

AHRQ Safety Program for Improving Antibiotic Use



Implementation Guide for the Toolkit To Improve Antibiotic Use in Long-Term Care

Introduction

Developing an antibiotic stewardship program (ASP) or improving an existing ASP can take time. If you are starting a stewardship program or growing a nascent program, the resources provided in the AHRQ Safety Program toolkit are intended to be introduced and implemented over several months. If you have an existing ASP, you should assess what elements of the toolkit will improve your program. Regardless of the stage of your ASP, you should begin by reviewing all elements of the toolkit, as described below. Implementation of the AHRQ Safety Program for Improving Antibiotic Use can help long-term care facilities address the Centers for Disease Control and Prevention's [Core Elements of Antibiotic Stewardship for Nursing Homes](#).

A comprehensive [timeline](#) on the AHRQ Safety program Toolkit Web site describes the toolkit, lists associated supporting materials for each presentation, and lists recommended activities for the stewardship team and frontline providers. The timeline was created to guide facilities that wish to follow this program in a step-by-step approach, from developing the stewardship program to sustaining it. Some facilities may be at different stages in the development of the stewardship program, so we encourage you to tailor the use of this timeline to meet your facility's specific needs.

Develop and Improve Your Stewardship Program

We recommend starting with the introductory presentations in the section “Developing your Stewardship Program.” These presentations are directed at ASP leaders and cover the concept of using both technical and adaptive approaches to form stewardship interventions as well as methods to collect data and track your progress. The following presentations will walk you through how to identify and develop your ASP team and engage senior executives for support. Each presentation throughout the toolkit includes both a slide set and a script, referred to in the toolkit as a facilitator guide.

- “[Developing an Antibiotic Stewardship Program](#)” introduces general principles of antibiotic stewardship. The presentation also describes antibiotic stewardship team members and interventions that are relevant to long-term care settings, including ways to measure and share outcomes of stewardship interventions.
- “[Tracking and Measuring Antibiotic Use](#)” includes an introduction to a comprehensive data collection form and a link to the form, which will help track antibiotic use as well as orders for urine cultures and *Clostridioides difficile*–positive LabID events. LabID events are defined on this CDC site: <https://www.cdc.gov/nhsn/faqs/faq-mdro-cdi.html>. The ASP can use this information to monitor outcomes from its interventions.



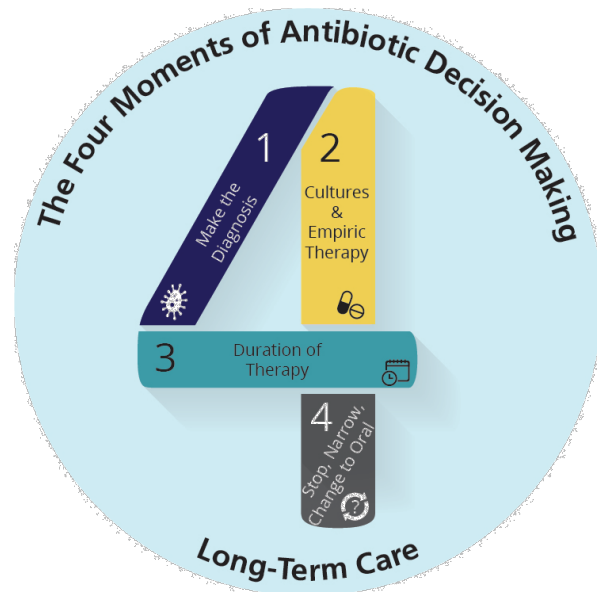
- The goal of the presentation “[Appropriate Collection of Microbiological Specimens](#)” is to help frontline staff collect high-quality samples for microbiological cultures, which will lead to better decisions about antibiotic prescriptions for residents.

The presentations on developing an ASP and the [gap analysis tool](#) can be used to determine what areas of your stewardship program may benefit from improvement. If, after completing the gap analysis, you note major deficiencies in your ASP, particularly those that might lead to noncompliance with new Centers for Medicare & Medicaid Services (CMS) guidelines, you should meet with your administrative leadership to determine how to manage the deficiencies. A management plan may include developing a business case for additional physician or pharmacist resources or gaining access to data analysis resources.

