Core Elements of Outpatient Antibiotic Stewardship

Implementing Antibiotic Stewardship Into Your Outpatient Practice

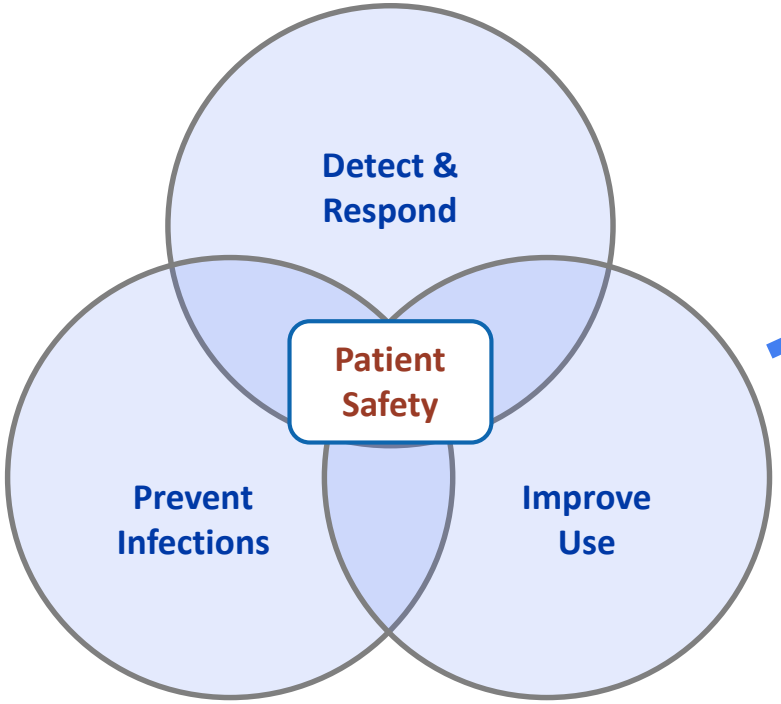
Katherine Fleming-Dutra, MD

Office of Antibiotic Stewardship
Division of Healthcare Quality Promotion
National Center for Emerging and Zoonotic Infectious Diseases
Centers for Disease Control and Prevention

Objectives

- Understand opportunities, barriers and effective interventions to improve outpatient antibiotic prescribing
- Focus on opportunities for acute bronchitis and sinusitis

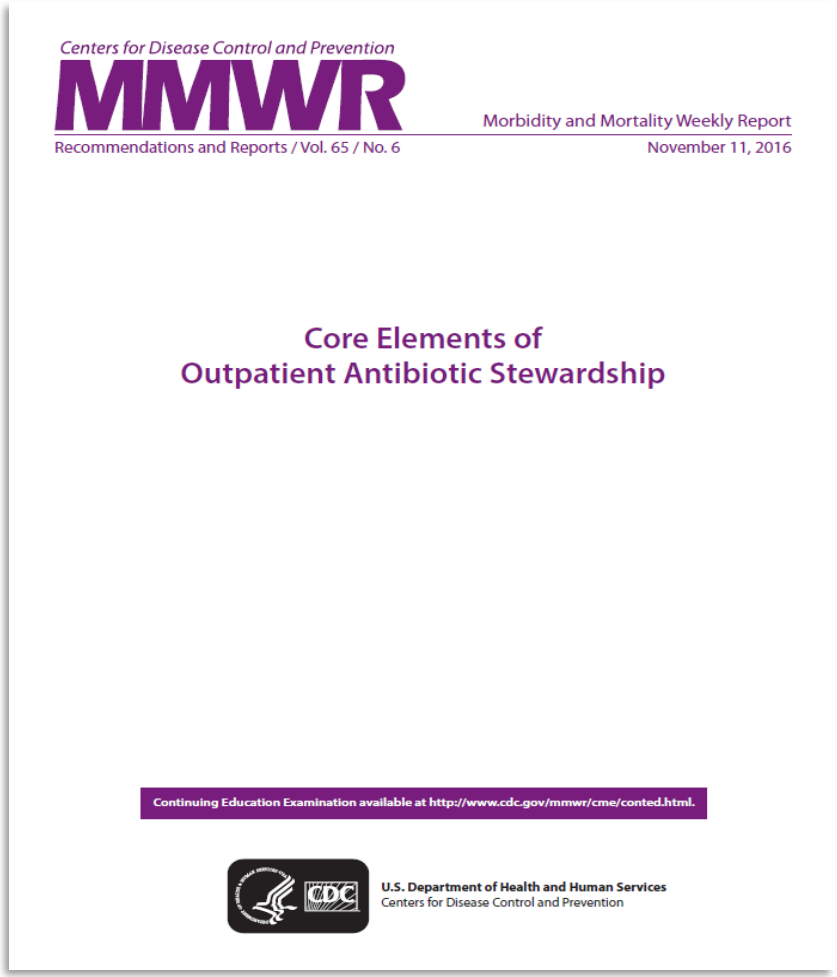
How CDC and Public Health Protect the Patient: Combating Antibiotic Resistance

