] ² | 53,163 | 1.8% |
| COPD diagnosis codes (ED) [0,0] ² and antibiotic and OCS [-7,7] ² | 27,945 | 0.9% |
| COPD diagnosis codes (ED) [0,0] ² and antibiotic and OCS [-14,14] ² | 34,825 | 1.2% |

Table 1b. Baseline Characteristics for Patients with Chronic Obstructive Pulmonary Disease (COPD) During Emergency (ED) or Ambulatory (AV) Care Settings in the Sentinel Distributed Database (SDD) between January 1, 2008 and September 30, 2019

| | | |
|--|---------------|----------------|
| COPD diagnosis codes (ED) [0,0] ² and antibiotic and OCS [0,0] ² | 8,442 | 0.3% |
| Stratification by Index Care Setting | Number | Percent |
| COPD diagnosis codes (ED) [0,0] ² and antibiotic and OCS [1,1] ² | 6,482 | 0.2% |
| COPD diagnosis codes (ED) [0,0] ² and any COPD (except 491.20) (IP ⁴) [0,14] ² | 19,874 | 0.7% |
| COPD diagnosis codes (ED) [0,0] ² and any COPD (except 491.20) (IP ⁴) [1,14] ² | 12,108 | 0.4% |
| Ambulatory Visits (AV) | | |
| COPD diagnosis codes (AV) [0,0] ^{2,3} | 2,869,625 | 96.4% |
| COPD diagnosis codes (AV) [0,0] ² and (antibiotic or OCS) [-7,7] ² | 724,890 | 24.3% |
| COPD diagnosis codes (AV) [0,0] ² and (antibiotic or OCS) [-14,14] ⁴ | 938,139 | 31.5% |
| COPD diagnosis codes (AV) [0,0] ² and antibiotic [-7,7] ² | 558,113 | 18.7% |
| COPD diagnosis codes (AV) [0,0] ² and antibiotic [-14,14] ² | 725,179 | 24.4% |
| COPD diagnosis codes (AV) [0,0] ² and OCS [-7,7] ² | 401,793 | 13.5% |
| COPD diagnosis codes (AV) [0,0] ² and OCS [-14,14] ² | 533,064 | 17.9% |
| COPD diagnosis codes (AV) [0,0] ² and antibiotic and OCS [-7,7] ² | 235,016 | 7.9% |
| COPD diagnosis codes (AV) [0,0] ² and antibiotic and OCS [-14,14] ² | 320,104 | 10.7% |
| COPD diagnosis codes (AV) [0,0] ² and antibiotic and OCS [0,0] ² | 110,969 | 3.7% |
| COPD diagnosis codes (AV) [0,0] ² and antibiotic and OCS [1,1] ² | 11,521 | 0.4% |
| COPD diagnosis codes (AV) [0,0] ² and any COPD (except 491.20) (IP ⁴) [0,14] ² | 158,287 | 5.3% |
| COPD diagnosis codes (AV) [0,0] ² and any COPD (except 491.20) (IP ⁴) [1,14] ² | 82,563 | 2.8% |

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

²The notation [x,y] represents a baseline evaluation window from day x to day y, in relation to the index date which is day 0

³It is possible for an index exposure to be in more than one encounter type category. As a result, the sum of patients across all encounter type categories may not be equal to the total number of patients

⁴IP stands for inpatient care setting

Table 1c. Baseline Characteristics for Patients with Chronic Obstructive Pulmonary Disease (COPD) with Incident Use of Antibiotics in the Sentinel Distributed Database (SDD) between January 1, 2008 and September 30, 2019

| Characteristic¹ | Number | |
|--|---------------|---------------------------|
| Number of unique patients | 1,659,247 | |
| Demographics | Mean | Standard Deviation |
| Mean Age (Years) | 70.3 | 10.4 |
| Age (Years) | Number | Percent |
| 40-64 | 460,764 | 27.8% |
| 65+ | 1,198,483 | 72.2% |
| Sex | | |
| Female | 975,242 | 58.8% |
| Male | 684,005 | 41.2% |
| Race | | |
| Unknown | 183,469 | 11.1% |
| American Indian or Alaska Native | 8,582 | 0.5% |
| Asian | 16,605 | 1.0% |
| Black or African American | 103,342 | 6.2% |
| Native Hawaiian or Other Pacific Islander | 1,655 | 0.1% |
| White | 1,345,594 | 81.1% |
| Ethnicity | | |
| Hispanic Origin | 20,273 | 1.2% |
| Year | | |
| 2008 | 23,412 | 1.4% |
| 2009 | 29,323 | 1.8% |
| 2010 | 26,198 | 1.6% |
| 2011 | 204,265 | 12.3% |
| 2012 | 169,475 | 10.2% |
| 2013 | 166,946 | 10.1% |
| 2014 | 183,627 | 11.1% |
| 2015 | 182,980 | 11.0% |
| 2016 | 192,105 | 11.6% |
| 2017 | 192,023 | 11.6% |
| 2018 | 187,962 | 11.3% |
| 2019 | 100,931 | 6.1% |
| COPD Exacerbations Around Index: | | |
| Evaluation Window [Day -7 to Day 7]: | | |
| COPD exacerbation codes (ED or AV or IP or IS) ² [-7,7] | 403,770 | 24.3% |
| COPD exacerbation codes (ED or AV or IP) ² [-7,7] | 403,367 | 24.3% |
| COPD exacerbation codes (ED) ² [-7,7] | 75,560 | 4.6% |
| COPD exacerbation codes (AV) ² [-7,7] | 375,298 | 22.6% |
| COPD exacerbation codes (IP) ³ [-7,7] | 101,791 | 6.1% |
| Evaluation Window [Day -14 to Day 14]: | | |
| COPD exacerbation codes (ED or AV or IP or IS) ³ [-14,14] | 432,958 | 26.1% |
| COPD exacerbation codes (ED or AV or IP) ³ [-14,14] | 432,466 | 26.1% |
| COPD exacerbation codes (ED) ³ [-14,14] | 81,347 | 4.9% |
| COPD exacerbation codes (AV) ³ [-14,14] | 402,472 | 24.3% |

Table 1c. Baseline Characteristics for Patients with Chronic Obstructive Pulmonary Disease (COPD) with Incident Use of Antibiotics in the Sentinel Distributed Database (SDD) between January 1, 2008 and September 30, 2019

| COPD Diagnoses Around Index: | Number | Percent |
|---|---------|---------|
| COPD exacerbation codes (IP) ² [-14,14] | 120,209 | 7.2% |
| Evaluation Window [Day -7 to Day 7]: | | |
| COPD diagnosis codes (ED or AV or IP or IS) ² [-7,7] | 854,561 | 51.5% |
| COPD diagnosis codes (ED or AV or IP) ² [-7,7] | 853,886 | 51.5% |
| COPD diagnosis codes (ED) ² [-7,7] | 125,238 | 7.5% |
| COPD diagnosis codes (AV) ² [-7,7] | 819,390 | 49.4% |
| COPD diagnosis codes (IP) ² [-7,7] | 122,085 | 7.4% |
| Evaluation Window [Day -14 to Day 14]: | | |
| COPD diagnosis codes (ED or AV or IP or IS) ² [-14,14] | 971,554 | 58.6% |
| COPD diagnosis codes (ED or AV or IP) ² [-14,14] | 970,774 | 58.5% |
| COPD diagnosis codes (ED) ² [-14,14] | 146,410 | 8.8% |
| COPD diagnosis codes (AV) ² [-14,14] | 936,879 | 56.5% |
| COPD diagnosis codes (IP) ² [-14,14] | 152,878 | 9.2% |
| Dispensings Around Index: | | |
| Antibiotic dispensing [-7,7] | 737,849 | 44.5% |
| Antibiotic dispensing [-14,14] | 814,792 | 49.1% |

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

²ED stands for emergency department care setting; AV stands for ambulatory visit care setting; IP stands for inpatient care setting; and IS stands for non-acute institutional care setting

Table 1d. Baseline Characteristics for Patients with Chronic Obstructive Pulmonary Disease (COPD) with Incident Use of Oral Corticosteroids (OCS) in the Sentinel Distributed Database (SDD) between January 1, 2008 and September 30, 2019

| Characteristic¹ | Number | |
|--|---------------|---------------------------|
| Number of unique patients | 2,187,667 | |
| Demographics | Mean | Standard Deviation |
| Mean Age (Years) | 70.7 | 10.8 |
| Age (Years) | Number | Percent |
| 40-64 | 593,891 | 27.1% |
| 65+ | 1,593,776 | 72.9% |
| Sex | | |
| Female | 1,280,217 | 58.5% |
| Male | 907,450 | 41.5% |
| Race | | |
| Unknown | 252,052 | 11.5% |
| American Indian or Alaska Native | 11,778 | 0.5% |
| Asian | 27,968 | 1.3% |
| Black or African American | 141,866 | 6.5% |
| Native Hawaiian or Other Pacific Islander | 2,160 | 0.1% |
| White | 1,751,843 | 80.1% |
| Ethnicity | | |
| Hispanic Origin | 33,302 | 1.5% |
| Year | | |
| 2008 | 39,247 | 1.8% |
| 2009 | 44,494 | 2.0% |
| 2010 | 38,871 | 1.8% |
| 2011 | 328,031 | 15.0% |
| 2012 | 244,750 | 11.2% |
| 2013 | 227,060 | 10.4% |
| 2014 | 242,708 | 11.1% |
| 2015 | 230,523 | 10.5% |
| 2016 | 233,019 | 10.7% |
| 2017 | 227,394 | 10.4% |
| 2018 | 218,179 | 10.0% |
| 2019 | 113,391 | 5.2% |
| COPD Exacerbations Around Index: | | |
| Evaluation Window [Day -7 to Day 7]: | | |
| COPD exacerbation codes (ED or AV or IP or IS) ² [-7,7] | 338,254 | 15.5% |
| COPD exacerbation codes (ED or AV or IP) ² [-7,7] | 337,749 | 15.4% |
| COPD exacerbation codes (ED) ² [-7,7] | 52,548 | 2.4% |
| COPD exacerbation codes (AV) ² [-7,7] | 312,430 | 14.3% |
| COPD exacerbation codes (IP) ³ [-7,7] | 78,809 | 3.6% |
| Evaluation Window [Day -14 to Day 14]: | | |
| COPD exacerbation codes (ED or AV or IP or IS) ³ [-14,14] | 367,502 | 16.8% |
| COPD exacerbation codes (ED or AV or IP) ³ [-14,14] | 366,768 | 16.8% |
| COPD exacerbation codes (ED) ³ [-14,14] | 57,045 | 2.6% |
| COPD exacerbation codes (AV) ³ [-14,14] | 339,630 | 15.5% |

Table 1d. Baseline Characteristics for Patients with Chronic Obstructive Pulmonary Disease (COPD) with Incident Use of Oral Corticosteroids (OCS) in the Sentinel Distributed Database (SDD) between January 1, 2008 and September 30, 2019

| | | |
|---|-----------|-------|
| COPD exacerbation codes (IP) ² [-14,14] | 91,958 | 4.2% |
| COPD Diagnoses Around Index: | | |
| Evaluation Window [Day -7 to Day 7]: | | |
| COPD diagnosis codes (ED or AV or IP or IS) ² [-7,7] | 969,630 | 44.3% |
| COPD diagnosis codes (ED or AV or IP) ² [-7,7] | 968,165 | 44.3% |
| COPD diagnosis codes (ED) ² [-7,7] | 125,068 | 5.7% |
| COPD diagnosis codes (AV) ² [-7,7] | 906,669 | 41.4% |
| COPD diagnosis codes (IP) ² [-7,7] | 134,314 | 6.1% |
| Evaluation Window [Day -14 to Day 14]: | | |
| COPD diagnosis codes (ED or AV or IP or IS) ² [-14,14] | 1,132,791 | 51.8% |
| COPD diagnosis codes (ED or AV or IP) ² [-14,14] | 1,131,015 | 51.7% |
| COPD diagnosis codes (ED) ² [-14,14] | 146,191 | 6.7% |
| COPD diagnosis codes (AV) ² [-14,14] | 1,071,375 | 49.0% |
| COPD diagnosis codes (IP) ² [-14,14] | 165,778 | 7.6% |
| Dispensings Around Index: | | |
| OCS dispensing or injection [-7,7] | 549,133 | 25.1% |
| OCS dispensing or injection [-14,14] | 622,543 | 28.5% |

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

²ED stands for emergency department care setting; AV stands for ambulatory visit care setting; IP stands for inpatient care setting; and IS stands for non-acute institutional care setting

Table 1e. Baseline Characteristics for Patients with Chronic Obstructive Pulmonary Disease (COPD) with Incident Use of Same-Day Oral Corticosteroids (OCS) and Antibiotics in the Sentinel Distributed Database (SDD) between January 1, 2008 and September 30, 2019

| Characteristic¹ | Number | |
|--|---------------|---------------------------|
| Number of unique patients | 771,506 | |
| Demographics | Mean | Standard Deviation |
| Mean Age (Years) | 70.0 | 10.1 |
| Age (Years) | Number | Percent |
| 40-64 | 216,403 | 28.0% |
| 65+ | 555,103 | 72.0% |
| Sex | | |
| Female | 453,934 | 58.8% |
| Male | 317,572 | 41.2% |
| Race | | |
| Unknown | 81,176 | 10.5% |
| American Indian or Alaska Native | 4,274 | 0.6% |
| Asian | 6,615 | 0.9% |
| Black or African American | 40,941 | 5.3% |
| Native Hawaiian or Other Pacific Islander | 767 | 0.1% |
| White | 637,733 | 82.7% |
| Ethnicity | | |
| Hispanic Origin | 7,820 | 1.0% |
| Year | | |
| 2008 | 8,449 | 1.1% |
| 2009 | 11,498 | 1.5% |
| 2010 | 11,413 | 1.5% |
| 2011 | 75,283 | 9.8% |
| 2012 | 73,055 | 9.5% |
| 2013 | 76,138 | 9.9% |
| 2014 | 84,207 | 10.9% |
| 2015 | 89,792 | 11.6% |
| 2016 | 94,824 | 12.3% |
| 2017 | 98,443 | 12.8% |
| 2018 | 95,757 | 12.4% |
| 2019 | 52,647 | 6.8% |
| COPD Exacerbations Around Index: | | |
| Evaluation Window [Day -7 to Day 7]: | | |
| COPD exacerbation codes (ED or AV or IP or IS) ² [-7,7] | 330,784 | 42.9% |
| COPD exacerbation codes (ED or AV or IP) ² [-7,7] | 330,608 | 42.9% |
| COPD exacerbation codes (ED) ² [-7,7] | 58,906 | 7.6% |
| COPD exacerbation codes (AV) ² [-7,7] | 310,027 | 40.2% |
| COPD exacerbation codes (IP) ³ [-7,7] | 75,610 | 9.8% |
| Evaluation Window [Day -14 to Day 14]: | | |
| COPD exacerbation codes (ED or AV or IP or IS) ³ [-14,14] | 341,438 | 44.3% |
| COPD exacerbation codes (ED or AV or IP) ³ [-14,14] | 341,239 | 44.2% |
| COPD exacerbation codes (ED) ³ [-14,14] | 61,369 | 8.0% |
| COPD exacerbation codes (AV) ³ [-14,14] | 320,527 | 41.5% |
| COPD exacerbation codes (IP) ² [-14,14] | 83,271 | 10.8% |

Table 1e. Baseline Characteristics for Patients with Chronic Obstructive Pulmonary Disease (COPD) with Incident Use of Same-Day Oral Corticosteroids (OCS) and Antibiotics in the Sentinel Distributed Database (SDD) between January 1, 2008 and September 30, 2019

| COPD Diagnoses Around Index: | | |
|---|---------|-------|
| Evaluation Window [Day -7 to Day 7]: | | |
| COPD diagnosis codes (ED or AV or IP or IS) ² [-7,7] | 545,536 | 70.7% |
| COPD diagnosis codes (ED or AV or IP) ² [-7,7] | 545,364 | 70.7% |
| COPD diagnosis codes (ED) ² [-7,7] | 81,463 | 10.6% |
| COPD diagnosis codes (AV) ² [-7,7] | 529,692 | 68.7% |
| COPD diagnosis codes (IP) ² [-7,7] | 83,744 | 10.9% |
| Evaluation Window [Day -14 to Day 14]: | | |
| COPD diagnosis codes (ED or AV or IP or IS) ² [-14,14] | 578,313 | 75.0% |
| COPD diagnosis codes (ED or AV or IP) ² [-14,14] | 578,142 | 74.9% |
| COPD diagnosis codes (ED) ² [-14,14] | 89,926 | 11.7% |
| COPD diagnosis codes (AV) ² [-14,14] | 564,798 | 73.2% |
| COPD diagnosis codes (IP) ² [-14,14] | 95,414 | 12.4% |

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

²ED stands for emergency department care setting; AV stands for ambulatory visit care setting; IP stands for inpatient care setting; and IS stands for non-acute institutional care setting

Table 1f. Baseline Characteristics for Patients with Asthma Exacerbation During Emergency (ED) or Ambulatory (AV) Care Settings in the Sentinel Distributed Database (SDD) between January 1, 2008 and September 30, 2019

| Characteristic¹ | Number | |
|---|---------------|---------------------------|
| Number of unique patients | 700,356 | |
| Demographics | Mean | Standard Deviation |
| Mean Age (Years) | 56.7 | 15.3 |
| Age (Years) | Number | Percent |
| 18-39 | 138,286 | 19.7% |
| 40-64 | 281,402 | 40.2% |
| 65+ | 280,668 | 40.1% |
| Sex | | |
| Female | 512,149 | 73.1% |
| Male | 188,207 | 26.9% |
| Race | | |
| Unknown | 244,154 | 34.9% |
| American Indian or Alaska Native | 4,175 | 0.6% |
| Asian | 23,118 | 3.3% |
| Black or African American | 72,306 | 10.3% |
| Native Hawaiian or Other Pacific Islander | 3,814 | 0.5% |
| White | 352,789 | 50.4% |
| Ethnicity | | |
| Hispanic Origin | 32,695 | 4.7% |
| Year | | |
| 2008 | 26,106 | 3.7% |
| 2009 | 33,743 | 4.8% |
| 2010 | 28,654 | 4.1% |
| 2011 | 65,103 | 9.3% |
| 2012 | 55,478 | 7.9% |
| 2013 | 55,864 | 8.0% |
| 2014 | 66,300 | 9.5% |
| 2015 | 75,649 | 10.8% |
| 2016 | 82,075 | 11.7% |
| 2017 | 86,759 | 12.4% |
| 2018 | 80,082 | 11.4% |
| 2019 | 44,543 | 6.4% |
| Stratification by Index Care Setting² | | |
| Emergency Department (ED) | | |
| Asthma exacerbation codes (ED) [0,0] ^{2,3} | 79,520 | 11.4% |
| Asthma exacerbation codes (ED) [0,0] ² and (antibiotic or OCS) [-7,7] ² | 62,125 | 8.9% |
| Asthma exacerbation codes (ED) [0,0] ² and (antibiotic or OCS) [-14,14] ² | 64,625 | 9.2% |
| Asthma exacerbation codes (ED) [0,0] ² and antibiotic [-7,7] ² | 31,379 | 4.5% |
| Asthma exacerbation codes (ED) [0,0] ² and antibiotic [-14,14] ² | 35,620 | 5.1% |
| Asthma exacerbation codes (ED) [0,0] ² and OCS [-7,7] ² | 56,791 | 8.1% |
| Asthma exacerbation codes (ED) [0,0] ² and OCS [-14,14] ² | 59,110 | 8.4% |
| Asthma exacerbation codes (ED) [0,0] ² and antibiotic and OCS [-7,7] ² | 26,045 | 3.7% |
| Asthma exacerbation codes (ED) [0,0] ² and antibiotic and OCS [-14,14] ² | 30,105 | 4.3% |

Table 1f. Baseline Characteristics for Patients with Asthma Exacerbation During Emergency (ED) or Ambulatory (AV) Care Settings in the Sentinel Distributed Database (SDD) between January 1, 2008 and September 30, 2019

| Stratification by Index Care Setting | Number | Percent |
|--|---------|---------|
| Asthma exacerbation codes (ED) [0,0] ² and antibiotic and OCS [0,0] ² | 8,123 | 1.2% |
| Asthma exacerbation codes (ED) [0,0]² and antibiotic and OCS [1,1]² | 5,173 | 0.7% |
| Asthma exacerbation codes (ED) [0,0] ² and any asthma (except 491.20) (IP ⁴) [0,14] ² | 4,584 | 0.7% |
| Asthma exacerbation codes (ED) [0,0]² and any asthma (except 491.20) (IP⁴) [1,14]² | 2,853 | 0.4% |
| Ambulatory Visits (AV) | | |
| Asthma exacerbation codes (AV) [0,0] ^{2,3} | 665,770 | 95.1% |
| Asthma exacerbation codes (AV) [0,0] ² and (antibiotic or OCS) [-7,7] ² | 446,953 | 63.8% |
| Asthma exacerbation codes (AV) [0,0] ² and (antibiotic or OCS) [-14,14] ² | 477,988 | 68.2% |
| Asthma exacerbation codes (AV) [0,0] ² and antibiotic [-7,7] ² | 294,828 | 42.1% |
| Asthma exacerbation codes (AV) [0,0] ² and antibiotic [-14,14] ² | 333,264 | 47.6% |
| Asthma exacerbation codes (AV) [0,0] ² and OCS [-7,7] ² | 359,157 | 51.3% |
| Asthma exacerbation codes (AV) [0,0] ² and OCS [-14,14] ² | 386,085 | 55.1% |
| Asthma exacerbation codes (AV) [0,0] ² and antibiotic and OCS [-7,7] ² | 207,032 | 29.6% |
| Asthma exacerbation codes (AV) [0,0] ² and antibiotic and OCS [-14,14] ² | 241,361 | 34.5% |
| Asthma exacerbation codes (AV) [0,0] ² and antibiotic and OCS [0,0] ² | 122,625 | 17.5% |
| Asthma exacerbation codes (AV) [0,0] ² and antibiotic and OCS [1,1] ² | 7,817 | 1.1% |
| Asthma exacerbation codes (AV) [0,0] ² and any asthma (except 491.20) (IP ⁴) [0,14] ² | 25,154 | 3.6% |
| Asthma exacerbation codes (AV) [0,0]² and any asthma (except 491.20) (IP⁴) [1,14]² | 13,266 | 1.9% |

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

²The notation [x,y] represents a baseline evaluation window from day x to day y, in relation to the index date which is day 0

³It is possible for an index exposure to be in more than one encounter type category. As a result, the sum of patients across all encounter type categories may not be equal to the total number of patients

⁴IP stands for inpatient care setting

Table 1g. Baseline Characteristics for Patients with Asthma During Emergency (ED) or Ambulatory (AV) Care Settings in the Sentinel Distributed Database (SDD) between January 1, 2008 and September 30, 2019

| Characteristic¹ | Number | |
|--|---------------|---------------------------|
| Number of unique patients | 2,584,619 | |
| Demographics | Mean | Standard Deviation |
| Mean Age (Years) | 56.5 | 15.3 |
| Age (Years) | Number | Percent |
| 18-39 | 520,302 | 20.1% |
| 40-64 | 1,019,320 | 39.4% |
| 65+ | 1,044,997 | 40.4% |
| Sex | | |
| Female | 1,788,279 | 69.2% |
| Male | 796,340 | 30.8% |
| Race | | |
| Unknown | 871,856 | 33.7% |
| American Indian or Alaska Native | 14,328 | 0.6% |
| Asian | 92,129 | 3.6% |
| Black or African American | 241,207 | 9.3% |
| Native Hawaiian or Other Pacific Islander | 11,427 | 0.4% |
| White | 1,353,672 | 52.4% |
| Ethnicity | | |
| Hispanic Origin | 122,026 | 4.7% |
| Year | | |
| 2008 | 169,604 | 6.6% |
| 2009 | 157,626 | 6.1% |
| 2010 | 121,724 | 4.7% |
| 2011 | 339,975 | 13.2% |
| 2012 | 229,165 | 8.9% |
| 2013 | 221,389 | 8.6% |
| 2014 | 268,267 | 10.4% |
| 2015 | 249,783 | 9.7% |
| 2016 | 233,567 | 9.0% |
| 2017 | 240,501 | 9.3% |
| 2018 | 226,811 | 8.8% |
| 2019 | 126,207 | 4.9% |
| Stratification by Index Care Setting² | | |
| Emergency Department (ED) | | |
| Asthma diagnosis codes (ED) [0,0] ^{2,3} | 184,804 | 7.2% |
| Asthma diagnosis codes (ED) [0,0] ² and (antibiotic or OCS) [-7,7] ² | 75,952 | 2.9% |
| Asthma diagnosis codes (ED) [0,0] ² and (antibiotic or OCS) [-14,14] ² | 87,542 | 3.4% |
| Asthma diagnosis codes (ED) [0,0] ² and antibiotic [-7,7] ² | 51,233 | 2.0% |
| Asthma diagnosis codes (ED) [0,0] ² and antibiotic [-14,14] ² | 61,494 | 2.4% |
| Asthma diagnosis codes (ED) [0,0] ² and OCS [-7,7] ² | 44,688 | 1.7% |
| Asthma diagnosis codes (ED) [0,0] ² and OCS [-14,14] ² | 51,552 | 2.0% |
| Asthma diagnosis codes (ED) [0,0] ² and antibiotic and OCS [-7,7] ² | 19,969 | 0.8% |
| Asthma diagnosis codes (ED) [0,0] ² and antibiotic and OCS [-14,14] ² | 25,504 | 1.0% |

