

Client	HEALTH BENCHMARKS, INC. STANDARD ALGORITHM <i>Implemented for Blue Cross Blue Shield of Texas</i>		
Measure Title	INAPPROPRIATE USE OF ANTIBIOTICS FOR UPPER RESPIRATORY INFECTIONS – URI (APPROPRIATE MANAGEMENT OF UPPER RESPIRATORY INFECTIONS – URI)		
Disease State	Upper Respiratory Infections (URI)	Indicator Classification¹	Disease Management
Strength of Recommendation²	B		
Organizations Providing Recommendation	NCQA (HEDIS 2007 Technical Specification), The Centers for Disease Control and Prevention, The American College of Physicians, The American Society of Internal Medicine, The American Academy of Family Physicians, The American Academy of Pediatrics, The Infectious Diseases Society of America, The World Health Organization		
Clinical Intent	To ensure that eligible members diagnosed with upper respiratory infections are not being inappropriately treated with antibiotics within a clinically appropriate timeframe.		
Physician Specialties	Emergency Medicine, Family Practice, Geriatric Medicine, Internal Medicine, Pediatrics, Urgent Care Provider		
Clinical Rationale	<p>Disease Burden</p> <ul style="list-style-type: none"> • Over 90% of upper respiratory infections (URIs) are caused by viruses, for which antibiotics are ineffective, yet up to 70% of patients with these conditions receive antibiotic prescriptions.[1-6] • Researchers have determined that 40-91% of antibiotic prescriptions worldwide are inappropriate [7], and 20-50% of all outpatient prescriptions for antibiotics in the United States are thought to be unnecessary.[7-9] <p>Reason for Indicated Intervention or Treatment</p> <ul style="list-style-type: none"> • Antibiotics are ineffective treatments for URIs, and widespread inappropriate antibiotic utilization has led to increasing levels of antibiotic resistance in bacteria that were once highly susceptible to antimicrobials.[2, 6, 10-12] <p>Evidence supporting Intervention or Treatment</p> <ul style="list-style-type: none"> • Streptococcus pneumoniae causes about 7 million cases of otitis media, 500,000 cases of pneumonia, 3000 cases of meningitis, and 50,000 cases of bacteremia per year.[13] While Streptococcus pneumoniae was approximately 99% susceptible to penicillin about 15 years ago, recent reports indicate that up to 30% of all current cases in the United States are resistant to penicillin [12, 14, 15], and about 15% are resistant to 3 or more drugs.[12] • Multiple observational studies indicate that rates of invasive infections with drug-resistant Streptococcus pneumoniae are related to recent antibiotic exposure.[16-19] • Multiple studies indicate a causal relationship between antibiotic use and resistance of hospital organisms.[20, 21] 		

- No study has shown any benefit of treatment with antibiotics for uncomplicated upper respiratory tract infections[22]. Many patients and physicians place considerable emphasis upon the color of nasal discharge when making decisions about antibiotic use. However, colored nasal discharge is a normal self-limited phase of the common cold, and randomized, placebo-controlled trials have shown no effect of antibiotics upon purulent rhinitis or colored nasal discharge.[23]

Clinical Recommendations

- The Centers for Disease Control and Prevention, American College of Physicians, American Society of Internal Medicine, American Academy of Family Physicians, American Academy of Pediatrics, and Infectious Diseases Society of America do not recommend antibiotic treatment for adults with nonspecific upper respiratory tract infections.[24-27]
- The World Health Organization (WHO) recommends educating the public and health care sectors on using antimicrobial drugs more wisely, in order to halt the spread of resistance.[7]
- The Centers for Disease Control and Prevention (CDC) recommends behavioral and educational interventions for modifying health care provider drug-prescribing practices, along with dissemination of guidelines for the prudent use of antimicrobial drugs.[24]

Source	Adapted from Health Plan Employer Data and Information Set (HEDIS®) 2007
Denominator	Continuously enrolled members whose claims had a diagnosis of URI only (i.e. no other diagnosis on the claim line) ages 15 months to 18 years old as of the end of the measurement year, who were diagnosed with a viral upper respiratory infection (URI) in an outpatient or emergency room setting during the first 362 days of the measurement year.
Denominator Exclusion	Members that had an active prescription for an antibiotic medication filled in the 1-30 days prior to the index date.
Numerator	Members who DID NOT receive an antibiotic prescription 0-3 days after the index date. (Note that this definition allows the measure to be reported as an inverted rate to facilitate a meaningful score interpretation across measures that are scored on the same scale.)
Interpretation of Score	High score implies better performance
Physician Attribution	<p>If client data contains prescribing provider:</p> <p>If the member received an antibiotic prescription, score the prescribing provider.</p> <p>If the member received an antibiotic injection, score the administering provider.</p> <p>If the member did not receive an antibiotic prescription or injection, score all physicians the member saw 0 – 3 days after the index date.</p> <p>If client data does not contain prescribing provider:</p> <p>Score all physicians the member saw between 0-3 days after the index date.</p>

