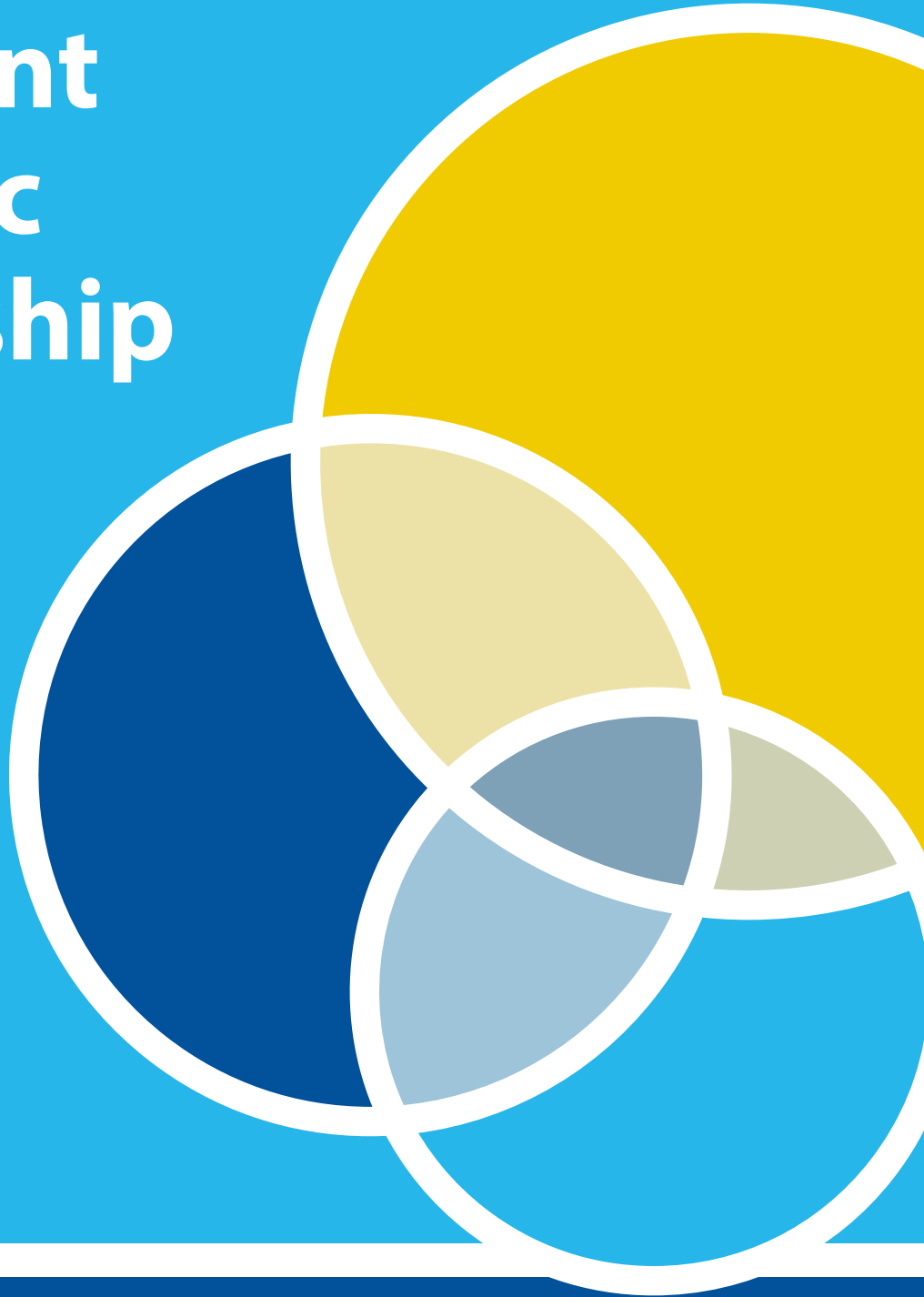


Outpatient Antibiotic Stewardship Toolkit



**Quality Improvement
Organizations**

Sharing Knowledge. Improving Health Care.
CENTERS FOR MEDICARE & MEDICAID SERVICES

**Lake Superior
Quality Innovation
Network**

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Lake Superior Quality Innovation Network serves Michigan, Minnesota, and Wisconsin, under the Centers for Medicare & Medicaid Services Quality Improvement Organization Program.