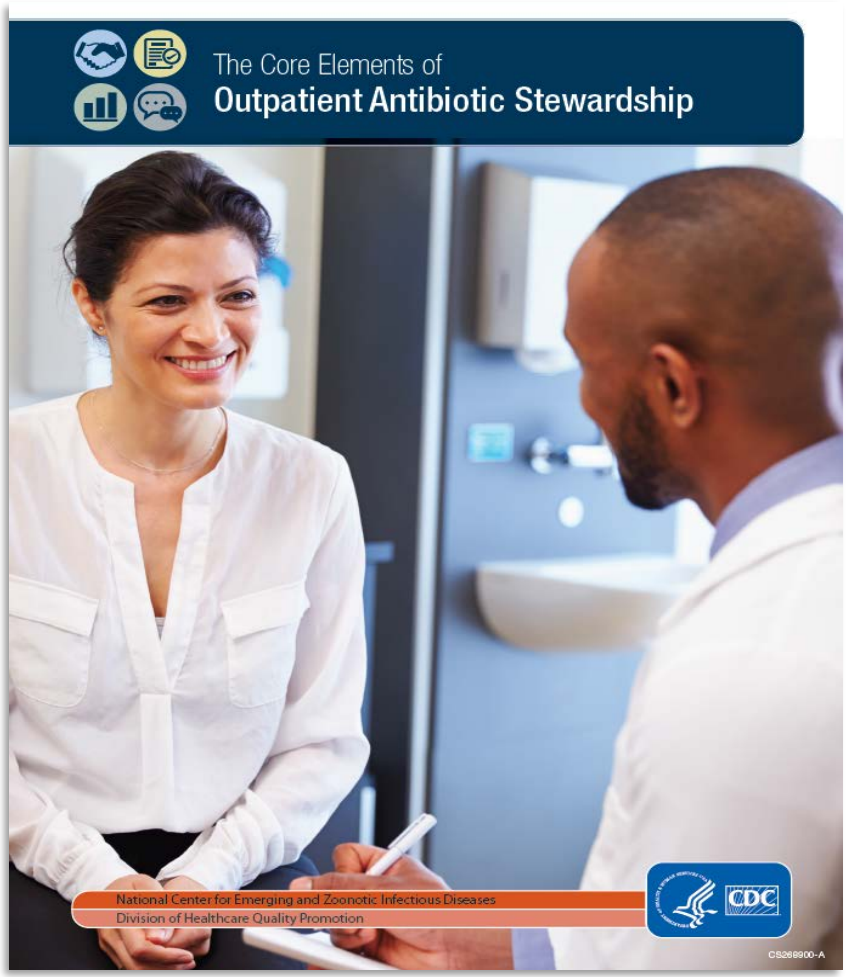


CDC's Office of Antibiotic Stewardship

Mission: To optimize antibiotic use in human healthcare to combat antibiotic resistance and improve healthcare quality and patient safety

Core Elements of Outpatient Antibiotic Stewardship





Sanchez GV, Fleming-Dutra KE, Roberts RM, Hicks LA. Core Elements of Outpatient Antibiotic Stewardship. MMWR Recomm Rep 2016;65(No. RR-6):1-12. https://www.cdc.gov/mmwr/volumes/65/rr/rr6506a1.htm?s_cid=rr6506a1_e

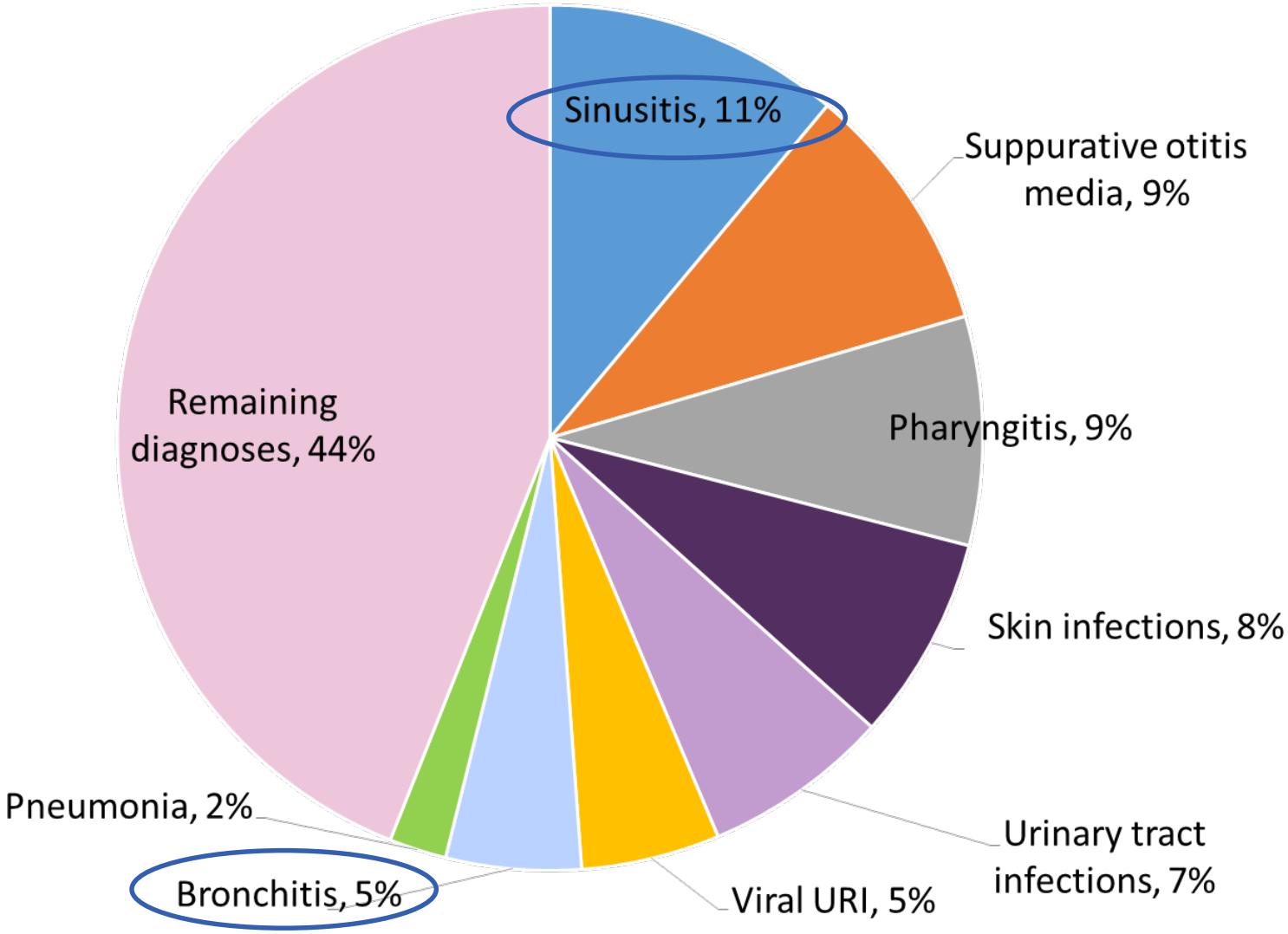
Initial Steps for Outpatient Antibiotic Stewardship

Identify one or more high-priority conditions for intervention.

High-priority conditions are conditions for which clinicians commonly deviate from best practices for antibiotic prescribing and include conditions for which antibiotics are overprescribed, underprescribed, or misprescribed with the wrong antibiotic agent, dose, or duration.

