Core Elements of an Outpatient Antibiotic Stewardship Program (ASP) with Quality Payment Program Crosswalk

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CDC Core Elements

- **Commitment**: Demonstrate dedication to and accountability for optimizing antibiotic prescribing and patient safety.
- **Action for policy and practice**: Implement at least one policy or practice to improve antibiotic prescribing, assess whether it is working, and modify as needed.
- **Tracking and reporting**: Monitor antibiotic prescribing practices and offer regular feedback to clinicians, or have clinicians assess their own antibiotic prescribing practices themselves.
- **Education and expertise**: Provide educational resources to clinicians and patients on antibiotic prescribing, and ensure access to needed expertise on optimizing antibiotic prescribing.
CORE MEASURES FOR OUTPATIENT ASP: Commitment

• Can your facility demonstrate dedication to and accountability for optimizing antibiotic prescribing and patient safety related to antibiotics?
  – Single leader to direct antibiotic stewardship within a facility
  – Communicate with all clinic staff to set patient expectations
    • Antibiotics are NOT benign
  – Include ASP duties in job descriptions or job evaluation criteria
    • ASP done properly takes time
Single Leader to Direct Antibiotic Stewardship within a Facility

• Should be an Infectious Diseases Specialist at a system level
  – At a practice level, should be a provider who is interested and educated in the topic
    • Must practice what you preach!!!
  – Must have a “FACE” to the program
  – Must be willing to have difficult conversations

• Challenge bridging between inpatient and the ambulatory setting
  – Inpatient ASP is pharmacy driven
  – Outpatient ASP is not
CORE MEASURES FOR OUTPATIENT ASP: Improved Prescribing

• Has your facility implemented at least one policy or practice to improve antibiotic prescribing?
  – Use of evidence based diagnostic criteria and treatment recommendations (MIPS)
  – Use of delayed prescribing practices or watchful waiting when appropriate
  – Communication skills training for clinicians
  – Require explicit written justification for non-recommended antibiotics
  – Clinical Decision Support
  – Triage systems to avoid unnecessary visits
Use of Evidence-based Diagnostic Criteria and Treatment Recommendations

IDSA Practice Guidelines

Practice guidelines are systematically developed statements to assist practitioners and patients in making decisions about appropriate health care for specific clinical circumstances. [Institute of Medicine Committee to Advise the Public Health Service on Clinical Practice Guidelines, 1990]

Attributes of good guidelines include validity, reliability, reproducibility, clinical applicability, clinical flexibility, clarity, multidisciplinary process, review of evidence, and documentation. [Institute of Medicine Committee to Advise the Public Health Service on Clinical Practice Guidelines, 1990]

Source: http://www.idsociety.org/PracticeGuidelines/
Use of Evidence-based Diagnostic Criteria and Treatment Recommendations (cont.)

**Streptococcal Pharyngitis**
**Status: Current**
The guideline is intended for use by healthcare providers who care for adult and pediatric patients with group A streptococcal pharyngitis. The guideline updates the 2002 Infectious Diseases Society of

**Rhinosinusitis**
**Status: Current**
This guideline addresses several issues in the management of acute bacterial rhinosinusitis (ABRS), including (1) inability of existing clinical criteria to accurately differentiate bacterial from viral acute rhinosinusitis, leading to

**Community-Acquired Pneumonia (CAP) in Infants and Children**
**Status: Current**
Evidenced-based guidelines for management of infants and children with community-acquired pneumonia (CAP) were prepared by an expert panel comprising clinicians and investigators representing community pediatrics, public health, and the pediatric

**Community-Acquired Pneumonia (CAP)**
**Status: Update in Progress**
Improving the care of adult patients with community-acquired pneumonia (CAP) has been the focus of many different organizations, and several have developed guidelines for management of CAP. Two of the

[http://www.idsociey.org/PracticeGuidelines/](http://www.idsociey.org/PracticeGuidelines/)
Use of Delayed Prescribing Practices or Watchful Waiting When Appropriate