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Each year, more than 2 million Americans develop infections which are not cured by using common antibiotics because the antibiotics are no longer effective against certain germs. Approximately 262.5 million antibiotics are prescribed in outpatient settings each year. That's five prescriptions for every six people in the United States. Up to 50 percent of these antibiotics are not necessary and could cause the germs to further develop resistance to other antibiotics. **Without interventions, antibiotics will continue to become less effective—or not work at all.**

Lake Superior Quality Innovation Network (Lake Superior QIN) has been working successfully with hospitals on an antibiotic stewardship project for the past two years, and long term care facilities for a year. We are expanding our support, at no cost to you, to outpatient locations such as hospital emergency services/departments, urgent care centers, primary care clinics and clinicians, community pharmacies, and retail health clinics and clinicians.



- **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.

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



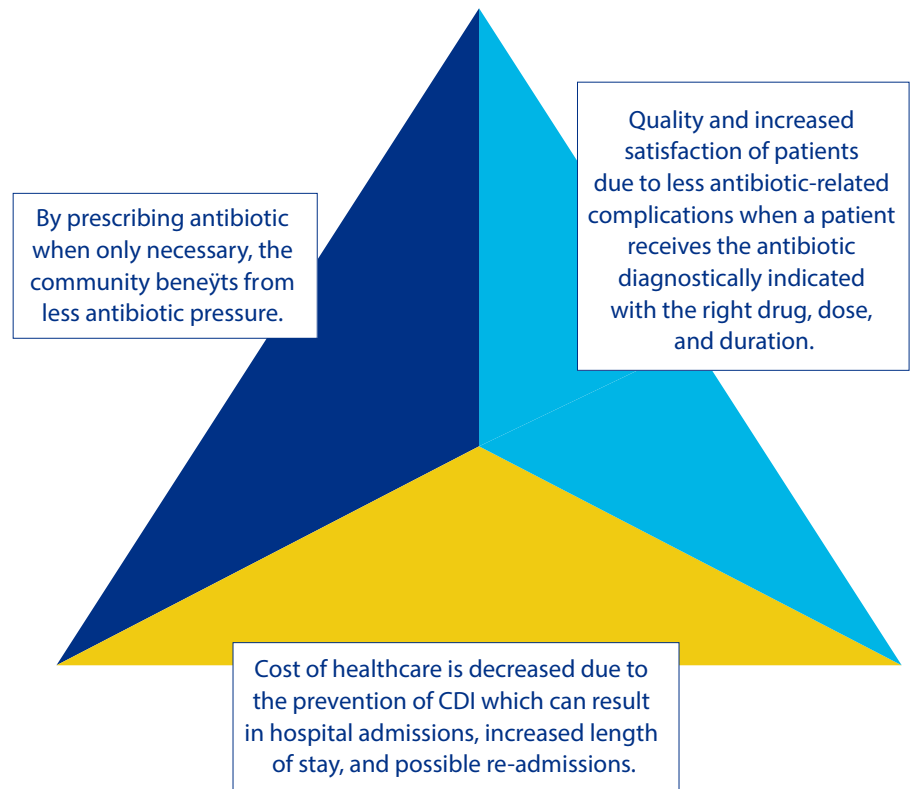
Antibiotic stewardship is the effort to measure antibiotics, antivirals and antifungal prescribing; to improve clinician prescribing and requests by patients so that antibiotics are only prescribed and used when needed; to minimize misdiagnoses or delayed diagnoses leading to underuse of antibiotics; and to ensure that the right drug, dose, and duration are selected when an antibiotic is needed.

This toolkit will assist your organization as we work together to not just implement best practice but also find solutions to your barriers, gaps and dilemmas. This toolkit is not exhaustive. We will be providing new information, tools and resources as they are made available.

As we move forward, we will be using the Triple Aim, a framework developed by the Institute for Healthcare Improvement (IHI) that describes an approach to optimizing health system performance. It is IHI's belief that new designs must be developed to simultaneously pursue three dimensions, which they have called the "Triple Aim":

- Improving the patient experience of care (including quality and satisfaction)
- Improving the health of populations
- Reducing the per capita cost of health care

In order to change prescribing and seeking behavior, we need to look beyond each individual and look at the community as a whole.





Our goal is to support your organization to achieve having at least one element from each of the four outpatient core elements as listed below. Under each core element are suggested elements for which we can support the implementation of the practice.

