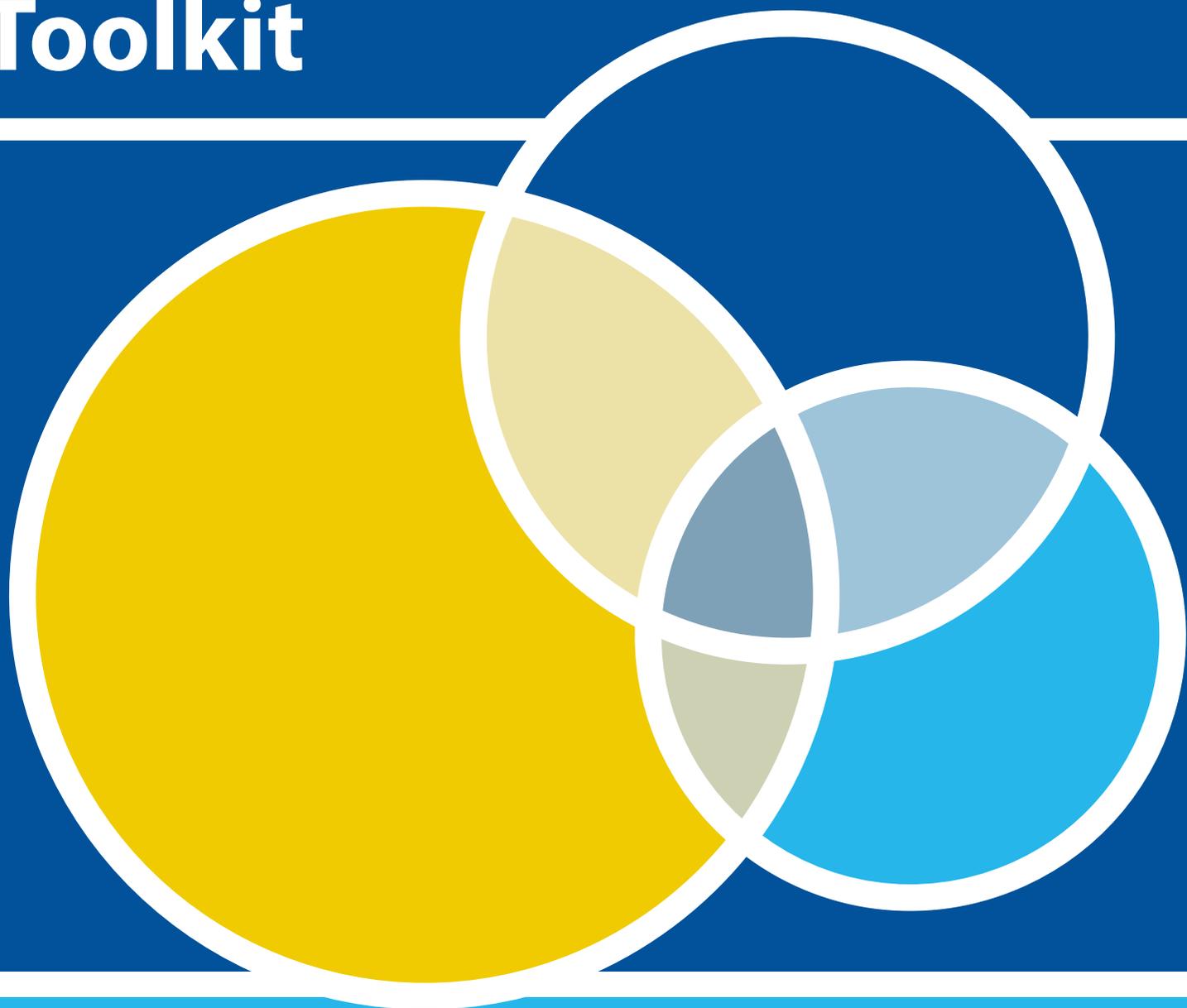


# Community Pharmacy Antibiotic Stewardship Toolkit



**Quality Improvement  
Organizations**

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



HEALTH QUALITY INNOVATORS



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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 community pharmacies.