Table 1g. Baseline Characteristics for Patients with Asthma During Emergency (ED) or Ambulatory (AV) Care Settings in the Sentinel Distributed Database (SDD) between January 1, 2008 and September 30, 2019

| Asthma diagnosis codes (ED) [0,0] ² and antibiotic and OCS [0,0] ² | 6,091 | 0.2% |
|--|---------------|----------------|
| Stratification by Index Care Setting | Number | Percent |
| Asthma diagnosis codes (ED) [0,0] ² and antibiotic and OCS [1,1] ² | 3,513 | 0.1% |
| Asthma diagnosis codes (ED) [0,0] ² and any asthma (except 491.20) (IP ⁴) [0,14] ² | 7,274 | 0.3% |
| Asthma diagnosis codes (ED) [0,0] ² and any asthma (except 491.20) (IP ⁴) [1,14] ² | 5,014 | 0.2% |
| Ambulatory Visits (AV) | | |
| Asthma diagnosis codes (AV) [0,0] ^{2,3} | 2,457,929 | 95.1% |
| Asthma diagnosis codes (AV) [0,0] ² and (antibiotic or OCS) [-7,7] ² | 696,014 | 26.9% |
| Asthma diagnosis codes (AV) [0,0] ² and (antibiotic or OCS) [-14,14] ² | 854,141 | 33.0% |
| Asthma diagnosis codes (AV) [0,0] ² and antibiotic [-7,7] ² | 495,298 | 19.2% |
| Asthma diagnosis codes (AV) [0,0] ² and antibiotic [-14,14] ² | 625,499 | 24.2% |
| Asthma diagnosis codes (AV) [0,0] ² and OCS [-7,7] ² | 404,538 | 15.7% |
| Asthma diagnosis codes (AV) [0,0] ² and OCS [-14,14] ² | 497,981 | 19.3% |
| Asthma diagnosis codes (AV) [0,0] ² and antibiotic and OCS [-7,7] ² | 203,822 | 7.9% |
| Asthma diagnosis codes (AV) [0,0] ² and antibiotic and OCS [-14,14] ² | 269,339 | 10.4% |
| Asthma diagnosis codes (AV) [0,0] ² and antibiotic and OCS [0,0] ² | 109,405 | 4.2% |
| Asthma diagnosis codes (AV) [0,0] ² and antibiotic and OCS [1,1] ² | 6,465 | 0.3% |
| Asthma diagnosis codes (AV) [0,0] ² and any asthma (except 491.20) (IP ⁴) [0,14] ² | 41,922 | 1.6% |
| Asthma diagnosis codes (AV) [0,0] ² and any asthma (except 491.20) (IP ⁴) [1,14] ² | 25,397 | 1.0% |

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

²The notation [x,y] represents a baseline evaluation window from day x to day y, in relation to the index date which is day 0

³It is possible for an index exposure to be in more than one encounter type category. As a result, the sum of patients across all encounter type categories may not be equal to the total number of patients

⁴IP stands for inpatient care setting

Table 1h. Baseline Characteristics For Patients with Asthma with Incident Use of Antibiotics in the Sentinel Distributed Database (SDD) between January 1, 2008 and September 30, 2019

| Characteristic¹ | Number | |
|--|---------------|---------------------------|
| Number of unique patients | 1,582,636 | |
| Demographics | Mean | Standard Deviation |
| Mean Age (Years) | 58.1 | 14.6 |
| Age (Years) | Number | Percent |
| 18-39 | 260,052 | 16.4% |
| 40-64 | 647,366 | 40.9% |
| 65+ | 675,218 | 42.7% |
| Sex | | |
| Female | 1,136,995 | 71.8% |
| Male | 445,641 | 28.2% |
| Race | | |
| Unknown | 525,385 | 33.2% |
| American Indian or Alaska Native | 7,994 | 0.5% |
| Asian | 44,723 | 2.8% |
| Black or African American | 142,184 | 9.0% |
| Native Hawaiian or Other Pacific Islander | 6,534 | 0.4% |
| White | 855,816 | 54.1% |
| Ethnicity | | |
| Hispanic Origin | 62,940 | 4.0% |
| Year | | |
| 2008 | 67,572 | 4.3% |
| 2009 | 80,703 | 5.1% |
| 2010 | 67,855 | 4.3% |
| 2011 | 172,989 | 10.9% |
| 2012 | 141,901 | 9.0% |
| 2013 | 142,305 | 9.0% |
| 2014 | 167,861 | 10.6% |
| 2015 | 166,961 | 10.5% |
| 2016 | 160,747 | 10.2% |
| 2017 | 168,491 | 10.6% |
| 2018 | 159,100 | 10.1% |
| 2019 | 86,151 | 5.4% |
| Asthma Exacerbations Around Index: | | |
| Evaluation Window [Day -7 to Day 7]: | | |
| Asthma exacerbation codes (ED or AV or IP or IS) ² [-7,7] | 237,669 | 15.0% |
| Asthma exacerbation codes (ED or AV or IP) ² [-7,7] | 237,638 | 15.0% |
| Asthma exacerbation codes (ED) ² [-7,7] | 40,874 | 2.6% |
| Asthma exacerbation codes (AV) ² [-7,7] | 219,696 | 13.9% |
| Asthma exacerbation codes (IP) ³ [-7,7] | 12,416 | 0.8% |
| Evaluation Window [Day -14 to Day 14]: | | |
| Asthma exacerbation codes (ED or AV or IP or IS) ³ [-14,14] | 253,968 | 16.0% |
| Asthma exacerbation codes (ED or AV or IP) ³ [-14,14] | 253,929 | 16.0% |
| Asthma exacerbation codes (ED) ³ [-14,14] | 43,203 | 2.7% |
| Asthma exacerbation codes (AV) ³ [-14,14] | 235,466 | 14.9% |
| Asthma exacerbation codes (IP) ² [-14,14] | 14,356 | 0.9% |

Table 1h. Baseline Characteristics For Patients with Asthma with Incident Use of Antibiotics in the Sentinel Distributed Database (SDD) between January 1, 2008 and September 30, 2019

| Asthma Diagnoses Around Index: | Number | Percent |
|---|---------------|----------------|
| Evaluation Window [Day -7 to Day 7]: | | |
| Asthma diagnosis codes (ED or AV or IP or IS) ² [-7,7] | 652,971 | 41.3% |
| Asthma diagnosis codes (ED or AV or IP) ² [-7,7] | 652,683 | 41.2% |
| Asthma diagnosis codes (ED) ² [-7,7] | 88,239 | 5.6% |
| Asthma diagnosis codes (AV) ² [-7,7] | 614,991 | 38.9% |
| Asthma diagnosis codes (IP) ² [-7,7] | 24,528 | 1.5% |
| Evaluation Window [Day -14 to Day 14]: | | |
| Asthma diagnosis codes (ED or AV or IP or IS) ² [-14,14] | 745,342 | 47.1% |
| Asthma diagnosis codes (ED or AV or IP) ² [-14,14] | 744,902 | 47.1% |
| Asthma diagnosis codes (ED) ² [-14,14] | 100,976 | 6.4% |
| Asthma diagnosis codes (AV) ² [-14,14] | 705,096 | 44.6% |
| Asthma diagnosis codes (IP) ² [-14,14] | 33,079 | 2.1% |
| Dispensings Around Index: | | |
| Antibiotic dispensing [-7,7] | 581,276 | 36.7% |
| Antibiotic dispensing [-14,14] | 661,439 | 41.8% |

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

²ED stands for emergency department care setting; AV stands for ambulatory visit care setting; IP stands for inpatient care setting; and IS stands for non-acute institutional care setting

Table 1i. Baseline Characteristics for Patients with Asthma with Incident Use of Oral Corticosteroids (OCS) in the Sentinel Distributed Database (SDD) between January 1, 2008 and September 30, 2019

| Characteristic¹ | Number | |
|--|---------------|---------------------------|
| Number of unique patients | 2,118,596 | |
| Demographics | Mean | Standard Deviation |
| Mean Age (Years) | 56.9 | 15.3 |
| Age (Years) | Number | Percent |
| 18-39 | 410,890 | 19.4% |
| 40-64 | 849,903 | 40.1% |
| 65+ | 857,803 | 40.5% |
| Sex | | |
| Female | 1,510,010 | 71.3% |
| Male | 608,586 | 28.7% |
| Race | | |
| Unknown | 717,688 | 33.9% |
| American Indian or Alaska Native | 11,422 | 0.5% |
| Asian | 72,074 | 3.4% |
| Black or African American | 180,615 | 8.5% |
| Native Hawaiian or Other Pacific Islander | 9,450 | 0.4% |
| White | 1,127,347 | 53.2% |
| Ethnicity | | |
| Hispanic Origin | 97,585 | 4.6% |
| Year | | |
| 2008 | 117,578 | 5.5% |
| 2009 | 129,750 | 6.1% |
| 2010 | 106,791 | 5.0% |
| 2011 | 261,472 | 12.3% |
| 2012 | 201,171 | 9.5% |
| 2013 | 192,175 | 9.1% |
| 2014 | 218,524 | 10.3% |
| 2015 | 211,211 | 10.0% |
| 2016 | 195,315 | 9.2% |
| 2017 | 200,412 | 9.5% |
| 2018 | 185,450 | 8.8% |
| 2019 | 98,747 | 4.7% |
| Asthma Exacerbations Around Index: | | |
| Evaluation Window [Day -7 to Day 7]: | | |
| Asthma exacerbation codes (ED or AV or IP or IS) ² [-7,7] | 152,638 | 7.2% |
| Asthma exacerbation codes (ED or AV or IP) ² [-7,7] | 152,606 | 7.2% |
| Asthma exacerbation codes (ED) ² [-7,7] | 17,514 | 0.8% |
| Asthma exacerbation codes (AV) ² [-7,7] | 144,469 | 6.8% |
| Asthma exacerbation codes (IP) ³ [-7,7] | 8,169 | 0.4% |
| Evaluation Window [Day -14 to Day 14]: | | |
| Asthma exacerbation codes (ED or AV or IP or IS) ³ [-14,14] | 171,386 | 8.1% |
| Asthma exacerbation codes (ED or AV or IP) ³ [-14,14] | 171,323 | 8.1% |
| Asthma exacerbation codes (ED) ³ [-14,14] | 20,174 | 1.0% |
| Asthma exacerbation codes (AV) ³ [-14,14] | 162,341 | 7.7% |
| Asthma exacerbation codes (IP) ² [-14,14] | 9,540 | 0.5% |

Table 1i. Baseline Characteristics for Patients with Asthma with Incident Use of Oral Corticosteroids (OCS) in the Sentinel Distributed Database (SDD) between January 1, 2008 and September 30, 2019

| Asthma Diagnoses Around Index: | Number | Percent |
|---|---------------|----------------|
| Evaluation Window [Day -7 to Day 7]: | | |
| Asthma diagnosis codes (ED or AV or IP or IS) ² [-7,7] | 645,885 | 30.5% |
| Asthma diagnosis codes (ED or AV or IP) ² [-7,7] | 645,187 | 30.5% |
| Asthma diagnosis codes (ED) ² [-7,7] | 73,642 | 3.5% |
| Asthma diagnosis codes (AV) ² [-7,7] | 592,235 | 28.0% |
| Asthma diagnosis codes (IP) ² [-7,7] | 37,550 | 1.8% |
| Evaluation Window [Day -14 to Day 14]: | | |
| Asthma diagnosis codes (ED or AV or IP or IS) ² [-14,14] | 772,135 | 36.4% |
| Asthma diagnosis codes (ED or AV or IP) ² [-14,14] | 771,106 | 36.4% |
| Asthma diagnosis codes (ED) ² [-14,14] | 87,504 | 4.1% |
| Asthma diagnosis codes (AV) ² [-14,14] | 713,853 | 33.7% |
| Asthma diagnosis codes (IP) ² [-14,14] | 49,045 | 2.3% |
| Dispensings Around Index: | | |
| OCS dispensing or injection [-7,7] | 429,332 | 20.3% |
| OCS dispensing or injection [-14,14] | 493,417 | 23.3% |

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

²ED stands for emergency department care setting; AV stands for ambulatory visit care setting; IP stands for inpatient care setting; and IS stands for non-acute institutional care setting

Table 1j. Baseline Characteristics for Patients with Asthma with Incident Use of Same-Day Oral Corticosteroid (OCS) and Antibiotics in the Sentinel Distributed Database (SDD) between January 1, 2008 and September 30, 2019

| Characteristic¹ | Number | |
|--|---------------|---------------------------|
| Number of unique patients | 594,300 | |
| Demographics | Mean | Standard Deviation |
| Mean Age (Years) | 57.5 | 14.6 |
| Age (Years) | Number | Percent |
| 18-39 | 102,965 | 17.3% |
| 40-64 | 247,770 | 41.7% |
| 65+ | 243,565 | 41.0% |
| Sex | | |
| Female | 428,956 | 72.2% |
| Male | 165,344 | 27.8% |
| Race | | |
| Unknown | 209,864 | 35.3% |
| American Indian or Alaska Native | 2,976 | 0.5% |
| Asian | 16,068 | 2.7% |
| Black or African American | 49,672 | 8.4% |
| Native Hawaiian or Other Pacific Islander | 2,792 | 0.5% |
| White | 312,928 | 52.7% |
| Ethnicity | | |
| Hispanic Origin | 22,871 | 3.8% |
| Year | | |
| 2008 | 19,993 | 3.4% |
| 2009 | 28,139 | 4.7% |
| 2010 | 25,975 | 4.4% |
| 2011 | 54,049 | 9.1% |
| 2012 | 50,609 | 8.5% |
| 2013 | 53,080 | 8.9% |
| 2014 | 62,007 | 10.4% |
| 2015 | 66,031 | 11.1% |
| 2016 | 64,154 | 10.8% |
| 2017 | 69,362 | 11.7% |
| 2018 | 64,836 | 10.9% |
| 2019 | 36,065 | 6.1% |
| Asthma Exacerbations Around Index: | | |
| Evaluation Window [Day -7 to Day 7]: | | |
| Asthma exacerbation codes (ED or AV or IP or IS) ² [-7,7] | 142,559 | 24.0% |
| Asthma exacerbation codes (ED or AV or IP) ² [-7,7] | 142,550 | 24.0% |
| Asthma exacerbation codes (ED) ² [-7,7] | 17,326 | 2.9% |
| Asthma exacerbation codes (AV) ² [-7,7] | 134,755 | 22.7% |
| Asthma exacerbation codes (IP) ³ [-7,7] | 7,551 | 1.3% |
| Evaluation Window [Day -14 to Day 14]: | | |
| Asthma exacerbation codes (ED or AV or IP or IS) ³ [-14,14] | 148,235 | 24.9% |
| Asthma exacerbation codes (ED or AV or IP) ³ [-14,14] | 148,222 | 24.9% |
| Asthma exacerbation codes (ED) ³ [-14,14] | 18,136 | 3.1% |
| Asthma exacerbation codes (AV) ³ [-14,14] | 140,328 | 23.6% |
| Asthma exacerbation codes (IP) ² [-14,14] | 8,247 | 1.4% |

Table 1j. Baseline Characteristics for Patients with Asthma with Incident Use of Same-Day Oral Corticosteroid (OCS) and Antibiotics in the Sentinel Distributed Database (SDD) between January 1, 2008 and September 30, 2019

| Asthma Diagnoses Around Index: | Number | Percent |
|---|---------------|----------------|
| Evaluation Window [Day -7 to Day 7]: | | |
| Asthma diagnosis codes (ED or AV or IP or IS) ² [-7,7] | 332,419 | 55.9% |
| Asthma diagnosis codes (ED or AV or IP) ² [-7,7] | 332,353 | 55.9% |
| Asthma diagnosis codes (ED) ² [-7,7] | 35,871 | 6.0% |
| Asthma diagnosis codes (AV) ² [-7,7] | 319,208 | 53.7% |
| Asthma diagnosis codes (IP) ² [-7,7] | 11,847 | 2.0% |
| Evaluation Window [Day -14 to Day 14]: | | |
| Asthma diagnosis codes (ED or AV or IP or IS) ² [-14,14] | 356,982 | 60.1% |
| Asthma diagnosis codes (ED or AV or IP) ² [-14,14] | 356,878 | 60.1% |
| Asthma diagnosis codes (ED) ² [-14,14] | 39,823 | 6.7% |
| Asthma diagnosis codes (AV) ² [-14,14] | 344,122 | 57.9% |
| Asthma diagnosis codes (IP) ² [-14,14] | 14,165 | 2.4% |

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

²ED stands for emergency department care setting; AV stands for ambulatory visit care setting; IP stands for inpatient care setting; and IS stands for non-acute institutional care setting

Appendix A. Start and End Dates for Each Data Partner (DP) up to Request End Date (March 30, 2020)

| DP ID | Start Date¹ | End Date¹ |
|--------------|-------------------------------|-----------------------------|
| DP01 | 1/1/2000 | 1/31/2019 |
| DP02 | 1/1/2005 | 7/31/2018 |
| DP03 | 1/1/2000 | 12/31/2017 |
| DP04 | 1/1/2008 | 9/30/2019 |
| DP05 | 1/1/2000 | 6/30/2019 |
| DP06 | 1/1/2006 | 6/30/2019 |
| DP07 | 1/1/2000 | 4/30/2019 |
| DP08 | 1/1/2000 | 2/28/2019 |
| DP09 | 6/1/2007 | 7/31/2019 |
| DP10 | 1/1/2000 | 7/31/2019 |
| DP11 | 1/1/2004 | 8/31/2019 |
| DP12 | 1/1/2000 | 3/31/2019 |
| DP13 | 1/1/2000 | 4/30/2018 |
| DP14 | 1/1/2010 | 6/30/2019 |

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

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

| Code | Description | Code Category | Code Type |
|--|--|---------------|-----------|
| Chronic Obstructive Pulmonary Disease (COPD) Exacerbation | | | |
| 491.21 | Obstructive chronic bronchitis, with (acute) exacerbation | Diagnosis | ICD-9-CM |
| 491.22 | Obstructive chronic bronchitis with acute bronchitis | Diagnosis | ICD-9-CM |
| J44.0 | Chronic obstructive pulmonary disease with acute lower respiratory infection | Diagnosis | ICD-10-CM |
| J44.1 | Chronic obstructive pulmonary disease with (acute) exacerbation | Diagnosis | ICD-10-CM |
| COPD | | | |
| 491.0 | Simple chronic bronchitis | Diagnosis | ICD-9-CM |
| 491.1 | Mucopurulent chronic bronchitis | Diagnosis | ICD-9-CM |
| 491.8 | Other chronic bronchitis | Diagnosis | ICD-9-CM |
| 491.9 | Unspecified chronic bronchitis | Diagnosis | ICD-9-CM |
| 492.0 | Emphysematous bleb | Diagnosis | ICD-9-CM |
| 492.8 | Other emphysema | Diagnosis | ICD-9-CM |
| 496 | Chronic airway obstruction, not elsewhere classified | Diagnosis | ICD-9-CM |
| J41 | Simple and mucopurulent chronic bronchitis | Diagnosis | ICD-10-CM |
| J41.0 | Simple chronic bronchitis | Diagnosis | ICD-10-CM |
| J41.1 | Mucopurulent chronic bronchitis | Diagnosis | ICD-10-CM |
| J41.8 | Mixed simple and mucopurulent chronic bronchitis | Diagnosis | ICD-10-CM |
| J42 | Unspecified chronic bronchitis | Diagnosis | ICD-10-CM |
| J43 | Emphysema | Diagnosis | ICD-10-CM |
| J43.1 | Panlobular emphysema | Diagnosis | ICD-10-CM |
| J43.2 | Centrilobular emphysema | Diagnosis | ICD-10-CM |
| J43.8 | Other emphysema | Diagnosis | ICD-10-CM |
| J43.9 | Emphysema, unspecified | Diagnosis | ICD-10-CM |
| J44 | Other chronic obstructive pulmonary disease | Diagnosis | ICD-10-CM |
| J44.9 | Chronic obstructive pulmonary disease, unspecified | Diagnosis | ICD-10-CM |
| Asthma Exacerbation | | | |
| 493.01 | Extrinsic asthma with status asthmaticus | Diagnosis | ICD-9-CM |
| 493.02 | Extrinsic asthma, with (acute) exacerbation | Diagnosis | ICD-9-CM |
| 493.11 | Intrinsic asthma with status asthmaticus | Diagnosis | ICD-9-CM |
| 493.12 | Intrinsic asthma, with (acute) exacerbation | Diagnosis | ICD-9-CM |
| 493.91 | Asthma, unspecified with status asthmaticus | Diagnosis | ICD-9-CM |
| 493.92 | Asthma, unspecified, with (acute) exacerbation | Diagnosis | ICD-9-CM |
| J45.21 | Mild intermittent asthma with (acute) exacerbation | Diagnosis | ICD-10-CM |
| J45.22 | Mild intermittent asthma with status asthmaticus | Diagnosis | ICD-10-CM |
| J45.31 | Mild persistent asthma with (acute) exacerbation | Diagnosis | ICD-10-CM |
| J45.32 | Mild persistent asthma with status asthmaticus | Diagnosis | ICD-10-CM |
| J45.41 | Moderate persistent asthma with (acute) exacerbation | Diagnosis | ICD-10-CM |
| J45.42 | Moderate persistent asthma with status asthmaticus | Diagnosis | ICD-10-CM |
| J45.51 | Severe persistent asthma with (acute) exacerbation | Diagnosis | ICD-10-CM |
| J45.52 | Severe persistent asthma with status asthmaticus | Diagnosis | ICD-10-CM |
| J45.901 | Unspecified asthma with (acute) exacerbation | Diagnosis | ICD-10-CM |
| J45.902 | Unspecified asthma with status asthmaticus | Diagnosis | ICD-10-CM |

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

| Code | Description | Code Category | Code Type |
|---------------|--|---------------|-----------|
| Asthma | | | |
| 493.00 | Extrinsic asthma, unspecified | Diagnosis | ICD-9-CM |
| 493.10 | Intrinsic asthma, unspecified | Diagnosis | ICD-9-CM |
| 493.20 | Chronic obstructive asthma, unspecified ICD-9-CM | Diagnosis | ICD-9-CM |
| 493.21 | Chronic obstructive asthma with status asthmaticus ICD-9-CM | Diagnosis | ICD-9-CM |
| 493.22 | Chronic obstructive asthma, with (acute) exacerbation ICD-9-CM | Diagnosis | ICD-9-CM |
| 493.82 | Cough variant asthma | Diagnosis | ICD-9-CM |
| 493.90 | Asthma, unspecified, unspecified status | Diagnosis | ICD-9-CM |
| J45 | Asthma | Diagnosis | ICD-10-CM |
| J45.2 | Mild intermittent asthma | Diagnosis | ICD-10-CM |
| J45.20 | Mild intermittent asthma, uncomplicated | Diagnosis | ICD-10-CM |
| J45.3 | Mild persistent asthma | Diagnosis | ICD-10-CM |
| J45.30 | Mild persistent asthma, uncomplicated | Diagnosis | ICD-10-CM |
| J45.4 | Moderate persistent asthma | Diagnosis | ICD-10-CM |
| J45.40 | Moderate persistent asthma, uncomplicated | Diagnosis | ICD-10-CM |
| J45.5 | Severe persistent asthma | Diagnosis | ICD-10-CM |
| J45.50 | Severe persistent asthma, uncomplicated | Diagnosis | ICD-10-CM |
| J45.9 | Other and unspecified asthma | Diagnosis | ICD-10-CM |
| J45.90 | Unspecified asthma | Diagnosis | ICD-10-CM |
| J45.909 | Unspecified asthma, uncomplicated | Diagnosis | ICD-10-CM |
| J45.99 | Other asthma | Diagnosis | ICD-10-CM |
| J45.991 | Cough variant asthma | Diagnosis | ICD-10-CM |
| J45.998 | Other asthma | Diagnosis | ICD-10-CM |