- Best established with otitis media in children
- Can be used for “minor” infections such as sinusitis/upper respiratory infection (URI)
- Should not be utilized for infections that can have serious complications
  - Urinary Tract Infection (UTI)
  - Pneumonia
- Most cases of bronchitis and pharyngitis (strep negative) do not require antibiotic therapy
Require Explicit Written Justification for Non-Recommended Antibiotics

• Establish local treatment guidelines based on antibiotic sensitivity
  – Educate the providers on those recommendations

• Determine which antibiotics should be restricted in those situations
  – (*i.e.*, fluoroquinolones for the treatment of cystitis)
    • High rates of resistance
    • High rates of collateral damage
    • FDA warning for use with minor infections

• Track prescribing patterns for those diagnosis and submit provider specific data
Clinical Guidelines (local)

NON-PURULENT cellulitis/erysipelas

MILD
No systemic signs of infection

Cefalexin 500 mg PO Q6H or Amoxicillin/clavulanate 875 mg PO Q12H or Dicloxacillin 500 mg PO Q6H
PCN Allergy: Clindamycin 300 mg PO Q6H
DURATION: 5-7 days

Moderate

Cefazolin 2 g IV Q8H or Ampicillin/subactam 3 g IV Q6H
PCN Allergy: Clindamycin 600 mg IV Q8H
DURATION: 5-7 days

Severe
Concern for Necrotizing Infection

Yes
(Immediate Surgical Evaluation)
Vancomycin IV + Piperacillin/Tazobactam IV + Clindamycin IV

No
Refactory infections should be empirically treated with coverage against MRSA:
Vancomycin IV ± Ceftriaxone IV
* Ensure adequate edema control

Cellulitis
Vancomycin IV + Ceftriaxone IV
Erysipelas
Cefazolin IV + Clindamycin IV
PCN Allergy: Vancomycin IV + Meropenem IV + Clindamycin IV

Treatment algorithms are designed to guide in empiric broad coverage antibiotic therapy. Culture and sensitivity data should narrow antibiotic coverage.
**Clostridium difficile Infection Treatment Algorithm**
Premier Health Infectious Disease Subcommittee

**Age >70 years**  
OR  
Continuation of concomitant antibiotics  
OR  
Recurrent C difficile infection  
OR  
Moderate-severe symptoms*

- **yes**
- **no**

**Hypotension, Shock / Critical Illness**  
OR  
Ileus  
OR  
Toxic megacolon

- **yes**  
  - Consider surgical and infectious disease consult
- **no**  
  - Metronidazole 500 mg by mouth three times daily x 10-14 days

**Additional Considerations**
- Discontinue concomitant antimicrobials whenever possible
- Consider consult to infectious disease if:
  - Concomitant antimicrobials need to be continued
  - Recurrent C diff
  - Inability to tolerate enteral C diff treatment
- Do NOT send stool for follow-up testing to confirm resolution of disease (test-of-cure)
- **Vancomycin taper** should be considered for 3rd or subsequent episode of C diff  
  - Vancomycin 125 mg by mouth four times daily x 10-14 days, then  
  - Vancomycin 125 mg by mouth twice daily x 7 days, then  
  - Vancomycin 125 mg by mouth daily x 7 days, then  
  - Vancomycin 125 mg by mouth every other day x 2-8 weeks
- Failure of vancomycin taper may warrant consideration of fecal microbiota transplant. Consider consultation by GI and/or ID

**Vancomycin 500 mg by mouth four times daily**  
PLUS  
Metronidazole 500 mg intravenously three times daily

If acute abdomen consider adding vancomycin 500mg enema every 6 hours

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*Moderate-severe symptoms: ≥6 bowel movements/day, significant abdominal pain, WBC count >15 x 10⁹/L, renal insufficiency, or albumin <3 g/dL

The above guideline should be utilized in conjunction with evaluation of the patient's clinical status and the clinicians professional judgement.

