

AHRQ Safety Program for Improving Antibiotic Use



Toolkit Implementation Guide for Acute Care Antibiotic Stewardship Programs

Introduction

Developing an antibiotic stewardship program (ASP) or improving an existing ASP can take time. If you are starting a 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, which are described below. Implementation of the AHRQ Safety Program for Improving Antibiotic Use can help hospitals address the Centers for Disease Control and Prevention's [Core Elements of Hospital Antibiotic Stewardship Programs](#).

Develop and Improve Your Stewardship Program

It may be most useful to begin with the first four presentations under the “[Develop and Improve Your Stewardship Program](#)” tab to ensure that you have the basics in place for a functioning ASP. Each presentation throughout the toolkit includes both a slide set and a script, referred to in the toolkit as a facilitator guide. The presentations in this section are directed at ASP leaders and cover [developing an ASP](#), [determining core interventions that the ASP will perform on a regular basis](#), [measuring the success of the ASP](#), [managing behavior change as a steward](#), and [sustaining an ASP](#).

The two presentations on developing an ASP ([part 1](#) and [part 2](#)) and the [gap analysis tool](#) can be used to determine what areas of your 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 The Joint Commission Antimicrobial Stewardship Standard or other similar standards, you should meet with hospital leadership to determine how to manage the deficiencies. This may include developing a business case for additional physician or pharmacist resources or gaining access to data analysis resources.

All stewards should view the presentation “[Making Effective Behavior Changes Around Antibiotic Prescribing](#),” which provides an overview of behavioral aspects of antibiotic stewardship and practical approaches to modify prescriber behavior.

Once you have completed this work, consider viewing the two narrated presentations in this section regarding collaboration with bedside nurses and the microbiology lab for ideas about how to integrate the work of these important stakeholders into ASP practice.



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 clinicians at your hospital. 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 clinicians to ensure a rational thought process is employed when making decisions about 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 clinicians 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, common causative organisms and cultures that should be obtained, recommendations for empiric therapy, recommendations for narrowing therapy and transitioning from intravenous to oral therapy, and recommendations for duration of therapy.
- All “[Best Practices](#)” presentations in the AHRQ Safety Program toolkit incorporate the Four Moments framework; these slide sets can be used for presentations at conferences such as grand rounds. Most have associated One Page document templates and User Guides to assist with guideline development.
- [Posters and a screen saver graphic](#) are available that can be reproduced for posting on units and distributing to clinicians to remind them of the Four Moments. These can also be used as content for screen savers on hospital computers.
- Direct interactions by the ASP with clinicians and teams 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 pre-specified time for discussion on rounds or as part of an antibiotic stewardship section of a daily progress note. The [Antibiotic Time Out Tool](#) can be used to facilitate these daily assessments by an individual or team. The ASP is encouraged to meet with frontline teams and providers to review some portion of patients receiving antibiotics; this 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 hospital. Under the “[Developing a Culture of Safety Around Antibiotic Prescribing](#)” tab, 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 associated with antibiotic prescribing. However, we strongly recommend that the ASP team view these presentations in addition to the presentation noted above, “[Making Effective Behavior Changes Around Antibiotic Prescribing](#),” and determine which elements will be helpful in improving their relationship with frontline providers and in engaging frontline providers to optimize antibiotic prescribing. Below is a summary of these presentations.

- [“Making the Case That Antibiotic Use is a Patient Safety Issue”](#) provides a general overview of why improving antibiotic use is important. 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.
 - A signable [Commitment Poster](#) indicating to your patients and staff that your facility is dedicated to using antibiotics judiciously is available. Sign and post the Commitment Poster in public areas so that it is clear that your hospital is committed to improving antibiotic use.
- [“Improving Communication and Teamwork Around Antibiotic Decision Making”](#) addresses common pitfalls in how we communicate medical information to each other and approached to improve communication and teamwork in antibiotic prescription decisions. It includes information about initiating an antibiotic time out and use of the Team Antibiotic Review Form to accomplish these goals.
- [“Identifying Targets for Improvement in Antibiotic Decision Making”](#) 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 in multidisciplinary teams.
- [“Making Effective Changes in Antibiotic Decision Making”](#) 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:
 - [“Identifying Antibiotic-Associated Adverse Events Form”](#) is brief and can be used at meetings or left on units for frontline providers to complete when they identify a potential antibiotic-associated adverse event.
 - [“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 [“Best Practices for the Diagnosis and Treatment of Infectious Syndromes”](#) tab. Each syndrome is associated with a presentation and support materials that include a One Page document that can be used as a poster, a handout, and/or as a template for local guidelines and a User Guide that assists ASPs with customizing the One Page document to reflect the local formulary and antibiogram. The specific infectious diseases topics addressed are asymptomatic bacteriuria and urinary tract infections, community-associated lower respiratory tract conditions (including community-acquired pneumonia, aspiration events, and chronic obstructive pulmonary disease exacerbations), ventilator-associated pneumonia, hospital-acquired pneumonia, cellulitis and

skin and soft tissue abscesses, diverticulitis, biliary tract infections, bacteremia, sepsis, and *Clostridioides difficile* infections. Each presentation uses the Four Moments of Antibiotic Decision Making framework to walk the participant through relevant decisions for the specific syndrome at each moment.

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 teams or units to review topic-specific presentations followed by the development of relevant guidelines
- Distribution of the supporting materials so that they are available at the point of care (e.g., local website, common workstations, break rooms)
- Regular follow up 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

ASPs may consider focusing on a specific syndrome each month or every two 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 and feeding back data on improvements in how clinicians are 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.

Conclusion

The AHRQ Safety Program for Improving Antibiotic Use Acute Care Toolkit provides a pathway for ASPs to develop and improve their programs. ASPs are encouraged to consider how all elements of the toolkit can be applied at their institutions to improve antibiotic use and enhance the safety of patients receiving antibiotics.