Checklist for Core Elements of Outpatient Antibiotic Stewardship	
Outpatient clinicians and healthcare facilities can take steps to implement antibiotic stewardship activities. Use this checklist as a baseline assessment of policies and practices which are in place. Then use the checklist to review progress in expanding stewardship activities on a regular basis (e.g., annually).	
1. Commitment	
Can your facility demonstrate dedication to and accountability for optimizing antibiotic prescribing and patient safety related to antibiotics?	<input type="checkbox"/> Yes <input type="checkbox"/> No
If yes, indicate which of the following are in place. (Select all that apply.)	
<input type="checkbox"/> Write and display public commitments in support of antibiotic stewardship. <input type="checkbox"/> Identify a single leader to direct antibiotic stewardship activities within a facility. <input type="checkbox"/> Include antibiotic stewardship-related duties in position descriptions or job evaluation criteria. <input type="checkbox"/> Communicate with all clinic staff to set patient expectations.	
2. Action	
Has your facility implemented at least one policy or practice to improve antibiotic prescribing?	<input type="checkbox"/> Yes <input type="checkbox"/> No
If yes, indicate which interventions are in place. (Select all that apply.)	
<input type="checkbox"/> Use evidence-based diagnostic criteria and treatment recommendations. <input type="checkbox"/> Use delayed prescribing practices or watchful waiting, when appropriate. <input type="checkbox"/> Provide communications skills training for clinicians. <input type="checkbox"/> Require explicit written justification in the medical record for non-recommended antibiotic prescribing. <input type="checkbox"/> Provide support for clinical decisions. <input type="checkbox"/> Use call centers, nurse hotlines or pharmacist consultations as triage systems to prevent unnecessary visits.	
3. Tracking and Reporting	
Does your facility monitor at least one aspect of antibiotic prescribing?	<input type="checkbox"/> Yes <input type="checkbox"/> No
If yes, indicate which of the following are being tracked. (Select all that apply.)	
<input type="checkbox"/> Self-evaluate antibiotic prescribing practices. (This intervention only applies to solo practitioners or practices with fewer than five clinicians as long as all clinicians participate.) <input type="checkbox"/> Participate in continuing medical education and quality improvement activities to track and improve antibiotic prescribing. (This intervention only applies if all clinicians in the practice participate in the activity.) <input type="checkbox"/> Track and report antibiotic prescribing for one or more high priority conditions. <input type="checkbox"/> Track and report the percentage of all visits leading to antibiotic prescriptions. <input type="checkbox"/> (If already tracking and reporting one of the above.) Track and report, at the level of a health care system, complications of antibiotic use and antibiotic resistance trends among common outpatient bacterial pathogens. <input type="checkbox"/> Assess and share performance on quality measures and established reduction goals addressing appropriate antibiotic prescribing from health care plans and payers.	
4. Education and Expertise	
Does your facility provide resources to clinicians and patients on evidence-based antibiotic prescribing?	<input type="checkbox"/> Yes <input type="checkbox"/> No
If yes, indicate how your facility provides antibiotic stewardship education to patients. (Select all that apply.)	
<input type="checkbox"/> Use effective communications strategies to educate patients about when antibiotics are and are not needed. <input type="checkbox"/> Educate about the potential harms of antibiotic treatment. <input type="checkbox"/> Provide patient education materials.	
If yes, indicate how your facility provides antibiotic stewardship education to clinicians. (Select all that apply.)	
<input type="checkbox"/> Provide face-to-face educational training (academic detailing). <input type="checkbox"/> Provide continuing education activities for clinicians. <input type="checkbox"/> Ensure timely access to persons with expertise.	



Outpatient Antibiotic Stewardship Improvement Plan 2017

Dedication to and accountability for optimizing antibiotic prescribing and patient safety related to antibiotics.





