



Measure Title	INAPPROPRIATE USE OF ANTIBIOTICS FOR UPPER RESPIRATORY INFECTIONS (URI)		
Disease State	Upper Respiratory Infections (URI)	Indicator Classification¹	Disease Management
Strength of Recommendation²	B		
Physician Specialties	Pediatrics, Family Practice, Gerontology, Internal Medicine		

Clinical Rationale

Disease Burden

- 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]

Reason for Indicated Intervention or Treatment

- 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]

Evidence supporting Intervention or Treatment

- 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]

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.[22-25]
- 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.[22]

Denominator	Count all episodes for continuously enrolled members ages 3 months to 18 years old as of the end of the measurement year, who were diagnosed with viral upper respiratory in an outpatient or emergency room setting during the first 358 days of the measurement year. (*Note: Unique episodes, not members, are counted.)
Denominator Exclusion	Exclude all episodes where a member had any diagnosis for a qualifying comorbid condition, or where there was a competing diagnosis in the 30 days prior through the seven days following the episode date, or where the member had an active prescription for an antibiotic medication filled in the 30 days prior to the episode diagnosis date.
Numerator	Members who DID NOT receive respiratory-related antibiotics 0-3 days after the episode diagnosis date of URI.
Interpretation of Score	High score implies better performance.
Physician Attribution	Score all physicians the member saw between 0-3 days after the episode diagnosis.
External Files Required for Analysis	Numerator File: <i>uri_num_medlist_2006.xls</i> Source: HBI, Master NDC or NCQA

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

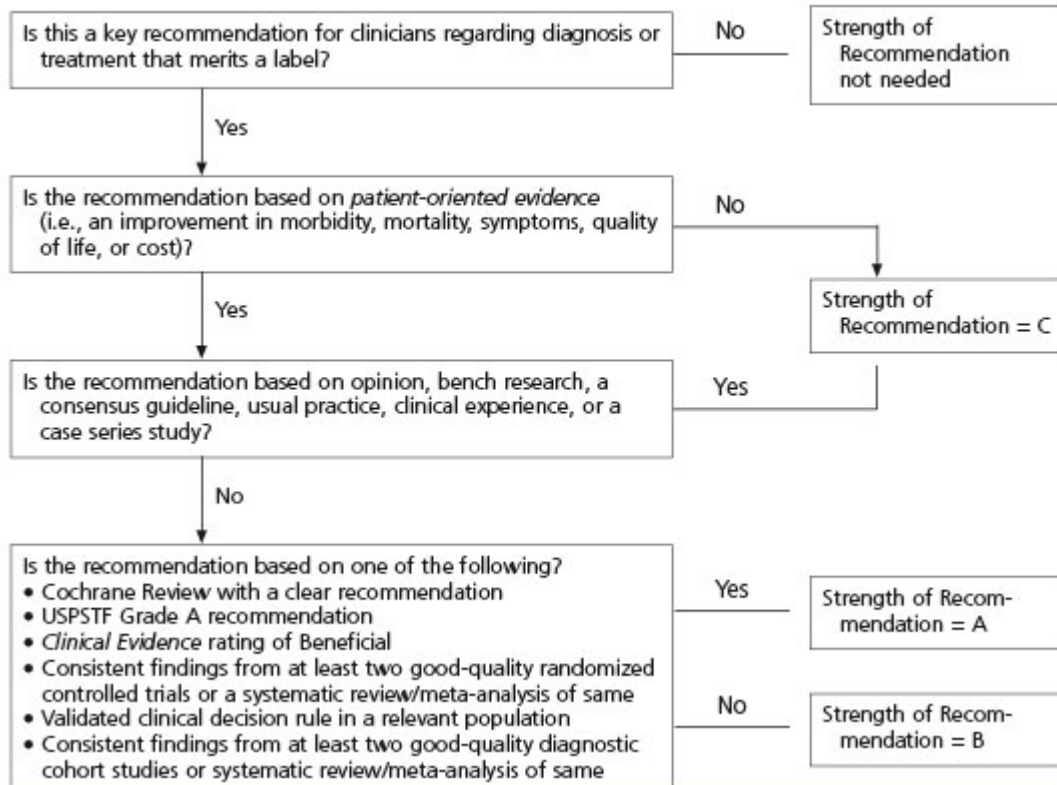


FIGURE 2. Algorithm for determining the strength of a recommendation based on a body of evidence (applies to clinical recommendations regarding diagnosis, treatment, prevention, or screening). While this algorithm provides a general guideline, authors and editors may adjust the strength of recommendation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