

AHRQ Safety Program for Improving Antibiotic Use

Antibiotic Stewardship Program

Development: Part 1

Acute Care

Slide Number and Slide **Slide Title and Commentary** Slide 1 Antibiotic Stewardship Program **Development: Part 1** AHRQ Safety Program for Improving Antibiotic Use **Acute Care** SAY: This presentation is the first of two that address key Antibiotic Stewardship Program issues and approaches in developing an antibiotic Development: Part 1 stewardship program in the acute care setting. Acute Care **Objectives** Slide 2 **Objectives** SAY: By the end of this presentation, participants will be able to— 1. Understand the key personnel involved in developing an By the end of this presentation, you will be able to Antibiotic Stewardship Program (ASP) understand the key personnel necessary for developing 2. Understand how to work with a senior executive to further an antibiotic stewardship program, understand how to program goals 3. Understand the importance of and approaches to developing work with a senior executive to further the goals of the guidelines antibiotic stewardship program, and understand the importance of and approaches to developing local

guidelines.

Key Personnel and Essential Relationships

SAY:

First, we will discuss the key personnel who make up an antibiotic stewardship program and the essential relationships a stewardship program must have with other departments.

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Key Personnel and Essential Relationships



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ASP Development

Essential Team Members

SAY:

Ideally, all antibiotic stewardship programs should have both physician and pharmacist leadership.

Physician leadership is critical because interventions by the stewardship program directly impact antibiotic prescribing decisions by members of the medical staff, who should reasonably expect to have physician oversight of such recommendations. Other important roles of physician leaders of antibiotic stewardship programs include determining program goals in conjunction with the pharmacist leader; settling differences of opinion between the stewardship team and prescribers; and functioning as a bridge to executive leadership in the institution.

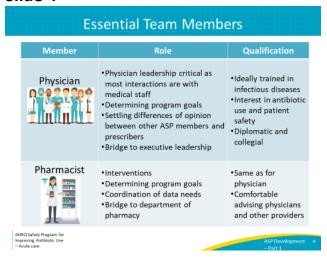
The physician lead of stewardship is ideally trained in infectious diseases, as this specialty provides comprehensive knowledge regarding diagnosis, management, and treatment of infectious disease processes. Whether trained in infectious diseases or not, the physician lead should have an interest in both optimal use of antibiotics as well as patient safety. To ensure maximum uptake of stewardship recommendations, the physician lead should be a diplomatic and collegial communicator and be viewed among peers as a thought leader.

Pharmacist leadership of stewardship programs is also essential. In most programs, pharmacists do the majority of interventions on a daily basis. In addition, pharmacists often lead efforts to coordinate data needs of the program, such as data on antibiotic use. The pharmacist in the stewardship program also functions as a bridge to the pharmacy department to ensure coordination of stewardship and pharmacy goals. The pharmacist lead of stewardship is also ideally trained in infectious diseases. If a pharmacist does not have formal infectious disease training, he or she should pursue training courses in the area of antibiotic stewardship.

The pharmacist lead should be comfortable advising physicians and other providers in optimizing antibiotic use in a collegial yet persuasive manner.

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Groups and Departments

SAY:

This diagram shows other departments and groups in an institution with which the antibiotic stewardship program should form close relationships. In addition, representatives from these departments and groups should be members of the institution's antibiotic stewardship committee. The next slides detail why these relationships are important.

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Essential Partners:

The Role of the Senior Executive in ASPs

SAY:

All ASPs should strive to develop a close relationship with an executive to further the goals of the programs. Fortunately, as of the creation of this resource, May 2019, leadership support of ASPs is highlighted in The Joint Commission Antimicrobial Stewardship Standard, which provides justification for the ASP to work closely with a senior executive.

Ideally, the senior executive is a physician, although this is not essential. The senior executive can help the ASP align its goals with the organization's strategic goals and identify financial resources for the ASP personnel and activities. The executive can connect the ASP to stakeholders across the institution who can help disseminate concepts of stewardship and engage their groups with the ASP. The executive can ensure that ASP leaders are included in high-level meetings such as board meetings. The executive can assist with other barriers to progress such as clinicians who do not wish to follow ASP guidelines and protocols. Finally, having an involved senior executive is a good way to demonstrate to The Joint Commission that senior leadership supports ASP efforts.

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Essential Partners: the Senior Executive

· Assists ASP with aligning program's goals with the organization's strategic goals · Identifies financial resources for the ASP and its executive

- activities · Connects ASP to stakeholders across the institution o Ensures the ASP leadership is included in high-level
- meetings · Assists with reducing barriers to progress o "Outlier" clinician prescribing practices
- · Demonstrates to The Joint Commission that senior leadership supports ASP efforts



Engaging Senior Executives

SAY:

The stewardship team should work to engage the senior executive. This can be challenging because senior executives often lack sufficient time to dedicate to the stewardship team. On occasion, they might also show a lack of interest.