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

| Generic Name | Brand Name |
|--|-------------------------------|
| Oral Corticosteroids (OCS) | |
| betamethasone | Celestone |
| cortisone acetate | cortisone |
| <i>CORTISONE ACETATE</i> | <i>Cortisone aceticum</i> |
| deflazacort | Emflaza |
| dexamethasone | Dexamethasone Intensol |
| dexamethasone | dexamethasone |
| dexamethasone | DexPak 10 day |
| dexamethasone | DexPak 13 Day |
| dexamethasone | DexPak 6 Day |
| dexamethasone | Baycadron |
| dexamethasone | Decadron |
| dexamethasone | Dxevo |
| dexamethasone | HiDex |
| dexamethasone | LoCort |
| dexamethasone | TaperDex |
| dexamethasone | Zema-Pak |
| dexamethasone | ZoDex |
| dexamethasone | ZonaCort |
| <i>Dexamethasone</i> | <i>Dexamethasone</i> |
| <i>dexamethasone</i> | <i>HiDex 6-day</i> |
| <i>DEXAMETHASONE</i> | <i>TaperDex 12-day</i> |
| <i>DEXAMETHASONE</i> | <i>TaperDex 6-day</i> |
| <i>dexamethasone</i> | <i>TaperDex 7-day</i> |
| <i>Dexamethasone 1.5 mg</i> | <i>Dexamethasone</i> |
| <i>Dexamethasone 1.5 mg</i> | <i>Dxevo</i> |
| dexamethasone/saliva collection device | Cushings Syndrome Diagnostic |
| hydrocortisone | Cortef |
| hydrocortisone | hydrocortisone |
| <i>Hydrocortisone</i> | <i>CORTISOL</i> |
| <i>Hydrocortisone</i> | <i>Cortisol Phenolic</i> |
| methylprednisolone | Medrol |
| methylprednisolone | Medrol (Pak) |
| methylprednisolone | methylprednisolone |
| methylprednisolone | Meprolone Unipak |
| methylprednisolone | Methylpred |
| methylprednisolone | Methylpred DP |
| prednisolone | prednisolone |
| prednisolone | Millipred |
| prednisolone | Millipred DP |
| prednisolone | Prelone |
| prednisolone acetate | Flo-Pred |
| prednisolone sodium phosphate | prednisolone sodium phosphate |

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

| Generic Name | Brand Name |
|---|--|
| prednisolone sodium phosphate | Millipred |
| prednisolone sodium phosphate | Orapred |
| prednisolone sodium phosphate | Orapred ODT |
| prednisolone sodium phosphate | Pediapred |
| prednisolone sodium phosphate | Veripred 20 |
| <i>Prednisolone Sodium Phosphate</i> | <i>Prednisolone Sodium Phosphate Oral Solution</i> |
| Prednisolone Sodium Phosphate/Peak Flow Meter | Asmalpred |
| Prednisolone Sodium Phosphate/Peak Flow Meter | Asmalpred Plus |
| prednisone | prednisone |
| prednisone | Prednisone Intensol |
| prednisone | Deltasone |
| prednisone | Rayos |
| prednisone | Sterapred |
| prednisone | Sterapred DS |
| Antibiotics | |
| <i>Amoxicillin and clavulanate potassium</i> | <i>Amoxicillin and clavulanate potassium</i> |
| amoxicillin | Amoxil |
| amoxicillin | amoxicillin |
| amoxicillin | DisperMox |
| amoxicillin | Moxatag |
| amoxicillin | Trimox |
| amoxicillin | Trimox 250 |
| <i>Amoxicillin and Clavulanate Potassium</i> | <i>Amoxicillin and Clavulanate Potassium</i> |
| <i>amoxicillin and clavulanate potassium</i> | <i>AUGMENTIN ES-600</i> |
| <i>amoxicillin and clavulanate potassium</i> | <i>AUGMENTIN</i> |
| <i>AMOXICILLIN CLAV/POT</i> | <i>AMOXICILLIN CLAV/POT</i> |
| <i>AMOXICILLIN/CLAV POT</i> | <i>AMOXICILLIN/CLAV POT</i> |
| amoxicillin/potassium clavulanate | Augmentin |
| amoxicillin/potassium clavulanate | Augmentin ES-600 |
| amoxicillin/potassium clavulanate | Augmentin XR |
| amoxicillin/potassium clavulanate | amoxicillin-pot clavulanate |
| ampicillin trihydrate | ampicillin |
| ampicillin trihydrate | Principen |
| azithromycin | Zithromax |
| azithromycin | Zithromax Z-Pak |
| azithromycin | Zithromax TRI-PAK |
| azithromycin | Zmax Pediatric |
| azithromycin | Zmax |
| azithromycin | azithromycin |
| <i>azithromycin</i> | <i>Azithromycin Dihydrate</i> |
| <i>AZITHROMYCIN ANHYDROUS</i> | <i>Azithromycin</i> |
| <i>azithromycin dihydrate</i> | <i>azithromycin dihydrate</i> |
| <i>azithromycin dihydrate</i> | <i>Zithromax</i> |

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

| Generic Name | Brand Name |
|---|--|
| <i>azithromycin monohydrate</i> | <i>azithromycin monohydrate</i> |
| <i>AZITHROMYCIN MONOHYDRATE</i> | <i>azithromycin</i> |
| bismuth subsalicylate/metronidazole/tetracycline HCl | Helidac |
| cefaclor | cefaclor |
| cefaclor | Raniclor |
| cefaclor | Ceclor |
| cefadroxil | cefadroxil |
| cefadroxil | Duricef |
| cefdinir | Omnicef |
| cefdinir | cefdinir |
| cefditoren pivoxil | Spectracef |
| cefditoren pivoxil | cefditoren pivoxil |
| cefixime | cefixime |
| cefixime | Suprax |
| cefopodoxime proxetil | Vantin |
| cefopodoxime proxetil | cefopodoxime |
| cefprozil | Cefzil |
| cefprozil | cefprozil |
| ceftibuten | ceftibuten |
| ceftibuten | Cedax |
| cefuroxime axetil | cefuroxime axetil |
| cefuroxime axetil | Ceftin |
| cephalexin | cephalexin |
| cephalexin | Keflex |
| cephalexin | Daxbia |
| cephalexin | Panixine DisperDose |
| ciprofloxacin | Cipro |
| ciprofloxacin | ciprofloxacin |
| ciprofloxacin HCl | Cipro |
| ciprofloxacin HCl | ciprofloxacin HCl |
| ciprofloxacin HCl | ProQuin XR |
| ciprofloxacin/ciprofloxacin HCl | Cipro XR |
| ciprofloxacin/ciprofloxacin HCl | ciprofloxacin (mixture) |
| clarithromycin | clarithromycin |
| clarithromycin | Biaxin |
| clarithromycin | Biaxin XL |
| clarithromycin | Biaxin XL Pak |
| <i>CLARITHROMYCIN</i> | <i>Clarithromycin Extended-Release</i> |
| colloidal bismuth subcitrate/metronidazole/tetracycline HCl | Pylera |
| demeclocycline HCl | demeclocycline |
| demeclocycline HCl | Declomycin |
| dicloxacillin sodium | dicloxacillin |
| <i>Doxycycline</i> | <i>Doxycycline</i> |

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

| Generic Name | Brand Name |
|--|-------------------------------------|
| <i>DOXYCYCLINE</i> | <i>ORACEA</i> |
| <i>Doxycycline</i> | <i>Doxycycline Monohydrate</i> |
| <i>doxycycline</i> | <i>Adoxa</i> |
| <i>doxycycline</i> | <i>Monodox</i> |
| <i>Doxycycline</i> | <i>Doxycycline Hyclate</i> |
| <i>doxycycline</i> | <i>Okebo</i> |
| <i>Doxycycline</i> | <i>Mondoxyne</i> |
| <i>Doxycycline</i> | <i>Mondoxyne NL 100mg</i> |
| <i>Doxycycline</i> | <i>Mondoxyne NL</i> |
| <i>doxycycline calcium</i> | <i>Vibramycin</i> |
| <i>doxycycline calcium</i> | <i>Vibramycin Calcium</i> |
| <i>doxycycline hyclate</i> | <i>Vibramycin</i> |
| <i>doxycycline hyclate</i> | <i>Vibra-Tabs</i> |
| <i>doxycycline hyclate</i> | <i>doxycycline hyclate</i> |
| <i>Doxycycline hyclate</i> | <i>Doxycycline</i> |
| <i>doxycycline hyclate</i> | <i>Periostat</i> |
| <i>doxycycline hyclate</i> | <i>Doryx</i> |
| <i>doxycycline hyclate</i> | <i>Acticlate</i> |
| <i>doxycycline hyclate</i> | <i>Morgidox</i> |
| <i>Doxycycline Hyclate</i> | <i>DORYX MPC</i> |
| <i>Doxycycline Hyclate</i> | <i>Ocudox</i> |
| <i>Doxycycline Hyclate</i> | <i>Doxycycline Hyclate Capsules</i> |
| <i>doxycycline hyclate</i> | <i>TARGADOX</i> |
| <i>Doxycycline Hyclate</i> | <i>Doxycyclate Hyclate</i> |
| <i>doxycycline hyclate</i> | <i>Oraxyl</i> |
| <i>doxycycline hyclate</i> | <i>Soloxide</i> |
| <i>doxycycline monohydrate</i> | <i>Vibramycin</i> |
| <i>doxycycline monohydrate</i> | <i>doxycycline monohydrate</i> |
| <i>doxycycline monohydrate</i> | <i>Oracea</i> |
| <i>doxycycline monohydrate</i> | <i>Adoxa</i> |
| <i>doxycycline monohydrate</i> | <i>Adoxa Pak</i> |
| <i>doxycycline monohydrate</i> | <i>Monodox</i> |
| <i>doxycycline monohydrate</i> | <i>Avidoxy</i> |
| <i>doxycycline monohydrate</i> | <i>Okebo</i> |
| <i>doxycycline monohydrate</i> | <i>Mondoxyne NL</i> |
| <i>doxycycline monohydrate/omega-3 combination no.1/Eye Mask</i> | <i>Nutridox</i> |
| <i>doxycycline monohydrate/skin cleanser combination no.9</i> | <i>Adoxa TT</i> |
| <i>doxycycline monohydrate/skin cleanser combination no.9</i> | <i>Adoxa CK</i> |
| <i>erythromycin base</i> | <i>PCE</i> |
| <i>erythromycin base</i> | <i>erythromycin</i> |
| <i>erythromycin base</i> | <i>Ery-Tab</i> |
| <i>erythromycin base</i> | <i>Eryc</i> |
| <i>erythromycin base</i> | <i>E-Mycin</i> |

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

| Generic Name | Brand Name |
|--|---|
| erythromycin ethylsuccinate | erythromycin ethylsuccinate |
| erythromycin ethylsuccinate | E.E.S. 400 |
| erythromycin ethylsuccinate | EryPed 200 |
| erythromycin ethylsuccinate | EryPed |
| erythromycin ethylsuccinate | EryPed 400 |
| erythromycin ethylsuccinate | E.E.S. 200 |
| erythromycin ethylsuccinate | E.E.S. Granules |
| erythromycin ethylsuccinate/sulfisoxazole acetyl | erythromycin-sulfisoxazole |
| erythromycin ethylsuccinate/sulfisoxazole acetyl | Pediazole |
| erythromycin stearate | Erythrocin (as stearate) |
| erythromycin stearate | erythromycin stearate |
| gemifloxacin mesylate | Factive |
| lansoprazole/amoxicillin trihydrate/clarithromycin | amoxicil-clarithromy-lansopraz |
| lansoprazole/amoxicillin trihydrate/clarithromycin | Prevpac |
| levofloxacin | Levaquin |
| levofloxacin | Levaquin Leva-Pak |
| levofloxacin | levofloxacin |
| linezolid | Zyvox |
| linezolid | linezolid |
| minocycline HCl | Minocin |
| minocycline HCl | minocycline |
| minocycline HCl | Ximino |
| minocycline HCl | Dynacin |
| minocycline HCl | Solodyn |
| minocycline HCl | CoreMino |
| minocycline HCl | Minolira ER |
| <i>Moxifloxacin</i> | <i>Moxifloxacin</i> |
| moxifloxacin HCl | Avelox |
| moxifloxacin HCl | Avelox ABC Pack |
| moxifloxacin HCl | moxifloxacin |
| <i>moxifloxacin hydrochloride</i> | <i>Avelox</i> |
| <i>moxifloxacin hydrochloride</i> | <i>moxifloxacin hydrochloride</i> |
| <i>moxifloxacin hydrochloride</i> | <i>Moxifloxacin</i> |
| <i>Moxifloxacin Hydrochloride Tablets, 400 mg</i> | <i>Moxifloxacin Hydrochloride Tablets, 400 mg</i> |
| ofloxacin | ofloxacin |
| ofloxacin | Floxin |
| omeprazole/clarithromycin/amoxicillin trihydrate | Omeclamox-Pak |
| penicillin G benzathine | Bicillin L-A |
| penicillin G benzathine/penicillin G procaine | Bicillin C-R |
| penicillin V potassium | penicillin V potassium |
| penicillin V potassium | Veetids |
| <i>Sulfamethoxazole and Trimethoprim</i> | <i>Sulfamethoxazole and Trimethoprim</i> |
| <i>Sulfamethoxazole and Trimethoprim</i> | <i>SULFATRIM</i> |

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

| Generic Name | Brand Name |
|---|---|
| <i>sulfamethoxazole and Trimethoprim</i> | <i>Bactrim</i> |
| <i>sulfamethoxazole and Trimethoprim</i> | <i>Bactrim DS</i> |
| <i>Sulfamethoxazole and Trimethoprim DS</i> | <i>Sulfamethoxazole and Trimethoprim DS</i> |
| <i>SULFAMETHOXAZOLE, TRIMETHOPRIM</i> | <i>Sulfamethox-TMP DS</i> |
| sulfamethoxazole/trimethoprim | sulfamethoxazole-trimethoprim |
| sulfamethoxazole/trimethoprim | Sulfatrim |
| sulfamethoxazole/trimethoprim | Bactrim DS |
| sulfamethoxazole/trimethoprim | Bactrim |
| sulfamethoxazole/trimethoprim | Septra |
| sulfamethoxazole/trimethoprim | SMZ-TMP DS |
| sulfamethoxazole/trimethoprim | Sultrex |
| sulfamethoxazole/trimethoprim | Septra DS |
| tedizolid phosphate | Sivextro |
| tetracycline HCl | tetracycline |
| tetracycline HCl | Sumycin |
| <i>Tobramycin</i> | <i>Tobramycin</i> |
| tobramycin in 0.225 % sodium chloride | Tobi |
| tobramycin in 0.225 % sodium chloride | tobramycin in 0.225 % NaCl |

**Appendix D. List of Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Exposures and Incidence
Criteria in this Request**

| Code | Description | Code Category | Code Type |
|-----------------------------------|--|----------------------|------------------|
| Oral Corticosteroids (OCS) | | | |
| J8540 | DEXAMETHASONE ORAL 0.25 MG | Procedure | HCPCS |
| J0702 | INJ BETAMETHASONE AC & PHOS 3 MG | Procedure | HCPCS |
| J1094 | INJECTION DEXAMETHASONE ACTAT 1 MG | Procedure | HCPCS |
| J1020 | Injection, methylprednisolone acetate, 20 mg | Procedure | HCPCS |
| J1030 | Injection, methylprednisolone acetate, 40 mg | Procedure | HCPCS |
| J1040 | Injection, methylprednisolone acetate, 80 mg | Procedure | HCPCS |
| J2650 | Injection, prednisolone acetate, up to 1 ml | Procedure | HCPCS |
| J3302 | Injection, triamcinolone diacetate, per 5 mg | Procedure | HCPCS |
| J3301 | Injection, triamcinolone acetonide, not otherwise specified, 10 mg | Procedure | HCPCS |

Appendix E. List of Generic and Brand Names of Medical Products Used to Define Inclusion/Exclusion Criteria in this Request

| Generic Name | Brand Name |
|--|--------------------------------|
| Inhaled Corticosteroids (ICS) Mono-Product | |
| budesonide | budesonide |
| budesonide | Pulmicort |
| budesonide | Pulmicort Flexhaler |
| fluticasone furoate | Arnuity Ellipta |
| fluticasone propionate | Flovent HFA |
| fluticasone propionate | Flovent Diskus |
| mometasone furoate | Asmanex Twisthaler |
| mometasone furoate | Asmanex HFA |
| beclomethasone dipropionate | Qvar |
| beclomethasone dipropionate | Qvar RediHaler |
| budesonide | Pulmicort Turbuhaler |
| ciclesonide | Alvesco |
| fluticasone propionate | ArmonAir RespiClick |
| ICS and Long-Acting Beta Agonist (LABA) Combination Product | |
| mometasone furoate/formoterol fumarate | Dulera |
| fluticasone propionate/salmeterol xinafoate | fluticasone propion-salmeterol |
| fluticasone propionate/salmeterol xinafoate | Advair Diskus |
| fluticasone propionate/salmeterol xinafoate | Advair HFA |
| fluticasone furoate/vilanterol trifenate | Breo Ellipta |
| budesonide/formoterol fumarate | Symbicort |
| fluticasone propionate/salmeterol xinafoate | Wixela Inhub |
| fluticasone propionate/salmeterol xinafoate | AirDuo RespiClick |
| LABA Mono-Product | |
| indacaterol maleate | Arcapta Neohaler |
| olodaterol HCl | Striverdi Respimat |
| salmeterol xinafoate | Serevent Diskus |
| arformoterol tartrate | Brovana |
| formoterol fumarate | Foradil Aerolizer |
| formoterol fumarate | Perforomist |
| Long-Acting Muscarinic Antagonist (LAMA) Mono-Product | |
| umeclidinium bromide | Incruse Ellipta |
| tiotropium bromide | Spiriva with HandiHaler |
| tiotropium bromide | Spiriva Respimat |
| glycopyrrolate | Seebri Neohaler |
| aclidinium bromide | Tudorza Pressair |
| revefenacin | Yupelri |
| glycopyrrolate/nebulizer and accessories | Lonhala Magnair Starter |
| glycopyrrolate/nebulizer accessories | Lonhala Magnair Refill |
| LABA and LAMA Combination Product | |
| glycopyrrolate/formoterol fumarate | Bevespi Aerosphere |
| indacaterol maleate/glycopyrrolate | Utibron Neohaler |
| tiotropium bromide/olodaterol HCl | Stiolto Respimat |
| umeclidinium bromide/vilanterol trifenate | Anoro Ellipta |
| ICS, LABA and LAMA Combination Product | |
| fluticasone furoate/umeclidinium bromide/vilanterol trifenate | Trelegy Ellipta |

Appendix F. List of International Classification of Diseases, Ninth and Tenth Revisions, Clinical Modification (ICD-9-CM and ICD-10-CM) Diagnosis Codes Used to Define Inclusion/Exclusion Criteria in this Request

| Code | Description | Code Category | Code Type |
|--|--|---------------|-----------|
| Chronic Obstructive Pulmonary Disease (COPD) Exacerbation | | | |
| 491.21 | Obstructive chronic bronchitis, with (acute) exacerbation | Diagnosis | ICD-9-CM |
| 491.22 | Obstructive chronic bronchitis with acute bronchitis | Diagnosis | ICD-9-CM |
| J44.0 | Chronic obstructive pulmonary disease with acute lower respiratory infection | Diagnosis | ICD-10-CM |
| J44.1 | Chronic obstructive pulmonary disease with (acute) exacerbation | Diagnosis | ICD-10-CM |
| COPD | | | |
| 491.20 | Obstructive chronic bronchitis without exacerbation | Diagnosis | ICD-9-CM |
| 491.0 | Simple chronic bronchitis | Diagnosis | ICD-9-CM |
| 491.1 | Mucopurulent chronic bronchitis | Diagnosis | ICD-9-CM |
| 491.8 | Other chronic bronchitis | Diagnosis | ICD-9-CM |
| 491.9 | Unspecified chronic bronchitis | Diagnosis | ICD-9-CM |
| 492.0 | Emphysematous bleb | Diagnosis | ICD-9-CM |
| 492.8 | Other emphysema | Diagnosis | ICD-9-CM |
| 496 | Chronic airway obstruction, not elsewhere classified | Diagnosis | ICD-9-CM |
| J41 | Simple and mucopurulent chronic bronchitis | Diagnosis | ICD-10-CM |
| J41.0 | Simple chronic bronchitis | Diagnosis | ICD-10-CM |
| J41.1 | Mucopurulent chronic bronchitis | Diagnosis | ICD-10-CM |
| J41.8 | Mixed simple and mucopurulent chronic bronchitis | Diagnosis | ICD-10-CM |
| J42 | Unspecified chronic bronchitis | Diagnosis | ICD-10-CM |
| J43 | Emphysema | Diagnosis | ICD-10-CM |
| J43.1 | Panlobular emphysema | Diagnosis | ICD-10-CM |
| J43.2 | Centrilobular emphysema | Diagnosis | ICD-10-CM |
| J43.8 | Other emphysema | Diagnosis | ICD-10-CM |
| J43.9 | Emphysema, unspecified | Diagnosis | ICD-10-CM |
| J44 | Other chronic obstructive pulmonary disease | Diagnosis | ICD-10-CM |
| J44.9 | Chronic obstructive pulmonary disease, unspecified | Diagnosis | ICD-10-CM |
| Asthma Exacerbation | | | |
| 493.01 | Extrinsic asthma with status asthmaticus | Diagnosis | ICD-9-CM |
| 493.02 | Extrinsic asthma, with (acute) exacerbation | Diagnosis | ICD-9-CM |
| 493.11 | Intrinsic asthma with status asthmaticus | Diagnosis | ICD-9-CM |
| 493.12 | Intrinsic asthma, with (acute) exacerbation | Diagnosis | ICD-9-CM |
| 493.91 | Asthma, unspecified with status asthmaticus | Diagnosis | ICD-9-CM |
| 493.92 | Asthma, unspecified, with (acute) exacerbation | Diagnosis | ICD-9-CM |
| J45.21 | Mild intermittent asthma with (acute) exacerbation | Diagnosis | ICD-10-CM |
| J45.22 | Mild intermittent asthma with status asthmaticus | Diagnosis | ICD-10-CM |
| J45.31 | Mild persistent asthma with (acute) exacerbation | Diagnosis | ICD-10-CM |
| J45.32 | Mild persistent asthma with status asthmaticus | Diagnosis | ICD-10-CM |
| J45.41 | Moderate persistent asthma with (acute) exacerbation | Diagnosis | ICD-10-CM |
| J45.42 | Moderate persistent asthma with status asthmaticus | Diagnosis | ICD-10-CM |
| J45.51 | Severe persistent asthma with (acute) exacerbation | Diagnosis | ICD-10-CM |
| J45.52 | Severe persistent asthma with status asthmaticus | Diagnosis | ICD-10-CM |
| J45.901 | Unspecified asthma with (acute) exacerbation | Diagnosis | ICD-10-CM |
| J45.902 | Unspecified asthma with status asthmaticus | Diagnosis | ICD-10-CM |

Appendix F. List of International Classification of Diseases, Ninth and Tenth Revisions, Clinical Modification (ICD-9-CM and ICD-10-CM) Diagnosis Codes Used to Define Inclusion/Exclusion Criteria in this Request

| Code | Description | Code Category | Code Type |
|---------------------------------------|---|---------------|-----------|
| Asthma | | | |
| 493.00 | Extrinsic asthma, unspecified | Diagnosis | ICD-9-CM |
| 493.10 | Intrinsic asthma, unspecified | Diagnosis | ICD-9-CM |
| 493.20 | Chronic obstructive asthma, unspecified ICD-9-CM | Diagnosis | ICD-9-CM |
| 493.21 | Chronic obstructive asthma with status asthmaticus ICD-9-CM | Diagnosis | ICD-9-CM |
| 493.22 | Chronic obstructive asthma, with (acute) exacerbation ICD-9-CM | Diagnosis | ICD-9-CM |
| 493.82 | Cough variant asthma | Diagnosis | ICD-9-CM |
| 493.90 | Asthma, unspecified, unspecified status | Diagnosis | ICD-9-CM |
| J45 | Asthma | Diagnosis | ICD-10-CM |
| J45.2 | Mild intermittent asthma | Diagnosis | ICD-10-CM |
| J45.20 | Mild intermittent asthma, uncomplicated | Diagnosis | ICD-10-CM |
| J45.3 | Mild persistent asthma | Diagnosis | ICD-10-CM |
| J45.30 | Mild persistent asthma, uncomplicated | Diagnosis | ICD-10-CM |
| J45.4 | Moderate persistent asthma | Diagnosis | ICD-10-CM |
| J45.40 | Moderate persistent asthma, uncomplicated | Diagnosis | ICD-10-CM |
| J45.5 | Severe persistent asthma | Diagnosis | ICD-10-CM |
| J45.50 | Severe persistent asthma, uncomplicated | Diagnosis | ICD-10-CM |
| J45.9 | Other and unspecified asthma | Diagnosis | ICD-10-CM |
| J45.90 | Unspecified asthma | Diagnosis | ICD-10-CM |
| J45.909 | Unspecified asthma, uncomplicated | Diagnosis | ICD-10-CM |
| J45.99 | Other asthma | Diagnosis | ICD-10-CM |
| J45.991 | Cough variant asthma | Diagnosis | ICD-10-CM |
| J45.998 | Other asthma | Diagnosis | ICD-10-CM |
| Alpha-1-Antitrypsin Deficiency | | | |
| 273.4 | Alpha-1-antitrypsin deficiency | Diagnosis | ICD-9-CM |
| E88.01 | Alpha-1-antitrypsin deficiency | Diagnosis | ICD-10-CM |
| Bronchiectasis | | | |
| J47 | Bronchiectasis | Diagnosis | ICD-10-CM |
| J47.0 | Bronchiectasis with acute lower respiratory infection | Diagnosis | ICD-10-CM |
| J47.1 | Bronchiectasis with (acute) exacerbation | Diagnosis | ICD-10-CM |
| J47.9 | Bronchiectasis, uncomplicated | Diagnosis | ICD-10-CM |
| Q33.4 | Congenital bronchiectasis | Diagnosis | ICD-10-CM |
| A15.0 | Tuberculous bronchiectasis (current disease) | Diagnosis | ICD-10-CM |
| 494.0 | Bronchiectasis without acute exacerbation | Diagnosis | ICD-9-CM |
| 494.1 | Bronchiectasis with acute exacerbation | Diagnosis | ICD-9-CM |
| 748.61 | Congenital bronchiectasis | Diagnosis | ICD-9-CM |
| 011.90 | Unspecified pulmonary tuberculosis, confirmation unspecified | Diagnosis | ICD-9-CM |
| 011.00 | Tuberculosis of lung, infiltrative, confirmation unspecified | Diagnosis | ICD-9-CM |
| 011.01 | Tuberculosis of lung, infiltrative, bacteriological or histological examination not done | Diagnosis | ICD-9-CM |
| 011.02 | Tuberculosis of lung, infiltrative, bacteriological or histological examination unknown (at | Diagnosis | ICD-9-CM |
| 011.03 | Tuberculosis of lung, infiltrative, tubercle bacilli found (in sputum) by microscopy | Diagnosis | ICD-9-CM |
| 011.04 | Tuberculosis of lung, infiltrative, tubercle bacilli not found (in sputum) by microscopy, but | Diagnosis | ICD-9-CM |

