Pediatric Health Information System (PHIS)
©Choosing Wisely Measures Report Card Definitions

Special Note: Choosing Wisely is an initiative of the American Board of Internal Medicine (ABIM) Foundation and has not reviewed or endorsed this report.

For all measures:
Patient Type: Inpatient/Observation or ED Visit (Defined by the prompt)
Severity Levels: 1, 2, 3 (Minor, Moderate, Major)
ICU Flag: ICU Flag = N

Achievable Benchmarks of Care (ABC):
ABCs are derived benchmarks that: 1) represent a measurable level of excellence, 2) are attainable, and (3) are derived from data in an objective and reproducible fashion. The ABC for the measure is calculated based on the performance of the top decile, with adjustments for sample size by participant/site.

Asthma Population defined as:

Age at Admit: Age in Years 3 thru 17
Length of Stay: LOS <= 3 days
Principal Dx (ICD): In Asthma Inclusion Codes list

Asthma Inclusion Codes:

49300 Extrinsic asthma, unspecified
49301 Extrinsic asthma with status asthmaticus
49302 Extrinsic asthma, with (acute) exacerbation
49310 Intrinsic asthma, unspecified
49311 Intrinsic asthma with status asthmaticus
49312 Intrinsic asthma, with (acute) exacerbation
49320 Chronic obstructive asthma, unspecified
49321 Chronic obstructive asthma, with status asthmaticus
49322 Chronic obstructive asthma, with (acute) exacerbation
49381 Exercise induced bronchospasm
49382 Cough variant asthma
49390 Asthma, unspecified, unspecified
49391 Asthma, unspecified type, with status asthmaticus
49392 Asthma, unspecified, with (acute) exacerbation
J4520 Mild intermittent asthma, uncomplicated
J4521 Mild intermittent asthma with (acute) exacerbation
J4522 Mild intermittent asthma with status asthmaticus
J4530 Mild persistent asthma, uncomplicated
J4531 Mild persistent asthma with (acute) exacerbation
J4532 Mild persistent asthma with status asthmaticus
J4540 Moderate persistent asthma, uncomplicated
J4541 Moderate persistent asthma with (acute) exacerbation
<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>J4542</td>
<td>Moderate persistent asthma with status asthmaticus</td>
</tr>
<tr>
<td>J4550</td>
<td>Severe persistent asthma, uncomplicated</td>
</tr>
<tr>
<td>J4551</td>
<td>Severe persistent asthma with (acute) exacerbation</td>
</tr>
<tr>
<td>J4552</td>
<td>Severe persistent asthma with status asthmaticus</td>
</tr>
<tr>
<td>J45901</td>
<td>Unspecified asthma with (acute) exacerbation</td>
</tr>
<tr>
<td>J45902</td>
<td>Unspecified asthma with status asthmaticus J45909</td>
</tr>
<tr>
<td></td>
<td>Unspecified asthma, uncomplicated</td>
</tr>
<tr>
<td>J45990</td>
<td>Exercise induced bronchospasm</td>
</tr>
<tr>
<td>J45991</td>
<td>Cough variant asthma</td>
</tr>
<tr>
<td>J45998</td>
<td>Other asthma</td>
</tr>
</tbody>
</table>

**Chest Radiograph defined as: (Asthma/Bronchiolitis Measure #1)**

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>433011</td>
<td>Chest x-ray</td>
</tr>
<tr>
<td>433111</td>
<td>Chest posterior anterior (PA) x-ray</td>
</tr>
<tr>
<td>433211</td>
<td>Chest anterior posterior (AP) x-ray</td>
</tr>
<tr>
<td>433311</td>
<td>Chest PA and lateral x-ray</td>
</tr>
<tr>
<td>433411</td>
<td>Chest AP and lateral x-ray</td>
</tr>
<tr>
<td>433511</td>
<td>Chest lateral decubitus x-ray</td>
</tr>
<tr>
<td>433611</td>
<td>Chest lateral x-ray</td>
</tr>
<tr>
<td>433711</td>
<td>Chest inspiration/expiration x-ray</td>
</tr>
<tr>
<td>433911</td>
<td>Other specified chest x-ray</td>
</tr>
</tbody>
</table>

**Asthma Exclusions:**

- Dx Code (ICD) in Basic Exclusion List for Respiratory (See Appendix A)
- Dx Code (ICD) in Bronchiolitis inclusion codes list (466.11, 466.19, J21.0, J21.1, J21.8, J21.9)
- Dx Code (ICD) in Lower Tract Respiratory Infection inclusion codes list (See below)

**Bronchiolitis Population defined as:**

**Age at Admit:** Admit age >= 1 month and < 1 year

**Length of Stay:** LOS <= 3 days

**Principal Dx (ICD):** In Bronchiolitis Inclusion Codes list

**Bronchiolitis Inclusion Codes:**

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>46611</td>
<td>Acute bronchiolitis due to respiratory syncytial virus (RSV)</td>
</tr>
<tr>
<td>46619</td>
<td>Acute bronchiolitis due to other infectious organisms</td>
</tr>
<tr>
<td>J210</td>
<td>Acute bronchiolitis due to respiratory syncytial virus</td>
</tr>
<tr>
<td>J211</td>
<td>Acute bronchiolitis due to human metapneumovirus</td>
</tr>
<tr>
<td>J218</td>
<td>Acute bronchiolitis due to other specified organisms</td>
</tr>
<tr>
<td>J219</td>
<td>Acute bronchiolitis, unspecified</td>
</tr>
</tbody>
</table>
Relievers defined as: (Bronchiolitis Measure #2)