#### **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>



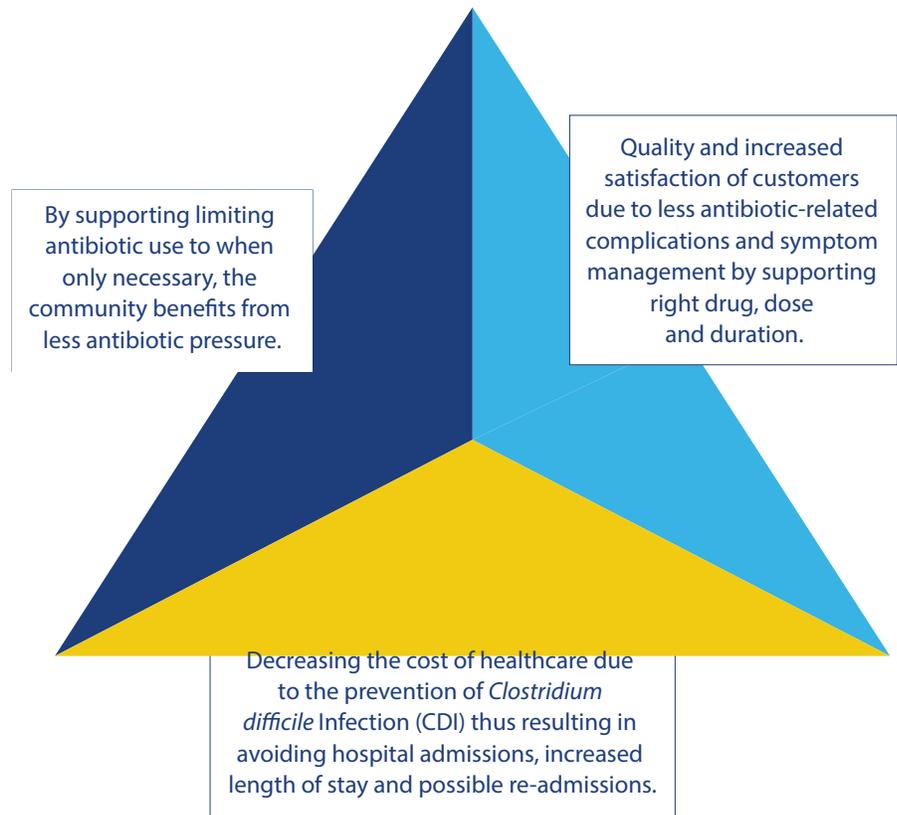
The primary goal of antibiotic stewardship is to optimize outcomes while minimizing the unintended consequences. A secondary goal is reducing healthcare costs without adversely affecting the quality of care according to the Infectious Diseases Society of America and the Society for Healthcare Epidemiology of American guidelines for developing an institutional program to enhance antimicrobial stewardship.

Antibiotic stewardship is the effort to promote the optimal use of antimicrobial agents, reducing the transmission of infections and educate health professionals, patients and the public. Community pharmacies have a direct role in these efforts. Pharmacies can support both improving clinician prescribing and educating patients and customers why antibiotics are only prescribed and used when needed. Pharmacies can also educate patients and customers, when needed, regarding complications to be aware of and to ensure the selection of the right drug, dose and duration.

This toolkit will assist your community pharmacy as we work together to not just implement best practices 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 become 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 the community pharmacy 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.