Appendix F. List of International Classification of Diseases, Ninth and Tenth Revisions, Clinical Modification (ICD-9-CM and ICD-10-CM) Diagnosis Codes Used to Define Inclusion/Exclusion Criteria in this Request

| Code | Description | Code Category | Code Type |
|-------------|--|----------------------|------------------|
| 011.05 | Tuberculosis of lung, infiltrative, tubercle bacilli not found by bacteriological examination, | Diagnosis | ICD-9-CM |
| 011.06 | Tuberculosis of lung, infiltrative, tubercle bacilli not found bacteriological or histological | Diagnosis | ICD-9-CM |
| 011.10 | Tuberculosis of lung, nodular, confirmation unspecified | Diagnosis | ICD-9-CM |
| 011.11 | Tuberculosis of lung, nodular, bacteriological or histological examination not done | Diagnosis | ICD-9-CM |
| 011.12 | Tuberculosis of lung, nodular, bacteriological or histological examination unknown (at | Diagnosis | ICD-9-CM |
| 011.13 | Tuberculosis of lung, nodular, tubercle bacilli found (in sputum) by microscopy | Diagnosis | ICD-9-CM |
| 011.14 | Tuberculosis of lung, nodular, tubercle bacilli not found (in sputum) by microscopy, but | Diagnosis | ICD-9-CM |
| 011.15 | Tuberculosis of lung, nodular, tubercle bacilli not found by bacteriological examination, | Diagnosis | ICD-9-CM |
| 011.16 | Tuberculosis of lung, nodular, tubercle bacilli not found by bacteriological or histological | Diagnosis | ICD-9-CM |
| 011.20 | Tuberculosis of lung with cavitation, confirmation unspecified | Diagnosis | ICD-9-CM |
| 011.21 | Tuberculosis of lung with cavitation, bacteriological or histological examination not done | Diagnosis | ICD-9-CM |
| 011.22 | Tuberculosis of lung with cavitation, bacteriological or histological examination unknown | Diagnosis | ICD-9-CM |
| 011.23 | Tuberculosis of lung with cavitation, tubercle bacilli found (in sputum) by microscopy | Diagnosis | ICD-9-CM |
| 011.24 | Tuberculosis of lung with cavitation, tubercle bacilli not found (in sputum) by microscopy, | Diagnosis | ICD-9-CM |
| 011.25 | Tuberculosis of lung with cavitation, tubercle bacilli not found by bacteriological | Diagnosis | ICD-9-CM |
| 011.26 | Tuberculosis of lung with cavitation, tubercle bacilli not found by bacteriological or | Diagnosis | ICD-9-CM |
| 011.40 | Tuberculous fibrosis of lung, confirmation unspecified | Diagnosis | ICD-9-CM |
| 011.41 | Tuberculous fibrosis of lung, bacteriological or histological examination not done | Diagnosis | ICD-9-CM |
| 011.42 | Tuberculous fibrosis of lung, bacteriological or histological examination unknown (at | Diagnosis | ICD-9-CM |
| 011.43 | Tuberculous fibrosis of lung, tubercle bacilli found (in sputum) by microscopy | Diagnosis | ICD-9-CM |
| 011.44 | Tuberculous fibrosis of lung, tubercle bacilli not found (in sputum) by microscopy, but | Diagnosis | ICD-9-CM |
| 011.45 | Tuberculous fibrosis of lung, tubercle bacilli not found by bacteriological examination, but | Diagnosis | ICD-9-CM |
| 011.46 | Tuberculous fibrosis of lung, tubercle bacilli not found by bacteriological or histological | Diagnosis | ICD-9-CM |
| 011.50 | Tuberculous bronchiectasis, confirmation unspecified | Diagnosis | ICD-9-CM |
| 011.51 | Tuberculous bronchiectasis, bacteriological or histological examination not done | Diagnosis | ICD-9-CM |
| 011.52 | Tuberculous bronchiectasis, bacteriological or histological examination unknown (at | Diagnosis | ICD-9-CM |
| 011.53 | Tuberculous bronchiectasis, tubercle bacilli found (in sputum) by microscopy | Diagnosis | ICD-9-CM |
| 011.54 | Tuberculous bronchiectasis, tubercle bacilli not found (in sputum) by microscopy, but | Diagnosis | ICD-9-CM |
| 011.55 | Tuberculous bronchiectasis, tubercle bacilli not found by bacteriological examination, but | Diagnosis | ICD-9-CM |
| 011.56 | Tuberculous bronchiectasis, tubercle bacilli not found by bacteriological or histological | Diagnosis | ICD-9-CM |
| 011.60 | Tuberculous pneumonia (any form), confirmation unspecified | Diagnosis | ICD-9-CM |
| 011.61 | Tuberculous pneumonia (any form), bacteriological or histological examination not done | Diagnosis | ICD-9-CM |
| 011.62 | Tuberculous pneumonia (any form), bacteriological or histological examination unknown | Diagnosis | ICD-9-CM |
| 011.63 | Tuberculous pneumonia (any form), tubercle bacilli found (in sputum) by microscopy | Diagnosis | ICD-9-CM |
| 011.64 | Tuberculous pneumonia (any form), tubercle bacilli not found (in sputum) by microscopy, | Diagnosis | ICD-9-CM |
| 011.65 | Tuberculous pneumonia (any form), tubercle bacilli not found by bacteriological | Diagnosis | ICD-9-CM |
| 011.66 | Tuberculous pneumonia (any form), tubercle bacilli not found by bacteriological or | Diagnosis | ICD-9-CM |
| 011.70 | Tuberculous pneumothorax, confirmation unspecified | Diagnosis | ICD-9-CM |
| 011.71 | Tuberculous pneumothorax, bacteriological or histological examination not done | Diagnosis | ICD-9-CM |
| 011.72 | Tuberculous pneumothorax, bacteriological or histological examination unknown (at | Diagnosis | ICD-9-CM |
| 011.73 | Tuberculous pneumothorax, tubercle bacilli not found (in sputum) by microscopy | Diagnosis | ICD-9-CM |
| 011.74 | Tuberculous pneumothorax, tubercle bacilli not found (in sputum) by microscopy, but | Diagnosis | ICD-9-CM |
| 011.75 | Tuberculous pneumothorax, tubercle bacilli not found by bacteriological examination, but | Diagnosis | ICD-9-CM |

Appendix F. List of International Classification of Diseases, Ninth and Tenth Revisions, Clinical Modification (ICD-9-CM and ICD-10-CM) Diagnosis Codes Used to Define Inclusion/Exclusion Criteria in this Request

| Code | Description | Code Category | Code Type |
|------------------------|---|----------------------|------------------|
| 011.76 | Tuberculous pneumothorax, tubercle bacilli not found by bacteriological or histological | Diagnosis | ICD-9-CM |
| 011.80 | Other specified pulmonary tuberculosis, confirmation unspecified | Diagnosis | ICD-9-CM |
| 011.81 | Other specified pulmonary tuberculosis, bacteriological or histological examination not | Diagnosis | ICD-9-CM |
| 011.82 | Other specified pulmonary tuberculosis, bacteriological or histological examination | Diagnosis | ICD-9-CM |
| 011.83 | Other specified pulmonary tuberculosis, tubercle bacilli found (in sputum) by microscopy | Diagnosis | ICD-9-CM |
| 011.84 | Other specified pulmonary tuberculosis, tubercle bacilli not found (in sputum) by | Diagnosis | ICD-9-CM |
| 011.85 | Other specified pulmonary tuberculosis, tubercle bacilli not found by bacteriological | Diagnosis | ICD-9-CM |
| 011.86 | Other specified pulmonary tuberculosis, tubercle bacilli not found by bacteriological or | Diagnosis | ICD-9-CM |
| 011.91 | Unspecified pulmonary tuberculosis, bacteriological or histological examination not done | Diagnosis | ICD-9-CM |
| 011.92 | Unspecified pulmonary tuberculosis, bacteriological or histological examination unknown | Diagnosis | ICD-9-CM |
| 011.93 | Unspecified pulmonary tuberculosis, tubercle bacilli found (in sputum) by microscopy | Diagnosis | ICD-9-CM |
| 011.94 | Unspecified pulmonary tuberculosis, tubercle bacilli not found (in sputum) by microscopy, | Diagnosis | ICD-9-CM |
| 011.95 | Unspecified pulmonary tuberculosis, tubercle bacilli not found by bacteriological | Diagnosis | ICD-9-CM |
| 011.96 | Unspecified pulmonary tuberculosis, tubercle bacilli not found by bacteriological or | Diagnosis | ICD-9-CM |
| Cystic Fibrosis | | | |
| E84 | Cystic fibrosis | Diagnosis | ICD-10-CM |
| E84.0 | Cystic fibrosis with pulmonary manifestations | Diagnosis | ICD-10-CM |
| E84.1 | Cystic fibrosis with intestinal manifestations | Diagnosis | ICD-10-CM |
| E84.11 | Meconium ileus in cystic fibrosis | Diagnosis | ICD-10-CM |
| E84.19 | Cystic fibrosis with other intestinal manifestations | Diagnosis | ICD-10-CM |
| E84.8 | Cystic fibrosis with other manifestations | Diagnosis | ICD-10-CM |
| E84.9 | Cystic fibrosis, unspecified | Diagnosis | ICD-10-CM |
| 277.00 | Cystic fibrosis without mention of meconium ileus | Diagnosis | ICD-9-CM |
| 277.01 | Cystic fibrosis with meconium ileus | Diagnosis | ICD-9-CM |
| 277.02 | Cystic fibrosis with pulmonary manifestations | Diagnosis | ICD-9-CM |
| 277.03 | Cystic fibrosis with gastrointestinal manifestations | Diagnosis | ICD-9-CM |
| 277.09 | Cystic fibrosis with other manifestations | Diagnosis | ICD-9-CM |
| Sarcoidosis | | | |
| D86 | Sarcoidosis | Diagnosis | ICD-10-CM |
| D860 | Sarcoidosis of lung | Diagnosis | ICD-10-CM |
| D861 | Sarcoidosis of lymph nodes | Diagnosis | ICD-10-CM |
| D862 | Sarcoidosis of lung with sarcoidosis of lymph nodes | Diagnosis | ICD-10-CM |
| D863 | Sarcoidosis of skin | Diagnosis | ICD-10-CM |
| D868 | Sarcoidosis of other sites | Diagnosis | ICD-10-CM |
| D8681 | Sarcoid meningitis | Diagnosis | ICD-10-CM |
| D8682 | Multiple cranial nerve palsies in sarcoidosis | Diagnosis | ICD-10-CM |
| D8683 | Sarcoid iridocyclitis | Diagnosis | ICD-10-CM |
| D8684 | Sarcoid pyelonephritis | Diagnosis | ICD-10-CM |
| D8685 | Sarcoid myocarditis | Diagnosis | ICD-10-CM |
| D8686 | Sarcoid arthropathy | Diagnosis | ICD-10-CM |
| D8687 | Sarcoid myositis | Diagnosis | ICD-10-CM |
| D8689 | Sarcoidosis of other sites | Diagnosis | ICD-10-CM |
| D869 | Sarcoidosis, unspecified | Diagnosis | ICD-10-CM |

Appendix F. List of International Classification of Diseases, Ninth and Tenth Revisions, Clinical Modification (ICD-9-CM and ICD-10-CM) Diagnosis Codes Used to Define Inclusion/Exclusion Criteria in this Request

| Code | Description | Code Category | Code Type |
|--|--|----------------------|------------------|
| 135 | Sarcoidosis | Diagnosis | ICD-9-CM |
| Interstitial Lung Disease (ILD), Pneumoconiosis and Miscellaneous Lung Diseases | | | |
| J84 | Other interstitial pulmonary diseases | Diagnosis | ICD-10-CM |
| J84.0 | Alveolar and parieto-alveolar conditions | Diagnosis | ICD-10-CM |
| J84.01 | Alveolar proteinosis | Diagnosis | ICD-10-CM |
| J84.02 | Pulmonary alveolar microlithiasis | Diagnosis | ICD-10-CM |
| J84.03 | Idiopathic pulmonary hemosiderosis | Diagnosis | ICD-10-CM |
| J84.09 | Other alveolar and parieto-alveolar conditions | Diagnosis | ICD-10-CM |
| J84.1 | Other interstitial pulmonary diseases with fibrosis | Diagnosis | ICD-10-CM |
| J84.11 | Idiopathic interstitial pneumonia | Diagnosis | ICD-10-CM |
| J84.111 | Idiopathic interstitial pneumonia, not otherwise specified | Diagnosis | ICD-10-CM |
| J84.112 | Idiopathic pulmonary fibrosis | Diagnosis | ICD-10-CM |
| J84.113 | Idiopathic non-specific interstitial pneumonitis | Diagnosis | ICD-10-CM |
| J84.114 | Acute interstitial pneumonitis | Diagnosis | ICD-10-CM |
| J84.115 | Respiratory bronchiolitis interstitial lung disease | Diagnosis | ICD-10-CM |
| J84.116 | Cryptogenic organizing pneumonia | Diagnosis | ICD-10-CM |
| J84.117 | Desquamative interstitial pneumonia | Diagnosis | ICD-10-CM |
| J84.17 | Other interstitial pulmonary diseases with fibrosis in diseases classified elsewhere | Diagnosis | ICD-10-CM |
| J84.2 | Lymphoid interstitial pneumonia | Diagnosis | ICD-10-CM |
| J84.8 | Other specified interstitial pulmonary diseases | Diagnosis | ICD-10-CM |
| J84.81 | Lymphangioleiomyomatosis | Diagnosis | ICD-10-CM |
| J84.82 | Adult pulmonary Langerhans cell histiocytosis | Diagnosis | ICD-10-CM |
| J84.83 | Surfactant mutations of the lung | Diagnosis | ICD-10-CM |
| J84.84 | Other interstitial lung diseases of childhood | Diagnosis | ICD-10-CM |
| J84.841 | Neuroendocrine cell hyperplasia of infancy | Diagnosis | ICD-10-CM |
| J84.842 | Pulmonary interstitial glycogenosis | Diagnosis | ICD-10-CM |
| J84.843 | Alveolar capillary dysplasia with vein misalignment | Diagnosis | ICD-10-CM |
| J84.848 | Other interstitial lung diseases of childhood | Diagnosis | ICD-10-CM |
| J84.89 | Other specified interstitial pulmonary diseases | Diagnosis | ICD-10-CM |
| J84.9 | Interstitial pulmonary disease, unspecified | Diagnosis | ICD-10-CM |
| J60 | Coalworker's pneumoconiosis | Diagnosis | ICD-10-CM |
| J61 | Pneumoconiosis due to asbestos and other mineral fibers | Diagnosis | ICD-10-CM |
| J62 | Pneumoconiosis due to dust containing silica | Diagnosis | ICD-10-CM |
| J63 | Pneumoconiosis due to other inorganic dusts | Diagnosis | ICD-10-CM |
| J64 | Unspecified pneumoconiosis | Diagnosis | ICD-10-CM |
| J65 | Pneumoconiosis associated with tuberculosis | Diagnosis | ICD-10-CM |
| J66 | Airway disease due to specific organic dust | Diagnosis | ICD-10-CM |
| J67 | Hypersensitivity pneumonitis due to organic dust | Diagnosis | ICD-10-CM |
| J68 | Respiratory conditions due to inhalation of chemicals, gases, fumes and vapors | Diagnosis | ICD-10-CM |
| J69 | Pneumonitis due to solids and liquids | Diagnosis | ICD-10-CM |
| J70 | Respiratory conditions due to other external agents | Diagnosis | ICD-10-CM |
| J70.0 | Acute pulmonary manifestations due to radiation | Diagnosis | ICD-10-CM |
| J70.1 | Chronic and other pulmonary manifestations due to radiation | Diagnosis | ICD-10-CM |

Appendix F. List of International Classification of Diseases, Ninth and Tenth Revisions, Clinical Modification (ICD-9-CM and ICD-10-CM) Diagnosis Codes Used to Define Inclusion/Exclusion Criteria in this Request

| Code | Description | Code Category | Code Type |
|----------------------------|---|----------------------|------------------|
| J70.2 | Acute drug-induced interstitial lung disorders | Diagnosis | ICD-10-CM |
| J70.3 | Chronic drug-induced interstitial lung disorders | Diagnosis | ICD-10-CM |
| J70.4 | Drug-induced interstitial lung disorders, unspecified | Diagnosis | ICD-10-CM |
| J70.5 | Respiratory conditions due to smoke inhalation | Diagnosis | ICD-10-CM |
| J70.8 | Respiratory conditions due to other specified external agents | Diagnosis | ICD-10-CM |
| J70.9 | Respiratory conditions due to unspecified external agent | Diagnosis | ICD-10-CM |
| 516.34 | Respiratory bronchiolitis interstitial lung disease | Diagnosis | ICD-9-CM |
| 516.69 | Other interstitial lung diseases of childhood | Diagnosis | ICD-9-CM |
| 516.0 | Pulmonary alveolar proteinosis | Diagnosis | ICD-9-CM |
| 516.2 | Pulmonary alveolar microlithiasis | Diagnosis | ICD-9-CM |
| 516.1 | Idiopathic pulmonary hemosiderosis | Diagnosis | ICD-9-CM |
| 516.8 | Other specified alveolar and parietoalveolar pneumonopathies | Diagnosis | ICD-9-CM |
| 516.30 | Idiopathic interstitial pneumonia, not otherwise specified | Diagnosis | ICD-9-CM |
| 516.31 | Idiopathic pulmonary fibrosis | Diagnosis | ICD-9-CM |
| 516.32 | Idiopathic non-specific interstitial pneumonitis | Diagnosis | ICD-9-CM |
| 516.33 | Acute interstitial pneumonitis | Diagnosis | ICD-9-CM |
| 516.36 | Cryptogenic organizing pneumonia | Diagnosis | ICD-9-CM |
| 516.37 | Desquamative interstitial pneumonia | Diagnosis | ICD-9-CM |
| 515 | Postinflammatory pulmonary fibrosis | Diagnosis | ICD-9-CM |
| 516.35 | Idiopathic lymphoid interstitial pneumonia | Diagnosis | ICD-9-CM |
| 516.4 | Lymphangioleiomyomatosis | Diagnosis | ICD-9-CM |
| 516.5 | Adult pulmonary Langerhans cell histiocytosis | Diagnosis | ICD-9-CM |
| 516.63 | Surfactant mutations of the lung | Diagnosis | ICD-9-CM |
| 516.61 | Neuroendocrine cell hyperplasia of infancy | Diagnosis | ICD-9-CM |
| 516.62 | Pulmonary interstitial glycogenosis | Diagnosis | ICD-9-CM |
| 516.64 | Alveolar capillary dysplasia with vein misalignment | Diagnosis | ICD-9-CM |
| 516.9 | Unspecified alveolar and parietoalveolar pneumonopathy | Diagnosis | ICD-9-CM |
| 500 | Coal workers' pneumoconiosis | Diagnosis | ICD-9-CM |
| 501 | Asbestosis | Diagnosis | ICD-9-CM |
| 505 | Unspecified pneumoconiosis | Diagnosis | ICD-9-CM |
| 508.0 | Acute pulmonary manifestations due to radiation | Diagnosis | ICD-9-CM |
| 508.1 | Chronic and other pulmonary manifestations due to radiation | Diagnosis | ICD-9-CM |
| 508.8 | Respiratory conditions due to other specified external agents | Diagnosis | ICD-9-CM |
| 508.2 | Respiratory conditions due to smoke inhalation | Diagnosis | ICD-9-CM |
| 508.9 | Respiratory conditions due to unspecified external agent | Diagnosis | ICD-9-CM |
| 502 | Pneumoconiosis due to other silica or silicates | Diagnosis | ICD-9-CM |
| 503 | Pneumoconiosis due to other inorganic dust | Diagnosis | ICD-9-CM |
| Other Lung Diseases | | | |
| 011 | Pulmonary tuberculosis | Diagnosis | ICD-9-CM |
| 012 | Other respiratory tuberculosis | Diagnosis | ICD-9-CM |
| 495 | Extrinsic allergic alveolitis | Diagnosis | ICD-9-CM |
| 510.0 | Empyema with fistula | Diagnosis | ICD-9-CM |
| 510.9 | Empyema without mention of fistula | Diagnosis | ICD-9-CM |

Appendix F. List of International Classification of Diseases, Ninth and Tenth Revisions, Clinical Modification (ICD-9-CM and ICD-10-CM) Diagnosis Codes Used to Define Inclusion/Exclusion Criteria in this Request

| Code | Description | Code Category | Code Type |
|-------------|---|----------------------|------------------|
| 511.0 | Pleurisy without mention of effusion or current tuberculosis | Diagnosis | ICD-9-CM |
| 511.1 | Pleurisy with effusion, with mention of bacterial cause other than tuberculosis | Diagnosis | ICD-9-CM |
| 511.8 | Other specified forms of pleural effusion, except tuberculous | Diagnosis | ICD-9-CM |
| 511.81 | Malignant pleural effusion | Diagnosis | ICD-9-CM |
| 511.89 | Other specified forms of effusion, except tuberculous | Diagnosis | ICD-9-CM |
| 511.9 | Unspecified pleural effusion | Diagnosis | ICD-9-CM |
| 512.0 | Spontaneous tension pneumothorax | Diagnosis | ICD-9-CM |
| 512.1 | Iatrogenic pneumothorax | Diagnosis | ICD-9-CM |
| 512.2 | Postoperative air leak | Diagnosis | ICD-9-CM |
| 512.8 | Other pneumothorax and air leak | Diagnosis | ICD-9-CM |
| 512.81 | Primary spontaneous pneumothorax | Diagnosis | ICD-9-CM |
| 512.82 | Secondary spontaneous pneumothorax | Diagnosis | ICD-9-CM |
| 512.83 | Chronic pneumothorax | Diagnosis | ICD-9-CM |
| 512.84 | Other air leak | Diagnosis | ICD-9-CM |
| 512.89 | Other pneumothorax | Diagnosis | ICD-9-CM |
| 513.0 | Abscess of lung | Diagnosis | ICD-9-CM |
| 513.1 | Abscess of mediastinum | Diagnosis | ICD-9-CM |
| 516.3 | Idiopathic interstitial pneumonia | Diagnosis | ICD-9-CM |
| 516.6 | Interstitial lung diseases of childhood | Diagnosis | ICD-9-CM |
| 517.1 | Rheumatic pneumonia | Diagnosis | ICD-9-CM |
| 517.2 | Lung involvement in systemic sclerosis | Diagnosis | ICD-9-CM |
| 517.3 | Acute chest syndrome | Diagnosis | ICD-9-CM |
| 517.8 | Lung involvement in other diseases classified elsewhere | Diagnosis | ICD-9-CM |
| 518.0 | Pulmonary collapse | Diagnosis | ICD-9-CM |
| 518.1 | Interstitial emphysema | Diagnosis | ICD-9-CM |
| 518.2 | Compensatory emphysema | Diagnosis | ICD-9-CM |
| 518.3 | Pulmonary eosinophilia | Diagnosis | ICD-9-CM |
| 518.4 | Unspecified acute edema of lung | Diagnosis | ICD-9-CM |
| 518.5 | Pulmonary insufficiency following trauma and surgery | Diagnosis | ICD-9-CM |
| 518.51 | Acute respiratory failure following trauma and surgery | Diagnosis | ICD-9-CM |
| 518.52 | Other pulmonary insufficiency, not elsewhere classified, following trauma and surgery | Diagnosis | ICD-9-CM |
| 518.53 | Acute and chronic respiratory failure following trauma and surgery | Diagnosis | ICD-9-CM |
| 518.6 | Allergic bronchopulmonary aspergillosis | Diagnosis | ICD-9-CM |
| 518.7 | Transfusion related acute lung injury [TRALI] | Diagnosis | ICD-9-CM |
| 518.8 | Other diseases of lung | Diagnosis | ICD-9-CM |
| 518.81 | Acute respiratory failure | Diagnosis | ICD-9-CM |
| 518.82 | Other pulmonary insufficiency, not elsewhere classified | Diagnosis | ICD-9-CM |
| 518.83 | Chronic respiratory failure | Diagnosis | ICD-9-CM |
| 518.84 | Acute and chronic respiratory failure | Diagnosis | ICD-9-CM |
| 518.89 | Other diseases of lung, not elsewhere classified | Diagnosis | ICD-9-CM |
| 519.0 | Tracheostomy complications | Diagnosis | ICD-9-CM |
| 519.00 | Unspecified tracheostomy complication | Diagnosis | ICD-9-CM |
| 519.01 | Infection of tracheostomy | Diagnosis | ICD-9-CM |