131321 Epinephrine
181211 Albuterol sulfate
181231 Levalbuterol HCl
181235 Metaproterenol sulfate
181245 Terbutaline sulfate
181251 Pirbuterol acetate
181311 Ipratropium bromide
181315 Albuterol sulfate and ipratropium bromide

Bronchiolitis Exclusions:
- Dx Code (ICD) in Basic Exclusion List for Respiratory (See Appendix A)
- Dx Code (ICD) in Asthma inclusion codes list
- Dx Code (ICD) in Lower Tract Respiratory Infection inclusion codes list (See below)

Lower Respiratory Tract Infection (LRTI) defined as:

Age at Admit: Admit age >= 1 month and < 2 years
Length of Stay: LOS <= 3 days
Principal Dx (ICD): In LRTI Inclusion Codes list

Lower Respiratory Tract Infection (LRTI) Inclusion Codes – Principal Dx (ICD):

46611 Acute bronchiolitis due to respiratory syncytial virus (RSV)
46619 Acute bronchiolitis due to other infectious organisms
4800 Pneumonia due to adenovirus
4801 Pneumonia due to respiratory syncytial virus
4802 Pneumonia due to parainfluenza virus
4803 Pneumonia due to SARS-associated coronavirus 4808
    Pneumonia due to other virus not elsewhere classified
4809 Viral pneumonia, unspecified
481 Pneumococcal pneumonia [Streptococcus pneumoniae pneumonia]
4820 Pneumonia due to Klebsiella pneumoniae
4821 Pneumonia due to Pseudomonas
4822 Pneumonia due to Hemophilus influenzae [H. influenzae]
48230 Pneumonia due to unspecified Streptococcus
48231 Pneumonia due to Streptococcus, group A
48232 Pneumonia due to Streptococcus, group B
48239 Pneumonia due to other Streptococcus
48240 Pneumonia due to Staphylococcus, unspecified
48241 Methicillin susceptible pneumonia due to Staphylococcus aureus
48242 Methicillin resistant pneumonia due to Staphylococcus aureus
48249 Other Staphylococcus pneumonia
Pneumonia due to anaerobes
Pneumonia due to Escherichia coli [E. coli]
Pneumonia due to other gram-negative bacteria
Legionnaires’ disease
Pneumonia due to other specified bacteria
Bacterial pneumonia, unspecified
Pneumonia due to Mycoplasma pneumoniae
Pneumonia due to Chlamydia
Pneumonia due to other specified organism
Pneumonia in cytomegalic inclusion disease
Pneumonia in whooping cough
Pneumonia in anthrax
Pneumonia in aspergillosis
Pneumonia in other systemic mycoses
Pneumonia in other infectious diseases classified elsewhere
Bronchopneumonia, organism unspecified
Pneumonia, organism unspecified
Influenza with pneumonia
Pulmonary anthrax
Whooping cough due to Bordetella pertussis with pneumonia
Whooping cough due to Bordetella parapertussis with pneumonia
Whooping cough due to other Bordetella species with pneumonia
Whooping cough, unspecified species with pneumonia
Legionnaires’ disease
Cytomegaloviral pneumonitis
Invasive pulmonary aspergillosis
Influenza due to identified novel influenza A virus with pneumonia
Influenza due to other identified influenza virus with unspecified type of pneumonia
Influenza due to other identified influenza virus with the same other identified influenza virus pneumonia
Influenza due to other identified influenza virus with other specified pneumonia
Influenza due to unidentified influenza virus with unspecified type of pneumonia
Influenza due to unidentified influenza virus with specified pneumonia
Adenoviral pneumonia
Respiratory syncytial virus pneumonia
Parainfluenza virus pneumonia
Human metapneumovirus pneumonia
Pneumonia due to SARS-associated coronavirus
Other viral pneumonia
Viral pneumonia, unspecified
Pneumonia due to Streptococcus pneumoniae
J14  Pneumonia due to Hemophilus influenzae
J150 Pneumonia due to Klebsiella pneumoniae
J151 Pneumonia due to Pseudomonas
J1520 Pneumonia due to staphylococcus, unspecified
J15211 Pneumonia due to Methicillin susceptible Staphylococcus aureus
J15212 Pneumonia due to Methicillin resistant Staphylococcus aureus
J1529 Pneumonia due to other staphylococcus
J153 Pneumonia due to streptococcus, group B
J154 Pneumonia due to other streptococci
J155 Pneumonia due to Escherichia coli
J156 Pneumonia due to other aerobic Gram-negative bacteria
J157 Pneumonia due to Mycoplasma pneumoniae
J158 Pneumonia due to other specified bacteria
J159 Unspecified bacterial pneumonia
J160 Chlamydial pneumonia
J168 Pneumonia due to other specified infectious organisms
J17 Pneumonia in diseases classified elsewhere
J180 Bronchopneumonia, unspecified organism
J181 Lobar pneumonia, unspecified organism
J182 Hypostatic pneumonia, unspecified organism
J188 Other pneumonia, unspecified organism
J189 Pneumonia, unspecified organism
J210 Acute bronchiolitis due to respiratory syncytial virus
J211 Acute bronchiolitis due to human metapneumovirus
J218 Acute bronchiolitis due to other specified organisms
J219 Acute bronchiolitis, unspecified