<b>Checklist for Community Pharmacy Core Elements of Outpatient Antibiotic Stewardship</b>	
Community pharmacies can take steps to implement antibiotic stewardship activities. Use this checklist as a baseline assessment of policies and practices that are in place. Then use the checklist to review progress in expanding stewardship activities on a regular basis.	
<b>1. Commitment</b>	
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"/> Display posters, fliers or other forms of information about 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"/> Staff use consistent messages when communicating with public about the indications for and use of antibiotics. <input type="checkbox"/> Join a local stewardship collaborative to work with prescribers and other healthcare professionals in communities to improve antibiotic use. <input type="checkbox"/> A member of the team pursue Certification in Antibiotic Stewardship or other antibiotic stewardship course.	
<b>2. Action</b>	
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"/> Encourage providers to include on scripts diagnosis or ICD-10 code with duration to allow verification of appropriate agent, dose and duration. <input type="checkbox"/> Encourage providers to include a weight on pediatric prescriptions to be able to verify dosing. <input type="checkbox"/> Suggest alternatives when evidence-based treatment is not ordered. <input type="checkbox"/> Notify provider if antibiotic appears to be redundant in spectrum coverage. <input type="checkbox"/> Verify dose optimization has been met. <input type="checkbox"/> Verify duration if appears to be excessive in length of time. <input type="checkbox"/> Ask for indications for antibiotic refills. <input type="checkbox"/> Refer customers with reported penicillin allergy with no previous testing or history of reaction inconsistent with true allergy to primary care for confirmation testing <input type="checkbox"/> Inquire about customer's signs and symptoms and provide recommendations on over-the-counter (OTC) medications to provide relief. <input type="checkbox"/> Provide communications skills training for pharmacists addressing benefits and harms of antibiotic treatment. <input type="checkbox"/> Assist customers with management of self-limiting conditions. <input type="checkbox"/> Support clinician regarding managing patient expectations for antibiotics. <input type="checkbox"/> Use a script for provider callbacks when making clarifying and recommending appropriate agent selection, dose optimization and de-escalation. <input type="checkbox"/> Call and clarify order if appear to be inconsistent with standards when a diagnosis or ICD-10 is provided. <input type="checkbox"/> Provide customers with printed information with specific recommendations of OTC medications work best with their symptoms. <input type="checkbox"/> Use standard approach for recommendations when assisting customers selecting over the counter symptom relief. <input type="checkbox"/> Interview customers to determining their needs and make a recommendation of ways of decreasing their symptoms. <input type="checkbox"/> Provide recommendations when to contact their provider if the medication does not appear to be working or complications occur. <input type="checkbox"/> Provide Point of Care Testing when available within the pharmacy. <input type="checkbox"/> Provide immunizations when available within the pharmacy. <input type="checkbox"/> Ask every patient about vaccination status and discuss recommended vaccinations, including influenza vaccination during flu season.	



### Checklist for Community Pharmacy Core Elements of Outpatient Antibiotic Stewardship

Community pharmacies can take steps to implement antibiotic stewardship activities. Use this checklist as a baseline assessment of policies and practices that are in place. Then use the checklist to review progress in expanding stewardship activities on a regular basis.

#### 3. Tracking and Reporting

Does your facility monitor at least one aspect of antibiotic prescribing?  Yes  No

If yes, indicate which of the following are being tracked. (Select all that apply.)

- Track and report improvement in number of patients reached by chosen action for policy and practice.
- Provide feedback in the form of antibiotic prescribing summaries to clinicians about their ordering practices. Information may include type of antibiotics ordered and frequency in a three or six month period.
- Track antibiotics associated with respiratory tract infections as these account for 44 percent of outpatient prescriptions and half are considered unnecessary.
- Track calls made to providers to record if they adopt or reject recommendations related to antimicrobials (rate of acceptance). Share this information with providers as well as best practice recommendations.
- Track overall antimicrobial percentage dispensed monthly. Establish a notification level of when to alert local public health when exceed baseline.
- Determine percentage of all antibiotics out of all medications dispensed per month. Review if single prescriber or group is driving the numbers. If, this is case, notify the individual/group.
- Determine percentage of antibiotic classes of concern (e.g. fluoroquinolones) of all antibiotics dispensed per month. Review if single prescriber or group is driving the numbers. If, this is case, notify the individual/group.
- Call back to individuals with antibiotics dispensed 24-to-48 hours earlier. Track and report antibiotic complications and ask customer to contact their providers.
- Document immunization in the state immunization tracking system (e.g., Wisconsin Immunization Registry).
- Track verification of orders for agent, dose and duration were correct.
- Track and determine the percentage of individuals educated provided by the number of individuals who received antibiotics.

#### 4. Education and Expertise

Does your facility provide resources to clinicians and patients on evidence-based antibiotic prescribing?  Yes  No

If yes, indicate how your facility provides antibiotic stewardship education to patients. (Select all that apply.)

