Audit Worksheet for Viral Upper Respiratory Infections: 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 medical records to assess appropriate antibiotic use for viral upper respiratory infections (URIs) (i.e., common colds) in otherwise healthy patients.

Of note, quality measures regarding appropriate treatment for children with viral URIs are available for clinics and facilities with the capability to use electronic health records (EHRs) or registry 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:

- Appropriate Treatment for Children with Upper Respiratory Infection
    - MIPS Measure (Quality ID 065, NQF: 0069) (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/uri)
- There are no current treatment measures for appropriate treatment of viral URIs for adults, but national clinical practice guidelines clearly state that viral URIs (i.e., common colds) should not be treated with antibiotics. In fact, national data indicate that as many as 43% of adults 20-64 years of age and 39% of older adults ≥65 years of age receive antibiotics for viral URIs, indicating that improvements in management of this common condition are urgently needed.[1]

Purpose

By quantifying antibiotic prescribing for viral URIs, users can better identify opportunities to improve antibiotic prescribing for this condition. Antibiotics are not effective for these infections and are associated with adverse effects. Thus, national guidelines recommend against using antibiotics for this condition due to a clear lack of benefit.[2]

1. Pull visit charts with diagnosis of viral URI, 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 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 viral URI.
- Apply inclusion and exclusion criteria to patient visits to select only those visits that meet criteria of viral URI without a concomitant condition.

Inclusion criteria

- Viral URI listed as the first or primary diagnosis for the medical visit (ICD-10 code J00, J06.9, J06.9), or second diagnosis if the first listed diagnosis is general medical exam.

Exclusion criteria*

- Concomitant conditions that warrant antibiotic use, such as bacterial infections (e.g., pneumonia, skin and soft tissue infection, urinary tract infection, streptococcal pharyngitis, acute otitis media, acute bacterial sinusitis, and pertussis) or other specific indications for antibiotic therapy, such as cystic fibrosis exacerbation, acute exacerbation of chronic obstructive pulmonary disease, or fever in a patient with sickle cell disease or neutropenia.

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

*The HEDIS & NQF measure "Appropriate Treatment for Children with Upper Respiratory Infection" contains a comprehensive list of ICD-10-CM codes to be used as exclusion criteria in children for the measure. 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 condition that would warrant antibiotics, excluding them from the recommendations not to use antibiotics for viral URI.[2]

2. Determine the number of viral URI visits in which antibiotics were prescribed

- Among the included visits for each participating clinician, count the number of viral URI 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 viral URI

- Calculate the prescribing rate by dividing the number of viral URI visits in which an antibiotic was prescribed (**numerator**) by total number of viral URI visits (**denominator**).

Table 1. Example sheet for tracking antibiotic prescribing for viral URI

Time Interval	Time point 1	Time point 2
Numerator: Number of visits in which an antibiotic was prescribed for viral URI		
Denominator: Total number of viral URI visits		
Percent receiving unnecessary antibiotics = (numerator/denominator) x 100		

4. Compare observed prescribing rate to recommended prescribing rate

- For viral URI, antibiotics are not recommended. Therefore, after exclusion criteria have been applied, expected antibiotic prescribing for this condition should 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 viral URI).[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. Fleming-Dutra KE, Hersh AL, Shapiro DJ, et al. (2016). "Prevalence of inappropriate antibiotic prescriptions among us ambulatory care visits, 2010-2011." JAMA 315(17): 1864-1873.
2. 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.
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. https://www.cdc.gov/mmwr/volumes/65/rr/rr6506a1.htm