Systemic Steroids defined as: (LRTI Measure #3)
154035 Dexamethasone
154063 Hydrocortisone
154071 Methylprednisolone
154081 Prednisolone
154083 Prednisone

Lower Respiratory Tract Infection (LRTI) Exclusions:
- Dx Code (ICD) in Basic Exclusion List for Respiratory (See Appendix A)
- Dx Code (ICD) in list of Asthma Inclusion codes (See above)
**Gastroesophageal Reflux defined as:**

**Age at Admit:** Admit age $\leq 1$ year  
**Length of Stay:** LOS $\leq 3$ days

**Principal Dx (ICD):**

- **530.81** Esophageal Reflux  
- **K21.9** Gastro-esophageal reflux disease without esophagitis

**Acid Suppressors defined as: (GER Measure #4)**

- **147200** Proton pump inhibitors, unspecified  
- **147201** Esomeprazole  
- **147203** Dxlansoprazole  
- **147205** Lansoprazole  
- **147211** Pantoprazole sodium  
- **147215** Omeprazole  
- **147221** Rabeprazole  
- **147229** Other specified proton pump inhibitors  
- **147100** Histamine antagonists  
- **147101** Cimetidine  
- **147105** Famotidine  
- **147111** Rantidine  
- **147115** Nizatidine  
- **147129** Other histamine antagonists