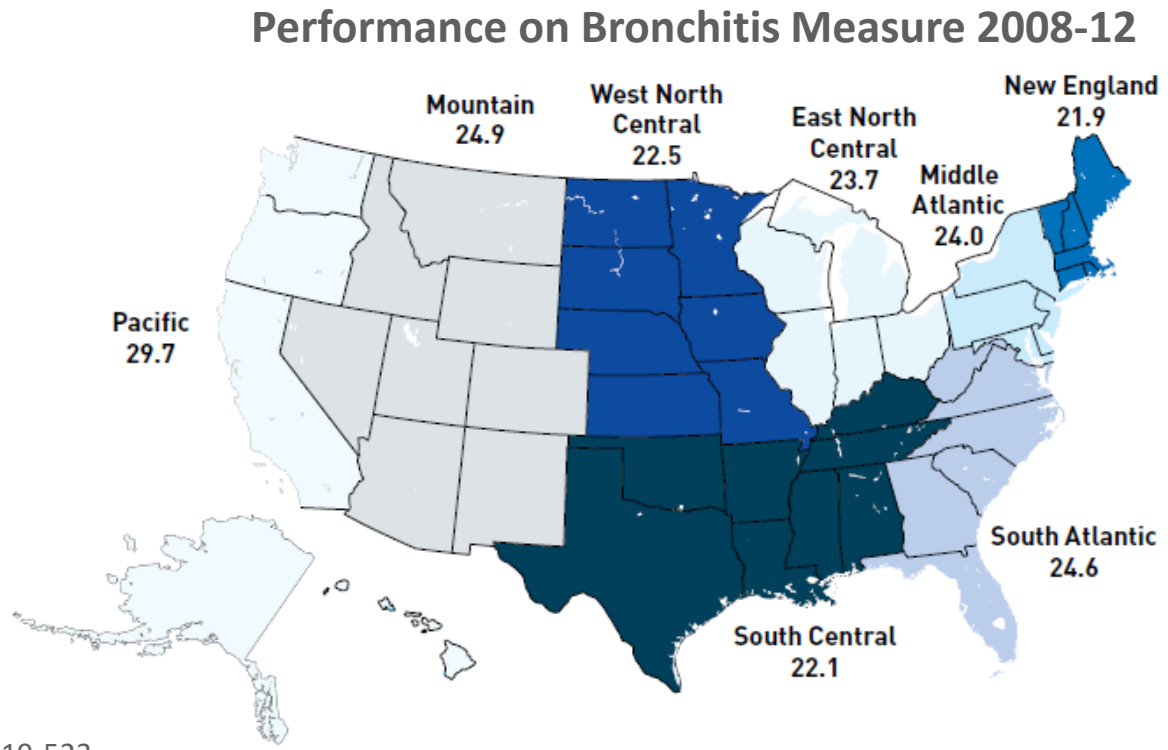
Condition Category	Example(s)
Antibiotics are overprescribed	Acute uncomplicated bronchitis
Overdiagnosed	Acute sinusitis, Streptococcal pharyngitis
Wrong dose, duration or agent	Azithromycin for sinusitis
Watchful waiting or delayed prescribing is underused	Acute sinusitis, Acute otitis media
Antibiotics are underused	Sepsis or sexually transmitted infections

Diagnoses leading to antibiotics — United States, 2010–11



Acute Bronchitis

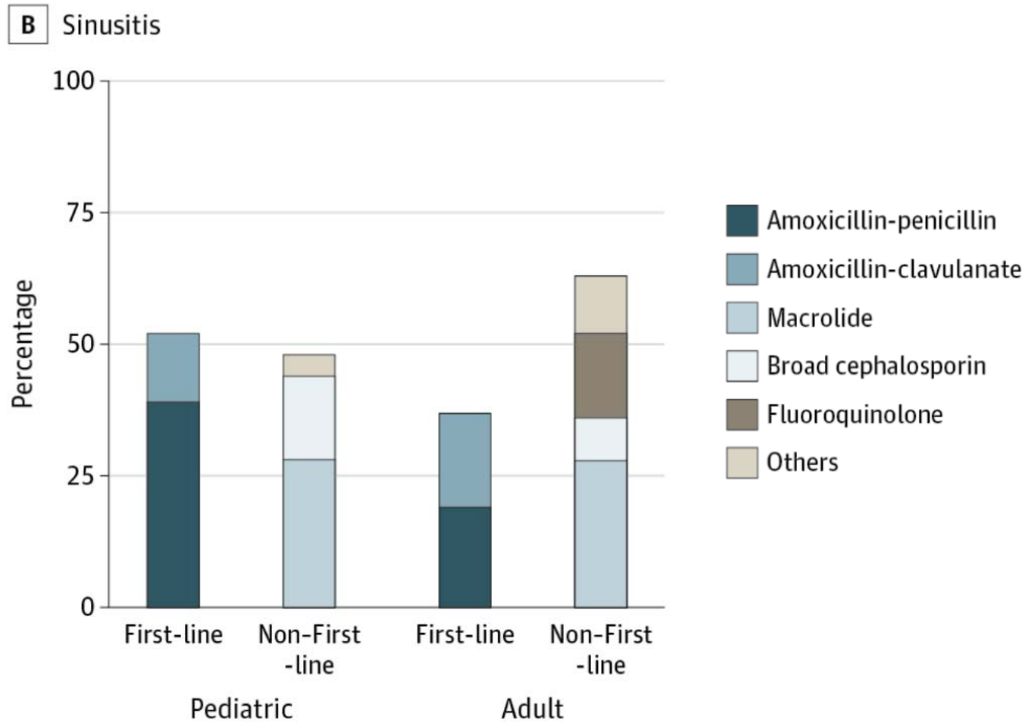
- High quality evidence demonstrates no benefit from antibiotics since 1990s
- National guidelines recommend against prescribing antibiotics
- HEDIS measure: Avoidance of Antibiotic Treatment in Adults with Acute Bronchitis (Goal: 100%)



Roberts. Am J Manag Care. 2016;**22**(8): 519-523.

Case Study: Acute Sinusitis

- National guidelines emphasize strict diagnostic criteria
  - Unclear how many patients fit criteria
- Evidence on antibiotic effectiveness
  - No benefit to antibiotics in adults in randomized-controlled trials & some to no benefit in children
- Watchful waiting without antibiotics is treatment option after 10 days of symptoms
  - AAO-HNS recommends up to 7 days watchful waiting
  - AAP recommends up to 3 days watchful waiting
- Antibiotic selection is a major issue
  - First-line antibiotics prescribed in only 37% of sinusitis visits for adults



Hersh et al. JAMA Int Med 2016;315(17): 1864-1873.