- Use effective communications strategies to educate patients about when antibiotics are and are not needed (e.g. provide information on methods to reduce symptoms if antibiotic are not appropriate, recommend contacting primary provider if antibiotics may be appropriate.)
- Educate about the potential harms of antibiotic treatment (e.g., provide consistent customer education on signs and symptoms of complications when dispensing antibiotics, combine recommendations for symptom management when explaining antibiotics are not needed).
- Educate customers on serious side effects of antibiotics, including nausea, abdominal pain, diarrhea, *Clostridium difficile* infection, allergic reactions and other serious reactions.
- Education can be either oral or written format. Be sure to verify if the customer has any questions.
- Provide information on preventive medicine and wellness initiatives (e.g. vaccinations)
- Provide patient education in multiple forms (e.g. posters, newsletters, brochures, Facebook, webpage, public presentation in the community).
- Ensure health literacy.

If yes, indicate how your facility provides antibiotic stewardship education to clinicians. (Select all that apply.)

- Provide face-to-face educational training (e.g., use reinforcement techniques when education is not provided as expected, peer-to-peer comparisons with shadowing to facilitate changes, incorporate antibiotic stewardship education into orientation for new staff).
- Provide continuing education activities for pharmacists and technicians.
- Ensure timely access to persons with expertise.



## Outpatient Antibiotic Stewardship Improvement Plan 2018

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 an organization to use antibiotics only when necessary with the clinicians photo in a poster form in the examination room has shown to decrease antibiotic prescribing by 20 percent. Feel free to use the below documents to add a photo of your pharmacists or team.
  - [Community Poster for Pharmacists to Show Support \(Word\)](#)
  - [Community Poster for Pharmacists to Show Support \(PDF\)](#)
- 🍎 By committing to this project, you have already identified both a staff champion and clinical leader. By joining this local stewardship collaborative, you will be working with prescribers and other healthcare professionals in the communities to improve antibiotic use.
- 🍎 Update your organization's 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 customers including antimicrobials.
  - Coordinates programs designed to minimize medication errors, adverse drug reactions and medication misuse with regards to medication preparations through improved reporting, analysis and follow up.
  - Promote, advise and guide the development of successful Community Pharmacy antimicrobial stewardship program.
  - Assist staff in program assessments, antimicrobial utilization reviews, developing program structures and interventions, and identifying opportunities to optimize antimicrobial use.
- A member of your team can pursue Certification in Antibiotic Stewardship or other antibiotic stewardship course indicated a commitment to antibiotic stewardship.
  - [Stanford Medicine Educational Center](#)
  - [Antimicrobial Stewardship Training Programs](#)
  - [Society of Infectious Disease Pharmacists \(SIDP\)](#)
  - [Weighing in on Antibiotic Resistance: Community Pharmacists Tip the Scale](#)
  - [CDC Antibiotic Stewardship Training](#)
- Participate in 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.



- Developing guidelines, monitoring, and intervention strategies for alternative OTC medications to provide symptom relief and avoiding antimicrobial use.
- Compiling data and metrics on antimicrobial use.
- Coordinating, facilitating and promoting education, training, competency assessment, and performance improvement of staff related to the appropriate use of antimicrobials.
- Communicate with all staff members to set patient expectations.
  - All staff members need to understand that all acute illnesses might, or might not, need an antibiotic prescription. Staff can relay by using consistent messages when communicating with public about the indications for and use of antibiotics using such words such as:
    - Our goal is to provide you with the best quality health care support care to help you heal as soon as possible. We can help you choose over the counter medications that will help you feel better.
- Tell me more about how you are feeling so we can help you take 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 [Antibiotics: Pharmacists Can Make the Difference](#) (2 minutes). In this podcast, a pharmacist counsels a frustrated father about appropriate antibiotic use and symptomatic relief options for his son's cold.
- Use post-it notes as reminders in staff only location.
- 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 any changes.