A signable [Commitment Poster](#) indicating to your residents, their friends and family, and staff that your facility is dedicated to using antibiotics judiciously is available. Sign and post the Commitment Poster in public areas so it is clear your facility is committed to prescribing antibiotic use judiciously.

Four Moments of Antibiotic Decision Making Framework

Next, review the Four Moments of Antibiotic Decision Making framework and determine how to present it to frontline staff at your facility. This framework identifies the critical time periods of antibiotic decision making throughout a course of antibiotics. It is intended to be disseminated to all frontline staff to help ensure that staff are using a similar, rational thought process when deciding whether antibiotics are needed and, if so, what the most appropriate regimen is. Even if you have a robust ASP, consider taking the additional step of introducing the Four Moments framework so that frontline staff, residents, and even family members can be active participants in the process of improving antibiotic prescribing.



Several actions can be taken to integrate the Four Moments into regular practice:

- Local guidelines should be developed using the Four Moments framework. Thus, guidelines should use appropriate diagnostic criteria to determine if a patient has an infection, cite common causative organisms and cultures that should be obtained, and give recommendations for empiric therapy, duration of therapy, and narrowing or stopping therapy.
- Posters and pocket cards are available in this section that can be reproduced for posting on units and distributing to staff to remind them of the Four Moments. These also can be used as content for screen savers on facility computers. There are also mock dialogues for discussion

with residents and family members when they are concerned for infection using the Four Moments, and sharing with staff is encouraged.

- Direct interactions by the ASP with nursing staff and health care practitioners to assist them in (1) understanding the purpose of the Four Moments and (2) determining how they will be operationalized on a daily basis, such as during a morning meeting. The ASP is encouraged to meet with frontline teams and providers to review some portion of patients receiving antibiotics; this review can be guided by use of the Team Antibiotic Review Form.

Develop a Culture of Safety Around Antibiotic Prescribing

Next, as you focus on setting up or revitalizing your ASP, it is important to work on changing the culture of antibiotic prescribing at your facility. Under the [Create a Culture of Safety Around Antibiotic Prescribing](#) section, several presentations can help you achieve this goal. Institutional behavior change can be challenging, and ASPs and frontline providers may be inclined to skip the step of addressing cultural and behavioral issues (adaptive learning) associated with antibiotic prescribing. However, we strongly recommend that the ASP team view these presentations in order to engage frontline providers to optimize antibiotic prescribing and improve communication as a team. Below is a summary of these presentations.

- [Improving Antibiotic Use Is a Patient Safety Issue](#) provides a general overview of why improving antibiotic use is important from a patient safety perspective. ASP team members should use slides from this presentation to demonstrate to leadership and frontline clinicians the potential harms associated with antibiotic use and why all individuals should work together to use antibiotics in the best possible way.
 - The [Staff Safety Assessment](#) form can be used at meetings or left on units for frontline providers to complete when they identify a potential antibiotic-associated adverse event or other problems associated with antibiotic prescribing
 - The [Intervention Worksheet](#) and the [Checkpoint Tool](#) help you identify potential interventions based on patient safety needs and track the progress of these interventions.
- [Improving Teamwork and Communication](#) addresses common pitfalls in how we communicate medical information to each other and approaches to improve communication and teamwork in antibiotic prescription decisions. It includes a case-based discussion on use of the SBAR (Situation, Background, Assessment, Recommendation) form and other methods to improve communication between the healthcare team.
- [Identifying Targets To Improve Antibiotic Use](#) addresses identifying technical versus behavioral (also known as adaptive) problems leading to antibiotic-associated adverse events as well as first- and second-order problem-solving approaches. The ASP and frontline providers are encouraged to characterize all antibiotic prescribing problems as technical, adaptive, or both, and craft solutions based on that information through multidisciplinary teams.