Appendix F. List of International Classification of Diseases, Ninth and Tenth Revisions, Clinical Modification (ICD-9-CM and ICD-10-CM) Diagnosis Codes Used to Define Inclusion/Exclusion Criteria in this Request

| Code | Description | Code Category | Code Type |
|-------------|--|----------------------|------------------|
| 519.02 | Mechanical complication of tracheostomy | Diagnosis | ICD-9-CM |
| 519.09 | Other tracheostomy complications | Diagnosis | ICD-9-CM |
| 519.1 | Other diseases of trachea and bronchus, not elsewhere classified | Diagnosis | ICD-9-CM |
| 519.11 | Acute bronchospasm | Diagnosis | ICD-9-CM |
| 519.19 | Other diseases of trachea and bronchus | Diagnosis | ICD-9-CM |
| 519.2 | Mediastinitis | Diagnosis | ICD-9-CM |
| 519.3 | Other diseases of mediastinum, not elsewhere classified | Diagnosis | ICD-9-CM |
| 519.4 | Disorders of diaphragm | Diagnosis | ICD-9-CM |
| 519.8 | Other diseases of respiratory system, not elsewhere classified | Diagnosis | ICD-9-CM |
| 519.9 | Unspecified disease of respiratory system | Diagnosis | ICD-9-CM |
| J18.2 | Hypostatic pneumonia, unspecified organism | Diagnosis | ICD-10-CM |
| J81.1 | Chronic pulmonary edema | Diagnosis | ICD-10-CM |
| J84.10 | Pulmonary fibrosis, unspecified | Diagnosis | ICD-10-CM |
| B44.81 | Allergic bronchopulmonary aspergillosis | Diagnosis | ICD-10-CM |
| D57.01 | Hb-SS disease with acute chest syndrome | Diagnosis | ICD-10-CM |
| D57.211 | Sickle-cell/Hb-C disease with acute chest syndrome | Diagnosis | ICD-10-CM |
| D57.411 | Sickle-cell thalassemia with acute chest syndrome | Diagnosis | ICD-10-CM |
| D57.811 | Other sickle-cell disorders with acute chest syndrome | Diagnosis | ICD-10-CM |
| J17 | Pneumonia in diseases classified elsewhere | Diagnosis | ICD-10-CM |
| J22 | Unspecified acute lower respiratory infection | Diagnosis | ICD-10-CM |
| J39.8 | Other specified diseases of upper respiratory tract | Diagnosis | ICD-10-CM |
| J80 | Acute respiratory distress syndrome | Diagnosis | ICD-10-CM |
| J81.0 | Acute pulmonary edema | Diagnosis | ICD-10-CM |
| J82 | Pulmonary eosinophilia, not elsewhere classified | Diagnosis | ICD-10-CM |
| J85.0 | Gangrene and necrosis of lung | Diagnosis | ICD-10-CM |
| J85.1 | Abscess of lung with pneumonia | Diagnosis | ICD-10-CM |
| J85.2 | Abscess of lung without pneumonia | Diagnosis | ICD-10-CM |
| J85.3 | Abscess of mediastinum | Diagnosis | ICD-10-CM |
| J86.0 | Pyothorax with fistula | Diagnosis | ICD-10-CM |
| J86.9 | Pyothorax without fistula | Diagnosis | ICD-10-CM |
| J90 | Pleural effusion, not elsewhere classified | Diagnosis | ICD-10-CM |
| J91.0 | Malignant pleural effusion | Diagnosis | ICD-10-CM |
| J91.8 | Pleural effusion in other conditions classified elsewhere | Diagnosis | ICD-10-CM |
| J92.0 | Pleural plaque with presence of asbestos | Diagnosis | ICD-10-CM |
| J92.9 | Pleural plaque without asbestos | Diagnosis | ICD-10-CM |
| J93.0 | Spontaneous tension pneumothorax | Diagnosis | ICD-10-CM |
| J93.11 | Primary spontaneous pneumothorax | Diagnosis | ICD-10-CM |
| J93.12 | Secondary spontaneous pneumothorax | Diagnosis | ICD-10-CM |
| J93.81 | Chronic pneumothorax | Diagnosis | ICD-10-CM |
| J93.82 | Other air leak | Diagnosis | ICD-10-CM |
| J93.83 | Other pneumothorax | Diagnosis | ICD-10-CM |
| J93.9 | Pneumothorax, unspecified | Diagnosis | ICD-10-CM |
| J94.0 | Chylous effusion | Diagnosis | ICD-10-CM |

Appendix F. List of International Classification of Diseases, Ninth and Tenth Revisions, Clinical Modification (ICD-9-CM and ICD-10-CM) Diagnosis Codes Used to Define Inclusion/Exclusion Criteria in this Request

| Code | Description | Code Category | Code Type |
|-------------|--|----------------------|------------------|
| J94.1 | Fibrothorax | Diagnosis | ICD-10-CM |
| J94.2 | Hemothorax | Diagnosis | ICD-10-CM |
| J94.8 | Other specified pleural conditions | Diagnosis | ICD-10-CM |
| J94.9 | Pleural condition, unspecified | Diagnosis | ICD-10-CM |
| J95.00 | Unspecified tracheostomy complication | Diagnosis | ICD-10-CM |
| J95.01 | Hemorrhage from tracheostomy stoma | Diagnosis | ICD-10-CM |
| J95.02 | Infection of tracheostomy stoma | Diagnosis | ICD-10-CM |
| J95.03 | Malfunction of tracheostomy stoma | Diagnosis | ICD-10-CM |
| J95.04 | Tracheo-esophageal fistula following tracheostomy | Diagnosis | ICD-10-CM |
| J95.09 | Other tracheostomy complication | Diagnosis | ICD-10-CM |
| J95.1 | Acute pulmonary insufficiency following thoracic surgery | Diagnosis | ICD-10-CM |
| J95.2 | Acute pulmonary insufficiency following nonthoracic surgery | Diagnosis | ICD-10-CM |
| J95.3 | Chronic pulmonary insufficiency following surgery | Diagnosis | ICD-10-CM |
| J95.811 | Postprocedural pneumothorax | Diagnosis | ICD-10-CM |
| J95.812 | Postprocedural air leak | Diagnosis | ICD-10-CM |
| J95.821 | Acute postprocedural respiratory failure | Diagnosis | ICD-10-CM |
| J95.822 | Acute and chronic postprocedural respiratory failure | Diagnosis | ICD-10-CM |
| J95.84 | Transfusion-related acute lung injury (TRALI) | Diagnosis | ICD-10-CM |
| J96.00 | Acute respiratory failure, unspecified whether with hypoxia or hypercapnia | Diagnosis | ICD-10-CM |
| J96.01 | Acute respiratory failure with hypoxia | Diagnosis | ICD-10-CM |
| J96.02 | Acute respiratory failure with hypercapnia | Diagnosis | ICD-10-CM |
| J96.10 | Chronic respiratory failure, unspecified whether with hypoxia or hypercapnia | Diagnosis | ICD-10-CM |
| J96.11 | Chronic respiratory failure with hypoxia | Diagnosis | ICD-10-CM |
| J96.12 | Chronic respiratory failure with hypercapnia | Diagnosis | ICD-10-CM |
| J96.20 | Acute and chronic respiratory failure, unspecified whether with hypoxia or hypercapnia | Diagnosis | ICD-10-CM |
| J96.21 | Acute and chronic respiratory failure with hypoxia | Diagnosis | ICD-10-CM |
| J96.22 | Acute and chronic respiratory failure with hypercapnia | Diagnosis | ICD-10-CM |
| J96.90 | Respiratory failure, unspecified, unspecified whether with hypoxia or hypercapnia | Diagnosis | ICD-10-CM |
| J96.91 | Respiratory failure, unspecified with hypoxia | Diagnosis | ICD-10-CM |
| J96.92 | Respiratory failure, unspecified with hypercapnia | Diagnosis | ICD-10-CM |
| J98.01 | Acute bronchospasm | Diagnosis | ICD-10-CM |
| J98.09 | Other diseases of bronchus, not elsewhere classified | Diagnosis | ICD-10-CM |
| J98.11 | Atelectasis | Diagnosis | ICD-10-CM |
| J98.19 | Other pulmonary collapse | Diagnosis | ICD-10-CM |
| J98.2 | Interstitial emphysema | Diagnosis | ICD-10-CM |
| J98.3 | Compensatory emphysema | Diagnosis | ICD-10-CM |
| J98.4 | Other disorders of lung | Diagnosis | ICD-10-CM |
| J98.51 | Mediastinitis | Diagnosis | ICD-10-CM |
| J98.59 | Other diseases of mediastinum, not elsewhere classified | Diagnosis | ICD-10-CM |
| J98.6 | Disorders of diaphragm | Diagnosis | ICD-10-CM |
| J98.8 | Other specified respiratory disorders | Diagnosis | ICD-10-CM |
| J98.9 | Respiratory disorder, unspecified | Diagnosis | ICD-10-CM |
| J99 | Respiratory disorders in diseases classified elsewhere | Diagnosis | ICD-10-CM |

Appendix F. List of International Classification of Diseases, Ninth and Tenth Revisions, Clinical Modification (ICD-9-CM and ICD-10-CM) Diagnosis Codes Used to Define Inclusion/Exclusion Criteria in this Request

| Code | Description | Code Category | Code Type |
|-------------|---|----------------------|------------------|
| M32.13 | Lung involvement in systemic lupus erythematosus | Diagnosis | ICD-10-CM |
| M33.01 | Juvenile dermatomyositis with respiratory involvement | Diagnosis | ICD-10-CM |
| M33.11 | Other dermatomyositis with respiratory involvement | Diagnosis | ICD-10-CM |
| M33.21 | Polymyositis with respiratory involvement | Diagnosis | ICD-10-CM |
| M33.91 | Dermatopolymyositis, unspecified with respiratory involvement | Diagnosis | ICD-10-CM |
| M34.81 | Systemic sclerosis with lung involvement | Diagnosis | ICD-10-CM |
| M35.02 | Sicca syndrome with lung involvement | Diagnosis | ICD-10-CM |
| R06.03 | Acute respiratory distress | Diagnosis | ICD-10-CM |
| R09.1 | Pleurisy | Diagnosis | ICD-10-CM |

Appendix G. List of Generic and Brand Names of Medical Products Used to Define Baseline Characteristics in this Request

| Generic Name | Brand Name |
|--|-------------------------------|
| Oral Corticosteroid (OCS) | |
| betamethasone | Celestone |
| cortisone acetate | cortisone |
| <i>CORTISONE ACETATE</i> | <i>Cortisone aceticum</i> |
| deflazacort | Emflaza |
| dexamethasone | Dexamethasone Intensol |
| dexamethasone | dexamethasone |
| dexamethasone | DexPak 10 day |
| dexamethasone | DexPak 13 Day |
| dexamethasone | DexPak 6 Day |
| dexamethasone | Baycadron |
| dexamethasone | Decadron |
| dexamethasone | Dxevo |
| dexamethasone | HiDex |
| dexamethasone | LoCort |
| dexamethasone | TaperDex |
| dexamethasone | Zema-Pak |
| dexamethasone | ZoDex |
| dexamethasone | ZonaCort |
| <i>Dexamethasone</i> | <i>Dexamethsone</i> |
| <i>dexamethasone</i> | <i>HiDex 6-day</i> |
| <i>DEXAMETHASONE</i> | <i>TaperDex 12-day</i> |
| <i>DEXAMETHASONE</i> | <i>TaperDex 6-day</i> |
| <i>dexamethasone</i> | <i>TaperDex 7-day</i> |
| <i>Dexamethasone 1.5 mg</i> | <i>Dexamethasone</i> |
| <i>Dexamethasone 1.5 mg</i> | <i>Dxevo</i> |
| dexamethasone/saliva collection device | Cushings Syndrome Diagnostic |
| hydrocortisone | Cortef |
| hydrocortisone | hydrocortisone |
| <i>Hydrocortisone</i> | <i>CORTISOL</i> |
| <i>Hydrocortisone</i> | <i>Cortisol Phenolic</i> |
| methylprednisolone | Medrol |
| methylprednisolone | Medrol (Pak) |
| methylprednisolone | methylprednisolone |
| methylprednisolone | Meprolone Unipak |
| methylprednisolone | Methylpred |
| methylprednisolone | Methylpred DP |
| prednisolone | prednisolone |
| prednisolone | Millipred |
| prednisolone | Millipred DP |
| prednisolone | Prelone |
| prednisolone acetate | Flo-Pred |
| prednisolone sodium phosphate | prednisolone sodium phosphate |
| prednisolone sodium phosphate | Millipred |

Appendix G. List of Generic and Brand Names of Medical Products Used to Define Baseline Characteristics in this Request

| Generic Name | Brand Name |
|---|--|
| prednisolone sodium phosphate | Orapred |
| prednisolone sodium phosphate | Orapred ODT |
| prednisolone sodium phosphate | Pediapred |
| prednisolone sodium phosphate | Veripred 20 |
| <i>Prednisolone Sodium Phosphate</i> | <i>Prednisolone Sodium Phosphate Oral Solution</i> |
| Prednisolone Sodium Phosphate/Peak Flow Meter | Asmalpred |
| Prednisolone Sodium Phosphate/Peak Flow Meter | Asmalpred Plus |
| prednisone | prednisone |
| prednisone | Prednisone Intensol |
| prednisone | Deltasone |
| prednisone | Rayos |
| prednisone | Sterapred |
| prednisone | Sterapred DS |

Antibiotics

| | |
|--|--|
| <i>Amoxicillin and clavulanate potassium</i> | <i>Amoxicillin and clavulanate potassium</i> |
| amoxicillin | Amoxil |
| amoxicillin | amoxicillin |
| amoxicillin | DisperMox |
| amoxicillin | Moxatag |
| amoxicillin | Trimox |
| amoxicillin | Trimox 250 |
| <i>Amoxicillin and Clavulanate Potassium</i> | <i>Amoxicillin and Clavulanate Potassium</i> |
| <i>amoxicillin and clavulanate potassium</i> | <i>AUGMENTIN ES-600</i> |
| <i>amoxicillin and clavulanate potassium</i> | <i>AUGMENTIN</i> |
| <i>AMOXICILLIN CLAV/POT</i> | <i>AMOXICILLIN CLAV/POT</i> |
| <i>AMOXICILLIN/CLAV POT</i> | <i>AMOXICILLIN/CLAV POT</i> |
| amoxicillin/potassium clavulanate | Augmentin |
| amoxicillin/potassium clavulanate | Augmentin ES-600 |
| amoxicillin/potassium clavulanate | Augmentin XR |
| amoxicillin/potassium clavulanate | amoxicillin-pot clavulanate |
| ampicillin trihydrate | ampicillin |
| ampicillin trihydrate | Principen |
| azithromycin | Zithromax |
| azithromycin | Zithromax Z-Pak |
| azithromycin | Zithromax TRI-PAK |
| azithromycin | Zmax Pediatric |
| azithromycin | Zmax |
| azithromycin | azithromycin |
| <i>azithromycin</i> | <i>Azithromycin Dihydrate</i> |
| <i>AZITHROMYCIN ANHYDROUS</i> | <i>Azithromycin</i> |
| <i>azithromycin dihydrate</i> | <i>azithromycin dihydrate</i> |
| <i>azithromycin dihydrate</i> | <i>Zithromax</i> |
| <i>azithromycin monohydrate</i> | <i>azithromycin monohydrate</i> |
| <i>AZITHROMYCIN MONOHYDRATE</i> | <i>azithromycin</i> |

Appendix G. List of Generic and Brand Names of Medical Products Used to Define Baseline Characteristics in this Request

| Generic Name | Brand Name |
|---|--|
| bismuth subsalicylate/metronidazole/tetracycline HCl | Helidac |
| cefaclor | cefaclor |
| cefaclor | Raniclor |
| cefaclor | Ceclor |
| cefadroxil | cefadroxil |
| cefadroxil | Duricef |
| cefdinir | Omnicef |
| cefdinir | cefdinir |
| cefditoren pivoxil | Spectracef |
| cefditoren pivoxil | cefditoren pivoxil |
| cefixime | cefixime |
| cefixime | Suprax |
| cefopodoxime proxetil | Vantin |
| cefopodoxime proxetil | cefopodoxime |
| cefprozil | Cefzil |
| cefprozil | cefprozil |
| ceftibuten | ceftibuten |
| ceftibuten | Cedax |
| cefuroxime axetil | cefuroxime axetil |
| cefuroxime axetil | Ceftin |
| cephalexin | cephalexin |
| cephalexin | Keflex |
| cephalexin | Daxbia |
| cephalexin | Panixine DisperDose |
| ciprofloxacin | Cipro |
| ciprofloxacin | ciprofloxacin |
| ciprofloxacin HCl | Cipro |
| ciprofloxacin HCl | ciprofloxacin HCl |
| ciprofloxacin HCl | ProQuin XR |
| ciprofloxacin/ciprofloxacin HCl | Cipro XR |
| ciprofloxacin/ciprofloxacin HCl | ciprofloxacin (mixture) |
| clarithromycin | clarithromycin |
| clarithromycin | Biaxin |
| clarithromycin | Biaxin XL |
| clarithromycin | Biaxin XL Pak |
| <i>CLARITHROMYCIN</i> | <i>Clarithromycin Extended-Release</i> |
| colloidal bismuth subcitrate/metronidazole/tetracycline HCl | Pylera |
| demeclocycline HCl | demeclocycline |
| demeclocycline HCl | Declomycin |
| dicloxacillin sodium | dicloxacillin |
| <i>Doxycycline</i> | <i>Doxycycline</i> |
| <i>DOXYCYCLINE</i> | <i>ORACEA</i> |
| <i>Doxycycline</i> | <i>Doxycycline Monohydrate</i> |
| <i>doxycycline</i> | <i>Adoxa</i> |

Appendix G. List of Generic and Brand Names of Medical Products Used to Define Baseline Characteristics in this Request

| Generic Name | Brand Name |
|---|-------------------------------------|
| <i>doxycycline</i> | <i>Monodox</i> |
| <i>Doxycycline</i> | <i>Doxycycline Hyclate</i> |
| <i>doxycycline</i> | <i>Okebo</i> |
| <i>Doxycycline</i> | <i>Mondoxyne</i> |
| <i>Doxycycline</i> | <i>Mondoxyne NL 100mg</i> |
| <i>Doxycycline</i> | <i>Mondoxyne NL</i> |
| doxycycline calcium | Vibramycin |
| <i>doxycycline calcium</i> | <i>Vibramycin Calcium</i> |
| doxycycline hyclate | Vibramycin |
| doxycycline hyclate | Vibra-Tabs |
| doxycycline hyclate | doxycycline hyclate |
| <i>Doxycycline hyclate</i> | <i>Doxycycline</i> |
| doxycycline hyclate | Periostat |
| doxycycline hyclate | Doryx |
| <i>doxycycline hyclate</i> | <i>Acticlate</i> |
| <i>doxycycline hyclate</i> | <i>Morgidox</i> |
| <i>Doxycycline Hyclate</i> | <i>DORYX MPC</i> |
| <i>Doxycycline Hyclate</i> | <i>Ocudox</i> |
| <i>Doxycycline Hyclate</i> | <i>Doxycycline Hyclate Capsules</i> |
| <i>doxycycline hyclate</i> | <i>TARGADOX</i> |
| <i>Doxycycline Hyclate</i> | <i>Doxycyclate Hyclate</i> |
| doxycycline hyclate | Oraxyl |
| doxycycline hyclate | Soloxide |
| doxycycline monohydrate | Vibramycin |
| doxycycline monohydrate | doxycycline monohydrate |
| doxycycline monohydrate | Oracea |
| doxycycline monohydrate | Adoxa |
| doxycycline monohydrate | Adoxa Pak |
| doxycycline monohydrate | Monodox |
| doxycycline monohydrate | Avidoxy |
| doxycycline monohydrate | Okebo |
| doxycycline monohydrate | Mondoxyne NL |
| doxycycline monohydrate/omega-3 combination no.1/Eye Mask | Nutridox |
| doxycycline monohydrate/skin cleanser combination no.9 | Adoxa TT |
| doxycycline monohydrate/skin cleanser combination no.9 | Adoxa CK |
| erythromycin base | PCE |
| erythromycin base | erythromycin |
| erythromycin base | Ery-Tab |
| erythromycin base | Eryc |
| erythromycin base | E-Mycin |
| erythromycin ethylsuccinate | erythromycin ethylsuccinate |
| erythromycin ethylsuccinate | E.E.S. 400 |
| erythromycin ethylsuccinate | EryPed 200 |
| erythromycin ethylsuccinate | EryPed |

Appendix G. List of Generic and Brand Names of Medical Products Used to Define Baseline Characteristics in this Request

| Generic Name | Brand Name |
|--|---|
| erythromycin ethylsuccinate | EryPed 400 |
| erythromycin ethylsuccinate | E.E.S. 200 |
| erythromycin ethylsuccinate | E.E.S. Granules |
| erythromycin ethylsuccinate/sulfisoxazole acetyl | erythromycin-sulfisoxazole |
| erythromycin ethylsuccinate/sulfisoxazole acetyl | Pediazole |
| erythromycin stearate | Erythrocin (as stearate) |
| erythromycin stearate | erythromycin stearate |
| gemifloxacin mesylate | Factive |
| lansoprazole/amoxicillin trihydrate/clarithromycin | amoxicil-clarithromy-lansopraz |
| lansoprazole/amoxicillin trihydrate/clarithromycin | Prevpac |
| levofloxacin | Levaquin |
| levofloxacin | Levaquin Leva-Pak |
| levofloxacin | levofloxacin |
| linezolid | Zyvox |
| linezolid | linezolid |
| minocycline HCl | Minocin |
| minocycline HCl | minocycline |
| minocycline HCl | Ximino |
| minocycline HCl | Dynacin |
| minocycline HCl | Solodyn |
| minocycline HCl | CoreMino |
| minocycline HCl | Minolira ER |
| <i>Moxifloxacin</i> | <i>Moxifloxacin</i> |
| moxifloxacin HCl | Avelox |
| moxifloxacin HCl | Avelox ABC Pack |
| moxifloxacin HCl | moxifloxacin |
| <i>moxifloxacin hydrochloride</i> | <i>Avelox</i> |
| <i>moxifloxacin hydrochloride</i> | <i>moxifloxacin hydrochloride</i> |
| <i>moxifloxacin hydrochloride</i> | <i>Moxifloxacin</i> |
| <i>Moxifloxacin Hydrochloride Tablets, 400 mg</i> | <i>Moxifloxacin Hydrochloride Tablets, 400 mg</i> |
| ofloxacin | ofloxacin |
| ofloxacin | Floxin |
| omeprazole/clarithromycin/amoxicillin trihydrate | Omeclamox-Pak |
| penicillin G benzathine | Bicillin L-A |
| penicillin G benzathine/penicillin G procaine | Bicillin C-R |
| penicillin V potassium | penicillin V potassium |
| penicillin V potassium | Veetids |
| <i>Sulfamethoxazole and Trimethoprim</i> | <i>Sulfamethoxazole and Trimethoprim</i> |
| <i>Sulfamethoxazole and Trimethoprim</i> | <i>SULFATRIM</i> |
| <i>sulfamethoxazole and Trimethoprim</i> | <i>Bactrim</i> |
| <i>sulfamethoxazole and Trimethoprim</i> | <i>Bactrim DS</i> |
| <i>Sulfamethoxazole and Trimethoprim DS</i> | <i>Sulfamethoxazole and Trimethoprim DS</i> |
| <i>SULFAMETHOXAZOLE, TRIMETHOPRIM</i> | <i>Sulfamethox-TMP DS</i> |
| sulfamethoxazole/trimethoprim | sulfamethoxazole-trimethoprim |