## 2. ACTION

### Support policy or practice to improve antibiotic prescribing

- Support providers by using evidence-based diagnostic criteria and treatment recommendations.
  - Encourage providers to include on scripts diagnosis or ICD-10 code with duration to allow verification of appropriate agent, dose and duration.
  - Call and clarify order if appear to be inconsistent with standards when a diagnosis or ICD-10 is provided.
  - Encourage providers to include a weight on pediatric prescriptions to be able to verify dosing.
  - Suggest alternatives when evidence-based treatment is not ordered.
  - Notify provider if antibiotic appears to be redundant in spectrum coverage.
  - Verify dose optimization has been met.
  - Verify duration if appears to be excessive in length of time.
  - Provide point of care testing for influenza or group A Strep, if in scope of practice and a local protocol is in place.
  - Ask for indications for antibiotic refills.
  - Refer customers with reported penicillin allergy with no previous testing or history of reaction inconsistent with true allergy to primary care for confirmation testing.
  - Support your staff and patients in decision-making.
    - [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](#)
  - [The Tool Book](#) - A handbook of drug dosing and usage guidelines that improve clinical care at Barnes-Jewish Hospital (BJH), Washington University Medical Center in St. Louis, Missouri, USA.
  - [University of Kentucky Polices and Guidelines](#)
  - Provide customers with printed information with specific recommendations of over the counter medications work best with their symptoms.
  - Use standard approach for recommendations when assisting customers selecting over the counter symptom relief.
    - [Viruses or Bacteria What's Got You Sick?](#)
    - [Preventing and Treating Bronchitis](#)
    - [Preventing and Treating Ear Infections](#)
    - [Viral Prescription Pad—English](#)
    - [Viral Prescription Pad—Spanish](#)
    - [Lake Superior QIN How to Feel Better Patient Teaching Sheet](#)
    - [Lake Superior QIN Nasal Wash or Irrigation Patient Teaching Sheet](#)
  - Support [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. Community Pharmacies can support this practice by inquiring about customer's signs and symptoms and provide recommendations on OTC medications to provide relief.
    - [Lake Superior QIN How to Feel Better Patient Teaching Sheet](#)
    - [Lake Superior QIN Nasal Wash or Irrigation Patient Teaching Sheet](#)
  - 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.
    - Provide communications skills training for pharmacists addressing benefits and harms of antibiotic treatment.
    - Assist customers with management of self-limiting conditions.
    - Support clinician regarding managing patient expectations for antibiotics.
  - [Dialogue around Respiratory Illness Treatment \(DART\)](#) can be used to optimize communication with patients and manage expectations after your verbal interview. Use a two-part negative/positive treatment recommendation.
    - The first negative statement is the recommendation that antibiotics are not needed.
    - The positive statement is the recommendation for symptom relief.
  - Use a script for provider callbacks when making clarifying and recommending appropriate agent selection, dose optimization and de-escalation.
  - 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. Pharmacy staff prevent unnecessary visits by:
    - Interview customers to determine their needs and make a recommendation of ways of decreasing their symptoms.
    - Provide recommendations when to contact their provider if the medication does not appear to be working or complications occur.
    - Provide Point of Care Testing when available within the pharmacy and allowed by state regulations.
    - Provide immunizations when available within the pharmacy.
    - Ask every patient about vaccination status and discuss recommended vaccinations, including influenza vaccination during flu season.



## 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.
- 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.
- Track and report data.
- Develop a plan for improvement by focusing on:
  - Ready resources availability
  - Education of staff
  - Electronic record
- Suggestions for tracking and reporting in the community pharmacy can either be on the provider or patient level:
  - Provider Data
    - Track overall antimicrobial percentage dispensed monthly.
      - Establish a notification level of when to alert local public health when exceed baseline, or
      - Review if single prescriber or group is driving the numbers. If, this is case, notify the individual/group.
    - Determine percentage of antibiotic classes of concern (e.g. fluoroquinolones) of all antibiotics dispensed per month. A good choice is antibiotics associated with respiratory tract infections as these account for 44 percent of outpatient prescriptions and half are considered unnecessary. Review if single prescriber or group is driving the numbers. If, this is case, notify the individual/group.
    - Provide feedback in the form of antibiotic prescribing summaries to clinicians about their ordering practices. Information may include type of antibiotics ordered and frequency in a three or six month period.
    - Track calls made to providers to record if they adopt or reject recommendations related to antimicrobials (rate of acceptance) or track verification of orders for agent, dose and duration were correct. Share this information with providers as well as best practice recommendations.
      - [Measuring Outpatient Antibiotic Prescribing](#)