Chow (2012) Clin Infect Dis. Apr;54(8):e72-e112. Rosenfeld (2015) Otolaryngol Head Neck Surg. 152(2 Suppl):S1-S39.

Initial Steps for Outpatient Antibiotic Stewardship

Identify barriers that lead to deviation from best practices.

These might include clinician knowledge gaps about best practices and clinical practice guidelines, clinician perception of patient expectations for antibiotics, perceived pressure to see patients quickly, or clinician concerns about decreased patient satisfaction with clinical visits when antibiotics are not prescribed.

Why might providers prescribe antibiotics inappropriately?

- Lack of knowledge of appropriate indications
  - Providers generally know the guidelines
- Diagnostic uncertainty and fear of complications
  - Clinicians cite diagnostic uncertainty and fear of infectious complications
- Patient pressure and satisfaction
  - Providers universally cite patient requests for antibiotics
- Habit
  - Adult providers in the VA system vary in prescribing antibiotics for acute respiratory infection (ARI) diagnoses from ≤40% to ≥95% of their ARI visits (i.e. the same diagnoses)

Sanchez, EID; 2014; 20(12);2041-7 Jones. *Ann Int Med* 2015;163(2):73-80. Mangione-Smith *Pediatrics* 1999;103(4):711-8. Mangione-Smith *Arch Pediatr Adolesc Med* 2001;155:800-6. Mangione-Smith *Ann Family Med* 2015; 13(3) 221-7. Cals *Ann Family Med* 2013;11(2)157-64. Little *Lancet* 2013:382(9899)1175-82.

Why might providers prescribe antibiotics inappropriately?

- Lack of knowledge of appropriate indications
  - Providers generally know the guidelines
  - *Education is important but alone is not very effective*
- Diagnostic uncertainty and fear of complications
  - Clinicians cite diagnostic uncertainty and fear of infectious complications
  - *Communicating about adverse events to providers and patients is key*
- Patient pressure and satisfaction
  - Providers universally cite patient requests for antibiotics
  - *Communication training can help clinicians use antibiotics appropriately & keep patients satisfied*
- Habit
  - Adult providers in the VA system vary in prescribing antibiotics for acute respiratory infection (ARI) diagnoses from ≤40% to ≥95% of their ARI visits (i.e. the same diagnoses)
  - *Peer comparisons & academic detailing is a key mitigation strategy for these habitual providers*

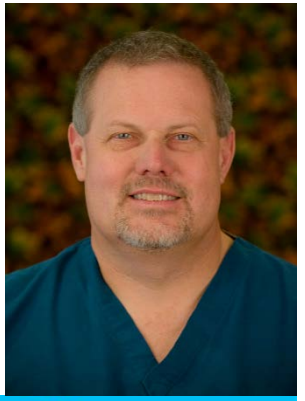
Sanchez, EID; 2014; 20(12);2041-7 Jones. *Ann Int Med* 2015;163(2):73-80. Mangione-Smith *Pediatrics* 1999;103(4):711-8. Mangione-Smith *Arch Pediatr Adolesc Med* 2001;155:800-6. Mangione-Smith *Ann Family Med* 2015; 13(3) 221-7. Cals *Ann Family Med* 2013;11(2)157-64. Little *Lancet* 2013:382(9899)1175-82.

Initial Steps for Outpatient Antibiotic Stewardship

Establish standards for antibiotic prescribing.

This might include implementation of national clinical practice guidelines and, if applicable, developing facility- or system-specific clinical practice guidelines to establish clear expectations for appropriate antibiotic prescribing

Example of Guideline from Southwest Health System, Cortez, Colorado



Guideline for the Diagnosis and Management of Outpatient Adults with Upper Respiratory Infection

Key concepts to optimize antibiotic use when managing upper respiratory infection (URI) in adult patients:
1) 90-98% of rhinosinusitis cases are caused by viruses, making antibiotics unnecessary
2) 5-10% of sore throat in adults are caused by Group A *Streptococcus*
3) Group A *Streptococcus* resistance to azithromycin has increased, so β-lactams are preferred
4) Group A strep (GAS) infection is the ONLY common indication for antibiotic therapy in sore throat cases
   Only 5-10% of adult sore throat cases are caused by GAS

Common cold or non-specific URI

Diagnosis
- Characterized by fever, cough, rhinorrhea, nasal congestion, postnasal drip, sore throat, headache, and myalgias

Treatment
- Should focus on symptomatic relief
- Decongestants (pseudoephedrine or phenylephrine combined with a first-generation antihistamine (diphenhydramine)
- Evidence is lacking to support antihistamine monotherapy, opioids, intranasal corticosteroids, or nasal saline irrigation

Providers should weigh the benefit and harms of symptomatic therapy

Acute Bacterial Rhinosinusitis (ABRS)

Diagnosis of bacterial ABRS
Based on symptoms:
- **Severe (>3-4 days):** Temp ≥ 39°C (102°F) with purulent nasal discharge or facial pain
- **Persistent (>10 days) without improvement:** nasal discharge or daytime cough
- **Worsening (3-4 days):** worsening or new onset fever, nasal discharge or daytime cough after initial improvement of URI lasting 5-6 days

Treatment (if bacterial infection established)
- Watchful waiting encouraged for uncomplicated cases, regardless of severity
- Amoxicillin or amoxicillin/clavulanate first line
- Azithromycin NOT recommended due to significant resistance to *Streptococcus pneumoniae*
- For patients with true penicillin allergy, doxycycline or levofloxacin are recommended

Treatment duration: 5 to 10 days

Acute uncomplicated bronchitis

Diagnosis
- Evaluation should focus on ruling out pneumonia which is rare among otherwise healthy adults in the absence of abnormal vital signs (heart rate ≥ 100 beats/min, respiratory rate ≥ 24 breaths/min, or oral temperature 38 °C) and abnormal lung examination findings (focal consolidation, egophony, fremitus)
- Chest X-ray not recommended
- Colored sputum does not indicate bacterial infection

Treatment
- Antibiotics not recommended, regardless of cough duration
- Options for symptomatic therapy:
  - Cough suppressants (codeine, dextromethorphan)
  - First generation antihistamines (diphenhydramine)
  - Decongestants (phenylephrine) &
  - Beta agonists (albuterol)