Appendix G. List of Generic and Brand Names of Medical Products Used to Define Baseline Characteristics in this Request

| Generic Name | Brand Name |
|---------------------------------------|----------------------------|
| sulfamethoxazole/trimethoprim | Sulfatrim |
| sulfamethoxazole/trimethoprim | Bactrim DS |
| sulfamethoxazole/trimethoprim | Bactrim |
| sulfamethoxazole/trimethoprim | Septra |
| sulfamethoxazole/trimethoprim | SMZ-TMP DS |
| sulfamethoxazole/trimethoprim | Sultrex |
| sulfamethoxazole/trimethoprim | Septra DS |
| tedizolid phosphate | Sivextro |
| tetracycline HCl | tetracycline |
| tetracycline HCl | Sumycin |
| <i>Tobramycin</i> | <i>Tobramycin</i> |
| tobramycin in 0.225 % sodium chloride | Tobi |
| tobramycin in 0.225 % sodium chloride | tobramycin in 0.225 % NaCl |

Appendix H. List of Healthcare Common Procedure Coding System (HCPCS) Codes Used to Define Exposures and Baseline Characteristics in this Request

| Code | Description | Code Category | Code Type |
|-----------------------------------|--|----------------------|------------------|
| Oral Corticosteroids (OCS) | | | |
| J8540 | DEXAMETHASONE ORAL 0.25 MG | Procedure | HCPCS |
| J0702 | INJ BETAMETHASONE AC & PHOS 3 MG | Procedure | HCPCS |
| J1094 | INJECTION DEXAMETHASONE ACTAT 1 MG | Procedure | HCPCS |
| J1020 | Injection, methylprednisolone acetate, 20 mg | Procedure | HCPCS |
| J1030 | Injection, methylprednisolone acetate, 40 mg | Procedure | HCPCS |
| J1040 | Injection, methylprednisolone acetate, 80 mg | Procedure | HCPCS |
| J2650 | Injection, prednisolone acetate, up to 1 ml | Procedure | HCPCS |
| J3302 | Injection, triamcinolone diacetate, per 5 mg | Procedure | HCPCS |
| J3301 | Injection, triamcinolone acetonide, not otherwise specified, 10 mg | Procedure | HCPCS |

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

| Code | Description | Code Category | Code Type |
|--|--|---------------|-----------|
| Chronic Obstructive Pulmonary Disease (COPD) Exacerbation | | | |
| 491.21 | Obstructive chronic bronchitis, with (acute) exacerbation | Diagnosis | ICD-9-CM |
| 491.22 | Obstructive chronic bronchitis with acute bronchitis | Diagnosis | ICD-9-CM |
| J44.0 | Chronic obstructive pulmonary disease with acute lower respiratory infection | Diagnosis | ICD-10-CM |
| J44.1 | Chronic obstructive pulmonary disease with (acute) exacerbation | Diagnosis | ICD-10-CM |
| COPD | | | |
| 491.20 | Obstructive chronic bronchitis without exacerbation | Diagnosis | ICD-9-CM |
| 491.0 | Simple chronic bronchitis | Diagnosis | ICD-9-CM |
| 491.1 | Mucopurulent chronic bronchitis | Diagnosis | ICD-9-CM |
| 491.8 | Other chronic bronchitis | Diagnosis | ICD-9-CM |
| 491.9 | Unspecified chronic bronchitis | Diagnosis | ICD-9-CM |
| 492.0 | Emphysematous bleb | Diagnosis | ICD-9-CM |
| 492.8 | Other emphysema | Diagnosis | ICD-9-CM |
| 496 | Chronic airway obstruction, not elsewhere classified | Diagnosis | ICD-9-CM |
| J41 | Simple and mucopurulent chronic bronchitis | Diagnosis | ICD-10-CM |
| J41.0 | Simple chronic bronchitis | Diagnosis | ICD-10-CM |
| J41.1 | Mucopurulent chronic bronchitis | Diagnosis | ICD-10-CM |
| J41.8 | Mixed simple and mucopurulent chronic bronchitis | Diagnosis | ICD-10-CM |
| J42 | Unspecified chronic bronchitis | Diagnosis | ICD-10-CM |
| J43 | Emphysema | Diagnosis | ICD-10-CM |
| J43.1 | Panlobular emphysema | Diagnosis | ICD-10-CM |
| J43.2 | Centrilobular emphysema | Diagnosis | ICD-10-CM |
| J43.8 | Other emphysema | Diagnosis | ICD-10-CM |
| J43.9 | Emphysema, unspecified | Diagnosis | ICD-10-CM |
| J44 | Other chronic obstructive pulmonary disease | Diagnosis | ICD-10-CM |
| J44.9 | Chronic obstructive pulmonary disease, unspecified | Diagnosis | ICD-10-CM |
| Asthma Exacerbation | | | |
| 493.01 | Extrinsic asthma with status asthmaticus | Diagnosis | ICD-9-CM |
| 493.02 | Extrinsic asthma, with (acute) exacerbation | Diagnosis | ICD-9-CM |
| 493.11 | Intrinsic asthma with status asthmaticus | Diagnosis | ICD-9-CM |
| 493.12 | Intrinsic asthma, with (acute) exacerbation | Diagnosis | ICD-9-CM |
| 493.91 | Asthma, unspecified with status asthmaticus | Diagnosis | ICD-9-CM |
| 493.92 | Asthma, unspecified, with (acute) exacerbation | Diagnosis | ICD-9-CM |
| J45.21 | Mild intermittent asthma with (acute) exacerbation | Diagnosis | ICD-10-CM |
| J45.22 | Mild intermittent asthma with status asthmaticus | Diagnosis | ICD-10-CM |
| J45.31 | Mild persistent asthma with (acute) exacerbation | Diagnosis | ICD-10-CM |
| J45.32 | Mild persistent asthma with status asthmaticus | Diagnosis | ICD-10-CM |
| J45.41 | Moderate persistent asthma with (acute) exacerbation | Diagnosis | ICD-10-CM |
| J45.42 | Moderate persistent asthma with status asthmaticus | Diagnosis | ICD-10-CM |
| J45.51 | Severe persistent asthma with (acute) exacerbation | Diagnosis | ICD-10-CM |
| J45.52 | Severe persistent asthma with status asthmaticus | Diagnosis | ICD-10-CM |
| J45.901 | Unspecified asthma with (acute) exacerbation | Diagnosis | ICD-10-CM |
| J45.902 | Unspecified asthma with status asthmaticus | Diagnosis | ICD-10-CM |
| Asthma | | | |
| 493.00 | Extrinsic asthma, unspecified | Diagnosis | ICD-9-CM |

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

| Code | Description | Code Category | Code Type |
|---------------------------------------|--|----------------------|------------------|
| 493.10 | Intrinsic asthma, unspecified | Diagnosis | ICD-9-CM |
| 493.20 | Chronic obstructive asthma, unspecified ICD-9-CM | Diagnosis | ICD-9-CM |
| 493.21 | Chronic obstructive asthma with status asthmaticus ICD-9-CM | Diagnosis | ICD-9-CM |
| 493.22 | Chronic obstructive asthma, with (acute) exacerbation ICD-9-CM | Diagnosis | ICD-9-CM |
| 493.82 | Cough variant asthma | Diagnosis | ICD-9-CM |
| 493.90 | Asthma, unspecified, unspecified status | Diagnosis | ICD-9-CM |
| J45 | Asthma | Diagnosis | ICD-10-CM |
| J45.2 | Mild intermittent asthma | Diagnosis | ICD-10-CM |
| J45.20 | Mild intermittent asthma, uncomplicated | Diagnosis | ICD-10-CM |
| J45.3 | Mild persistent asthma | Diagnosis | ICD-10-CM |
| J45.30 | Mild persistent asthma, uncomplicated | Diagnosis | ICD-10-CM |
| J45.4 | Moderate persistent asthma | Diagnosis | ICD-10-CM |
| J45.40 | Moderate persistent asthma, uncomplicated | Diagnosis | ICD-10-CM |
| J45.5 | Severe persistent asthma | Diagnosis | ICD-10-CM |
| J45.50 | Severe persistent asthma, uncomplicated | Diagnosis | ICD-10-CM |
| J45.9 | Other and unspecified asthma | Diagnosis | ICD-10-CM |
| J45.90 | Unspecified asthma | Diagnosis | ICD-10-CM |
| J45.909 | Unspecified asthma, uncomplicated | Diagnosis | ICD-10-CM |
| J45.99 | Other asthma | Diagnosis | ICD-10-CM |
| J45.991 | Cough variant asthma | Diagnosis | ICD-10-CM |
| J45.998 | Other asthma | Diagnosis | ICD-10-CM |
| Alpha-1-Antitrypsin Deficiency | | | |
| 273.4 | Alpha-1-antitrypsin deficiency | Diagnosis | ICD-9-CM |
| E88.01 | Alpha-1-antitrypsin deficiency | Diagnosis | ICD-10-CM |
| Bronchiectasis | | | |
| J47 | Bronchiectasis | Diagnosis | ICD-10-CM |
| J47.0 | Bronchiectasis with acute lower respiratory infection | Diagnosis | ICD-10-CM |
| J47.1 | Bronchiectasis with (acute) exacerbation | Diagnosis | ICD-10-CM |
| J47.9 | Bronchiectasis, uncomplicated | Diagnosis | ICD-10-CM |
| Q33.4 | Congenital bronchiectasis | Diagnosis | ICD-10-CM |
| A15.0 | Tuberculous bronchiectasis (current disease) | Diagnosis | ICD-10-CM |
| 494.0 | Bronchiectasis without acute exacerbation | Diagnosis | ICD-9-CM |
| 494.1 | Bronchiectasis with acute exacerbation | Diagnosis | ICD-9-CM |
| 748.61 | Congenital bronchiectasis | Diagnosis | ICD-9-CM |
| 011.90 | Unspecified pulmonary tuberculosis, confirmation unspecified | Diagnosis | ICD-9-CM |
| 011.00 | Tuberculosis of lung, infiltrative, confirmation unspecified | Diagnosis | ICD-9-CM |
| 011.01 | Tuberculosis of lung, infiltrative, bacteriological or histological examination not done | Diagnosis | ICD-9-CM |
| 011.02 | Tuberculosis of lung, infiltrative, bacteriological or histological examination unknown (at present) | Diagnosis | ICD-9-CM |
| 011.03 | Tuberculosis of lung, infiltrative, tubercle bacilli found (in sputum) by microscopy | Diagnosis | ICD-9-CM |
| 011.04 | Tuberculosis of lung, infiltrative, tubercle bacilli not found (in sputum) by microscopy, but found by bacterial culture | Diagnosis | ICD-9-CM |
| 011.05 | Tuberculosis of lung, infiltrative, tubercle bacilli not found by bacteriological examination, but tuberculosis confirmed histologically | Diagnosis | ICD-9-CM |

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

| Code | Description | Code Category | Code Type |
|-------------|---|----------------------|------------------|
| 011.06 | Tuberculosis of lung, infiltrative, tubercle bacilli not found bacteriological or histological examination, but tuberculosis confirmed by other methods (inoculation of animals) | Diagnosis | ICD-9-CM |
| 011.10 | Tuberculosis of lung, nodular, confirmation unspecified | Diagnosis | ICD-9-CM |
| 011.11 | Tuberculosis of lung, nodular, bacteriological or histological examination not done | Diagnosis | ICD-9-CM |
| 011.12 | Tuberculosis of lung, nodular, bacteriological or histological examination unknown (at present) | Diagnosis | ICD-9-CM |
| 011.13 | Tuberculosis of lung, nodular, tubercle bacilli found (in sputum) by microscopy | Diagnosis | ICD-9-CM |
| 011.14 | Tuberculosis of lung, nodular, tubercle bacilli not found (in sputum) by microscopy, but found by bacterial culture | Diagnosis | ICD-9-CM |
| 011.15 | Tuberculosis of lung, nodular, tubercle bacilli not found by bacteriological examination, but tuberculosis confirmed histologically | Diagnosis | ICD-9-CM |
| 011.16 | Tuberculosis of lung, nodular, tubercle bacilli not found by bacteriological or histological examination, but tuberculosis confirmed by other methods [inoculation of animals] | Diagnosis | ICD-9-CM |
| 011.20 | Tuberculosis of lung with cavitation, confirmation unspecified | Diagnosis | ICD-9-CM |
| 011.21 | Tuberculosis of lung with cavitation, bacteriological or histological examination not done | Diagnosis | ICD-9-CM |
| 011.22 | Tuberculosis of lung with cavitation, bacteriological or histological examination unknown (at present) | Diagnosis | ICD-9-CM |
| 011.23 | Tuberculosis of lung with cavitation, tubercle bacilli found (in sputum) by microscopy | Diagnosis | ICD-9-CM |
| 011.24 | Tuberculosis of lung with cavitation, tubercle bacilli not found (in sputum) by microscopy, but found by bacterial culture | Diagnosis | ICD-9-CM |
| 011.25 | Tuberculosis of lung with cavitation, tubercle bacilli not found by bacteriological examination, but tuberculosis confirmed histologically | Diagnosis | ICD-9-CM |
| 011.26 | Tuberculosis of lung with cavitation, tubercle bacilli not found by bacteriological or histological examination, but tuberculosis confirmed by other methods [inoculation of animals] | Diagnosis | ICD-9-CM |
| 011.40 | Tuberculous fibrosis of lung, confirmation unspecified | Diagnosis | ICD-9-CM |
| 011.41 | Tuberculous fibrosis of lung, bacteriological or histological examination not done | Diagnosis | ICD-9-CM |
| 011.42 | Tuberculous fibrosis of lung, bacteriological or histological examination unknown (at present) | Diagnosis | ICD-9-CM |
| 011.43 | Tuberculous fibrosis of lung, tubercle bacilli found (in sputum) by microscopy | Diagnosis | ICD-9-CM |
| 011.44 | Tuberculous fibrosis of lung, tubercle bacilli not found (in sputum) by microscopy, but found by bacterial culture | Diagnosis | ICD-9-CM |
| 011.45 | Tuberculous fibrosis of lung, tubercle bacilli not found by bacteriological examination, but tuberculosis confirmed histologically | Diagnosis | ICD-9-CM |
| 011.46 | Tuberculous fibrosis of lung, tubercle bacilli not found by bacteriological or histological examination, but tuberculosis confirmed by other methods [inoculation of animals] | Diagnosis | ICD-9-CM |
| 011.50 | Tuberculous bronchiectasis, confirmation unspecified | Diagnosis | ICD-9-CM |
| 011.51 | Tuberculous bronchiectasis, bacteriological or histological examination not done | Diagnosis | ICD-9-CM |
| 011.52 | Tuberculous bronchiectasis, bacteriological or histological examination unknown (at present) | Diagnosis | ICD-9-CM |
| 011.53 | Tuberculous bronchiectasis, tubercle bacilli found (in sputum) by microscopy | Diagnosis | ICD-9-CM |

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

| Code | Description | Code Category | Code Type |
|-------------|---|----------------------|------------------|
| 011.54 | Tuberculous bronchiectasis, tubercle bacilli not found (in sputum) by microscopy, but found by bacterial culture | Diagnosis | ICD-9-CM |
| 011.55 | Tuberculous bronchiectasis, tubercle bacilli not found by bacteriological examination, but tuberculosis confirmed histologically | Diagnosis | ICD-9-CM |
| 011.56 | Tuberculous bronchiectasis, tubercle bacilli not found by bacteriological or histological examination, but tuberculosis confirmed by other methods [inoculation of animals] | Diagnosis | ICD-9-CM |
| 011.60 | Tuberculous pneumonia (any form), confirmation unspecified | Diagnosis | ICD-9-CM |
| 011.61 | Tuberculous pneumonia (any form), bacteriological or histological examination not done | Diagnosis | ICD-9-CM |
| 011.62 | Tuberculous pneumonia (any form), bacteriological or histological examination unknown (at present) | Diagnosis | ICD-9-CM |
| 011.63 | Tuberculous pneumonia (any form), tubercle bacilli found (in sputum) by microscopy | Diagnosis | ICD-9-CM |
| 011.64 | Tuberculous pneumonia (any form), tubercle bacilli not found (in sputum) by microscopy, but found by bacterial culture | Diagnosis | ICD-9-CM |
| 011.65 | Tuberculous pneumonia (any form), tubercle bacilli not found by bacteriological examination, but tuberculosis confirmed histologically | Diagnosis | ICD-9-CM |
| 011.66 | Tuberculous pneumonia (any form), tubercle bacilli not found by bacteriological or histological examination, but tuberculosis confirmed by other methods [inoculation of animals] | Diagnosis | ICD-9-CM |
| 011.70 | Tuberculous pneumothorax, confirmation unspecified | Diagnosis | ICD-9-CM |
| 011.71 | Tuberculous pneumothorax, bacteriological or histological examination not done | Diagnosis | ICD-9-CM |
| 011.72 | Tuberculous pneumothorax, bacteriological or histological examination unknown (at present) | Diagnosis | ICD-9-CM |
| 011.73 | Tuberculous pneumothorax, tubercle bacilli not found (in sputum) by microscopy | Diagnosis | ICD-9-CM |
| 011.74 | Tuberculous pneumothorax, tubercle bacilli not found (in sputum) by microscopy, but found by bacterial culture | Diagnosis | ICD-9-CM |
| 011.75 | Tuberculous pneumothorax, tubercle bacilli not found by bacteriological examination, but tuberculosis confirmed histologically | Diagnosis | ICD-9-CM |
| 011.76 | Tuberculous pneumothorax, tubercle bacilli not found by bacteriological or histological examination but tuberculosis confirmed by other methods [inoculation of animals] | Diagnosis | ICD-9-CM |
| 011.80 | Other specified pulmonary tuberculosis, confirmation unspecified | Diagnosis | ICD-9-CM |
| 011.81 | Other specified pulmonary tuberculosis, bacteriological or histological examination not done | Diagnosis | ICD-9-CM |
| 011.82 | Other specified pulmonary tuberculosis, bacteriological or histological examination unknown (at present) | Diagnosis | ICD-9-CM |
| 011.83 | Other specified pulmonary tuberculosis, tubercle bacilli found (in sputum) by microscopy | Diagnosis | ICD-9-CM |
| 011.84 | Other specified pulmonary tuberculosis, tubercle bacilli not found (in sputum) by microscopy, but found by bacterial culture | Diagnosis | ICD-9-CM |
| 011.85 | Other specified pulmonary tuberculosis, tubercle bacilli not found by bacteriological examination, but tuberculosis confirmed histologically | Diagnosis | ICD-9-CM |

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

| Code | Description | Code Category | Code Type |
|------------------------|---|----------------------|------------------|
| 011.86 | Other specified pulmonary tuberculosis, tubercle bacilli not found by bacteriological or histological examination, but tuberculosis confirmed by other methods [inoculation of animals] | Diagnosis | ICD-9-CM |
| 011.91 | Unspecified pulmonary tuberculosis, bacteriological or histological examination not done | Diagnosis | ICD-9-CM |
| 011.92 | Unspecified pulmonary tuberculosis, bacteriological or histological examination unknown (at present) | Diagnosis | ICD-9-CM |
| 011.93 | Unspecified pulmonary tuberculosis, tubercle bacilli found (in sputum) by microscopy | Diagnosis | ICD-9-CM |
| 011.94 | Unspecified pulmonary tuberculosis, tubercle bacilli not found (in sputum) by microscopy, but found by bacterial culture | Diagnosis | ICD-9-CM |
| 011.95 | Unspecified pulmonary tuberculosis, tubercle bacilli not found by bacteriological examination, but tuberculosis confirmed histologically | Diagnosis | ICD-9-CM |
| 011.96 | Unspecified pulmonary tuberculosis, tubercle bacilli not found by bacteriological or histological examination, but tuberculosis confirmed by other methods [inoculation of animals] | Diagnosis | ICD-9-CM |
| Cystic Fibrosis | | | |
| E84 | Cystic fibrosis | Diagnosis | ICD-10-CM |
| E84.0 | Cystic fibrosis with pulmonary manifestations | Diagnosis | ICD-10-CM |
| E84.1 | Cystic fibrosis with intestinal manifestations | Diagnosis | ICD-10-CM |
| E84.11 | Meconium ileus in cystic fibrosis | Diagnosis | ICD-10-CM |
| E84.19 | Cystic fibrosis with other intestinal manifestations | Diagnosis | ICD-10-CM |
| E84.8 | Cystic fibrosis with other manifestations | Diagnosis | ICD-10-CM |
| E84.9 | Cystic fibrosis, unspecified | Diagnosis | ICD-10-CM |
| 277.00 | Cystic fibrosis without mention of meconium ileus | Diagnosis | ICD-9-CM |
| 277.01 | Cystic fibrosis with meconium ileus | Diagnosis | ICD-9-CM |
| 277.02 | Cystic fibrosis with pulmonary manifestations | Diagnosis | ICD-9-CM |
| 277.03 | Cystic fibrosis with gastrointestinal manifestations | Diagnosis | ICD-9-CM |
| 277.09 | Cystic fibrosis with other manifestations | Diagnosis | ICD-9-CM |
| Sarcoidosis | | | |
| D86 | Sarcoidosis | Diagnosis | ICD-10-CM |
| D860 | Sarcoidosis of lung | Diagnosis | ICD-10-CM |
| D861 | Sarcoidosis of lymph nodes | Diagnosis | ICD-10-CM |
| D862 | Sarcoidosis of lung with sarcoidosis of lymph nodes | Diagnosis | ICD-10-CM |
| D863 | Sarcoidosis of skin | Diagnosis | ICD-10-CM |
| D868 | Sarcoidosis of other sites | Diagnosis | ICD-10-CM |
| D8681 | Sarcoid meningitis | Diagnosis | ICD-10-CM |
| D8682 | Multiple cranial nerve palsies in sarcoidosis | Diagnosis | ICD-10-CM |
| D8683 | Sarcoid iridocyclitis | Diagnosis | ICD-10-CM |
| D8684 | Sarcoid pyelonephritis | Diagnosis | ICD-10-CM |
| D8685 | Sarcoid myocarditis | Diagnosis | ICD-10-CM |
| D8686 | Sarcoid arthropathy | Diagnosis | ICD-10-CM |
| D8687 | Sarcoid myositis | Diagnosis | ICD-10-CM |
| D8689 | Sarcoidosis of other sites | Diagnosis | ICD-10-CM |
| D869 | Sarcoidosis, unspecified | Diagnosis | ICD-10-CM |

