**CLRD exacerbations via standard concepts**

Cohort Entry Events

People enter the cohort when observing any of the following:

visit occurrences of 'Emergency room or Emergency room and Inpatient Visit'; with any of the following criteria:

having at least 1 condition occurrence of 'Chronic lower respiratory disease', starting between 0 days before and 0 days after 'Emergency room or Emergency room and Inpatient Visit' start date; a condition type that is: "inpatient detail - 1st position", "inpatient header - 1st position", "outpatient detail - 1st position", "outpatient header - 1st position", "carrier claim header - 1st position", "carrier claim detail - 1st position", "inpatient detail - primary", "inpatient header - primary", "primary condition" or "first position condition".

having at least 1 condition occurrence of 'Chronic lower respiratory disease', a condition status that is: "primary admission diagnosis", "primary diagnosis", "primary discharge diagnosis" or "principal diagnosis".

visit occurrences of 'Inpatient or Inpatient/ER visit'; with any of the following criteria:

having at least 1 condition occurrence of 'Chronic lower respiratory disease', starting between 0 days before and all days after 'Inpatient or Inpatient/ER visit' start date and starting anytime on or before 'Inpatient or Inpatient/ER visit' end date; a condition type that is: "inpatient detail - primary", "inpatient header - primary" or "primary condition".

having at least 1 condition occurrence of 'respiratory disease', starting between 0 days before and all days after 'Inpatient or Inpatient/ER visit' start date and starting anytime on or before 'Inpatient or Inpatient/ER visit' end date; a condition type that is: "inpatient detail - primary", "inpatient header - primary" or "primary condition"; having at least 1 condition occurrence of 'Chronic lower respiratory disease', starting between 0 days before and 0 days after 'respiratory disease' start date.

having at least 1 condition occurrence of 'Chronic lower respiratory disease', starting between 0 days before and all days after 'Inpatient or Inpatient/ER visit' start date and starting anytime on or before 'Inpatient or Inpatient/ER visit' end date; a condition status that is: "primary admission diagnosis", "primary diagnosis", "primary discharge diagnosis" or "principal diagnosis".

having at least 1 condition occurrence of 'respiratory disease', starting between 0 days before and all days after 'Inpatient or Inpatient/ER visit' start date and starting anytime on or before 'Inpatient or Inpatient/ER visit' end date; a condition status that is: "primary admission diagnosis", "primary diagnosis", "primary discharge diagnosis" or "principal diagnosis"; having at least 1 condition occurrence of 'Chronic lower respiratory disease', starting between 0 days before and 0 days after 'respiratory disease' start date.

drug exposures of 'systematic corticosteroids', with days supply between 1 and 14 days; having at least 1 condition occurrence of 'Chronic lower respiratory disease', starting in the 7 days prior to 'systematic corticosteroids' start date.

Cohort Exit

The cohort end date will be offset from index event's start date plus 0 days.

Cohort Eras

Remaining events will be combined into cohort eras if they are within 14 days of each other.