Require Explicit Written Justification for Non-Recommended Antibiotics

FDA Drug Safety Communication: FDA advises restricting fluoroquinolone antibiotic use for certain uncomplicated infections; warns about disabling side effects that can occur together

https://www.fda.gov/Drugs/DrugSafety/ucm500143.htm
Clinical Decision Support

• Local treatment guidelines
  – Can be incorporated into many EHR’s

• Electronic tools accessible through the EHR (i.e., Up to Date)

• Order sets
## Increasing Evidence to Support Short Treatment Courses

<table>
<thead>
<tr>
<th>Disease</th>
<th>Short course</th>
<th>Long course</th>
</tr>
</thead>
<tbody>
<tr>
<td>Community acquired PNA</td>
<td>3–5</td>
<td>7–10</td>
</tr>
<tr>
<td>Hospital acquired PNA</td>
<td>7–8</td>
<td>10–15</td>
</tr>
<tr>
<td>Pyelonephritis</td>
<td>5–7</td>
<td>10–14</td>
</tr>
<tr>
<td>COPD exacerbation</td>
<td>&lt;5</td>
<td>&gt;7</td>
</tr>
<tr>
<td>Bacterial sinusitis</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td>Cellulitis</td>
<td>6</td>
<td>10</td>
</tr>
</tbody>
</table>

Adapted from: Spellberg B. *JAMA Intern Med* 2016;176(9):1254-5
CORE MEASURES FOR OUTPATIENT ASP:
Tracking and monitoring

• Does your facility monitor at least one aspect of antibiotic prescribing?
  – Self evaluate antibiotic prescribing practices
  – CME, QI to track and prescribe antibiotic prescribing
  – Track and report antibiotic prescribing for one or more high priority conditions (MIPS)
  – Track and report % of visits leading to antibiotic prescribing
  – Track and report complications of antibiotics prescribing (at a healthcare system level)
Track and Report Complications of Antibiotics Prescribing (at a Healthcare System Level)

- *Clostridium difficile* would be the easiest
  - Track through inpatient ASP
  - Track through micro lab
  - Very challenging when you are not in a “closed” healthcare system
- Renal failure with TMP-SMX*
- Rash with beta-lactams

*TMP/SMX is combination of two antibiotic drugs: Trimethoprim and Sulfamethoxazole. It is also known as co-trimoxazole.*
Stewardship in Emergency Department

• Provider specific antibiotic prescribing patterns
  – What disease, which antibiotic, how long?
• Emphasize duration of antibiotic therapy via guidelines
• Utilize scoring tools/pathways to determine inpatient vs. outpatient treatment
  – CURB-65 for PNA
• Sepsis and appropriate antibiotic selection
  – Vanc and pip/tazo is not the answer for all septic patients!
CORE MEASURES FOR OUTPATIENT ASP: Education and Expertise

• Does your facility provide resources to clinicians and patients on evidence based antibiotic prescribing?
  – Use effective communication strategies to educate patients about when antibiotics are and are not needed
  – Educate about the potential harms of antibiotic treatment
  – Provide patient education materials
Contact your state QIN-QIO if you have questions.

They are your partner for Outpatient Antibiotic Stewardship.

Outpatient Antibiotic Stewardship

Antibiotic Stewardship in your facility will:
- Increase positive patient outcomes
- Decrease antibiotic resistance
- Decrease C. difficile infections
- Decrease costs

What is Antibiotic Stewardship?

Antibiotic stewardship is the effort to measure and improve how antibiotics are prescribed by clinicians and used by patients. Improving antibiotic prescribing involves implementing effective strategies to modify prescribing practices to align them with evidence-based recommendations for diagnosis and management.

HSAG is a centralized resource for knowledge and tools that help outpatient providers improve health quality, efficiency, and value.

Source: https://www.hsag.com/en/medicare-providers/antibiotic-stewardship
California Medical Association Foundation

www.thecmafoundation.org/Resources/Physician-Resources

• Treatment guidelines for adults and pediatrics:
  – Acute Bacterial Sinusitis
  – Pharyngitis
  – Nonspecific Cough Illness/Acute Bronchitis
  – Nonspecific URI
  – Outpatient Community-Acquired Pneumonia (CAP)

• Patient education handouts

• Patient education posters for the office
Evidence-Based Management of Acute Respiratory Tract Infections

Repeated studies and meta-analyses have demonstrated no significant benefit from antibiotics in otherwise healthy persons. Antibiotic administration is associated with allergic reactions, C. difficile infection and future antibiotic resistance in the treated patient and the community.