There are several approaches to engage the senior executive. These include inviting the executive to join your AS committee to understand institutional issues around antibiotic prescribing and inviting them to attend unit meetings where antibiotic prescribing issues are discussed to hear about challenges and successes from the frontline staff. In addition, developing brief and regular executive summaries of the ASP's work can keep the topic at the forefront of the executive's mind and highlight the important work of the ASP. Consider including high-level talking points for the executive in these reports to make it easy for the executive to share the ASP's work. Also, schedule a standing meeting at least quarterly with the senior executive to review the ASP's current work and challenges. Finally, remember to express appreciation for any resources the executive has provided.

If persistent problems with senior executive engagement occur, consider approaching a different executive.

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Engaging Senior Executives

- Invite an executive to join the hospital antibiotic stewardship (AS) committee.
- Invite executives to periodically attend unit meetings where antibiotic prescribing issues are discussed.
- Provide the executive regular summaries of the ASP's work.
- Schedule a standing meeting between the ASP and the executive.
- · Show appreciation for resources provided.





ASP Development - Part 1

Essential Partners: Pharmacy and P&T

SAY:

A strong relationship with the pharmacy is critical to the success of an ASP because the pharmacy dispenses all prescribed antibiotics. Thus, the pharmacy is often in the position of enforcing prescribing policies developed by the ASP.

In addition, the pharmacy can be the source of antibiotic use data as well as more general data on prescription trends such as sudden increases in carbapenem use. There may be pharmacists who are not core members of the ASP who can develop and implement stewardship interventions such as intravenous to oral conversion protocols and therapeutic antibiotic monitoring protocols as well as other AS activities. Finally, the pharmacy monitors antibiotic shortages and should work with the ASP to provide treatment alternatives.

The pharmacy and therapeutics committee (or its antibiotic subcommittee) generally makes formulary and restriction decisions regarding antibiotics and thus should have ample ASP representation. In some institutions, the P&T committee may endorse guidelines, order sets and restriction policies. Finally, some ASPs may elect to report formally to the P&T committee.

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Essential Partners: Pharmacy and P&T

· Enforces prescribing policies · Generates data on antibiotic use Identifies prescribing trends Department of • Assists with some AS interventions (non-Pharmacv stewardship pharmacists) o IV to oral conversion protocols o Therapeutic antibiotic monitoring protocols · Decisions regarding formulary and restriction Pharmacy and status of antibiotics Therapeutics • Endorsement of guidelines and restriction policies (P&T) • Some AS programs/committees report to P&T Committee

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Essential Partners: Medical and ID Staff

SAY:

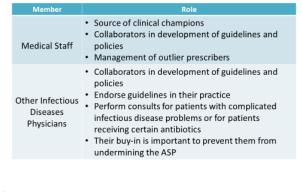
ASPs must form relationships with the medical staff who do the bulk of antibiotic prescribing. Optimally, the ASP works with clinical champions with whom it collaborates on development of guidelines and policies that are relevant to their practices. Clinical champions may also be able to assist with management of outlier prescribers in their group by modeling good prescribing behavior or having nonconfrontational one-on-one conversations to understand concerns about guidelines.

Similarly, the ASP must work closely with other infectious diseases or ID physicians who not only should function as collaborators on guidelines and policies but also are often called upon by the ASP to perform formal consultation on more challenging cases or on patients receiving restricted antibiotics. It is important to strive for the buy-in of other ID physicians so recommendations made by the ASP are not undermined.

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Essential Partners: Medical and ID Staff



Essential Partners: IT and Microbiology

SAY:

Antibiotic stewardship programs must have access to information technology resources to identify targets for AS interventions and to evaluate outcomes. IT can assist with collating antimicrobial, microbiology, and clinical data from several sources. IT can also assist with providing antibiotic use data for the institution and for reporting to the Centers for Disease Control and Prevention National Healthcare Safety Network module for Antimicrobial Use and Resistance. In addition, the ASP should engage with IT when decisions about electronic health records and other relevant software are made.

Most ASPs work closely with the microbiology lab because the ASP is able to provide information about how clinicians interpret microbiology reports and assist with improving reports when needed. The microbiology lab should develop antibiograms in consultation with the ASP. The groups should work together in making decisions about selective reporting of susceptibility testing and selection and implementation of rapid diagnostic tests.

More information regarding the role of the microbiology lab in antibiotic stewardship can be found in the narrated presentation, "How Can Your Antibiotic Stewardship Program Collaborate With the Clinical Microbiology Laboratory?"