**Gastroesophageal (GER) Exclusions – Dx Code (ICD):**

- **261** Nutritional marasmus  
- **262** Other severe protein-calorie malnutrition  
- **2630** Malnutrition of moderate degree  
- **2631** Malnutrition of mild degree  
- **2632** Arrested development following protein-calorie malnutrition  
- **2638** Other protein-calorie malnutrition  
- **2639** Unspecified protein-calorie malnutrition  
- **32720** Organic sleep apnea, unspecified  
- **32721** Primary central sleep apnea  
- **32723** Obstructive sleep apnea (adult) (pediatric)  
- **32727** Central sleep apnea in conditions classified elsewhere  
- **32729** Other organic sleep apnea  
- **53010** Unspecified esophagitis
53011  Reflux esophagitis
53012  Acute esophagitis
53013  Eosinophilic esophagitis
53019  Other esophagitis
53311  Acute peptic ulcer of unspecified site with perforation, with obstruction
53320  Acute peptic ulcer of unspecified site with hemorrhage and perforation, without mention of obstruction
53321  Acute peptic ulcer of unspecified site with hemorrhage and perforation, with obstruction
53330  Acute peptic ulcer of unspecified site without mention of hemorrhage and perforation, without mention of obstruction
53331  Acute peptic ulcer of unspecified site without mention of hemorrhage and perforation, with obstruction
53340  Chronic or unspecified peptic ulcer of unspecified site with hemorrhage, without mention of obstruction
53341  Chronic or unspecified peptic ulcer of unspecified site with hemorrhage, with obstruction
53350  Chronic or unspecified peptic ulcer of unspecified site with perforation, without mention of obstruction
53351  Chronic or unspecified peptic ulcer of unspecified site with perforation, with obstruction
53360  Chronic or unspecified peptic ulcer of unspecified site with hemorrhage and perforation, without mention of obstruction
53361  Chronic or unspecified peptic ulcer of unspecified site with hemorrhage and perforation, with obstruction
53370  Chronic peptic ulcer of unspecified site without mention of hemorrhage or perforation, without mention of obstruction
53371  Chronic peptic ulcer of unspecified site without mention of hemorrhage or perforation, with obstruction
53390  Peptic ulcer of unspecified site, unspecified as acute or chronic, without mention of hemorrhage or perforation, without mention of obstruction
53391  Peptic ulcer of unspecified site, unspecified as acute or chronic, without mention of hemorrhage or perforation, with obstruction
53500  Acute gastritis, without mention of hemorrhage
53501  Acute gastritis, with hemorrhage
53510  Atrophic gastritis, without mention of hemorrhage
53511  Atrophic gastritis, with hemorrhage
53520  Gastric mucosal hypertrophy, without mention of hemorrhage
53521  Gastric mucosal hypertrophy, with hemorrhage
53530  Alcoholic gastritis, without mention of hemorrhage
53531  Alcoholic gastritis, with hemorrhage
53540  Other specified gastritis, without mention of hemorrhage
53541  Other specified gastritis, with hemorrhage
53550  Unspecified gastritis and gastroduodenitis, without mention of hemorrhage
53551  Unspecified gastritis and gastroduodenitis, with hemorrhage
53560  Duodenitis, without mention of hemorrhage
53561  Duodenitis, with hemorrhage
53570  Eosinophilic gastritis, without mention of hemorrhage
53571  Eosinophilic gastritis, with hemorrhage
77081  Primary apnea of newborn
77082  Other apnea of newborn
77934  Failure to thrive in newborn
78051 Insomnia with sleep apnea, unspecified
78053 Hypersomnia with sleep apnea, unspecified
78057 Unspecified sleep apnea
78341 Failure to thrive
78603 Apnea
79982 Apparent life threatening event in infant
E41 Nutritional marasmus
E42 Marasmic kwashiorkor
E43 Unspecified severe protein-calorie malnutrition
E440 Moderate protein-calorie malnutrition
E441 Mild protein-calorie malnutrition
E45 Retarded development following protein-calorie malnutrition
E46 Unspecified protein-calorie malnutrition
G4730 Sleep apnea, unspecified
G4731 Primary central sleep apnea
G4733 Obstructive sleep apnea (adult) (pediatric)
G4737 Central sleep apnea in conditions classified elsewhere
G4739 Other sleep apnea
K200 Eosinophilic esophagitis
K208 Other esophagitis
K209 Esophagitis, unspecified
K210 Gastro-esophageal reflux disease with esophagitis
K270 Acute peptic ulcer, site unspecified, with hemorrhage
K271 Acute peptic ulcer, site unspecified, with perforation
K272 Acute peptic ulcer, site unspecified, with both hemorrhage and perforation
K273 Acute peptic ulcer, site unspecified, without hemorrhage or perforation
K274 Chronic or unspecified peptic ulcer, site unspecified, with hemorrhage
K275 Chronic or unspecified peptic ulcer, site unspecified, with perforation
K276 Chronic or unspecified peptic ulcer, site unspecified, with both hemorrhage and perforation
K277 Chronic peptic ulcer, site unspecified, without hemorrhage or perforation
K279 Peptic ulcer, site unspecified, unspecified as acute or chronic, without hemorrhage or perforation
K2900 Acute gastritis without bleeding
K2901 Acute gastritis with bleeding
K2920 Alcoholic gastritis without bleeding
K2921 Alcoholic gastritis with bleeding
K2930 Chronic superficial gastritis without bleeding
K2931 Chronic superficial gastritis with bleeding
K2940 Chronic atrophic gastritis without bleeding
K2941 Chronic atrophic gastritis with bleeding
K2950 Unspecified chronic gastritis without bleeding
K2951 Unspecified chronic gastritis with bleeding
K2960 Other gastritis without bleeding
K2961 Other gastritis with bleeding
K2970 Gastritis, unspecified, without bleeding
K2971 Gastritis, unspecified, with bleeding
K2980 Duodenitis without bleeding
K2981 Duodenitis with bleeding
K2990 Gastroduodenitis, unspecified, without bleeding
K2991 Gastroduodenitis, unspecified, with bleeding
K5281 Eosinophilic gastritis or gastroenteritis
P283 Primary sleep apnea of newborn
P284 Other apnea of newborn
P926 Failure to thrive in newborn
R0681 Apnea, not elsewhere classified
R6251 Failure to thrive (child)
R6813 Apparent life threatening event in infant (ALTE)

Appendix A: Basic Exclusion List for Respiratory

261 Nutritional marasmus
262 Other severe protein-calorie malnutrition
2630 Malnutrition of moderate degree
2631 Malnutrition of mild degree
2638 Other protein-calorie malnutrition
2639 Unspecified protein-calorie malnutrition
2734 Alpha-1-antitrypsin deficiency
2762 Acidosis
27700 Cystic fibrosis without mention of meconium ileus
27701 Cystic fibrosis with meconium ileus
27702 Cystic fibrosis with pulmonary manifestations
27703 Cystic fibrosis with gastrointestinal manifestations
27709 Cystic fibrosis with other manifestations
317 Mild intellectual disabilities 3180
    Moderate intellectual disabilities 3181
    Severe intellectual disabilities 3182
    Profound intellectual disabilities
319 Unspecified intellectual disabilities
32720 Organic sleep apnea, unspecified
32721 Primary central sleep apnea
32723 Obstructive sleep apnea (adult) (pediatric)
32727 Central sleep apnea in conditions classified elsewhere
<table>
<thead>
<tr>
<th>Code</th>
<th>Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>32729</td>
<td>Other organic sleep apnea</td>
</tr>
<tr>
<td>3430</td>
<td>Diplegic infantile cerebral palsy</td>
</tr>
<tr>
<td>3431</td>
<td>Hemiplegic infantile cerebral palsy</td>
</tr>
<tr>
<td>3432</td>
<td>Quadriplegic infantile cerebral palsy</td>
</tr>
<tr>
<td>3433</td>
<td>Monoplegic infantile cerebral palsy</td>
</tr>
<tr>
<td>3434</td>
<td>Infantile hemiplegia</td>
</tr>
<tr>
<td>3438</td>
<td>Other specified infantile cerebral palsy</td>
</tr>
<tr>
<td>3439</td>
<td>Infantile cerebral palsy, unspecified</td>
</tr>
<tr>
<td>3481</td>
<td>Anoxic brain damage</td>
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<tr>
<td>34830</td>
<td>Encephalopathy, unspecified</td>
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<tr>
<td>34831</td>
<td>Metabolic encephalopathy</td>
</tr>
<tr>
<td>34839</td>
<td>Other encephalopathy 3489</td>
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</tbody>
</table>