Pharyngitis

Diagnosis
Clinical features alone do not distinguish between Group A *Streptococcus* (GAS) and viral pharyngitis
- The following patients should undergo a rapid antigen detection test (RADT): sore throat plus ≥ 2 of the following
  - Absence of cough
  - Presence of tonsillar exudates or swelling
  - History of fever
  - Presence of swollen and tender anterior cervical lymph nodes
  - Age younger than 15 years
- Throat culture not recommended

Treatment
- Not recommended for a negative RADT
- Amoxicillin PO
- Penicillin VK PO
- PCN allergy: Clindamycin, azithromycin (GAS antibiotic resistance common)

Treatment duration: 10 days

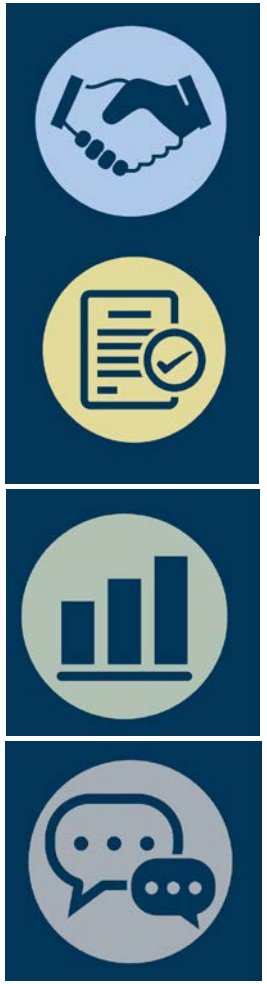
This is intended as a guide for evidence-based decision-making and should not replace clinical judgment. Patient and clinical characteristics, local antimicrobial susceptibility patterns, allergies, and formulary must be considered in treatment decisions.

References: CDC. Get Smart: Adult treatment recommendations. March 2016. Shulman ST, et al. Clinical practice guideline for the diagnosis and management of group A streptococcal pharyngitis. Clin Infect Dis 2012;55(10):e86-102. Chow AW, et al. IDSA clinical practice guideline for acute bacterial rhinosinusitis in children and adults. Clin Infect Dis 2012;54(8):e72-e112. Rosenfeld RM, Piccirillo JF, Chandrasekhar SS, et al. Clinical practice guideline (update): adult sinusitis. Otolaryngol Head Neck Surg 2015;152(2 Suppl):S1-39.

version 6/16

Slide courtesy of Marc J. Meyer R.Ph, BPharm, CIC, FAPIC, Southwest Health System

The Core Elements of Outpatient Antibiotic Stewardship



Commitment

Action for policy and practice

Tracking and Reporting

Education and Expertise

https://www.cdc.gov/getsmart/community/improving-prescribing/core-elements/core-outpatient-stewardship.html

Commitment

- Demonstrate dedication to and accountability for optimizing antibiotic prescribing and patient safety **by doing one of the following:**

Clinicians	Organizational Leadership
• Write and display public commitments in support of antibiotic stewardship	• Identify a single leader to direct antibiotic stewardship activities within a facility • Include stewardship-related duties in position descriptions or job evaluation criteria • Communicate with all clinic staff to set patient expectations

Public Commitment Posters

- Simple intervention: poster-placed in exam rooms with clinician picture and commitment to use antibiotics appropriately
- Randomized-controlled trial
- Principle of behavioral science: desire to be consistent with previous commitments
- "Behavioral nudge" to make the right choice

"As your doctors, we promise to treat your illness in the best way possible. We are also dedicated to avoid prescribing antibiotics when they are likely do to more harm than good."

- Adjusted absolute reduction in inappropriate antibiotic prescribing: -20% compared to controls, p=0.02

Meeker et al. *JAMA Intern Med*. 2014;174(3):425-31.

Commitment Posters from Illinois, Texas New York, and CDC

A Commitment to Our Patients about Antibiotics

Antibiotics only fight infections caused by bacteria. Like all drugs, they can be harmful and should only be used when necessary. Taking antibiotics when you have a virus can do more harm than good: you will still feel sick and the antibiotic could give you a skin rash, diarrhea, a yeast infection, or worse.

Antibiotics also give bacteria a chance to become more resistant to them. This can make future infections harder to treat. It means that antibiotics might not work when you really do need them. Because of this, it is important that you only use an antibiotic when it is necessary to treat your illness.

How can you help? When you have a cough, sore throat, or other illness, tell your doctor you only want an antibiotic if it is really necessary. If you are not prescribed an antibiotic, ask what you can do to feel better and get relief from your symptoms.

*Your health is important to us. As your healthcare providers, we promise to provide the best possible treatment for your condition. If an antibiotic is not needed, we will explain this to you and will offer a treatment plan that will help. We are dedicated to prescribing antibiotics **only** when they are needed, and we will avoid giving you antibiotics when they might do more harm than good.*

If you have any questions, please feel free to ask us.

Sincerely,

Add your picture and signature here

GET SMART Know When Antibiotics Work

CDC U.S. Department of Health and Human Services Centers for Disease Control and Prevention

blogs.cdc.gov/safehealthcare/?p=5900
cdc.gov/getsmart/community/materials-references/print-materials/hcp/index.html

Action

- Implement **at least one** policy or practice to improve antibiotic prescribing, assess whether it is working, and modify as needed

Clinicians	Organizational Leadership
• Use evidence-based diagnostic criteria and treatment recommendations • Use delayed prescribing practices or watchful waiting, when appropriate	• Provide communications skills training for clinicians • Require explicit written justification in the medical record for nonrecommended antibiotic prescribing • Provide support for clinical decisions • Use call centers, nurse hotlines, or pharmacist consultations as triage systems to prevent unnecessary visits

Watchful Waiting and Delayed Antibiotic Prescribing

- Watchful waiting implies having the patient call or come back
- Delayed prescriptions can be filled if patient worsens or does not improve within a specified time
  - Pearl: Put an expiration date on the delayed prescription (e.g. 3-7 days after the date written)

- When are delayed prescriptions appropriate?
  - When recommended by guidelines
    - Acute sinusitis
    - Acute otitis media

- When are delayed prescriptions **not** appropriate?
  - When antibiotics are clearly not indicated
    - Acute bronchitis
    - Viral pharyngitis

What is the evidence for delayed prescribing?

