



Audit Worksheet for Acute Bronchitis: Four Steps to Track Antibiotic Prescribing

Overview:

Chart review and assessment are fundamental to improving healthcare quality. This sheet is designated as a “bare minimum” guide to auditing appropriate antibiotic use for acute bronchitis in otherwise healthy adults.

Of note, quality measures regarding appropriate treatment without antibiotics for acute bronchitis are available for clinics and facilities with the capability to use electronic health record (EHR) or claims data to track endorsed quality measures, such as those in the Healthcare Effectiveness Data and Information Set (HEDIS®), by the National Quality Forum, or measures included in the Merit-based Incentive Payment System (MIPS) program. Tracking the following measure and reporting performance back to clinicians in the practice will fulfill the tracking and reporting Core Element without the need for further chart review:

- Avoidance of Antibiotic Treatment in Adults with Acute Bronchitis
 - MIPS Measure (Quality ID 116, NQF: 0058) (<https://qpp.cms.gov/mips/quality-measures>)
 - HEDIS Measure (<http://www.ncqa.org/report-cards/health-plans/state-of-health-care-quality/2016-table-of-contents/acute-bronchitis>)

Purpose:

By quantifying antibiotic prescribing for acute bronchitis, users can better identify opportunities to improve antibiotic prescribing for this condition. Acute uncomplicated bronchitis does not require antibiotics, and antibiotics will not help the patient get better faster. Thus, national guidelines recommend against using antibiotics for acute bronchitis due to a clear lack of benefit among otherwise healthy outpatients.¹

1. Pull visit charts with diagnosis of acute bronchitis, and apply inclusion and exclusion criteria.

- Define a time period for your audit, such as monthly, quarterly, semi-annual, or annual audits.
- For each individual provider, a minimum of 10 chart visits should be reviewed (manually or using a data pull within the electronic health record [EHR] system) or, if less than 10 visits are available, review the total number available for the assigned time period, with a primary (i.e., first-listed) diagnosis of acute bronchitis.
- Apply inclusion and exclusion criteria to patient visits to select only those visits that meet criteria of acute uncomplicated bronchitis in an otherwise healthy adult.

Inclusion criteria:

- Acute bronchitis listed as the first, or primary diagnosis, for the medical visit (ICD-10 code J20.X), or second diagnosis if the first-listed diagnosis is general medical exam

Exclusion criteria:*

- Pertussis diagnosis, as antibiotics are recommended for pertussis
- Concomitant bacterial infections that warrant antibiotic use, such as pneumonia, skin and soft tissue infections, urinary tract infections, streptococcal pharyngitis, and acute bacterial sinusitis

- Comorbidities that would warrant antibiotics in the setting of bronchitis, such as immunosuppression, chronic obstructive pulmonary disease (including chronic bronchitis and emphysema), cystic fibrosis, and other underlying lung disease other than asthma**

The end result of this step should be a sample of visits for acute uncomplicated bronchitis for each participating clinician and the total number of acute uncomplicated bronchitis visits included in the sample. This will be used as your denominator when calculating prescribing rates (Step 3 below).

**The HEDIS & NQF measure “Avoidance of Antibiotic Treatment in Adults with Acute Bronchitis” contains a comprehensive list of concomitant bacterial infection and comorbidity codes to be used for exclusion. For clinics or facilities without access to the complete measure, clinicians may use clinical judgement informed by national recommendations to determine if a patient has a concomitant bacterial infection or comorbidity that would exclude them from recommendations for acute uncomplicated bronchitis in an otherwise healthy adult.¹*

***The presence of a comorbid diagnosis of asthma with acute bronchitis does not warrant antibiotic treatment.²*

2. Determine the number of uncomplicated bronchitis visits in which antibiotics were prescribed.

- Among the included visits for each participating clinician, count the number of acute uncomplicated bronchitis visits in which an antibiotic was prescribed. This will be used as your numerator when calculating the rate of antibiotic prescribing (Step 3 below).

3. Calculate prescribing rates for acute bronchitis.

- Calculate the prescribing rate by dividing the number of acute uncomplicated bronchitis visits in which an antibiotic was prescribed (the numerator) by total number of acute uncomplicated bronchitis visits (denominator).

Table 1. Example sheet for tracking antibiotic prescribing for acute bronchitis

Time Interval	Time Point 1	Time Point 2
Numerator (Number of visits in which an antibiotic was prescribed for acute uncomplicated bronchitis)		
Denominator (Total number of acute uncomplicated bronchitis visits)		
Percent receiving unnecessary antibiotics = (numerator/denominator) x 100		

4. Compare observed prescribing rate to recommended prescribing rate.

- For acute bronchitis, antibiotics are not recommended. Therefore, after exclusion criteria have been applied, expected antibiotic prescribing for this condition should be zero.
- If a facility is tracking antibiotic prescribing, it is recommended that feedback of prescribing rates to prescribers include a comparison to clinical guideline recommendations or facility expectations for antibiotic prescribing.
- Peer comparisons are especially effective and work best when compared to peers exhibiting the desired behaviors (e.g., the top 10% of prescribers, or those who abstain from prescribing antibiotics for acute bronchitis).³

It is recommended that antibiotic prescribing rates are revisited at repeated time points, at least semi-annually or annually, to monitor changes in antibiotic prescribing. For more information on appropriate

antibiotic prescribing, please visit www.cdc.gov/getsmart or read CDC's Core Elements of Antibiotic Stewardship.⁴

References

1. Harris A, Hicks L, Qaseem A. Appropriate Antibiotic Use for Acute Respiratory Tract Infection in Adults: Advice for High-Value Care From the American College of Physicians and the Centers for Disease Control and Prevention. *Ann. Intern. Med.* 2016;164(6):425-434.
2. National Asthma Education and Prevention Program. Expert Panel Report 3: Guidelines for the Diagnosis and Management of Asthma. Bethesda, MD, US Department of Health and Human Services, National Institutes of Health, National Heart, Lung and Blood Institute.
3. Meeker D, Linder JA, Fox CR, et al. Effect of behavioral interventions on inappropriate antibiotic prescribing among primary care practices: A randomized clinical trial. *JAMA : the journal of the American Medical Association.* 2016;315(6):562-570.
4. Sanchez GV, Fleming-Dutra KE, Roberts RM, Hicks LA. Core Elements of Outpatient Antibiotic Stewardship. *MMWR. Recommendations and reports : Morbidity and mortality weekly report. Recommendations and reports / Centers for Disease Control.* 2016;65(6):1-12.