Unspecified condition of brain:

<table>
<thead>
<tr>
<th>Code</th>
<th>Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>490</td>
<td>Bronchitis, not specified as acute or chronic</td>
</tr>
<tr>
<td>496</td>
<td>Chronic airway obstruction, not classified elsewhere</td>
</tr>
<tr>
<td>5111</td>
<td>Pleurisy with effusion, with mention of a bacterial cause other than tuberculosis</td>
</tr>
<tr>
<td>5119</td>
<td>Unspecified pleural effusion</td>
</tr>
<tr>
<td>51661</td>
<td>Neuroendocrine cell hyperplasia of infancy</td>
</tr>
<tr>
<td>51662</td>
<td>Pulmonary interstitial glycogenosis</td>
</tr>
<tr>
<td>51663</td>
<td>Surfactant mutations of the lung</td>
</tr>
<tr>
<td>51664</td>
<td>Alveolar capillary dysplasia with vein misalignment</td>
</tr>
<tr>
<td>51669</td>
<td>Other interstitial lung diseases of childhood</td>
</tr>
<tr>
<td>5168</td>
<td>Other specified alveolar and parietoalveolar pneumonopathies</td>
</tr>
<tr>
<td>5169</td>
<td>Unspecified alveolar and parietoalveolar pneumonopathy</td>
</tr>
<tr>
<td>51881</td>
<td>Acute respiratory failure</td>
</tr>
<tr>
<td>51882</td>
<td>Other pulmonary insufficiency, not elsewhere classified</td>
</tr>
<tr>
<td>51883</td>
<td>Chronic respiratory failure</td>
</tr>
<tr>
<td>51884</td>
<td>Acute and chronic respiratory failure</td>
</tr>
<tr>
<td>51889</td>
<td>Other diseases of lung not classified elsewhere</td>
</tr>
<tr>
<td>51911</td>
<td>Acute bronchospasm</td>
</tr>
<tr>
<td>52400</td>
<td>Unspecified anomaly of jaw size</td>
</tr>
<tr>
<td>52401</td>
<td>Maxillary hyperplasia</td>
</tr>
<tr>
<td>52402</td>
<td>Mandibular hyperplasia</td>
</tr>
<tr>
<td>52403</td>
<td>Maxillary hypoplasia</td>
</tr>
<tr>
<td>52404</td>
<td>Mandibular hypoplasia</td>
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<tr>
<td>52405</td>
<td>Macrogenia</td>
</tr>
<tr>
<td>52406</td>
<td>Microgenia</td>
</tr>
<tr>
<td>52407</td>
<td>Excessive tuberosity of jaw</td>
</tr>
<tr>
<td>52409</td>
<td>Other specified anomaly of jaw size</td>
</tr>
<tr>
<td>52410</td>
<td>Unspecified anomaly of relationship of jaw to cranial base</td>
</tr>
</tbody>
</table>
52412 Other jaw asymmetry
52419 Other specified anomaly of relationship of jaw to cranial base
7450 Common truncus
74510 Complete transposition of great vessels
74511 Double outlet right ventricle
74512 Corrected transposition of great vessels
74519 Other transposition of great vessels
7452 Tetralogy of Fallot
7453 Common ventricle
7454 Ventricular septal defect
7455 Ostium secundum type atrial septal defect
74560 Endocardial cushion defect, unspecified type
74561 Ostium primum defect
74569 Other endocardial cushion defects
7457 Cor biloculare
7458 Other bulbus cordis anomalies and anomalies of cardiac septal closure
7459 Unspecified defect of septal closure
74600 Congenital pulmonary valve anomaly, unspecified
74601 Atresia of pulmonary valve, congenital
74602 Stenosis of pulmonary valve, congenital
74609 Other congenital anomalies of pulmonary valve
7461 Tricuspid atresia and stenosis, congenital
7462 Ebstein's anomaly
7463 Congenital stenosis of aortic valve
7464 Congenital insufficiency of aortic valve
7465 Congenital mitral stenosis
7466 Congenital mitral insufficiency
7467 Hypoplastic left heart syndrome
74681 Subaortic stenosis, congenital
74682 Cor triatriatum
74683 Infundibular pulmonic stenosis, congenital
74684 Obstructive anomalies of heart, congenital, not elsewhere classified
74685 Coronary artery anomaly, congenital
74686 Congenital heart block
74687 Malposition of heart and cardiac apex
74689 Other specified congenital anomalies of heart
7469 Unspecified congenital anomaly of heart
7470 Patent Ductus Arteriosus
74710 Coarctation of aorta (preductal) (postductal)
74720 Congenital anomaly of aorta, unspecified
74860  Congenital anomaly of lung, unspecified
<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>74869</td>
<td>Other congenital anomalies of lung</td>
</tr>
<tr>
<td>74900</td>
<td>Cleft palate, unspecified</td>
</tr>
<tr>
<td>74901</td>
<td>Unilateral, unspecified</td>
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<tr>
<td>74902</td>
<td>Cleft palate, unilateral, incomplete</td>
</tr>
<tr>
<td>74903</td>
<td>Cleft palate, bilateral, complete</td>
</tr>
<tr>
<td>74904</td>
<td>Cleft palate, bilateral, incomplete</td>
</tr>
<tr>
<td>74910</td>
<td>Cleft lip, unspecified</td>
</tr>
<tr>
<td>74911</td>
<td>Cleft lip, unilateral, complete</td>
</tr>
<tr>
<td>74912</td>
<td>Cleft lip, unilateral, incomplete</td>
</tr>
<tr>
<td>74913</td>
<td>Cleft lip, bilateral, complete</td>
</tr>
<tr>
<td>74914</td>
<td>Cleft lip, bilateral, incomplete</td>
</tr>
<tr>
<td>74920</td>
<td>Cleft palate with cleft lip, unspecified</td>
</tr>
<tr>
<td>74921</td>
<td>Cleft palate with cleft lip, unilateral, complete</td>
</tr>
<tr>
<td>74922</td>