Improvement Opportunities and Potential Considerations

Items which are easy to implement are denoted with an 🍎

1. COMMITMENT

- 🍎 One of the easiest way to meet this measure is to use one of many posters available in the Lake Superior Quality Improvement Network (Lake Superior QIN) [antibiotic stewardship improvement guide](#). The guide supports [a study](#) that indicated that by showing the commitment of the clinician and organization to use antibiotics only when necessary with the provider's photo in a poster form in the examination room has shown to decrease antibiotic prescribing by 20 percent.
 - [Lake Superior QIN Poster](#) designed after [New York State](#)
 - [Superior HealthPlan](#)
- 🍎 By committing to this project, you needed to identify both a staff champion and clinical leader. Either could be designated a leader for stewardship activities in your facility or perhaps you already have a leader who needs to be recognized with a statement in the job description with job duties or job evaluation. The following verbiage could be added to job descriptions or job evaluations:
 - Develops, enforces and maintains policies and procedures that promote and enhance patient outcomes through safe, effective, cost-efficient and appropriate medication therapy use for patients receiving antimicrobials.
 - Coordinates programs designed to minimize medication errors, adverse drug reactions and medication misuse with regards to medication preparations in infectious disease through improved reporting, analysis and follow up.
 - Promote, advise and guide the development of successful local antimicrobial stewardship program.
 - Assist local staff in program assessments, antimicrobial utilization reviews, developing program structures and interventions, and identifying opportunities to optimize anti-microbial use.
- Participate in the development, education and communication of infectious disease-related protocols to improve antibiotic decision-support for clinicians relating the selection, dose, duration and monitoring of antimicrobials.
- Participate in the preparation of reports intended to document the impact of stewardship programs on quality, safety and cost of antimicrobial use.
- Coordinates and maintains the antimicrobial stewardship program. Could include statements such as:
 - Overseeing prospective audit of antimicrobials.
 - Assisting in development and maintenance of an antimicrobial formulary approved by the medical staff.
 - Working with the infectious disease service to evaluate appropriate use of restricted antimicrobials.
 - Developing guidelines, policies and other monitoring and intervention strategies for antimicrobial use and streamlining prophylactic, empiric and definitive antimicrobial therapy.
 - Compiling data and metrics on antimicrobial use.
 - Working with the Antimicrobial Stewardship committee.
 - Reporting data and findings to the Antimicrobial Stewardship, Infection Control, and Pharmacy and Therapeutics Committees.



- Coordinating, facilitating and promoting education, training, competency assessment and performance improvement of pharmacists, pharmacy residents and other healthcare professionals in the appropriate use of antimicrobials.
- Communicate with all clinic staff members to set patient expectations.
 - All staff members need to understand that all patient visits for acute illnesses might, or might not, result in an antibiotic prescription. Administrative staff members, medical assistants, nurses, allied health professionals and medical directors can improve antibiotic prescribing by using consistent messages when communicating with patients about the indications for antibiotics using such words such as:
 - Our goal is to provide you with the best quality care to help you heal as soon as possible. Sometimes this includes antibiotics, but not always.
 - Your provider will develop a plan with you for relieve of you symptoms.
 - Your treatment will be based upon assessment results, but will include steps to make you more comfortable.
 - During a staff meeting, review the above options and develop your own statement that members will

use when a patient or family members immediately ask for antibiotics.

- As a group, view [Bob Has a Respiratory Infection Video](#) (2:15 minutes) which demonstrates how clinicians can work with patients when they request antibiotics.
- Use post-it notes as reminders in staff only locations.

“Our goal is to provide you with the best quality care to help you heal as soon as possible. Sometimes this includes antibiotics, but not always.”

- Discuss again at follow-up staff meetings to determine what is working well and what may need to be worded or done differently. Decide as a group the best way to move forward and implement.



2. ACTION

Policy or practice to improve antibiotic prescribing

- Using evidence-based diagnostic criteria and treatment recommendations provides providers to follow best practices as well as provides support for clinical decisions. 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. Clinical decision support, which provides specific information in electronic or print form during the typical workflow, can facilitate accurate diagnoses and effective management of common conditions (e.g., discouraging antibiotic prescribing for acute bronchitis in healthy adults).
 - [Centers for Disease Control and Prevention \(CDC\) Outpatient Adult Treatment Recommendations](#)
 - [CDC Outpatient Pediatric Treatment Recommendations](#)
 - [Infectious Diseases Society of America Infections by organism](#)
 - [Infectious Diseases Society of America Infections by Antimicrobial Agent Use](#)
 - [University of Miami Health System Suggested Weekly Lab Parameters for Outpatient Parenteral and Oral Antimicrobial Therapy](#)
 - [University of California, San Francisco Guideline for Empiric Therapy: Adult Outpatients](#)
 - [GetSmart Viral Prescription Pad – English](#)
 - [GetSmart Viral Prescription Pad – Spanish](#)
- Require documented justification in the medical record for non-recommended antibiotic prescribing. This technique has reduced inappropriate prescribing by holding clinicians accountable in the medical record for their decisions.
- Using [delayed prescribing practices](#) when appropriate. Delayed prescribing can be used for patients with conditions that usually resolve without treatment but who can benefit from antibiotics if the conditions do not improve (e.g., acute uncomplicated sinusitis or mild acute otitis media). Clinicians can apply delayed prescribing practices by giving the patient or parent a postdated prescription and providing instructions to fill the prescription after a predetermined period or by instructing the patient to call or return to collect a prescription if symptoms worsen or do not improve.
- Using watchful waiting when appropriate. Watchful waiting means providing symptomatic relief with a clear plan for follow-up if infection symptoms worsen or do not improve. Watchful waiting and delayed antibiotic prescriptions are evidence-based approaches that can safely decrease antibiotic use when used in accordance with clinical practice guidelines.
 - [GetSmart Viral Prescription Pad – English](#)
 - [GetSmart Viral Prescription Pad – Spanish](#)
- Provide communications skills training for clinicians. Communications skills training can be used to promote strategies to address patient concerns regarding prognosis, benefits and harms of antibiotic treatment; management of self-limiting conditions; and clinician concerns regarding managing patient expectations for antibiotics during a clinical visit.
 - [Educating Patients About Antibiotic Use](#) (A little over seven minute video)
 - [CDC Commentary: Don't Give In and Give Those Antibiotics!](#) (Just under four minutes)
- Utilize call centers, nurse hotlines or pharmacist consultations as triage systems to prevent unnecessary visits. These resources can be used to reduce unnecessary visits for conditions that do not require a clinic visit, such as a common cold.