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Essential Partners: IT and Microbiology · Assist with collating antibiotic, microbiology, and clinical data to facilitate identification of cases for intervention Information · Provide antibiotic use data for the institution and Technology for reporting to the CDC NHSN AUR module · Ensure ASP involvement in relevant decisions regarding EHRs and other software Practical interpretation of microbiology data · Antibiogram development Microbiology Selective reporting of susceptibility testing Laboratory Selection and implementation of rapid diagnostic

Essential Partners: Infection Control and Nursing

SAY:

ASPs should align their work with that of the infection control department. Infection control departments often have existing access to data of importance to the ASP such as rates of resistant organisms and *C. difficile*. The infection control department also has familiarity with acquiring, tabulating, and disseminating data across the institution. Finally, the infection control department is very familiar with preparation for The Joint Commission surveys and can provide advice for ASPs on essential elements of this preparation.

Increasingly, the role of nursing in ASP efforts is being recognized. ASPs should identify champions in the nursing department and engage and educate nurses about their potential role in stewardship. Examples include nurses assisting teams by prompting on rounds regarding the type and day of antibiotic therapy; detecting adverse events such as rash; obtaining microbiology specimens in optimal ways; and assisting with correct timing of antibiotic drug level collection.

More information regarding the role of bedside nurses in antibiotic stewardship can be found in the narrated presentation, "The Role of the Bedside Nurse in Antibiotic Stewardship Interventions."

Essential Partners: Regulatory Bodies, QI, and Patient Safety

SAY:

In light of the Joint Commission standard, ASP partnership with regulatory affairs has increased in importance to ensure compliance and preparation for surveys. ASPs should also collaborate with quality improvement or QI departments to ensure that compliance with quality metrics involving antibiotics are implemented in a rational way within the institution. Finally, some institutions have patient safety groups that may be able to assist with ASP interventions to improve antibiotic use or laboratory testing.

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Essential Partners: Infection Control and Nursing

	Role
Infection Control Department	 Knowledge of trends regarding resistant organisms, Clostridioides difficile, and clinician behaviors in the institution Familiarity with acquiring, tabulating, and disseminating data
Department of Nursing	Engagement of nurses regarding their role in antibiotic stewardship Indication and duration of antibiotic therapy Adverse event detection Appropriate microbiology specimen collection Timing of therapeutic drug level acquisition

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ASP Development

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Essential Partners: Regulatory Bodies, QI, and Patient Safety

Member	Role
Regulatory Affairs	 Collaboration to ensure compliance with The Joint Commission Standard and other regulations
Quality	 Collaboration to ensure optimal compliance
Improvement	with quality metrics while ensuring rational
Department	antibiotic use (e.g., Sepsis Core Measure)
Patient Safety	 Resources for interventions to improve
Department	antibiotic use or laboratory testing

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ASP Development

Establishing an AS Committee

SAY:

All antibiotic stewardship programs should establish a multidisciplinary AS committee. Representatives from each of the essential partner groups we just discussed and that are listed on the slide, including a senior executive, should be members of the committee, along with the physicians and pharmacists that form the ASP.

Meetings can be monthly or quarterly.

Minutes should be taken and distributed.

Establishing an AS Committee: Activities

SAY:

The Antibiotic Stewardship Program should determine the activities of the committee. These might include the following tasks:

- Review antibiotic use data, the antibiogram, and C. difficile infection or CDI rates and recommend areas for improvement interventions
- Perform proactive risk assessments to determine areas in which harm related to antibiotic prescribing could be avoided with intervention
- Review guidelines and practices developed to optimize antibiotic prescribing in the facility
- Review materials for patient and healthcare worker education regarding optimal antibiotic prescribing
- Review ASP responses to antibiotic shortages
- Review approaches employed by the microbiology lab for reporting culture and susceptibility data
- Assure ASP and its procedures and policies meet relevant regulations

Members of the committee also should be charged with disseminating relevant information from the committee to their colleagues.

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Establishing an AS Committee

- Membership
 - ASP team
 - Senior executive
 - Pharmacy
 - Medical staff representing different departments
 - Infectious diseases
 - Microbiology
 - Infection control
 - Nursing
 - Information technology
 - Regulatory affairs
 - QI and patient safety
- Meetings
 - Monthly or quarterly
- Minutes
 - Take and distribute



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Establishing an AS Committee: Activities

- · Review antibiotic use data, the antibiogram, and CDI rates and recommend areas for improvement interventions.
- Perform proactive risk assessments to determine areas in which harm related to antibiotic prescribing could be avoided with
- · Review guidelines and practices developed to optimize antibiotic prescribing in the facility.
- · Review materials for patient and health care worker education regarding optimal antibiotic prescribing.
- Review ASP responses to antibiotic shortages
- Review approaches employed by the microbiology lab for reporting culture and susceptibility data.
- Assure ASP and its procedures and policies meet relevant regulations.



