Measure Title: USE OF FIRST LINE ANTIBIOTICS FOR PATIENTS WITH ACUTE SINUSITIS

Disease State: Upper Respiratory Infections

Indicator Classification: Disease Management

Strength of Recommendation: B

Physician Specialties (suggested): Family Medicine, General Medicine, Emergency Medicine, Infectious Disease, Internal Medicine, Obstetrics/Gynecology, Pediatrics, Preventive Medicine

Disease Burden:
- In 2002, sinusitis accounted for approximately 30 million office visits.[1]
- Some estimates suggest that there may actually be over a billion yearly cases of sinusitis, and that as many as 90% of patients with colds have sinusitis (viral or other).[2]
- Between 60-95% of cases of acute sinusitis resolve without antibiotic treatment [3], and epidemiologic studies suggest that only 0.2 to 2% of viral rhinosinusitis cases in adults [2, 4] actually develop into bacterial infections.
- Sinus aspirate cultures of both adults and children with acute bacterial sinusitis indicate that Streptococcus pneumoniae and Haemophilus influenzae are the major bacterial pathogens in adults.[5-7]

Reason for Indicated Intervention or Treatment:
- Widespread inappropriate antibiotic utilization has led to increasing levels of antibiotic resistance in bacteria that were once highly susceptible to antimicrobials.[8-11]
- In light of increasing antibiotic resistance, it is important for providers to use antibiotics judiciously, including using narrow-spectrum, first-line antimicrobials whenever possible.[12-14]
- No significant differences in rates of cure or clinical improvement have been noted in patients treated with narrow-spectrum versus broad-spectrum antibiotic therapy.[15-18]

Evidence supporting Intervention or Treatment:
- A Cochrane review of 49 randomized trials involving 13,660 patients evaluated antibiotic treatment for acute maxillary sinusitis. It concluded that though the current evidence for treatment of acute maxillary sinusitis is limited, the rates of cure or clinical improvement did not differ with broad- versus narrow-spectrum antibiotic therapy.[15]
- Two other meta-analysis of 14-16 randomized trials showed only small, clinically unimportant differences in failure rates between patients treated with amoxicillin versus broad-spectrum antibiotics.[16, 17]
- In addition, a retrospective cohort study of 29,102 patients showed a 90.1% success rate (no additional prescriptions filled within 28 days of the initial prescription) for patients receiving amoxicillin, trimethoprim-sulfamethoxazole, or erythromycin and a 90.8% success rate for those receiving broader-spectrum agents.[18]
- It is important to note that most of the randomized controlled trials were limited due to a lack of specificity in diagnosing acute bacterial sinusitis.

Clinical Recommendations:
- According to the American College of Physicians, most cases of acute sinusitis...
sinusitis in ambulatory practice are caused by uncomplicated viral infections, and should be treated symptomatically.[19, 20]

- For the initial treatment of acute bacterial sinusitis in adults, the American Academy of Family Physicians, American College of Physicians-American Society of Internal Medicine, Centers for Disease Control and Prevention, and Infectious Diseases Society of America recommend using narrow-spectrum agents (e.g., amoxicillin, doxycycline, trimethoprim-sulfamethoxazole) as first-line treatment for adults.[19, 20]

- However, due to concerns about the rapid increase in antimicrobial resistance of S. pneumoniae and H. influenzae, the organizations listed above recommend that physicians consider current recommendations for treating infection with S. pneumoniae and H. influenzae when making treatment decisions.[19, 20]

Source
Health Benchmarks, Inc.

Denominator
Count all episodes for continuously enrolled members, ages 21 years or older, who received a diagnosis of acute sinusitis and filled a prescription for an antibiotic 0-7 days of the index diagnosis.

Denominator Exclusion
Members with a previous diagnosis of acute sinusitis within 1-30 days prior to the index date, or members who filled a prescription for a first line antibiotic within 1-30 days prior to the index date, or members with a diagnosis for a comorbid condition 1-365 days prior to the index date, or members with a diagnosis for a condition warranting an antibiotic prescription in the 1-30 days prior to the index date through 7 days after the index date.

Numerator
For each qualifying diagnosis, members whose prescription was for a first line antibiotic.

Interpretation of Score
High score implies better performance

Physician Attribution
Physicians (in selected specialties) who saw the member with 0-7 days after the index diagnosis date.

External Files Required for Analysis
Filename: all_antibiotics_medlist.xls, frstasin_num_medlist_2006.xls
Source: HBI, Master NDC

References