3. TRACKING AND REPORTING

Tracking and reporting clinician antibiotic prescribing, also called audit and feedback, can guide changes in practice and be used to assess progress in improving antibiotic prescribing.

- Sources of data might include automatic electronic medical record extraction, manual periodic chart reviews, or performance data on existing quality measures related to outpatient antibiotic prescribing (e.g., Healthcare Effectiveness Data and Information Set [HEDIS] measures).
- Analysis can occur at the individual clinician level or at the facility level.
 - What are you trying to measure?
 - What measure makes the most sense for this purpose?
 - How are you defining the measure including numerator and denominator?
 - What is the plan for physically collecting the data?
 - Who is responsible for collecting the data?
 - How often will the data be collected (e.g., hourly, daily, weekly or monthly)?
 - What are the specific data sources?
 - What is to be included or excluded?
 - How will data be collected?
 - Establish baseline measurement.
 - Establish your targets or goals for this measure.
 - To begin addressing the challenge, CDC, in consultation with a variety of external experts, has developed assessment tools that can help facilities explore potential opportunities for improving antibiotic use.
- [Strategies To Assess Antibiotic Use To Drive Improvements In Hospitals—Can be used in Emergency Services or Department](#)
- [Assessment of Appropriateness of Antibiotics for Community-Acquired Pneumonia \(CAP\)](#)
- [Assessment of Appropriateness of Antibiotic Use for Resistant Gram-Positive Infections](#)
- [Antibiotic Stewardship Driver Diagram and Change Package](#)
- [Audit Worksheet for Acute Bronchitis](#)
- [Audit Worksheet for Viral Upper Respiratory Infections](#)
- Track and report antibiotic prescribing for one or more high-priority conditions
 - Establishing a communication/support line with an Information Technology or Services to investigate existing reporting capabilities of the clinic/sites to data mine records.
 - Request a report on all antibiotics ordered with diagnosis code for cross reference.
 - No code for rhinosinusitis
 - J01.90 is acute sinusitis, unspecified

Note: There is the potential to get more specific codes by identifying which sinuses are involved, e.g., ethmoidal, frontal, etc. or by designating it as recurrent.




- J20.9 is bronchitis, acute or subacute (with bronchospasm or obstruction).
Note: The bronchospasm or obstruction are not required for this code but would be included if they existed. There is a potential to get much more specific codes based on causes of the bronchitis, known organisms.
- J06.9 is acute upper respiratory infection, unspecified
- J02.9 is acute pharyngitis, unspecified.
- N30.00 is acute cystitis without hematuria
- J02.0 is streptococcus pharyngitis
- Compare national treating standards to find gaps
- Develop a plan for improvement by focusing on one diagnosis addressing:
 - Ready resources availability
 - Education of staff
 - Electronic medical record
- After implementation, run a report pulling antibiotics for just the diagnosis the team focused their effort on.
-  Track and report the percentage of all visits leading to antibiotic prescriptions. Additional measures may include:
 - Complications of antibiotic use
 - Antibiotic resistance trends
- Current HEDIS measures include quality measures for appropriate testing for children with pharyngitis, appropriate treatment for children with upper respiratory infections (i.e., avoidance of antibiotics) and avoidance of antibiotic treatment in adults with acute bronchitis.