- **Randomized controlled trial for acute otitis media in the pediatric emergency department**
  - Children 6 months to 12 years with were randomized to delayed versus immediate prescription
    - 66% of patients with delayed antibiotics did not fill prescription
    - 13% of patients with immediate prescription did not fill prescription, p=<0.001
    - No difference in serious adverse events or unscheduled visits
- **Randomized controlled trial in Spanish family practice clinics using different antibiotic prescription strategies for adults with acute respiratory infections**
  - Percent of patients who used antibiotics
    - 91% who received immediate prescriptions
    - 33% who received a delayed prescription
    - 23% who were instructed to return to pick up a prescription if needed
    - 12% who received no prescription
  - Satisfaction was similar between all groups

Spiro et al. JAMA 2006;296(10): 1235-1241. de la Poza Abad et al. JAMA Internal Medicine 2016; **176**(1): 21-29.

Clinical decision support

- Effective intervention
  - Acute bronchitis: 12–14% reduction in antibiotic prescribing
  - Pharyngitis: reduced antibiotics use
  - Pneumonia: improved antibiotic selection

- Important considerations
  - Print and electronic tools are likely equally effective
  - Tools need to be **used** to be effective
    - In one study, tool was used in 6% of eligible visits
  - Alert fatigue is a problem

McGinn *JAMA Intern Med* 2013 Sep 23;173(17):1584-91. Gonzales *JAMA Intern Med* 2013 Feb 25;173(4):267-73.
Linder *Inform Prim Care*. 2009;17(4):231-40.

Behavioral Clinical Decision Support: Accountable Justification

- "Antibiotic justification note" in medical record
  - Triggered by diagnosis for which antibiotics are not indicated and antibiotic prescription
  - Free text field
  - If no text entered: "No justification given" appeared in medical record
  - Note disappeared if antibiotic prescription deleted

- Idea: Clinicians want to preserve their reputation

- Reduced inappropriate antibiotic prescribing from 23.2% to 5.2% pre and post-intervention (-7.0% difference in differences, $p<0.001$)

Meeker, Linder, et al. *JAMA* 2016;315(6): 562-570.

Tracking and Reporting

- Monitor antibiotic prescribing practices and offer regular feedback to clinicians or have clinicians assess their own antibiotic prescribing practices themselves

Clinicians	Organizational Leadership
• Self-evaluate antibiotic prescribing practices • Participate in continuing medical education and quality improvement activities to track and improve antibiotic prescribing	• Implement at least one antibiotic prescribing tracking and reporting system • Assess and share performance on quality measures and established reduction goals addressing appropriate antibiotic prescribing from health care plans and payers

Tracking and Reporting with Peer Comparisons

- Effective feedback interventions often include peer performance comparisons
  - Comparing clinician's antibiotic selection patterns for respiratory conditions to colleagues' performance[1]
    - Clinicians received quarterly e-mails with their performance and the average performance of their peers in their practice and in the network
    - Led to increased use of guideline recommended agents during the intervention period
    - Once intervention was withdrawn, performance returned back to baseline[2]
  - Notifying clinicians that they prescribe more antibiotics than 80% of their peers, based on the percentage all visits leading to antibiotic prescriptions[3]
    - Letter said: "Your practice is prescribing antibiotics at a rate higher than 80% of your local GP practices" and was from England's Chief Medical Officer
    - Led to decreased overall antibiotic prescribing and cost-savings

1. Gerber. *JAMA* 2013; 309(22): 2345-2352. 2. Gerber JAMA 2014 312(23): 2569-2570. 3. Hallsworth et al. *Lancet* 2016; 387(10029): 1743-1752.

Peer Comparison to Top Performers

- One randomized controlled trial sent monthly emails to intervention group comparing clinician based on number of antibiotic prescriptions written for acute respiratory infections that do not require antibiotics (e.g. colds, bronchitis)

- For clinicians in the top 10% (prescribed no antibiotics for these antibiotic-inappropriate conditions)
  - "You are a Top Performer"

- For those not in the top 10% of performers:
  - "You are not a Top Performer"

- Mean antibiotic prescribing decreased from 19.9% to 3.7% (-16.3%)
  - Statistically significant versus controls

Meeker, Linder, et al. *JAMA* 2016;315(6): 562-570.

Education and Expertise

- Provide educational resources to clinicians and patients on antibiotic prescribing and ensure access to needed expertise on optimizing antibiotic prescribing.

Clinicians	Organizational Leadership
• Use effective communications strategies to educate patients about when antibiotics are and are not needed • Educate about the potential harms of antibiotic treatment • Provide patient education materials	• Provide face-to-face educational training (academic detailing) • Provide continuing education activities for clinicians • Ensure timely access to persons with expertise

Educating Patients Through Effective Communication

- Clinicians cite patient demand for antibiotics as a reason they prescribe inappropriately[1]
  - Clinicians are not very good at correctly determining which patients want antibiotics[2]
  - Clinicians are more likely to prescribe antibiotics when they think that the patient wants them[2]

- Patients can be satisfied without antibiotics, even if they expect them, with effective communication
  - Combining explanations of why antibiotics are not needed with recommendations for managing symptoms have been associated with increased visit satisfaction[3]
  - Providing recommendations of when to seek medical care if the patient worsens or doesn't improve (i.e. a contingency plan) has been associated with increased satisfaction for patients who expected antibiotics but did not receive them[4]