Appendix 1: Concept Set Definitions

Chronic lower respiratory disease

Concept Id Concept Name Domain Vocabulary Excluded Descendants Mapped

256451 Bronchitis Condition SNOMED NO YES NO

45768908 Exercise induced bronchospasm Condition SNOMED NO YES NO

255573 Chronic obstructive lung disease Condition SNOMED NO YES NO

317009 Asthma Condition SNOMED NO YES NO

256449 Bronchiectasis Condition SNOMED NO YES NO

4163244 Unilateral emphysema Observation SNOMED NO YES NO

260139 Acute bronchitis Condition SNOMED YES YES NO

256896 Tuberculosis of bronchus Condition SNOMED YES YES NO

257775 Tuberculous bronchiectasis Condition SNOMED YES YES NO

260134 Croup Condition SNOMED YES YES NO

257778 Pertussis Condition SNOMED YES YES NO

256722 Bronchopneumonia Condition SNOMED YES YES NO

440748 Interstitial emphysema of lung Condition SNOMED YES YES NO

255059 Congenital bronchiectasis Condition SNOMED YES YES NO

45757063 Allergic bronchopulmonary mycosis Condition SNOMED YES YES NO

261895 Compensatory emphysema Condition SNOMED YES YES NO

3655113 Chronic respiratory condition caused by vapors Condition SNOMED NO YES NO

439298 Bronchitis and pneumonitis due to chemical fumes Condition SNOMED YES YES NO

Emergency room or Emergency room and Inpatient Visit

Concept Id Concept Name Domain Vocabulary Excluded Descendants Mapped

262 Emergency Room and Inpatient Visit Visit Visit NO YES NO

9203 Emergency Room Visit Visit Visit NO YES NO

Inpatient or Inpatient/ER visit

Concept Id Concept Name Domain Vocabulary Excluded Descendants Mapped

262 Emergency Room and Inpatient Visit Visit Visit NO YES NO

9201 Inpatient Visit Visit Visit NO YES NO

respiratory disease

Concept Id Concept Name Domain Vocabulary Excluded Descendants Mapped

252235 Tuberculous pneumothorax Condition SNOMED NO YES NO

253954 Pulmonary tuberculosis Condition SNOMED NO YES NO

255848 Pneumonia Condition SNOMED NO YES NO

256896 Tuberculosis of bronchus Condition SNOMED NO YES NO

257775 Tuberculous bronchiectasis Condition SNOMED NO YES NO

257907 Disorder of lung Condition SNOMED YES NO NO

258335 Tuberculous fibrosis of lung Condition SNOMED NO YES NO

261774 Respiratory tuberculosis, not confirmed bacteriologically or histologically Condition SNOMED NO YES NO

318459 Respiratory insufficiency Condition SNOMED NO YES NO

4112824 Influenza with gastrointestinal tract involvement Condition SNOMED NO YES NO

4266367 Influenza Condition SNOMED NO YES NO

46269706 Otitis media due to influenza Condition SNOMED NO YES NO

255084 Congenital pneumonia Condition SNOMED YES YES NO

317109 Respiratory arrest Condition SNOMED YES YES NO

4173177 Respiratory insufficiency syndrome of newborn Condition SNOMED YES YES NO

313590 Perinatal respiratory failure Condition SNOMED YES YES NO

259992 Ventilator associated pneumonia Condition SNOMED YES YES NO

4195452 Aspiration pneumonia resulting from a procedure Condition SNOMED YES YES NO

45763749 Idiopathic interstitial pneumonia Condition SNOMED YES YES NO

4148529 Primary atypical interstitial pneumonia Condition SNOMED YES YES NO

4148486 Postprocedural respiratory failure Condition SNOMED YES YES NO

4060429 Disease of the respiratory system complicating pregnancy, childbirth and/or the puerperium Condition SNOMED YES YES NO

4317960 Neonatal respiratory failure Condition SNOMED YES YES NO

434271 Plague Condition SNOMED YES YES NO

258333 Salmonella pneumonia Condition SNOMED YES YES NO

253235 Pneumonia in pertussis Condition SNOMED YES YES NO

46269954 Pneumonia due to Bordetella parapertussis Condition SNOMED YES YES NO

4112820 Legionella pneumonia Condition SNOMED YES YES NO

260041 Candidiasis of lung Condition SNOMED YES YES NO

systematic corticosteroids

Concept Id Concept Name Domain Vocabulary Excluded Descendants Mapped

1518254 dexamethasone Drug RxNorm NO YES NO

975125 hydrocortisone Drug RxNorm NO YES NO

1551099 prednisone Drug RxNorm NO YES NO

1506270 methylprednisolone Drug RxNorm NO YES NO

1550557 prednisolone Drug RxNorm NO YES NO

19027186 paramethasone Drug RxNorm NO YES NO

1507705 cortisone Drug RxNorm NO YES NO