Best Practices in the Management of Patients with Acute Bronchitis/Cough

Assess for pneumonia (see reverse side of brochure)

In the absence of pneumonia, consider the following diagnoses for adults with acute cough illness.

- Acute Bronchitis
  - Dr. Criteria: Cough dominant
  - + fever
  - + rhinosinusitis

- URI or Rhinosinusitis
  - Dr. Criteria: Cough plus nasal, throat and/or ear discomfort
  - No dominant symptoms

- Influence During the Season
  - If cough + fever + myalgia/tremor/pain present, prevalence ≥ 60%

- Acute Bacterial Sinusitis
  - Dr. Criteria: See reverse side of brochure

- Antibiotics NOT needed

See reverse for recommendations on antibiotic therapy.

Educate and Advise Patients

Most patients want a diagnosis and, not necessarily antibiotics. Explain to the patient that bronchitis is a viral illness, and coughs are either viral or reactive airway diseases. It is important to emphasize that antibiotics may be appropriate if there is a bacterial cause of infection that the patient or their family. This strategy is associated with less or superior patient satisfaction.

Set appropriate expectations for the duration of symptoms, e.g., cough may last for several weeks.

Give symptomatic relief such as codeine-based cough suppressants, pseudoephedrine, multi-symptom OTC medications, and possibly occupational therapists.

![Cough in patients requiring symptomatic treatment (such as long-term high fevers and shortness of breath) that indicates more severe diseases.

Recommend Vaccination

- Universal vaccination to all persons 6 months of age, pregnant women and younger patients and families with documented significant risk factors.

- Pneumococcal vaccination for those with concurrent significant illnesses and all persons ≥65 years old with a pneumococcal vaccine history. Refer to the CMA Foundation’s Adult Vaccine Schedule for recommended intramuscular pneumococcal conjugate vaccine (PCV13) and pneumococcal polysaccharide vaccine (PPV23).

- Community Acquired Pneumonia:


- Cellulitis and Abscesses:

Reference Articles

- National Guidelines:

- Community Acquired Pneumonia:
Viruses or Bacteria
What’s got you sick?

Antibiotics only treat bacterial infections. Viral illnesses cannot be treated with antibiotics. When an antibiotic is not prescribed, ask your healthcare professional for tips on how to relieve symptoms and feel better.

<table>
<thead>
<tr>
<th>Common Condition: What’s got you sick?</th>
<th>Common Cause</th>
<th>Are antibiotics needed?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Bacteria</td>
<td>Bacteria or Virus</td>
</tr>
<tr>
<td>Strep throat</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Whooping cough</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Urinary tract infection</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Sinus infection</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Middle ear infection</td>
<td>✓</td>
<td></td>
</tr>
</tbody>
</table>

Chart

Chart: Viruses or Bacteria — What's Got You Sick?

Antibiotics are not effective against viral infections like the common cold, flu, most sore throats, bronchitis, and many sinus and ear infections. Learn when antibiotics are and aren't needed.

- **Printer friendly version in color** [1 page]
- **View page in HTML**

Fact Sheets

Preventing and Treating Bronchitis

This 2-page, full color 8.5”x11” fact sheet explains acute bronchitis and how it can be prevented and treated.

- **Printer friendly version in color** [2 page]
- **View page in HTML**

Preventing and Treating Ear Infections

This 2-page, full color 8.5”x11” fact sheet explains the different types of ear infections, and how they can be prevented and treated.

- **Printer friendly version in color** [2 page]

2017 Get Smart Week is November 13–19, 2017 now recognized as U.S. Antibiotic Awareness Week


Source: https://www.cdc.gov/getsmart/community/downloads/getsmartweek_factsheet.pdf
Patient Education: Office Electronics
Questions?