<td>Cleft palate with cleft lip, unilateral, incomplete</td>
</tr>
<tr>
<td>74923</td>
<td>Cleft palate with cleft lip, bilateral, complete</td>
</tr>
<tr>
<td>74924</td>
<td>Cleft palate with cleft lip, bilateral, incomplete</td>
</tr>
<tr>
<td>74925</td>
<td>Other combinations of cleft palate with cleft lip</td>
</tr>
<tr>
<td>7560</td>
<td>Congenital anomalies of skull and face bones</td>
</tr>
<tr>
<td>7678</td>
<td>Other specified birth trauma</td>
</tr>
<tr>
<td>76870</td>
<td>Hypoxic-ischemic encephalopathy, unspecified</td>
</tr>
<tr>
<td>76871</td>
<td>Mild hypoxic-ischemic encephalopathy</td>
</tr>
<tr>
<td>76872</td>
<td>Moderate hypoxic-ischemic encephalopathy</td>
</tr>
<tr>
<td>76873</td>
<td>Severe hypoxic-ischemic encephalopathy</td>
</tr>
<tr>
<td>7707</td>
<td>Chronic respiratory disease arising in the perinatal period</td>
</tr>
<tr>
<td>77081</td>
<td>Primary apnea of newborn</td>
</tr>
<tr>
<td>77082</td>
<td>Other apnea of newborn</td>
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<td>77934</td>
<td>Failure to thrive in newborn</td>
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<td>78051</td>
<td>Insomnia with sleep apnea, unspecified</td>
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<td>Hypersomnia with sleep apnea, unspecified</td>
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<tr>
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<td>Unspecified sleep apnea</td>
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<td>78341</td>
<td>Failure to thrive</td>
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<td>78603</td>
<td>Apnea</td>
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<td>V440</td>
<td>Tracheostomy status</td>
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<tr>
<td>V550</td>
<td>Attention to tracheostomy</td>
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<td>E41</td>
<td>Nutritional marasmus</td>
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<td>E42</td>
<td>Marasmic kwashiorkor</td>
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<td>E43</td>
<td>Unspecified severe protein-calorie malnutrition</td>
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<td>E440</td>
<td>Moderate protein-calorie malnutrition</td>
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<td>E441</td>
<td>Mild protein-calorie malnutrition</td>
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<tr>
<td>E46</td>
<td>Unspecified protein-calorie malnutrition</td>
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<td>E840</td>
<td>Cystic fibrosis with pulmonary manifestations</td>
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E8411  Meconium ileus in cystic fibrosis
E8419  Cystic fibrosis with other intestinal manifestations
E848   Cystic fibrosis with other manifestations
E849   Cystic fibrosis, unspecified
E872   Acidosis
E8801  Alpha-1-antitrypsin deficiency
F70    Mild intellectual disabilities
F71    Moderate intellectual disabilities
F72    Severe intellectual disabilities
F73    Profound intellectual disabilities
F78    Other intellectual disabilities
F79    Unspecified intellectual disabilities
G4730  Sleep apnea, unspecified
G4731  Primary central sleep apnea
G4733  Obstructive sleep apnea (adult) (pediatric)
G4737  Central sleep apnea in conditions classified elsewhere
G4739  Other sleep apnea
G800   Spastic quadriplegic cerebral palsy
G801   Spastic diplegic cerebral palsy
G802   Spastic hemiplegic cerebral palsy
G803   Athetoid cerebral palsy
G804   Ataxic cerebral palsy
G808   Other cerebral palsy
G809   Cerebral palsy, unspecified
G931   Anoxic brain damage, not elsewhere classified
G9340  Encephalopathy, unspecified
G9341  Metabolic encephalopathy
G9349  Other encephalopathy
G939   Disorder of brain, unspecified
I6783  Posterior reversible encephalopathy syndrome
J40    Bronchitis, not specified as acute or chronic
J449   Chronic obstructive pulmonary disease, unspecified
J80    Acute respiratory distress syndrome
J8409  Other alveolar and parieto-alveolar conditions
J8483  Surfactant mutations of the lung
J84841 Neuroendocrine cell hyperplasia of infancy
J84842 Pulmonary interstitial glycogenosis
J84843 Alveolar capillary dysplasia with vein misalignment
J84848 Other interstitial lung diseases of childhood
J8489  Other specified interstitial pulmonary diseases
J849   Interstitial pulmonary disease, unspecified
J90 Pleural effusion, not elsewhere classified
J918 Pleural effusion in other conditions classified elsewhere
J9600 Acute respiratory failure, unspecified whether with hypoxia or hypercapnia
J9601 Acute respiratory failure with hypoxia
J9602 Acute respiratory failure with hypercapnia
J9610 Chronic respiratory failure, unspecified whether with hypoxia or hypercapnia
J9611 Chronic respiratory failure with hypoxia
J9612 Chronic respiratory failure with hypercapnia