Development of Institutional Guidelines for Antibiotic Use

SAY:

All ASPs should develop institution guidelines for antibiotic use. Guidelines are important because they provide evidence-based and standardized recommendations based on local data, they promote adherence to the use of formulary drugs, and they provide a basis for recommendations the ASP makes when performing interventions. As previously noted, they offer the opportunity to engage thought leaders from specific departments and groups during the development process.

To facilitate their use, guidelines should be made available at the point of care.

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Development of Institutional Guidelines for Antibiotic Use

- · Why are guidelines important?
 - Evidence-based and standardized recommendations based on local data
 - Adherence to the use of formulary drugs
 - Basis for ASP daily interventions
 - Engagement of thought leaders in their development



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Approach to Development of Guidelines

SAY:

The next two slides outline an approach to developing guidelines. Since the primary target of guidelines is clinicians who prescribe antibiotics, we recommend selecting a reasonable number of common conditions that contribute significantly to antibiotic prescribing in your institution. These might include communityacquired pneumonia, urinary tract infection, asymptomatic bacteriuria, hospital and ventilatorassociated pneumonia, skin and soft tissue infection, and intra-abdominal infections.

We suggest prioritizing syndrome-based over antibioticbased guidelines because the goals of stewardship are to encourage clinicians to think about what the right antibiotics are for the syndrome they suspect rather than to decide they want to use a certain antibiotic and come up with a justification to use it.

It is, however, reasonable to consider guidelines for use of select antibiotics that are expensive or reserved for specific indications.

You may also consider developing recommendations for clinicians regarding interpretation of microbiology data and rapid diagnostic tests.

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Approach to Development of Guidelines

- Select common conditions that contribute significantly to antibiotic prescribing in your institution
 - Community-acquired pneumonia
 - Urinary tract infections/asymptomatic bacteriuria
 - Healthcare-associated pneumonia/ventilator-associated pneumonia
 - Skin and soft tissue infections
 - Intra-abdominal infections
- Prioritize syndrome-based over antibiotic-based guidelines
 - Consider guidelines for select antibiotics
 - Those that are expensive, highly toxic, and/or used for specific indications
- · Provide recommendations for interpretation of microbiology data and rapid diagnostic tests

Approach to Development of Guidelines, Continued

SAY:

Next, the ASP should identify relevant collaborators who are subject matter experts. They should review national guidelines and guidelines from other institutions, when available, in order to come to consensus on what local guidelines should be. This is a critical element of guideline development because engaging frontline providers who have firsthand knowledge of the management of the patient populations and syndromes you are making guidelines for greatly assists in increasing engagement and ownership of the final product. In addition, you will develop a relationship with these subject matter experts that can be used moving forward to manage other issues related to antibiotic prescribing on their units and services.

We recommend organizing recommendations based on the Four Moments of Antibiotic Decision Making. Thus, guidelines should address using appropriate diagnostic criteria to determine if a patient has an infection, common causative organisms and what cultures should be obtained, recommendations for empiric therapy, recommendations for step-down and oral therapy, and recommendations for duration of therapy

Guidelines should be short and to the point. Remember that clinicians are busy and often don't have the time or interest to read through too much information.

Finally, consider how to make guidelines available at the point of care. This may be via Web site, app, handbook, or pocket card, or available in the electronic health record.

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Approaches to Development of Guidelines, Continued

- · Identify collaborators who are subject matter experts
- Review national guidelines and guidelines from other institutions
- Use the Four Moments of Antibiotic Decision Making approach
 - Diagnostic criteria for infection
 - Appropriate cultures and empiric
 - Narrowing and IV to oral conversion
 - Duration
- Be succinct!
- Determine how to get guidelines to the point of care
 - Electronic, handbook, pocket card, available in FHR



Summary

SAY:

In summary, ASPs should have a designated physician leader and pharmacist leader who form the core AS team.

The core AS team should develop relationships with relevant stakeholders, including an executive and physician thought leaders who inform the ASP and support its work across the institution. The ASPs should lead an AS committee that meets at least quarterly The ASP should develop guidelines for management and treatment of common infectious diseases syndromes.

The presentation Antibiotic Stewardship Program

Development, part 2, will examine how to choose interventions, how to evaluate a stewardship program, and how to implement stewardship activities.

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Summary

- ASPs should have a designated physician and pharmacist leader that form the core AS team.
- The core AS team should develop relationships with relevant stakeholders including an executive and physician thought leaders who inform the ASP and support its work across the institution.
- The ASPs should lead an AS committee that meets at least quarterly.
- The ASP should develop guidelines for management and treatment of common infectious diseases syndromes.
- The presentation Antibiotic Stewardship Program
 Development, part 2, will examine how to choose
 interventions, how to evaluate a stewardship program, and
 how to implement stewardship activities.

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ASP Developmen

Disclaimer

SAY:

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ASP Development