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

| Code | Description | Code Category | Code Type |
|--|--|----------------------|------------------|
| 135 | Sarcoidosis | Diagnosis | ICD-9-CM |
| Interstitial Lung Disease (ILD), Pneumoconiosis and Miscellaneous Lung Diseases | | | |
| J84 | Other interstitial pulmonary diseases | Diagnosis | ICD-10-CM |
| J84.0 | Alveolar and parieto-alveolar conditions | Diagnosis | ICD-10-CM |
| J84.01 | Alveolar proteinosis | Diagnosis | ICD-10-CM |
| J84.02 | Pulmonary alveolar microlithiasis | Diagnosis | ICD-10-CM |
| J84.03 | Idiopathic pulmonary hemosiderosis | Diagnosis | ICD-10-CM |
| J84.09 | Other alveolar and parieto-alveolar conditions | Diagnosis | ICD-10-CM |
| J84.1 | Other interstitial pulmonary diseases with fibrosis | Diagnosis | ICD-10-CM |
| J84.11 | Idiopathic interstitial pneumonia | Diagnosis | ICD-10-CM |
| J84.111 | Idiopathic interstitial pneumonia, not otherwise specified | Diagnosis | ICD-10-CM |
| J84.112 | Idiopathic pulmonary fibrosis | Diagnosis | ICD-10-CM |
| J84.113 | Idiopathic non-specific interstitial pneumonitis | Diagnosis | ICD-10-CM |
| J84.114 | Acute interstitial pneumonitis | Diagnosis | ICD-10-CM |
| J84.115 | Respiratory bronchiolitis interstitial lung disease | Diagnosis | ICD-10-CM |
| J84.116 | Cryptogenic organizing pneumonia | Diagnosis | ICD-10-CM |
| J84.117 | Desquamative interstitial pneumonia | Diagnosis | ICD-10-CM |
| J84.17 | Other interstitial pulmonary diseases with fibrosis in diseases classified elsewhere | Diagnosis | ICD-10-CM |
| J84.2 | Lymphoid interstitial pneumonia | Diagnosis | ICD-10-CM |
| J84.8 | Other specified interstitial pulmonary diseases | Diagnosis | ICD-10-CM |
| J84.81 | Lymphangioleiomyomatosis | Diagnosis | ICD-10-CM |
| J84.82 | Adult pulmonary Langerhans cell histiocytosis | Diagnosis | ICD-10-CM |
| J84.83 | Surfactant mutations of the lung | Diagnosis | ICD-10-CM |
| J84.84 | Other interstitial lung diseases of childhood | Diagnosis | ICD-10-CM |
| J84.841 | Neuroendocrine cell hyperplasia of infancy | Diagnosis | ICD-10-CM |
| J84.842 | Pulmonary interstitial glycogenosis | Diagnosis | ICD-10-CM |
| J84.843 | Alveolar capillary dysplasia with vein misalignment | Diagnosis | ICD-10-CM |
| J84.848 | Other interstitial lung diseases of childhood | Diagnosis | ICD-10-CM |
| J84.89 | Other specified interstitial pulmonary diseases | Diagnosis | ICD-10-CM |
| J84.9 | Interstitial pulmonary disease, unspecified | Diagnosis | ICD-10-CM |
| J60 | Coalworker's pneumoconiosis | Diagnosis | ICD-10-CM |
| J61 | Pneumoconiosis due to asbestos and other mineral fibers | Diagnosis | ICD-10-CM |
| J62 | Pneumoconiosis due to dust containing silica | Diagnosis | ICD-10-CM |
| J63 | Pneumoconiosis due to other inorganic dusts | Diagnosis | ICD-10-CM |
| J64 | Unspecified pneumoconiosis | Diagnosis | ICD-10-CM |
| J65 | Pneumoconiosis associated with tuberculosis | Diagnosis | ICD-10-CM |
| J66 | Airway disease due to specific organic dust | Diagnosis | ICD-10-CM |
| J67 | Hypersensitivity pneumonitis due to organic dust | Diagnosis | ICD-10-CM |
| J68 | Respiratory conditions due to inhalation of chemicals, gases, fumes and vapors | Diagnosis | ICD-10-CM |
| J69 | Pneumonitis due to solids and liquids | Diagnosis | ICD-10-CM |
| J70 | Respiratory conditions due to other external agents | Diagnosis | ICD-10-CM |
| J70.0 | Acute pulmonary manifestations due to radiation | Diagnosis | ICD-10-CM |
| J70.1 | Chronic and other pulmonary manifestations due to radiation | Diagnosis | ICD-10-CM |
| J70.2 | Acute drug-induced interstitial lung disorders | Diagnosis | ICD-10-CM |
| J70.3 | Chronic drug-induced interstitial lung disorders | Diagnosis | ICD-10-CM |

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

| Code | Description | Code Category | Code Type |
|----------------------------|---|----------------------|------------------|
| J70.4 | Drug-induced interstitial lung disorders, unspecified | Diagnosis | ICD-10-CM |
| J70.5 | Respiratory conditions due to smoke inhalation | Diagnosis | ICD-10-CM |
| J70.8 | Respiratory conditions due to other specified external agents | Diagnosis | ICD-10-CM |
| J70.9 | Respiratory conditions due to unspecified external agent | Diagnosis | ICD-10-CM |
| 516.34 | Respiratory bronchiolitis interstitial lung disease | Diagnosis | ICD-9-CM |
| 516.69 | Other interstitial lung diseases of childhood | Diagnosis | ICD-9-CM |
| 516.0 | Pulmonary alveolar proteinosis | Diagnosis | ICD-9-CM |
| 516.2 | Pulmonary alveolar microlithiasis | Diagnosis | ICD-9-CM |
| 516.1 | Idiopathic pulmonary hemosiderosis | Diagnosis | ICD-9-CM |
| 516.8 | Other specified alveolar and parietoalveolar pneumonopathies | Diagnosis | ICD-9-CM |
| 516.30 | Idiopathic interstitial pneumonia, not otherwise specified | Diagnosis | ICD-9-CM |
| 516.31 | Idiopathic pulmonary fibrosis | Diagnosis | ICD-9-CM |
| 516.32 | Idiopathic non-specific interstitial pneumonitis | Diagnosis | ICD-9-CM |
| 516.33 | Acute interstitial pneumonitis | Diagnosis | ICD-9-CM |
| 516.36 | Cryptogenic organizing pneumonia | Diagnosis | ICD-9-CM |
| 516.37 | Desquamative interstitial pneumonia | Diagnosis | ICD-9-CM |
| 515 | Postinflammatory pulmonary fibrosis | Diagnosis | ICD-9-CM |
| 516.35 | Idiopathic lymphoid interstitial pneumonia | Diagnosis | ICD-9-CM |
| 516.4 | Lymphangioleiomyomatosis | Diagnosis | ICD-9-CM |
| 516.5 | Adult pulmonary Langerhans cell histiocytosis | Diagnosis | ICD-9-CM |
| 516.63 | Surfactant mutations of the lung | Diagnosis | ICD-9-CM |
| 516.61 | Neuroendocrine cell hyperplasia of infancy | Diagnosis | ICD-9-CM |
| 516.62 | Pulmonary interstitial glycogenosis | Diagnosis | ICD-9-CM |
| 516.64 | Alveolar capillary dysplasia with vein misalignment | Diagnosis | ICD-9-CM |
| 516.9 | Unspecified alveolar and parietoalveolar pneumonopathy | Diagnosis | ICD-9-CM |
| 500 | Coal workers' pneumoconiosis | Diagnosis | ICD-9-CM |
| 501 | Asbestosis | Diagnosis | ICD-9-CM |
| 505 | Unspecified pneumoconiosis | Diagnosis | ICD-9-CM |
| 508.0 | Acute pulmonary manifestations due to radiation | Diagnosis | ICD-9-CM |
| 508.1 | Chronic and other pulmonary manifestations due to radiation | Diagnosis | ICD-9-CM |
| 508.8 | Respiratory conditions due to other specified external agents | Diagnosis | ICD-9-CM |
| 508.2 | Respiratory conditions due to smoke inhalation | Diagnosis | ICD-9-CM |
| 508.9 | Respiratory conditions due to unspecified external agent | Diagnosis | ICD-9-CM |
| 502 | Pneumoconiosis due to other silica or silicates | Diagnosis | ICD-9-CM |
| 503 | Pneumoconiosis due to other inorganic dust | Diagnosis | ICD-9-CM |
| Other Lung Diseases | | | |
| 011 | Pulmonary tuberculosis | Diagnosis | ICD-9-CM |
| 012 | Other respiratory tuberculosis | Diagnosis | ICD-9-CM |
| 495 | Extrinsic allergic alveolitis | Diagnosis | ICD-9-CM |
| 510.0 | Empyema with fistula | Diagnosis | ICD-9-CM |
| 510.9 | Empyema without mention of fistula | Diagnosis | ICD-9-CM |
| 511.0 | Pleurisy without mention of effusion or current tuberculosis | Diagnosis | ICD-9-CM |
| 511.1 | Pleurisy with effusion, with mention of bacterial cause other than tuberculosis | Diagnosis | ICD-9-CM |
| 511.8 | Other specified forms of pleural effusion, except tuberculous | Diagnosis | ICD-9-CM |
| 511.81 | Malignant pleural effusion | Diagnosis | ICD-9-CM |

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

| Code | Description | Code Category | Code Type |
|-------------|---|----------------------|------------------|
| 511.89 | Other specified forms of effusion, except tuberculous | Diagnosis | ICD-9-CM |
| 511.9 | Unspecified pleural effusion | Diagnosis | ICD-9-CM |
| 512.0 | Spontaneous tension pneumothorax | Diagnosis | ICD-9-CM |
| 512.1 | Iatrogenic pneumothorax | Diagnosis | ICD-9-CM |
| 512.2 | Postoperative air leak | Diagnosis | ICD-9-CM |
| 512.8 | Other pneumothorax and air leak | Diagnosis | ICD-9-CM |
| 512.81 | Primary spontaneous pneumothorax | Diagnosis | ICD-9-CM |
| 512.82 | Secondary spontaneous pneumothorax | Diagnosis | ICD-9-CM |
| 512.83 | Chronic pneumothorax | Diagnosis | ICD-9-CM |
| 512.84 | Other air leak | Diagnosis | ICD-9-CM |
| 512.89 | Other pneumothorax | Diagnosis | ICD-9-CM |
| 513.0 | Abscess of lung | Diagnosis | ICD-9-CM |
| 513.1 | Abscess of mediastinum | Diagnosis | ICD-9-CM |
| 516.3 | Idiopathic interstitial pneumonia | Diagnosis | ICD-9-CM |
| 516.6 | Interstitial lung diseases of childhood | Diagnosis | ICD-9-CM |
| 517.1 | Rheumatic pneumonia | Diagnosis | ICD-9-CM |
| 517.2 | Lung involvement in systemic sclerosis | Diagnosis | ICD-9-CM |
| 517.3 | Acute chest syndrome | Diagnosis | ICD-9-CM |
| 517.8 | Lung involvement in other diseases classified elsewhere | Diagnosis | ICD-9-CM |
| 518.0 | Pulmonary collapse | Diagnosis | ICD-9-CM |
| 518.1 | Interstitial emphysema | Diagnosis | ICD-9-CM |
| 518.2 | Compensatory emphysema | Diagnosis | ICD-9-CM |
| 518.3 | Pulmonary eosinophilia | Diagnosis | ICD-9-CM |
| 518.4 | Unspecified acute edema of lung | Diagnosis | ICD-9-CM |
| 518.5 | Pulmonary insufficiency following trauma and surgery | Diagnosis | ICD-9-CM |
| 518.51 | Acute respiratory failure following trauma and surgery | Diagnosis | ICD-9-CM |
| 518.52 | Other pulmonary insufficiency, not elsewhere classified, following trauma and surgery | Diagnosis | ICD-9-CM |
| 518.53 | Acute and chronic respiratory failure following trauma and surgery | Diagnosis | ICD-9-CM |
| 518.6 | Allergic bronchopulmonary aspergillosis | Diagnosis | ICD-9-CM |
| 518.7 | Transfusion related acute lung injury [TRALI] | Diagnosis | ICD-9-CM |
| 518.8 | Other diseases of lung | Diagnosis | ICD-9-CM |
| 518.81 | Acute respiratory failure | Diagnosis | ICD-9-CM |
| 518.82 | Other pulmonary insufficiency, not elsewhere classified | Diagnosis | ICD-9-CM |
| 518.83 | Chronic respiratory failure | Diagnosis | ICD-9-CM |
| 518.84 | Acute and chronic respiratory failure | Diagnosis | ICD-9-CM |
| 518.89 | Other diseases of lung, not elsewhere classified | Diagnosis | ICD-9-CM |
| 519.0 | Tracheostomy complications | Diagnosis | ICD-9-CM |
| 519.00 | Unspecified tracheostomy complication | Diagnosis | ICD-9-CM |
| 519.01 | Infection of tracheostomy | Diagnosis | ICD-9-CM |
| 519.02 | Mechanical complication of tracheostomy | Diagnosis | ICD-9-CM |
| 519.09 | Other tracheostomy complications | Diagnosis | ICD-9-CM |
| 519.1 | Other diseases of trachea and bronchus, not elsewhere classified | Diagnosis | ICD-9-CM |
| 519.11 | Acute bronchospasm | Diagnosis | ICD-9-CM |
| 519.19 | Other diseases of trachea and bronchus | Diagnosis | ICD-9-CM |
| 519.2 | Mediastinitis | Diagnosis | ICD-9-CM |

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

| Code | Description | Code Category | Code Type |
|-------------|--|----------------------|------------------|
| 519.3 | Other diseases of mediastinum, not elsewhere classified | Diagnosis | ICD-9-CM |
| 519.4 | Disorders of diaphragm | Diagnosis | ICD-9-CM |
| 519.8 | Other diseases of respiratory system, not elsewhere classified | Diagnosis | ICD-9-CM |
| 519.9 | Unspecified disease of respiratory system | Diagnosis | ICD-9-CM |
| J18.2 | Hypostatic pneumonia, unspecified organism | Diagnosis | ICD-10-CM |
| J81.1 | Chronic pulmonary edema | Diagnosis | ICD-10-CM |
| J84.10 | Pulmonary fibrosis, unspecified | Diagnosis | ICD-10-CM |
| B44.81 | Allergic bronchopulmonary aspergillosis | Diagnosis | ICD-10-CM |
| D57.01 | Hb-SS disease with acute chest syndrome | Diagnosis | ICD-10-CM |
| D57.211 | Sickle-cell/Hb-C disease with acute chest syndrome | Diagnosis | ICD-10-CM |
| D57.411 | Sickle-cell thalassemia with acute chest syndrome | Diagnosis | ICD-10-CM |
| D57.811 | Other sickle-cell disorders with acute chest syndrome | Diagnosis | ICD-10-CM |
| J17 | Pneumonia in diseases classified elsewhere | Diagnosis | ICD-10-CM |
| J22 | Unspecified acute lower respiratory infection | Diagnosis | ICD-10-CM |
| J39.8 | Other specified diseases of upper respiratory tract | Diagnosis | ICD-10-CM |
| J80 | Acute respiratory distress syndrome | Diagnosis | ICD-10-CM |
| J81.0 | Acute pulmonary edema | Diagnosis | ICD-10-CM |
| J82 | Pulmonary eosinophilia, not elsewhere classified | Diagnosis | ICD-10-CM |
| J85.0 | Gangrene and necrosis of lung | Diagnosis | ICD-10-CM |
| J85.1 | Abscess of lung with pneumonia | Diagnosis | ICD-10-CM |
| J85.2 | Abscess of lung without pneumonia | Diagnosis | ICD-10-CM |
| J85.3 | Abscess of mediastinum | Diagnosis | ICD-10-CM |
| J86.0 | Pyothorax with fistula | Diagnosis | ICD-10-CM |
| J86.9 | Pyothorax without fistula | Diagnosis | ICD-10-CM |
| J90 | Pleural effusion, not elsewhere classified | Diagnosis | ICD-10-CM |
| J91.0 | Malignant pleural effusion | Diagnosis | ICD-10-CM |
| J91.8 | Pleural effusion in other conditions classified elsewhere | Diagnosis | ICD-10-CM |
| J92.0 | Pleural plaque with presence of asbestos | Diagnosis | ICD-10-CM |
| J92.9 | Pleural plaque without asbestos | Diagnosis | ICD-10-CM |
| J93.0 | Spontaneous tension pneumothorax | Diagnosis | ICD-10-CM |
| J93.11 | Primary spontaneous pneumothorax | Diagnosis | ICD-10-CM |
| J93.12 | Secondary spontaneous pneumothorax | Diagnosis | ICD-10-CM |
| J93.81 | Chronic pneumothorax | Diagnosis | ICD-10-CM |
| J93.82 | Other air leak | Diagnosis | ICD-10-CM |
| J93.83 | Other pneumothorax | Diagnosis | ICD-10-CM |
| J93.9 | Pneumothorax, unspecified | Diagnosis | ICD-10-CM |
| J94.0 | Chylous effusion | Diagnosis | ICD-10-CM |
| J94.1 | Fibrothorax | Diagnosis | ICD-10-CM |
| J94.2 | Hemothorax | Diagnosis | ICD-10-CM |
| J94.8 | Other specified pleural conditions | Diagnosis | ICD-10-CM |
| J94.9 | Pleural condition, unspecified | Diagnosis | ICD-10-CM |
| J95.00 | Unspecified tracheostomy complication | Diagnosis | ICD-10-CM |
| J95.01 | Hemorrhage from tracheostomy stoma | Diagnosis | ICD-10-CM |
| J95.02 | Infection of tracheostomy stoma | Diagnosis | ICD-10-CM |
| J95.03 | Malfunction of tracheostomy stoma | Diagnosis | ICD-10-CM |

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

| Code | Description | Code Category | Code Type |
|-------------|--|----------------------|------------------|
| J95.04 | Tracheo-esophageal fistula following tracheostomy | Diagnosis | ICD-10-CM |
| J95.09 | Other tracheostomy complication | Diagnosis | ICD-10-CM |
| J95.1 | Acute pulmonary insufficiency following thoracic surgery | Diagnosis | ICD-10-CM |
| J95.2 | Acute pulmonary insufficiency following nonthoracic surgery | Diagnosis | ICD-10-CM |
| J95.3 | Chronic pulmonary insufficiency following surgery | Diagnosis | ICD-10-CM |
| J95.811 | Postprocedural pneumothorax | Diagnosis | ICD-10-CM |
| J95.812 | Postprocedural air leak | Diagnosis | ICD-10-CM |
| J95.821 | Acute postprocedural respiratory failure | Diagnosis | ICD-10-CM |
| J95.822 | Acute and chronic postprocedural respiratory failure | Diagnosis | ICD-10-CM |
| J95.84 | Transfusion-related acute lung injury (TRALI) | Diagnosis | ICD-10-CM |
| J96.00 | Acute respiratory failure, unspecified whether with hypoxia or hypercapnia | Diagnosis | ICD-10-CM |
| J96.01 | Acute respiratory failure with hypoxia | Diagnosis | ICD-10-CM |
| J96.02 | Acute respiratory failure with hypercapnia | Diagnosis | ICD-10-CM |
| J96.10 | Chronic respiratory failure, unspecified whether with hypoxia or hypercapnia | Diagnosis | ICD-10-CM |
| J96.11 | Chronic respiratory failure with hypoxia | Diagnosis | ICD-10-CM |
| J96.12 | Chronic respiratory failure with hypercapnia | Diagnosis | ICD-10-CM |
| J96.20 | Acute and chronic respiratory failure, unspecified whether with hypoxia or hypercapnia | Diagnosis | ICD-10-CM |
| J96.21 | Acute and chronic respiratory failure with hypoxia | Diagnosis | ICD-10-CM |
| J96.22 | Acute and chronic respiratory failure with hypercapnia | Diagnosis | ICD-10-CM |
| J96.90 | Respiratory failure, unspecified, unspecified whether with hypoxia or hypercapnia | Diagnosis | ICD-10-CM |
| J96.91 | Respiratory failure, unspecified with hypoxia | Diagnosis | ICD-10-CM |
| J96.92 | Respiratory failure, unspecified with hypercapnia | Diagnosis | ICD-10-CM |
| J98.01 | Acute bronchospasm | Diagnosis | ICD-10-CM |
| J98.09 | Other diseases of bronchus, not elsewhere classified | Diagnosis | ICD-10-CM |
| J98.11 | Atelectasis | Diagnosis | ICD-10-CM |
| J98.19 | Other pulmonary collapse | Diagnosis | ICD-10-CM |
| J98.2 | Interstitial emphysema | Diagnosis | ICD-10-CM |
| J98.3 | Compensatory emphysema | Diagnosis | ICD-10-CM |
| J98.4 | Other disorders of lung | Diagnosis | ICD-10-CM |
| J98.51 | Mediastinitis | Diagnosis | ICD-10-CM |
| J98.59 | Other diseases of mediastinum, not elsewhere classified | Diagnosis | ICD-10-CM |
| J98.6 | Disorders of diaphragm | Diagnosis | ICD-10-CM |
| J98.8 | Other specified respiratory disorders | Diagnosis | ICD-10-CM |
| J98.9 | Respiratory disorder, unspecified | Diagnosis | ICD-10-CM |
| J99 | Respiratory disorders in diseases classified elsewhere | Diagnosis | ICD-10-CM |
| M32.13 | Lung involvement in systemic lupus erythematosus | Diagnosis | ICD-10-CM |
| M33.01 | Juvenile dermatomyositis with respiratory involvement | Diagnosis | ICD-10-CM |
| M33.11 | Other dermatomyositis with respiratory involvement | Diagnosis | ICD-10-CM |
| M33.21 | Polymyositis with respiratory involvement | Diagnosis | ICD-10-CM |
| M33.91 | Dermatopolymyositis, unspecified with respiratory involvement | Diagnosis | ICD-10-CM |
| M34.81 | Systemic sclerosis with lung involvement | Diagnosis | ICD-10-CM |
| M35.02 | Sicca syndrome with lung involvement | Diagnosis | ICD-10-CM |
| R06.03 | Acute respiratory distress | Diagnosis | ICD-10-CM |
| R09.1 | Pleurisy | Diagnosis | ICD-10-CM |

Appendix J. Specifications Defining Parameters in this Request

This request executed the Cohort Identification and Descriptive Analysis (CIDA) tool version 9.2.1 to examine clinical characteristics among patients with chronic obstructive pulmonary disease (COPD) or asthma exacerbations, COPD or asthma diagnoses, and among oral corticosteroid (OCS) and/or antibiotic users in the Sentinel Distributed Database (SDD).

Query period: January 1, 2008 - September 30, 2019
Coverage requirement: Medical and Drug
Pre-index enrollment requirement: 365 Days
Post-index enrollment requirement: 0 Days
Enrollment gap: 45 Days
Age groups: Scenario-specific, see below
Stratifications: Overall, year, sex, age group, and race
Envelope macro: (2) Turn off envelope. No reclassification of encounter types.
Cohort definition: First valid index date during query period (01)
Treatment episode gap: 0 Days
Exposure episode extension: 0 Days
Minimum exposure episode duration: 1 Day
Minimum days supplied: 1 Day
Maximum exposure episode duration: None
Principal diagnosis position: Any
Censor treatment episode at evidence of: Death; Disenrollment; Query End Date; Data Partner End Date

Exposure

| Scenario | Index Exposure | Drug (RX) Length Limits: | Code List(s) | Age Groups | Incident Exposure Washout Period | Incident with Respect to | Exclude Evidence of Days Supply if Exposure Washout Includes Dispensings | Care Setting |
|----------|--|--|----------------|------------------|----------------------------------|--------------------------|--|--------------|
| 1 | COPD exacerbation codes during ED or Ambulatory visits | N/A | See Appendix B | 40-64, 65+ years | None | N/A | N/A | ED/AV/OA |
| 2 | COPD diagnosis codes during ED or Ambulatory visits | N/A | See Appendix B | 40-64, 65+ years | None | N/A | N/A | ED/AV/OA |
| 3 | New OCS dispensing or injection Stockpiling input file: limit OCS NDCs ≥ 3 days | All RX claims must be 3 days or longer | See Appendix C | 40-64, 65+ years | 30 Days | ocs | Washout lookback period should search for evidence of days supply; | N/A |

Appendix J. Specifications Defining Parameters in this Request

| Scenario | Index Exposure | Drug (RX) Length Limits: | Code List(s) | Age Groups | Exposure | | | |
|----------|--|--|------------------------|-------------------------|----------------------------------|--------------------------|--|---|
| | | | | | Incident Exposure Washout Period | Incident with Respect to | Exclude Evidence of Exposure Washout Includes | Days Supply if Dispensings Care Setting |
| 4 | New antibiotic dispensing 1) "stockpiling" input file: limit ABX NDCs ≥ 3 days; 2) Exclusion on day [15,15] for days supply evidence of abx | All RX claims must be 3 days or longer | See Appendix C | 40-64, 65+ years | 30 days | abx | Washout lookback period should search for evidence of days supply; | N/A |
| 5 | New OCS and ABX on the same day: 1) "stockpiling" input file: limit OCS NDCs ≥ 3 days; 2) "stockpiling" input file: limit ABX NDCs ≥ 3 days; 3) Inclusion on day [0,0] for abx 4) Exclusion on day [15,15] for days supply evidence of abx | All RX claims must be 3 days or longer | See Appendices B and C | 40-64, 65+ years | 30 days | ocs or abx | Washout lookback period should search for evidence of days supply; | N/A |
| 6 | Asthma exacerbation codes during ED or Ambulatory visits | N/A | See Appendix B | 18-39, 40-64, 65+ years | None | N/A | N/A | ED/AV/OA |
| 7 | Asthma diagnosis codes during ED or Ambulatory visits | N/A | See Appendix B | 18-39, 40-64, 65+ years | None | N/A | N/A | ED/AV/OA |
| 8 | New OCS dispensing or injection "stockpiling" input file: limit OCS NDCs ≥ 3 days | All RX claims must be 3 days or longer | See Appendices C and D | 18-39, 40-64, 65+ years | 30 days | ocs | Washout lookback period should search for evidence of days supply; | N/A |
| 9 | New antibiotic dispensing 1) "stockpiling" input file: limit ABX NDCs ≥ 3 days; 2) Exclusion on day [15,15] for days supply evidence of abx | All RX claims must be 3 days or longer | See Appendix D | 18-39, 40-64, 65+ years | 30 days | abx | Washout lookback period should search for evidence of days supply; | N/A |