- [Changing the System To Improve Patient Safety](#) provides a specific framework for developing and implementing solutions to problems that lead to antibiotic-associated harm. Two forms are provided to assist with these discussions between ASPs and frontline staff:
 - The [Learning From Antibiotic-Associated Adverse Events](#) form is similar to a root cause analysis form and can be completed during structured meetings to guide strategies to prevent future antibiotic-associated adverse events.

Learn Best Practices for the Diagnosis and Treatment of Infectious Syndromes

Next, review the material under the [Learn Best Practices for Common Infectious Syndromes](#) section. Each syndrome is associated with a presentation and support materials that are listed at the end of the presentation. The specific infectious diseases topics addressed are case based and focused on common scenarios in the long-term care setting. They cover: how to collect cultures, assessment and management of the resident with a suspected urinary tract infection, and assessment of and management of the resident with a suspected respiratory tract infection (including community-acquired pneumonia, aspiration events, and chronic obstructive pulmonary disease exacerbations). Narrated presentations are paired with some presentations—these prerecorded files contain the same information as the similarly titled presentations and may be more easily absorbed by individual learners. Additional narrated presentations are also available that cover assessing the resident with a suspected skin and soft tissue infection and approaching the patient with a penicillin allergy.

The ASP should determine how to present the material to frontline providers over time. Each of the above topics includes presentation slides as well as a facilitator guide. Suggestions for presenting the material include:

- Standing monthly meetings and conferences with frontline staff to review topic-specific presentations, identify high-yield topics for the facility, and develop and implement relevant guidelines with feedback from frontline staff.
- Distribution of the supporting materials so that they are available at the point of care (e.g., local Web site, common workstations, break rooms).
- Regular followup from the ASP with frontline staff both through routine post-prescription review and feedback and through use of the Team Antibiotic Review Form during scheduled in-person meetings. ASPs may also consider encouraging the frontline teams to review the presentations themselves.
- Incorporation of training presentations or narrated presentations into staff onboarding or orientation materials, or a yearly infection prevention and antibiotic resistance day.

ASPs may consider focusing on a specific syndrome every few months. During that period, the activities of the ASP would include developing or updating guidelines on the syndrome, disseminating information about the syndrome, focusing its daily interventions (e.g., post-prescription review and feedback and use of the Team Antibiotic Review Form) on patients with the syndrome, and collecting data and providing feedback to clinicians managing these syndromes.

Ultimately, local guidelines for all of the covered topics as well as other topics identified by the ASP and frontline staff should be developed and made available at the point of care.

Solidify Communication Between Caregivers and Sustain Stewardship Efforts

At the completion of the technical topics, we have included three final presentations that address communication and another presentation that has recommendations to help ensure that stewardship efforts are sustained long term.

- [Communicating Infectious Concerns With Antibiotic Prescribers](#) provides the framework for constructive discussions between the health care team to guide antibiotic decision making and prevent resident harm. This information is also available as a prerecorded narrated presentation.
- [Discussing Infectious Concerns About Residents With Family Members and Caregivers](#) guides some difficult conversations in counseling family members regarding potential infections as well as end-of-life care. This information is also available as a prerecorded narrated presentation.
- The [Talking With Family Members About Antibiotics](#) poster provides mock dialogues for the discussion around common syndromes in the long-term care setting to frame an effective conversation and educate family about the risk of antibiotics.
- [Sustaining Your Antibiotic Stewardship Program](#) provides recommendations and tools to continue your stewardship efforts, track your progress, share successes, and garner support for continuing your program. Several supporting materials are available to help you meet your stewardship goals, including the [Guide to Sustainability Planning](#). More supporting materials are listed in a checklist on the last slide of each presentation.

Conclusion

The Toolkit for Improving Antibiotic Use in Long-Term Care provides a pathway for ASPs to develop and improve their stewardship programs. ASPs are encouraged to consider how all elements of the toolkit can be applied at their facilities to improve antibiotic use and enhance the safety of residents receiving antibiotics.