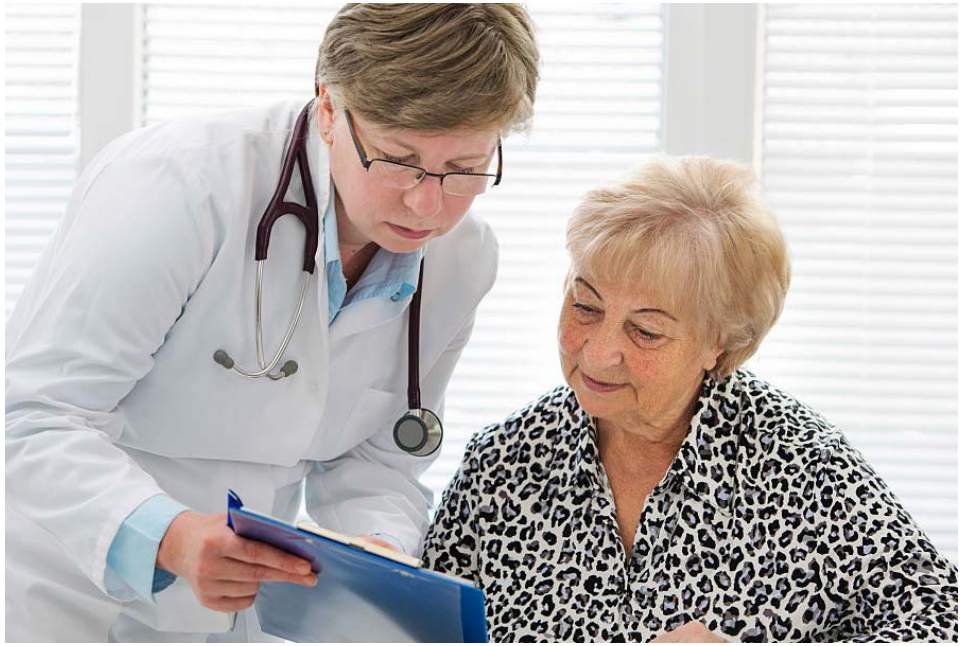
1. Sanchez, EID; 2014; 20(12);2041-7. 2. Mangione-Smith *Pediatrics* 1999;103(4):711-8. 3. Mangione-Smith Ann Family Med 2015; 13(3) 221-7.
4. Mangione-Smith Arch Pediatr Adolesc Med 2001;155:800-6.

Communication Training as an Antibiotic Stewardship Intervention

- Enhanced communication training reduces antibiotic prescribing for respiratory infections in all ages while maintaining patient satisfaction

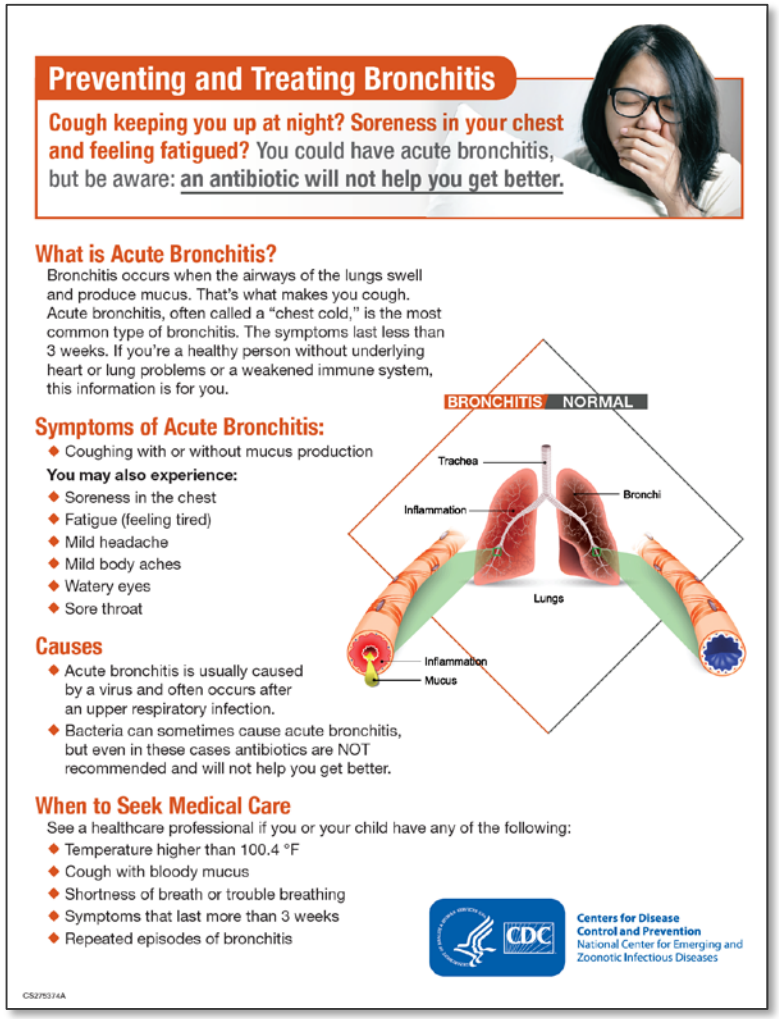
- Communication goals
  - Understanding the patient's expectations
  - Explaining why antibiotics will/will not help
  - Providing symptomatic recommendations
  - Discussing when to return if the patient is not better

- Effect appears to be sustainable over time



Cals et al. *Ann Family Med* 2013;11(2)157-64.
Little et al. *Lancet* 2013:382(9899)1175-82.

CDC Materials for Acute Bronchitis



Preventing and Treating Bronchitis

Cough keeping you up at night? Soreness in your chest and feeling fatigued? You could have acute bronchitis, but be aware: **an antibiotic will not help you get better.**

What is Acute Bronchitis?

Bronchitis occurs when the airways of the lungs swell and produce mucus. That's what makes you cough. Acute bronchitis, often called a "chest cold," is the most common type of bronchitis. The symptoms last less than 3 weeks. If you're a healthy person without underlying heart or lung problems or a weakened immune system, this information is for you.

Symptoms of Acute Bronchitis:

- Coughing with or without mucus production

You may also experience:

- Soreness in the chest
- Fatigue (feeling tired)
- Mild headache
- Mild body aches
- Watery eyes
- Sore throat

Causes

- Acute bronchitis is usually caused by a virus and often occurs after an upper respiratory infection.
- Bacteria can sometimes cause acute bronchitis, but even in these cases antibiotics are NOT recommended and will not help you get better.

When to Seek Medical Care

See a healthcare professional if you or your child have any of the following:

- Temperature higher than 100.4 °F
- Cough with bloody mucus
- Shortness of breath or trouble breathing
- Symptoms that last more than 3 weeks
- Repeated episodes of bronchitis

CDC Centers for Disease Control and Prevention
National Center for Emerging and Zoonotic Infectious Diseases

CS275374A

Recommended Treatment

Good news! Acute bronchitis almost always gets better on its own—without antibiotics. Using antibiotics when they aren't needed can do more harm than good. Unintended consequences of antibiotics include side effects, like rash and diarrhea, as well as more serious consequences, such as an increased risk for an antibiotic-resistant infection or *Clostridium difficile* infection, a sometimes deadly diarrhea.

To Feel Better:

- Get plenty of rest
- Drink plenty of fluids
- Use a clean humidifier or cool mist vaporizer
- Breathe in steam from a bowl of hot water or shower
- Use lozenges *(do not give lozenges to children younger than 4 years of age)*
- Ask your healthcare professional or pharmacist about over-the-counter medicines that can help you feel better

Remember, always use over-the-counter medicines as directed. **Do not use cough and cold medicines in children younger than 4 years of age** unless specifically told to do so by a healthcare professional.