J9620 Acute and chronic respiratory failure, unspecified whether with hypoxia or hypercapnia
J9621 Acute and chronic respiratory failure with hypoxia
J9622 Acute and chronic respiratory failure with hypercapnia
J9690 Respiratory failure, unspecified, unspecified whether with hypoxia or hypercapnia
J9691 Respiratory failure, unspecified with hypoxia
J9692 Respiratory failure, unspecified with hypercapnia
J9801 Acute bronchospasm
J984 Other disorders of lung
M2600 Unspecified anomaly of jaw size
M2601 Maxillary hyperplasia
M2602 Maxillary hypoplasia
M2603 Mandibular hyperplasia
M2604 Mandibular hypoplasia
M2605 Macrogenia
M2606 Microgenia
M2607 Excessive tuberosity of jaw
M2609 Other specified anomalies of jaw size
M2610 Unspecified anomaly of jaw-cranial base relationship
M2611 Maxillary asymmetry
M2612 Other jaw asymmetry
M2619 Other specified anomalies of jaw-cranial base relationship
P150 Birth injury to liver
P151 Birth injury to spleen
P152 Sternomastoid injury due to birth injury
P153 Birth injury to eye
P154 Birth injury to face
P155 Birth injury to external genitalia
P158 Other specified birth injuries
P159 Birth injury, unspecified
P270 Wilson-Mikity syndrome
P271 Bronchopulmonary dysplasia originating in the perinatal period
P278 Other chronic respiratory diseases originating in the perinatal period
P279 Unspecified chronic respiratory disease originating in the perinatal period
P283  Primary sleep apnea of newborn
P284  Other apnea of newborn
P9160  Hypoxic ischemic encephalopathy [HIE], unspecified
P9161  Mild hypoxic ischemic encephalopathy [HIE]
P9162  Moderate hypoxic ischemic encephalopathy [HIE]
P9163  Severe hypoxic ischemic encephalopathy [HIE]
P926  Failure to thrive in newborn
Q200  Common arterial trunk
Q201  Double outlet right ventricle
Q202  Double outlet left ventricle
Q203  Discordant ventriculoarterial connection
Q204  Double inlet ventricle
Q205  Discordant atrioventricular connection
Q208  Other congenital malformations of cardiac chambers and connections Q209
Congenital malformation of cardiac chambers and connections, unspecified
Q210  Ventricular septal defect
Q211  Atrial septal defect
Q212  Atrioventricular septal defect
Q213  Tetralogy of Fallot
Q214  Aortopulmonary septal defect
Q218  Other congenital malformations of cardiac septa
Q219  Congenital malformation of cardiac septum, unspecified
Q220  Pulmonary valve atresia
Q221  Congenital pulmonary valve stenosis
Q222  Congenital pulmonary valve insufficiency
Q223  Other congenital malformations of pulmonary valve
Q225  Ebstein's anomaly
Q226  Hypoplastic right heart syndrome
Q228  Other congenital malformations of tricuspid valve
Q229  Congenital malformation of tricuspid valve, unspecified
Q230  Congenital stenosis of aortic valve
Q231  Congenital insufficiency of aortic valve
Q232  Congenital mitral stenosis
Q233  Congenital mitral insufficiency
Q234  Hypoplastic left heart syndrome
Q238  Other congenital malformations of aortic and mitral valves
Q239  Congenital malformation of aortic and mitral valves, unspecified
Q240  Dextrocardia
Q241  Levocardia
Q242  Cor triatriatum
Q243  Pulmonary infundibular stenosis
Q244  Congenital subaortic stenosis
Q245  Malformation of coronary vessels
Q246  Congenital heart block
Q248  Other specified congenital malformations of heart
Q249  Congenital malformation of heart, unspecified
Q250  Patent ductus arteriosus
Q251  Coarctation of aorta
Q252  Atresia of aorta
Q253  Supravalvular aortic stenosis
Q254  Other congenital malformations of aorta
Q331  Accessory lobe of lung
Q335  Ectopic tissue in lung
Q338  Other congenital malformations of lung
Q339  Congenital malformation of lung, unspecified
Q351  Cleft hard palate
Q353  Cleft soft palate
Q357  Cleft uvula
Q359  Cleft palate, unspecified
Q360  Cleft lip, bilateral
Q361  Cleft lip, median
Q369  Cleft lip, unilateral
Q370  Cleft hard palate with bilateral cleft lip
Q371  Cleft hard palate with unilateral cleft lip
Q372  Cleft soft palate with bilateral cleft lip
Q373  Cleft soft palate with unilateral cleft lip
Q374  Cleft hard and soft palate with bilateral cleft lip
Q375  Cleft hard and soft palate with unilateral cleft lip
Q378  Unspecified cleft palate with bilateral cleft lip
Q379  Unspecified cleft palate with unilateral cleft lip
Q750  Craniosynostosis
Q752  Hypertelorism
Q758  Other specified congenital malformations of skull and face bones
Q759  Congenital malformation of skull and face bones, unspecified
R0681  Apnea, not elsewhere classified
R6251  Failure to thrive (child)
Z430  Encounter for attention to tracheostomy
Z930  Tracheostomy status
Table A. Aggregate trends in utilization of low-value services (average adjusted percent (95% CI)) over five years before (2008-2012) and after (2013-2017) publication of CWC-PHM recommendations.