Appendix J. Specifications Defining Parameters in this Request

| Exposure | | | | | | | | | |
|----------|---|--|-------------------------|-------------------------|----------------------------------|--------------------------|--|--------------|--|
| Scenario | Index Exposure | Drug (RX) Length Limits: | Code List(s) | Age Groups | Incident Exposure Washout Period | Incident with Respect to | Exclude Evidence of Days Supply if Exposure Washout Includes Dispensings | Care Setting | |
| 10 | <p>New OCS dispensing or injection:</p> <p>1) "stockpiling" input file: limit OCS NDCs ≥ 3 days;</p> <p>2) "stockpiling" input file: limit ABX NDCs ≥ 3 days;</p> <p>3) Inclusion on day [0,0] for abx</p> <p>4) Exclusion on day [15,15] for days supply evidence of abx</p> | All RX claims must be 3 days or longer | See Appendicies C and D | 18-39, 40-64, 65+ years | 30 days | ocs or abx | Washout lookback period should search for evidence of days supply; | N/A | |

Appendix J. Specifications Defining Parameters in this Request

| Inclusion / Exclusion | | | | | | | | | |
|-----------------------|--|--------------------|------------------------|-------------------------|-----------------------|----------------------------------|--|------------|--|
| Scenario | Condition(s) | Include or Exclude | Code List(s) | Evaluation Period Start | Evaluation Period End | Inclusion/Exclusion Care Setting | Inclusion/Exclusion Should Search for Evidence of: | Evaluation | Number of Instances the Criterion Should be Found in Evaluation Period |
| | COPD; and [ICS-containing or LABA-containing or LAMA-containing] | Include | See Appendices E and F | -365 days | -1 days | Any | Date of diagnosis | 1 | |
| | | Include | | -365 days | -1 days | Any | Date of dispensing | 1 | |
| 1 | Asthma; or Alpha-1-antitrypsin deficiency; or Sarcoidosis; or Cystic Fibrosis; or Bronchiectasis; or ILD, pneumoconiosis and miscellaneous; or Other lung disease | Exclude | See Appendix F | -365 days | 0 days | Any | Date of diagnosis | 1 | |
| | | | | | | | | | |
| | COPD; and [ICS-containing or LABA-containing or LAMA-containing] | Include | See Appendices E and F | -365 days | -1 days | Any | Date of diagnosis | 1 | |
| | | Include | | -365 days | -1 days | Any | Date of dispensing | 1 | |
| 2 | Asthma; or Alpha-1-antitrypsin deficiency; or Sarcoidosis; or Cystic Fibrosis; or Bronchiectasis; or ILD, pneumoconiosis and miscellaneous; or Other lung disease | Exclude | See Appendix F | -365 days | 0 days | Any | Date of diagnosis | 1 | |
| | | | | | | | | | |
| | COPD; and [ICS-containing or LABA-containing or LAMA-containing] | Include | See Appendices E and F | -365 days | -1 days | Any | Date of diagnosis | 1 | |
| | | Include | | -365 days | -1 days | Any | Date of dispensing | 1 | |
| 3 | Asthma; or Alpha-1-antitrypsin deficiency; or Sarcoidosis; or Cystic Fibrosis; or Bronchiectasis; or ILD, pneumoconiosis and miscellaneous; or Other lung disease | Exclude | See Appendix F | -365 days | 0 days | Any | Date of diagnosis | 1 | |
| | | | | | | | | | |

Appendix J. Specifications Defining Parameters in this Request

| Inclusion / Exclusion | | | | | | | | |
|-----------------------|--|--|---------------------------|-------------------------|-----------------------|----------------------------------|---|--|
| Scenario | Condition(s) | Include or Exclude | Code List(s) | Evaluation Period Start | Evaluation Period End | Inclusion/Exclusion Care Setting | Inclusion/Exclusion Evaluation Should Search for Evidence of: | Number of Instances the Criterion Should be Found in Evaluation Period |
| 4 | COPD; and [ICS-containing or LABA-containing or LAMA-containing] | Include | See Appendices E and F | -365 days | -1 days | Any | Date of diagnosis | 1 |
| | | Include | | -365 days | -1 days | Any | Date of dispensing | 1 |
| | Asthma; or Alpha-1-antitrypsin deficiency; or Sarcoidosis; or Cystic Fibrosis; or Bronchiectasis; or ILD, pneumoconiosis and miscellaneous; or Other lung disease | Exclude | See Appendix F | -365 days | 0 days | Any | Date of diagnosis | 1 |
| | | Exclude | | See Appendix E | 15 days | 15 days | Any | Days supply |
| 5 | COPD; and [ICS-containing or LABA-containing or LAMA-containing] | Include | See Appendices E and F | -365 days | -1 days | Any | Date of diagnosis | 1 |
| | | Include | | -365 days | -1 days | Any | Date of dispensing | 1 |
| | Index-day antibiotics exposure | Include | See Appendix E | 0 days | 0 days | Any | Date of dispensing | 1 |
| | | Asthma; or Alpha-1-antitrypsin deficiency; or Sarcoidosis; or Cystic Fibrosis; or Bronchiectasis; or ILD, pneumoconiosis and miscellaneous; or Other lung disease | | Exclude | See Appendix F | -365 days | 0 days | Any |
| Exclude | See Appendix E | | 15 days | 15 days | | Any | Days supply | 1 |

Appendix J. Specifications Defining Parameters in this Request

| Scenario | Condition(s) | Include or Exclude | Code List(s) | Inclusion / Exclusion | | | Inclusion/Exclusion Evaluation | Inclusion/Exclusion Evaluation Should Search for Evidence of: | Number of Instances the Criterion Should be Found in Evaluation Period |
|----------|--|--------------------|------------------------|-------------------------|-----------------------|----------------------------------|--------------------------------|---|--|
| | | | | Evaluation Period Start | Evaluation Period End | Inclusion/Exclusion Care Setting | | | |
| 6 | Asthma; and [ICS-containing or LABA-containing or LAMA-containing] | Include Include | See Appendices E and F | -365 days | -1 days | Any | Date of diagnosis | 1 | |
| | | | | -365 days | -1 days | Any | Date of dispensing | 1 | |
| 6 | COPD; or Alpha-1-antitrypsin deficiency; or Sarcoidosis; or Cystic Fibrosis; or Bronchiectasis; or ILD, pneumoconiosis and miscellaneous; or Other lung disease | Exclude | See Appendix F | -365 days | 0 days | Any | Date of diagnosis | 1 | |
| | | | | | | | | | |
| 7 | Asthma; and [ICS-containing or LABA-containing or LAMA-containing] | Include Include | See Appendices E and F | -365 days | -1 days | Any | Date of diagnosis | 1 | |
| | | | | -365 days | -1 days | Any | Date of dispensing | 1 | |
| 7 | COPD; or Alpha-1-antitrypsin deficiency; or Sarcoidosis; or Cystic Fibrosis; or Bronchiectasis; or ILD, pneumoconiosis and miscellaneous; or Other lung disease | Exclude | See Appendix F | -365 days | 0 days | Any | Date of diagnosis | 1 | |
| | | | | | | | | | |
| 8 | Asthma; and [ICS-containing or LABA-containing or LAMA-containing] | Include Include | See Appendices E and F | -365 days | -1 days | Any | Date of diagnosis | 1 | |
| | | | | -365 days | -1 days | Any | Date of dispensing | 1 | |
| 8 | COPD; or Alpha-1-antitrypsin deficiency; or Sarcoidosis; or Cystic Fibrosis; or Bronchiectasis; or ILD, pneumoconiosis and miscellaneous; or Other lung disease | Exclude | See Appendix F | -365 days | 0 days | Any | Date of diagnosis | 1 | |
| | | | | | | | | | |

Appendix J. Specifications Defining Parameters in this Request

| Scenario | Condition(s) | Include or Exclude | Code List(s) | Inclusion / Exclusion | | | Inclusion/Exclusion Evaluation | Inclusion/Exclusion Evaluation Should Search for Evidence of: | Number of Instances the Criterion Should be Found in Evaluation Period |
|----------|--|--------------------|---------------------------|-------------------------|-----------------------|----------------------------------|--------------------------------|---|--|
| | | | | Evaluation Period Start | Evaluation Period End | Inclusion/Exclusion Care Setting | | | |
| 9 | Asthma; and [ICS-containing or LABA-containing or LAMA-containing] | Include | See Appendices E and F | -365 days | -1 days | Any | Date of diagnosis | 1 | |
| | | Include | | -365 days | -1 days | Any | Date of dispensing | 1 | |
| | COPD; or Alpha-1-antitrypsin deficiency; or Sarcoidosis; or Cystic Fibrosis; or Bronchiectasis; or ILD, pneumoconiosis and miscellaneous; or Other lung disease | Exclude | See Appendix F | -365 days | 0 days | Any | Date of diagnosis | 1 | |
| | Antibiotics length limit | Exclude | See Appendix E | 15 days | 15 days | Any | Days supply | 1 | |
| 10 | Asthma; and [ICS-containing or LABA-containing or LAMA-containing] | Include | See Appendices E and F | -365 days | -1 days | Any | Date of diagnosis | 1 | |
| | | Include | | -365 days | -1 days | Any | Date of dispensing | 1 | |
| | Index-day antibiotics exposure | Include | See Appendix E | 0 days | 0 days | Any | Date of dispensing | 1 | |
| | COPD; or Alpha-1-antitrypsin deficiency; or Sarcoidosis; or Cystic Fibrosis; or Bronchiectasis; or ILD, pneumoconiosis and miscellaneous; or Other lung disease | Exclude | See Appendix F | -365 days | 0 days | Any | Date of diagnosis | 1 | |
| | Antibiotics length limit | Exclude | See Appendix E | 15 days | 15 days | Any | Days supply | 1 | |

International Classification of Diseases, Ninth and Tenth Revisions (ICD-9 and ICD-10), Healthcare Common Procedure Coding System (HCPCS), and Current Procedural Terminology (CPT) codes are provided by Optum360.

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

Appendix K. Specifications Defining Parameters for Baseline Characteristics in this Request

| Baseline Characteristics | | | |
|--|---|--|---|
| Baseline Characteristic (Care Setting¹) [Evaluation Start, Evaluation End] | Principal Diagnosis Position | Exclude Evidence of Days Supply If Covariate Includes Dispensings | Number of Instances the Covariate Should Be Found in Evaluation Period |
| Antibiotic (Abx) dispensing [-7,7] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| Abx dispensing [-14,14] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| Oral Corticosteroid (OCS) dispensing or injection [-7,7] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| OCS dispensing or injection [-14,14] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| Chronic Obstructive Pulmonary Disease (COPD) exacerbation codes (ED) [-7,7] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| COPD exacerbation codes (AV) [-7,7] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| COPD exacerbation codes (IP) [-7,7] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| COPD exacerbation codes (IS) [-7,7] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| COPD exacerbation codes (ED) [-14,14] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| COPD exacerbation codes (AV) [-14,14] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| COPD exacerbation codes (IP) [-14,14] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| COPD exacerbation codes (IS) [-14,14] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| COPD diagnosis codes (ED) [-7,7] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| COPD diagnosis codes (AV) [-7,7] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| COPD diagnosis codes (IP) [-7,7] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |

Appendix K. Specifications Defining Parameters for Baseline Characteristics in this Request

| Baseline Characteristics | | | |
|--|---|--|---|
| Baseline Characteristic (Care Setting¹) [Evaluation Start, Evaluation End] | Principal Diagnosis Position | Exclude Evidence of Days Supply If Covariate Includes Dispensings | Number of Instances the Covariate Should Be Found in Evaluation Period |
| COPD diagnosis codes (IS) [-7,7] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| COPD diagnosis codes (ED) [-14,14] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| COPD diagnosis codes (AV) [-14,14] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| COPD diagnosis codes (IP) [-14,14] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| COPD diagnosis codes (IS) [-14,14] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| Asthma exacerbation codes (ED) [-7,7] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| Asthma exacerbation codes (AV) [-7,7] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| Asthma exacerbation codes (IP) [-7,7] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| Asthma exacerbation codes (IS) [-7,7] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| Asthma exacerbation codes (ED) [-14,14] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| Asthma exacerbation codes (AV) [-14,14] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| Asthma exacerbation codes (IP) [-14,14] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| Asthma exacerbation codes (IS) [-14,14] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| Asthma diagnosis codes (ED) [-7,7] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| Asthma diagnosis codes (AV) [-7,7] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |

Appendix K. Specifications Defining Parameters for Baseline Characteristics in this Request

| Baseline Characteristics | | | |
|--|---|--|---|
| Baseline Characteristic (Care Setting¹) [Evaluation Start, Evaluation End] | Principal Diagnosis Position | Exclude Evidence of Days Supply If Covariate Includes Dispensings | Number of Instances the Covariate Should Be Found in Evaluation Period |
| Asthma diagnosis codes (IP) [-7,7] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| Asthma diagnosis codes (IS) [-7,7] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| Asthma diagnosis codes (ED) [-14,14] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| Asthma diagnosis codes (AV) [-14,14] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| Asthma diagnosis codes (IP) [-14,14] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| Asthma diagnosis codes (IS) [-14,14] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| Abx [0,0] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| OCS [0,0] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| Abx [1,1] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| OCS [1,1] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| COPD exacerbation codes (ED) [0,0] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| COPD exacerbation codes (AV) [0,0] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| COPD diagnosis codes (ED) [0,0] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| COPD diagnosis codes (AV) [0,0] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| Asthma exacerbation codes (ED) [0,0] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |

Appendix K. Specifications Defining Parameters for Baseline Characteristics in this Request

| Baseline Characteristics | | | |
|--|---|--|---|
| Baseline Characteristic (Care Setting¹) [Evaluation Start, Evaluation End] | Principal Diagnosis Position | Exclude Evidence of Days Supply If Covariate Includes Dispensings | Number of Instances the Covariate Should Be Found in Evaluation Period |
| Asthma exacerbation codes (AV) [0,0] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| Asthma diagnosis codes (ED) [0,0] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| Asthma diagnosis codes (AV) [0,0] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| Any COPD (except 491.20) (IP) [0,14] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| Any COPD (except 491.20) (IP) [1,14] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| Any asthma codes (IP) [0,14] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| Any asthma codes (IP) [1,14] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| COPD exacerbation codes (ED) and (Abx or OCS) [-7,7] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| COPD exacerbation codes (ED) and (Abx or OCS) [-14,14] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| COPD exacerbation codes (ED) and Abx [-7,7] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| COPD exacerbation codes (ED) and Abx [-14,14] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| COPD exacerbation codes (ED) and OCS [-7,7] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| COPD exacerbation codes (ED) and OCS [-14,14] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| COPD exacerbation codes (ED) and Abx and OCS [-7,7] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| COPD exacerbation codes (ED) and Abx and OCS [-14,14] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |

Appendix K. Specifications Defining Parameters for Baseline Characteristics in this Request

| Baseline Characteristics | | | |
|--|---|--|---|
| Baseline Characteristic (Care Setting¹) [Evaluation Start, Evaluation End] | Principal Diagnosis Position | Exclude Evidence of Days Supply If Covariate Includes Dispensings | Number of Instances the Covariate Should Be Found in Evaluation Period |
| COPD exacerbation codes (ED) and Abx and OCS [0,0] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| COPD exacerbation codes (ED) and Abx and OCS [1,1] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| COPD exacerbation codes (ED) and any COPD (except 491.20) (IP) [0,14] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| COPD exacerbation codes (ED) and any COPD (except 491.20) (IP) [1,14] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| COPD exacerbation codes (AV) and (Abx or OCS) [-7,7] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| COPD exacerbation codes (AV) and (Abx or OCS) [-14,14] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| COPD exacerbation codes (AV) and Abx [-7,7] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| COPD exacerbation codes (AV) and Abx [-14,14] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| COPD exacerbation codes (AV) and OCS [-7,7] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| COPD exacerbation codes (AV) and OCS [-14,14] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| COPD exacerbation codes (AV) and Abx and OCS [-7,7] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| COPD exacerbation codes (AV) and Abx and OCS [-14,14] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| COPD exacerbation codes (AV) and Abx and OCS [0,0] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| COPD exacerbation codes (AV) and Abx and OCS [1,1] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| COPD exacerbation codes (AV) and any COPD (except 491.20) (IP) [0,14] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |

Appendix K. Specifications Defining Parameters for Baseline Characteristics in this Request

| Baseline Characteristics | | | |
|--|---|--|---|
| Baseline Characteristic (Care Setting¹) [Evaluation Start, Evaluation End] | Principal Diagnosis Position | Exclude Evidence of Days Supply If Covariate Includes Dispensings | Number of Instances the Covariate Should Be Found in Evaluation Period |
| COPD exacerbation codes (AV) and any COPD (except 491.20) (IP) [1,14] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| COPD diagnosis codes (ED) and (Abx or OCS) [-7,7] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| COPD diagnosis codes (ED) and (Abx or OCS) [-14,14] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| COPD diagnosis codes (ED) and Abx [-7,7] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| COPD diagnosis codes (ED) and Abx [-14,14] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| COPD diagnosis codes (ED) and OCS [-7,7] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| COPD diagnosis codes (ED) and OCS [-14,14] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| COPD diagnosis codes (ED) and Abx and OCS [-7,7] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| COPD diagnosis codes (ED) and Abx and OCS [-14,14] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| COPD diagnosis codes (ED) and Abx and OCS [0,0] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| COPD diagnosis codes (ED) and Abx and OCS [1,1] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| COPD diagnosis codes (ED) and any COPD (except 491.20) (IP) [0,14] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| COPD diagnosis codes (ED) and any COPD (except 491.20) (IP) [1,14] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| COPD diagnosis codes (AV) and (Abx or OCS) [-7,7] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| COPD diagnosis codes (AV) and (Abx or OCS) [-14,14] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |

Appendix K. Specifications Defining Parameters for Baseline Characteristics in this Request

| Baseline Characteristics | | | |
|--|---|--|---|
| Baseline Characteristic (Care Setting¹) [Evaluation Start, Evaluation End] | Principal Diagnosis Position | Exclude Evidence of Days Supply If Covariate Includes Dispensings | Number of Instances the Covariate Should Be Found in Evaluation Period |
| COPD diagnosis codes (AV) and Abx [-7,7] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| COPD diagnosis codes (AV) and Abx [-14,14] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| COPD diagnosis codes (AV) and OCS [-7,7] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| COPD diagnosis codes (AV) and OCS [-14,14] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| COPD diagnosis codes (AV) and Abx and OCS [-7,7] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| COPD diagnosis codes (AV) and Abx and OCS [-14,14] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| COPD diagnosis codes (AV) and Abx and OCS [0,0] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| COPD diagnosis codes (AV) and Abx and OCS [1,1] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| COPD diagnosis codes (AV) and any COPD (except 491.20) (IP) [0,14] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| COPD diagnosis codes (AV) and any COPD (except 491.20) (IP) [1,14] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| Asthma exacerbation codes (ED) and (Abx or OCS) [-7,7] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| Asthma exacerbation codes (ED) and (Abx or OCS) [-14,14] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| Asthma exacerbation codes (ED) and Abx [-7,7] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| Asthma exacerbation codes (ED) and Abx [-14,14] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| Asthma exacerbation codes (ED) and OCS [-7,7] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |

Appendix K. Specifications Defining Parameters for Baseline Characteristics in this Request

| Baseline Characteristics | | | |
|--|---|--|---|
| Baseline Characteristic (Care Setting¹) [Evaluation Start, Evaluation End] | Principal Diagnosis Position | Exclude Evidence of Days Supply If Covariate Includes Dispensings | Number of Instances the Covariate Should Be Found in Evaluation Period |
| Asthma exacerbation codes (ED) and OCS [-14,14] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| Asthma exacerbation codes (ED) and Abx and OCS [-7,7] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| Asthma exacerbation codes (ED) and Abx and OCS [-14,14] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| Asthma exacerbation codes (ED) and Abx and OCS [0,0] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| Asthma exacerbation codes (ED) and Abx and OCS [1,1] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| Asthma exacerbation codes (ED) and any asthma codes (IP) [0,14] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| Asthma exacerbation codes (ED) and any asthma codes (IP) [1,14] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| Asthma exacerbation codes (AV) and (Abx or OCS) [-7,7] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| Asthma exacerbation codes (AV) and (Abx or OCS) [-14,14] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| Asthma exacerbation codes (AV) and Abx [-7,7] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| Asthma exacerbation codes (AV) and Abx [-14,14] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| Asthma exacerbation codes (AV) and OCS [-7,7] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| Asthma exacerbation codes (AV) and OCS [-14,14] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| Asthma exacerbation codes (AV) and Abx and OCS [-7,7] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| Asthma exacerbation codes (AV) and Abx and OCS [-14,14] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |

Appendix K. Specifications Defining Parameters for Baseline Characteristics in this Request

| Baseline Characteristics | | | |
|--|---|--|---|
| Baseline Characteristic (Care Setting¹) [Evaluation Start, Evaluation End] | Principal Diagnosis Position | Exclude Evidence of Days Supply If Covariate Includes Dispensings | Number of Instances the Covariate Should Be Found in Evaluation Period |
| Asthma exacerbation codes (AV) and Abx and OCS [0,0] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| Asthma exacerbation codes (AV) and Abx and OCS [1,1] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| Asthma exacerbation codes (AV) and any asthma codes (IP) [0,14] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| Asthma exacerbation codes (AV) and any asthma codes (IP) [1,14] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| Asthma diagnosis codes (ED) and (Abx or OCS) [-7,7] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| Asthma diagnosis codes (ED) and (Abx or OCS) [-14,14] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| Asthma diagnosis codes (ED) and Abx [-7,7] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| Asthma diagnosis codes (ED) and Abx [-14,14] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| Asthma diagnosis codes (ED) and OCS [-7,7] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| Asthma diagnosis codes (ED) and OCS [-14,14] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| Asthma diagnosis codes (ED) and Abx and OCS [-7,7] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| Asthma diagnosis codes (ED) and Abx and OCS [-14,14] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| Asthma diagnosis codes (ED) and Abx and OCS [0,0] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| Asthma diagnosis codes (ED) and Abx and OCS [1,1] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| Asthma diagnosis codes (ED) and any asthma codes (IP) [0,14] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |

Appendix K. Specifications Defining Parameters for Baseline Characteristics in this Request

| Baseline Characteristics | | | |
|--|---|--|---|
| Baseline Characteristic (Care Setting¹) [Evaluation Start, Evaluation End] | Principal Diagnosis Position | Exclude Evidence of Days Supply If Covariate Includes Dispensings | Number of Instances the Covariate Should Be Found in Evaluation Period |
| Asthma diagnosis codes (ED) and any asthma codes (IP) [1,14] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| Asthma diagnosis codes (AV) and (Abx or OCS) [-7,7] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| Asthma diagnosis codes (AV) and (Abx or OCS) [-14,14] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| Asthma diagnosis codes (AV) and Abx [-7,7] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| Asthma diagnosis codes (AV) and Abx [-14,14] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| Asthma diagnosis codes (AV) and OCS [-7,7] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| Asthma diagnosis codes (AV) and OCS [-14,14] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| Asthma diagnosis codes (AV) and Abx and OCS [-7,7] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| Asthma diagnosis codes (AV) and Abx and OCS [-14,14] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| Asthma diagnosis codes (AV) and Abx and OCS [0,0] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| Asthma diagnosis codes (AV) and Abx and OCS [1,1] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| Asthma diagnosis codes (AV) and any asthma codes (IP) [0,14] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| Asthma diagnosis codes (AV) and any asthma codes (IP) [1,14] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| COPD exacerbation codes (ED or AV or IP or IS) [-7,7] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| COPD exacerbation codes (ED or AV or IP) [-7,7] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |

Appendix K. Specifications Defining Parameters for Baseline Characteristics in this Request

| Baseline Characteristics | | | |
|--|---|--|---|
| Baseline Characteristic (Care Setting¹) [Evaluation Start, Evaluation End] | Principal Diagnosis Position | Exclude Evidence of Days Supply If Covariate Includes Dispensings | Number of Instances the Covariate Should Be Found in Evaluation Period |
| COPD exacerbation codes (ED or AV or IP or IS) [-14,14] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| COPD exacerbation codes (ED or AV or IP) [-14,14] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| COPD diagnosis codes (ED or AV or IP or IS) [-7,7] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| COPD diagnosis codes (ED or AV or IP) [-7,7] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| COPD diagnosis codes (ED or AV or IP or IS) [-14,14] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| COPD diagnosis codes (ED or AV or IP) [-14,14] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| Asthma exacerbation codes (ED or AV or IP or IS) [-7,7] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| Asthma exacerbation codes (ED or AV or IP) [-7,7] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| Asthma exacerbation codes (ED or AV or IP or IS) [-14,14] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| Asthma exacerbation codes (ED or AV or IP) [-14,14] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| Asthma diagnosis codes (ED or AV or IP or IS) [-7,7] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| Asthma diagnosis codes (ED or AV or IP) [-7,7] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| Asthma diagnosis codes (ED or AV or IP or IS) [-14,14] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |
| Asthma diagnosis codes (ED or AV or IP) [-14,14] | Any | Evaluation period should search for only evidence of a dispensing date | At least 1 |

¹ED stands for emergency department care setting; AV stands for ambulatory visit care setting; IP stands for inpatient care setting; and IS stands for non-acute institutional care setting