Your healthcare professional will most likely prescribe antibiotics for a diagnosis of whooping cough (pertussis) or pneumonia.

Prevention

- Practice good hand hygiene
- Make sure you and your child are to up-to-date with all recommended vaccines
- Don't smoke and avoid secondhand smoke, chemicals, dust, or air pollution
- Always cover your mouth and nose when coughing or sneezing
- Keep your distance from others when you are sick, if possible

And Remember:

Antibiotics will not treat acute bronchitis. Using antibiotics when not needed could do more harm than good.

CDC materials for Watchful Waiting and Delayed Prescribing

What is Delayed Prescribing?

GET SMART
Know When Antibiotics Work

WAIT. Do not fill your prescription just yet. Your healthcare professional believes your illness may resolve on its own.

First, follow your healthcare professional's recommendations to help you feel better without antibiotics and continue to monitor your own symptoms over the next few days.

- Rest
- Drink extra water and fluids
- Use cool mist vaporizer or saline nasal spray to relieve congestion
- For sore throats in older adults and children, try ice chips, sore throat spray, or lozenges

If you do not feel better in ___ days/hours, or get worse, go ahead and fill your prescription.

If you feel better, you do not need the antibiotic, and do not have to risk the side effects.

Waiting to see if you really need an antibiotic can help you take antibiotics only when it is actually necessary. Antibiotics can cause side effects like a skin rash, diarrhea, a yeast infection, or worse.

Antibiotics can also make future bacterial infections stronger and harder to treat. You can protect yourself and others by learning when antibiotics are and aren't needed.

U.S. Department of Health and Human Services
Centers for Disease Control and Prevention

For more information visit
www.cdc.gov/getsmart

CS270228C

What is Watchful Waiting?

GET SMART
Know When Antibiotics Work

Good news! Your healthcare professional believes your illness will likely resolve on its own.

You should watch and wait for ___ days/hours before deciding whether to take an antibiotic.

In the meantime, follow your healthcare professional's recommendations to help you feel better and continue to monitor your own symptoms over the next few days.

- Rest
- Drink extra water and fluids
- Use cool mist vaporizer or saline nasal spray to relieve congestion
- For sore throats in older children and adults, try ice chips, sore throat spray, or lozenges
- Use honey to relieve cough. Do not give honey to an infant less than 1 year of age.

If you feel better, no further action is necessary — you don't need antibiotics.

If you do not feel better, experience new symptoms, or you have other concerns, call your healthcare professional _____ to discuss if you need a recheck or if you need antibiotics, which may be prescribed over the phone.

It may not be convenient to visit your healthcare professional multiple times, but it is critical to make the right choice. Antibiotics can cause side effects like a skin rash, diarrhea, a yeast infection, or worse.

Antibiotics can also make future bacterial infections stronger and harder to treat. You can protect yourself and others by learning when antibiotics are and aren't needed.

U.S. Department of Health and Human Services
Centers for Disease Control and Prevention

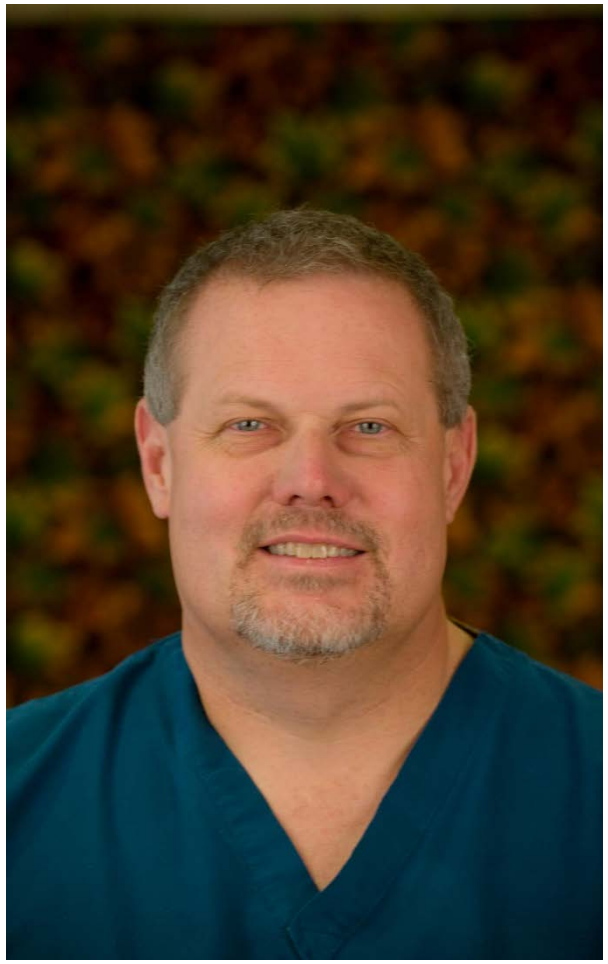
For more information visit
www.cdc.gov/getsmart

CS270228D

Advice from the field

"I like to make sure the guidance is responsible and sound and based in evidence before I pitch the project. **I tell folks to start slow and easy, get a initial win and build from that point on.** I think for us in our clinics, [days of therapy] data, antibiotic used, and [percent] diagnosis with antibiotic prescribed are going to be very useful data. We will be able to compare our health system to some national data benchmarks and then compare our prescribers to each other. I think it's important to sell clinic stewardship as a patient safety issue and really pitch community stewardship and how all healthcare has to do their parts from hospitals, to clinic's, to LTC, to dentists, to ASP's, and veterinarians and the AG industry."

Marc J. Meyer R.Ph, BPharm, CIC, FAPIC



Summary

- Antibiotic stewardship is one of the most important strategies to combat antibiotic resistance and keep our patients safe
- The *Core Elements of Outpatient Stewardship* provides a framework for improving outpatient antibiotic prescribing
- Start by identifying high-priority conditions to tackle, barriers to appropriate prescribing, and by establishing standards
- It is about more than just education, we have to help clinicians change their behavior
- Use evidence-based interventions to implement the Core Elements

www.cdc.gov/getsmart

GetSmart@cdc.gov

For more information, contact CDC
1-800-CDC-INFO (232-4636)
TTY: 1-888-232-6348 www.cdc.gov