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<tbody>
<tr>
<td><strong>Asthma</strong></td>
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<tr>
<td>Chest radiograph</td>
<td>52.8 (51.9, 53.7)</td>
<td>53.6 (52.8, 54.5)</td>
<td>48.5 (47.6, 49.4)</td>
<td>45.9 (45.1, 46.8)</td>
<td>42.4 (41.5, 43.2)</td>
<td>38 (37.2, 38.9)</td>
<td>35.7 (34.9, 36.5)</td>
<td>32.4 (31.6, 33.3)</td>
<td>32.5 (31.7, 33.3)</td>
<td>32 (31.2, 32.8)</td>
<td>&lt;.001</td>
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<tr>
<td><strong>Bronchiolitis</strong></td>
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<tr>
<td>Chest radiograph</td>
<td>58.4 (57.3, 59.5)</td>
<td>56.9 (55.8, 58)</td>
<td>55.8 (54.8, 56.9)</td>
<td>51.5 (50.4, 52.5)</td>
<td>45.8 (44.8, 46.8)</td>
<td>40 (39, 41)</td>
<td>36.8 (35.7, 37.9)</td>
<td>30.9 (30, 31.9)</td>
<td>28.3 (27.4, 29.2)</td>
<td>26.9 (26.1, 27.8)</td>
<td>&lt;.001</td>
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<tr>
<td>Relievers</td>
<td>64 (62.8, 65.1)</td>
<td>63.4 (62.3, 64.5)</td>
<td>62.9 (61.8, 64)</td>
<td>60.8 (59.8, 61.9)</td>
<td>58.9 (57.8, 59.9)</td>
<td>56.8 (55.8, 57.9)</td>
<td>51.9 (50.7, 53)</td>
<td>38.3 (37.2, 39.3)</td>
<td>31.2 (30.3, 32.1)</td>
<td>27.4 (26.6, 28.3)</td>
<td>&lt;.001</td>
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<tr>
<td><strong>Lower Respiratory Tract Infection</strong></td>
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<td>Systemic steroids</td>
<td>15.1 (13.8, 16.4)</td>
<td>14.3 (13.1, 15.6)</td>
<td>14.8 (13.5, 16.1)</td>
<td>15.8 (14.4, 17.2)</td>
<td>15.5 (14, 16.9)</td>
<td>14.8 (13.4, 16.2)</td>
<td>13.5 (12, 14.9)</td>
<td>10.6 (9.4, 11.9)</td>
<td>12 (10.7, 13.2)</td>
<td>12.2 (10.8, 13.5)</td>
<td>&lt;.001</td>
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<tr>
<td><strong>GER</strong></td>
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<tr>
<td>Acid Suppressors</td>
<td>63 (60.8, 65.3)</td>
<td>62.2 (59.9, 64.5)</td>
<td>62.3 (59.9, 64.7)</td>
<td>60.7 (58.1, 63.3)</td>
<td>59.3 (56.5, 62.2)</td>
<td>56.6 (53.5, 59.7)</td>
<td>51.5 (48.3, 54.7)</td>
<td>52.6 (49.1, 56)</td>
<td>48.9 (45.4, 52.4)</td>
<td>48.9 (45.3, 52.5)</td>
<td>&lt;.001</td>
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</table>

Footnote: 
 p(Trend) - p-value for overall trend over 10 years. The values are adjusted for patient demographic and clinical factors that were found to be significantly different (p<0.01, Table 2) before and after the intervention on bivariate analyses
Figure 1- supplemental online graphic.
Trends in average utilization rates of low-value services over five years before and after CWC.

Footnote:
Y-axes: each dot represents risk adjusted average utilization rate.
X-axes: time in 3 months intervals (quarters) before and after CWC.