

**Air Quality-related Respiratory Illness v1**  
**Definition Factsheet & Technical Brief**

**Description:** To identify emergency department and ambulatory care visits for respiratory illnesses associated with poor air quality. Definition includes chief complaint terms and diagnosis codes for acute bronchitis, emphysema, chronic obstructive airway disease, chronic obstructive lung disease, chronic obstructive pulmonary disease, asthma, bronchasthma, reactive airway disease, acute respiratory distress syndrome, difficulty breathing, chest tightness, dyspnea, shortness of breath and wheezing. Using this query in combination with air quality trends may further assist with surveillance efforts. Developed by the NSSP Community of Practice in collaboration with Council of State and Territorial Epidemiologists in collaboration and the National Center for Environmental Health.

**New or Revised Definition:** New

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**Authored by** the NSSP Community of Practice.

**Table 1.** Inclusion and exclusion terms.

| Terms                                                                                              |  | Description                                             |
|----------------------------------------------------------------------------------------------------|--|---------------------------------------------------------|
| <i>Inclusion</i>                                                                                   |  |                                                         |
| <b>International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM)</b> |  |                                                         |
| J20                                                                                                |  | Acute bronchitis                                        |
| J43                                                                                                |  | Emphysema                                               |
| J44                                                                                                |  | Other chronic obstructive pulmonary disease             |
| J45                                                                                                |  | Asthma                                                  |
| J80                                                                                                |  | Acute respiratory distress syndrome                     |
| R06.0                                                                                              |  | Dyspnea                                                 |
| R06.02                                                                                             |  | Shortness of breath                                     |
| <b>International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM)</b>  |  |                                                         |
| 466.0                                                                                              |  | Acute bronchitis                                        |
| 492                                                                                                |  | Emphysema                                               |
| 493                                                                                                |  | Asthma                                                  |
| 496                                                                                                |  | Chronic airway obstruction, not elsewhere classified    |
| 518.82                                                                                             |  | Other pulmonary insufficiency, not elsewhere classified |
| 786.05                                                                                             |  | Shortness of breath                                     |
| 786.07                                                                                             |  | Wheezing                                                |
| 786.09                                                                                             |  | Other respiratory abnormalities                         |
| <b>SNOMED Concepts</b>                                                                             |  |                                                         |
| 10509002                                                                                           |  | Acute bronchitis (disorder)                             |
| 49158009                                                                                           |  | Emphysema (morphologic abnormality)                     |

| Terms                                                                                       |  | Description                |
|---------------------------------------------------------------------------------------------|--|----------------------------|
| 17569003                                                                                    |  | Emphysematous bleb         |
| 789677001                                                                                   |  | Emphysematous inflammation |
| 195967001                                                                                   |  | Asthma (disorder)          |
| 373895009                                                                                   |  | Acute respiratory distress |
| 56018004                                                                                    |  | Wheezing (finding)         |
| Chief Complaint                                                                             |  |                            |
| acute bronchitis                                                                            |  |                            |
| emphysema                                                                                   |  |                            |
| COPD                                                                                        |  |                            |
| chronic obstructive airway disease                                                          |  |                            |
| chronic obstructive lung disease                                                            |  |                            |
| chronic obstructive pulmonary disease                                                       |  |                            |
| asthma                                                                                      |  |                            |
| bronchasthma                                                                                |  |                            |
| RAD                                                                                         |  |                            |
| reactive airway disease                                                                     |  |                            |
| difficulty breath                                                                           |  |                            |
| breathing problem                                                                           |  |                            |
| chest tightness                                                                             |  |                            |
| chronic cough                                                                               |  |                            |
| dyspnea                                                                                     |  |                            |
| shortness of breath                                                                         |  |                            |
| wheez                                                                                       |  |                            |
| Exclusion                                                                                   |  |                            |
| International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) |  |                            |
| R50.9                                                                                       |  | Fever, unspecified         |
| International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM)  |  |                            |
| 780.60                                                                                      |  | Fever, unspecified         |
| Chief Complaint                                                                             |  |                            |
| febrile                                                                                     |  |                            |
| fever                                                                                       |  |                            |
| high temp                                                                                   |  |                            |

| Terms                                        | Description |
|----------------------------------------------|-------------|
| Chief Complaint – Exclusions from Wheez Term |             |
| cough                                        |             |
| cold                                         |             |
| congestion                                   |             |

**Table 2.** ESSENCE syntax.

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(,^[/ ]J20^,or,^[/ ]J4[345]^,or,^[/ ]J80^,or,^[/ ]R06.0^,or,^[/ ]R060^,or,^[/ ]R06.02^,or,^[/ ]R0602^,or,^[/ ]466.0^,or,^[/ ]4660[/ ]^,or,^[/ ]49[236][[/ ]^,or,^[/ ]518.82^,or,^[/ ]51882[/ ]^,or,^[/ ]786.0[579]^,or,^[/ ]7860[579][[/ ]^,or,^[/ ]10509002[/ ]^,or,^[/ ]49158009[/ ]^,or,^[/ ]17569003[/ ]^,or,^[/ ]789677001[/ ]^,or,^[/ ]195967001[/ ]^,or,^[/ ]373895009[/ ]^,or,^[/ ]56018004[/ ]^,or,^acute bronchitis^,or,^emphysema^,or,!COPD!,or,^chronic obstructive airway disease^,or,^chronic obstructive lung disease^,or,^chronic obstructive pulmonary disease^,or,^[/ ]J45^,or,^asthma^,or,^bronchasthma^,or,!RAD!,or,^reactive airway disease^,or,^[/ ]J80^,or,^difficulty breath^,or,^breathing problem^,or,^chest tightness^,or,^chronic cough^,or,^dyspnea^,or,^shortness of breath^,or,(^wheez^,andnot,(^cough^,or,^cold^,or,^congestion^,)),andnot,(^[/ ]R50.9^,or,^[/ ]R509^,or,^[/ ]780.60^,or,^[/ ]78060[/ ]^,or,^febrile^,or,^fever^,or,^high temp^,),)
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