- Patient Data
  - 🍏 Track and report improvement in number of patients reached by chosen action for policy and practice.
  - Call back to individuals with antibiotics dispensed 24-to-48 hours earlier. Track and report antibiotic complications and ask customer to contact their providers.
- 🍏 Document immunization in the state immunization tracking system (e.g., Wisconsin Immunization Registry).
- 🍏 Track and report to your team the percentage of education completed by the number of individuals who received antibiotics.



## 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.
- Patient education can include:
  - Displayed Posters
  - Newsletters
  - Brochures
  - Facebook
  - Webpage
  - Public presentation in the community
- Provide information on preventive medicine and wellness initiatives (e.g., vaccinations).
- Provide information on methods to reduce symptoms if antibiotic are not appropriate. Combine recommendations for symptom management when explaining antibiotics are not needed.
- Recommend contacting primary provider if antibiotics may be appropriate.
- Provide consistent customer education on signs and symptoms of complications when dispensing antibiotics.
- Educate customers on serious side effects of antibiotics, including nausea, abdominal pain, diarrhea, C. difficile infection, allergic reactions, and other serious reactions.
- Be sure to verify if the customer has any questions.
- Ensure patient health literacy by using some simple rules:
  - Use visual graphics or illustrations on print materials.
  - Provide education in languages other than English.
- Use a print size of 12 point or higher.
- Avoid health jargon words by using simple everyday words.
- Easy to identify the most important points.
- Offer and provide interpreters for individuals who have English as a second language.
- Include a phone number to call if there are questions.
- Utilize ready to print material:
  - [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](#)
- Staff:
  - Provide continuing education activities :
    - Education of staff can include:
      - Formal or informal presentations
      - Webinars
        - [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
        - [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)
      - Workshops
      - Case review by staff
      - Posters
      - Newsletters
      - Brochures



- Use reinforcement techniques when education is not provided as expected.
- Peer-to-peer comparisons with shadowing can facilitate changes.
- Incorporate antibiotic stewardship education into orientation for new staff.
- Communications training in which staff are taught to assess patient expectations, assist with providing symptom relief, and assess the patient's understanding of the communicated information led to sustained decreases in inappropriate antibiotic prescribing. Communications training includes:
  - How to assess patient expectations.
  - How to relay the risks and benefits of antibiotic treatment.
  - How to relay recommendations for when to seek medical care if worsening or not improving (a contingency plan).
- How to assess the customer's understanding of the communicated information.
- [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)
-  Community Pharmacists responsibilities include being readily accessible and providing expertise in antibiotics. This access to colleagues and community is a valuable resource for improving antibiotic prescribing.



## FEEL STUCK AND UNABLE TO MOVE FORWARD?

Your organization's next step is:

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

- As a team, decide which antibiotics are overprescribed for such conditions for which antibiotics are not indicated (e.g., acute bronchitis, nonspecific upper respiratory infection or viral pharyngitis).
- Focus on 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).

### Establish standards for antibiotic prescribing.

- Establish a list of recommended over the counter methods for addressing patients signs or symptoms.
- Establish a consistent way of asking patients about their signs and symptoms to make recommendations for non-antibiotic interventions.
- Ensure the patient understands when they should contact their primary provider if their condition worsens.
- Be a resource for prescribers including clinical practice guidelines.
- Contact prescribers on orders that need clarification.

### Identify barriers that lead to deviation from best practices.

#### These might include:

- Clinician knowledge gaps about best practices and clinical practice guidelines.
- Patient expectations or lack of knowledge of alternative methods of symptom relief.

### 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 on one patient, one time. Take the time to evaluate and adapt based on the results.
- Expand change to one provider regarding five patients. Evaluate and adapt based upon the results. Be sure to share results with co workers.
- Expand change to one provider and all patient. Again, evaluate and adapt based upon the results. Be sure to share results with co workers
- Expand beyond one provider.