References

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¹ **Indicator Classification** (Adapted from Health Plan Employer Data Information Set (HEDIS®) technical specifications)

Diagnosis	Measures applicable to patients receiving diagnostic workups for a symptom or condition that delineate appropriate laboratory or radiological testing to be performed (e.g. evaluation of thyroid nodule; pregnancy test in patients with vaginal bleeding or abdominal pain)
Effectiveness of Care	
Prevention	Measures applicable to asymptomatic individuals that are designed to prevent the onset of the targeted condition (e.g. immunizations).
Screening	Measures applicable to asymptomatic patients who have risk factors or pre-clinical disease, but in whom the condition has not become clinically apparent (e.g. pap smears; screening for elevated blood pressure).
Disease Management	Measures applicable to individuals diagnosed with a condition that are part of the treatment or management of the condition (e.g. cholesterol reduction in patients with diabetes; radiation therapy following breast conserving surgery; appropriate follow-up after acute event).
Medication Monitoring	Measures applicable to patients taking medications with narrow therapeutic windows and / or potential preventable significant side effects or adverse reactions (e.g. thyroid stimulating hormone (TSH) testing after levothyroxine dose change; hepatic enzyme monitoring for patients using antimycotic pharmacotherapy)
Medication Adherence	Measures applicable to patients taking medications for chronic conditions that are designed to assess patient adherence to medication (e.g. adherence to lipid lowering medication).
Utilization	Measures applicable to patients receiving treatment for a symptom or condition that advocate appropriate utilization of laboratory and pharmaceutical resources (e.g. conservative use of imaging for low back pain; inappropriate use of antibiotics for viral upper respiratory infection).

² Strength of Recommendation

Strength of Recommendation Based on a Body of Evidence

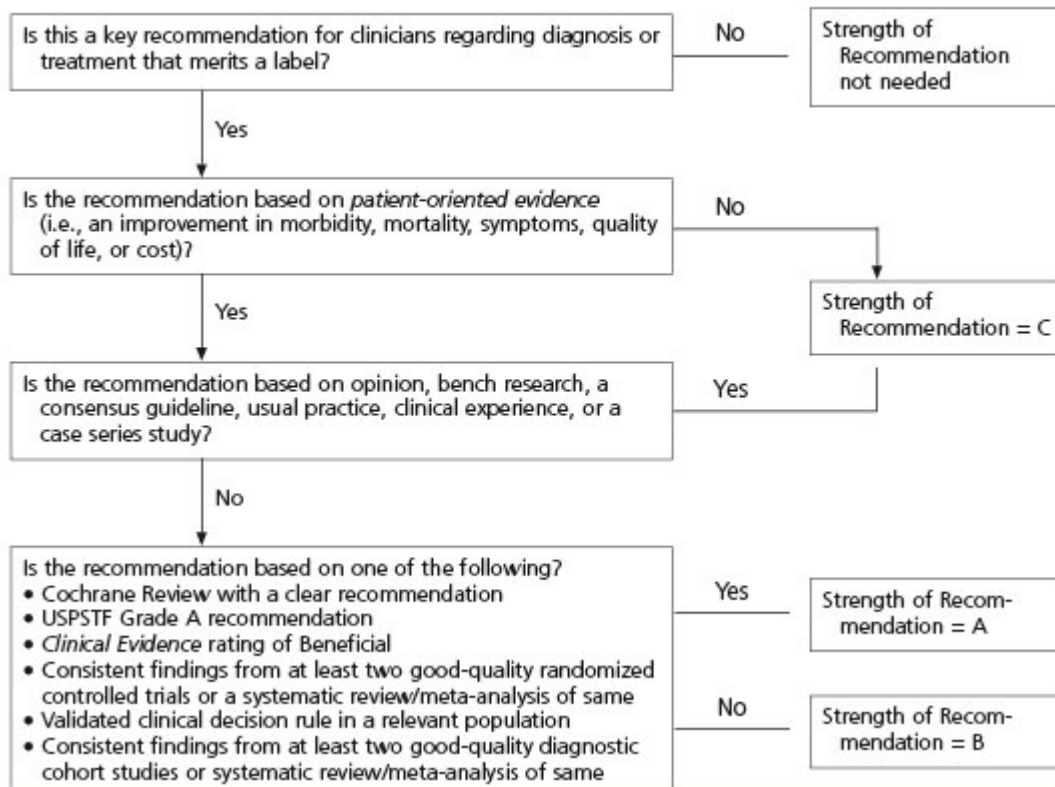


FIGURE 2. Algorithm for determining the strength of a recommendation based on a body of evidence (applies to clinical recommendations regarding diagnosis, treatment, prevention, or screening). While this algorithm provides a general guideline, authors and editors may adjust the strength of recommendation based on the benefits, harms, and costs of the intervention being recommended. (USPSTF = U.S. Preventive Services Task Force)