4. EDUCATION AND EXPERTISE

Resources to clinicians and patients

-  Patients: Patients should be informed that antibiotic treatment for viral infections provides no benefit and thus should not be used for viral infections and potential harm (e.g., serious side effects of antibiotics, including nausea, abdominal pain, diarrhea) by providing patient education materials.
 - [CDC Know When Antibiotics Work—Print Materials for Parents of Young Children](#)
 - [CDC Know When Antibiotics Work—Print Materials for Adults](#)
 - [ABC's of Antibiotics](#)
- Clinicians:
 - Provide face-to-face educational training (academic detailing) provided by peers, colleagues, or opinion leaders, including other clinicians and pharmacists, and uses reinforcement techniques and peer-to-peer comparisons to facilitate changes in antibiotic prescribing practices.
 - Provide continuing education activities for clinicians.
 - Education activities include those that address appropriate antibiotic prescribing, adverse drug events, and communication strategies about appropriate antibiotic prescribing that can improve patient satisfaction.
 - [CDC Commentary: Antibiotic Stewardship in the Outpatient Setting](#) is just under six minutes and provides an overview of CDC's latest resource to support antibiotic stewardship in the outpatient setting.
- [CDC Get Smart: Know When Antibiotics Work – Print Materials for Healthcare Professionals](#)
- Communications training in which clinicians were taught to assess patient expectations, discuss the risks and benefits of antibiotic treatment, provide recommendations for when to seek medical care if worsening or not improving (a contingency plan), and assess the patient's understanding of the communicated information led to sustained decreases in inappropriate antibiotic prescribing.
 - [Educating Patients About Antibiotic Use](#) (A little over seven minute video)
 - [CDC Commentary: Don't Give In and Give Those Antibiotics!](#) (Just under four minutes)
 - [TeamSTEPPS](#) assist to build a culture of support through communication.
 - [SBAR](#) (e.g., situation, background, assessment, recommendation)
 - [Check-back](#) (message is repeated and confirmed)
 - [Handoff](#) (opportunity to ask questions, clarifies, and confirms)
- Ensure timely access to persons with expertise (e.g., pharmacists or medical and surgical consultants) who can assist clinicians in improving antibiotic prescribing for patients with conditions requiring specialty care. Ensure staff know how to contact this/these individuals.



FEEL STUCK AND UNABLE TO MOVE FORWARD?

Your organization's next step is:

1 Identify one or more high-priority conditions for intervention.

- Current HEDIS measures include quality measures for appropriate testing for children with pharyngitis, appropriate treatment for children with upper respiratory infections (i.e., avoidance of antibiotics), and avoidance of antibiotic treatment in adults with acute bronchitis.
- Conditions for which antibiotics are overprescribed, such as conditions for which antibiotics are not indicated (e.g., acute bronchitis, nonspecific upper respiratory infection, or viral pharyngitis).
- Conditions for which antibiotics might be appropriate but are over diagnosed, such as a condition that is diagnosed without fulfilling the diagnostic criteria (e.g., diagnosing streptococcal pharyngitis and prescribing antibiotics without testing for group A Streptococcus).
- Conditions for which antibiotics might be indicated but for which the wrong agent, dose or duration often is selected, such as selecting an antibiotic that is not recommended (e.g., selecting azithromycin rather than amoxicillin or amoxicillin/clavulanate for acute uncomplicated bacterial sinusitis).
- Conditions for which watchful waiting or delayed prescribing is appropriate but underused (e.g., acute otitis media or acute uncomplicated sinusitis).
- Conditions for which antibiotics are underused or the need for timely antibiotics is not recognized (e.g., missed diagnoses of sexually transmitted diseases or severe bacterial infections such as sepsis).

2 Establish a plan for small tests of change using a plan-do-study-act model that will allow a barrier to be addressed while implementing establish standards.

- Start changes with one provider, one patient, one time. Take the time to evaluate and adapt based on the results.
- Expand change to one provider to five patients. Evaluate and adapt based upon the results. Be sure to share results with co-workers.
- Expand change to one provider to all patients. Evaluate and adapt based upon the results. Be sure to share results with co-workers.
- Expand beyond one provider and start having other providers implement also.

3 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.
- Clinician concerns about decreased patient satisfaction with clinical visits when antibiotics are not prescribed.

4 Establish standards for antibiotic prescribing.

- Review national clinical practice guidelines.
- Adapt to facility or system-specific clinical guidelines.
- Establish clear expectations for appropriate prescribing.