

AHRQ Safety Program for Improving Antibiotic Use



Sustaining Stewardship Activities Acute Care

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<p>Sustaining Stewardship Activities Acute Care</p> <p>SAY:</p> <p>This presentation is titled “Sustaining Stewardship Activities.”</p>	<p>Slide 1</p>
<p>Objectives</p> <p>SAY:</p> <p>The objectives of today’s presentation are to review the goals of an antibiotic stewardship program in the first 1–2 years after its formation and to discuss approaches to show the continued value of your stewardship program to both administrators and prescribers.</p>	<p>Slide 2</p>



Checklist for Stewardship Programs

SAY:

In the first 1–2 years after your stewardship program is established, there are several milestones that you should aim to achieve.

First, a physician and pharmacist lead should have been identified. Depending on your infrastructure, you may have more health care providers that are primary members of your stewardship team, or you may have daily activities run by nurse practitioners or physician assistants in conjunction with pharmacists. All of these are acceptable options, although having physician backing is always helpful to ensure buy-in by prescribers and to assist with trouble shooting when more complex issues arise or when issues need to be escalated. You should decide the frequency at which your core stewardship team formally meets. To maintain enthusiasm and to ensure issues are addressed in a timely manner, you may want to consider meeting at least briefly on a weekly basis.

You should ensure that your stewardship program has a clear mission statement and that the mission of your stewardship program is clear to clinicians, patients, and administrators.

You should develop local guidelines for common inpatient infections that are available at the point of care. For most institutions, a handful of conditions are responsible for the majority of antibiotic prescriptions. Consider prioritizing guidelines related to the diagnosis and treatment of community-acquired pneumonia, hospital-acquired pneumonia and ventilator-associated pneumonia, urinary tract infections, skin and soft tissue infections, and intra-abdominal infections.

Local guidelines are most successful when developed by a multidisciplinary group of people at your institution. When developing local guidelines,

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Checklist for Stewardship Programs




- Physician and pharmacist lead identified (ideally)
- Mission statement of program is clear to clinicians, patients, and administrators
- Local guidelines developed for common infections
 - Community-acquired pneumonia
 - Hospital-acquired pneumonia/ventilator-associated pneumonia
 - Urinary tract infections
 - Skin and soft tissue infections
 - Intra-abdominal infections






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<p>the group should review pertinent literature and available national and professional organizational guidelines to determine what recommendations it wants to make in local guidelines. If there are gaps in the literature or external guidelines, the group may have to develop local recommendations based on the best available evidence or local practice. This approach is preferred over making no recommendations because it can help to standardize practice. You may want to query antibiotic stewards at other facilities to understand how they have approached making recommendations for specific infectious disease syndromes.</p>	

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<p>Checklist for Stewardship Programs</p> <p>SAY:</p> <p>You should make sure that there is a method for restricting certain broad-spectrum, costly, or toxic agents. You could consider a pre-authorization program in which clinicians request approval of certain antibiotics before ordering them. Alternatively, you could consider a post-prescription review with feedback program in which you discuss the rationale for continued antibiotics 2-3 days after they are ordered, when more clinical and diagnostic information are available. If this is resource intensive for your stewardship program, you can still improve antibiotic use in your facility by conducting post-prescription reviews on a less frequent basis such as once or twice a week. If possible, it is probably most effective to do a combination of both approaches.</p> <p>You should also ensure that there is a method in place for extracting and reviewing antibiotic usage data at least quarterly. Ideally, you will be able to review unit or service specific data. In smaller facilities where it is easier to assign antibiotic prescribing to individual clinicians, you may want to review clinician-specific prescribing. Finally, you should ensure that you have a multidisciplinary antibiotic stewardship committee meeting at least quarterly. This should include representation from physicians, pharmacy, nursing, microbiology, various specialty services, quality, administration, etc.</p>	<p>Slide 4</p> <p>Checklist for Stewardship Programs</p> <ul style="list-style-type: none"> • Method in place for restricting certain broad-spectrum, costly, or toxic agents <ul style="list-style-type: none"> – Depending on resources, there can be pre-authorization or post-prescription review with feedback – performed daily, once a week, etc. • Method in place for extracting and reviewing antibiotic usage data at least quarterly • Multidisciplinary antibiotic stewardship committee meeting at least quarterly   

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<p>Checklist for Stewardship Programs</p> <p>SAY:</p> <p>You should ensure that clinicians in your facility understand the importance of a daily time-out for all patients receiving antibiotics. Work with them to find a format that works best for them, whether it be a paper form, electronic form, verbal discussion, addition to daily goals sheet, etc. A daily time out will also ensure that a well-thought-out antibiotic treatment plan is being formulated for patients being discharged.</p> <p>Continue a monthly or twice monthly in-person meeting with your units. You could use the Team Antibiotic Review Form to discuss cases with clinicians or you can discuss cases without the form. Continue to assess for potential harm associated with antibiotic use and develop improvement strategies. Always request the input of the frontline staff when deciding what to tackle.</p> <p>Consider attending unit safety/quality improvement meetings from time to time to address stewardship issues.</p>	<p>Slide 5</p> <p>Checklist for Stewardship Programs</p> <ul style="list-style-type: none"> • Clinicians understand the importance of and continue to perform a daily “time-out” for patients receiving antibiotics <ul style="list-style-type: none"> – Will ensure appropriate antibiotic treatment plans are being developed for patients being discharged from the hospital • Continue monthly or twice monthly in-person meeting with the units <ul style="list-style-type: none"> – Can use the Team Antibiotic Review Form or discuss cases without the form – Continue to assess for potential harm associated with antibiotic use and develop improvement strategies • Attend unit safety/quality improvement meetings from time to time to address stewardship issues  <p><small>AHRQ Safety Program for Improving Antibiotic Use – Acute Care</small></p> <p><small>Sustaining Stewardship 5</small></p>

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<p>Focusing on Administrators</p> <p>SAY:</p> <p>Your messaging on the importance of continued stewardship activities may need to differ when communicating with administrators versus prescribers.</p> <p>When focusing on administrators, you should ensure that you are compliant with antibiotic stewardship-related regulatory requirements and/or that you meet criteria in checklists for agencies that rank hospitals. Examples of these include The Joint Commission, Centers for Medicare & Medicaid Services, and, specifically for facilities taking care of children, U.S. News & World Report.</p>	<p>Slide 6</p> <p>Focusing on Administrators</p> <ul style="list-style-type: none"> • Ensure you are compliant with antibiotic stewardship-related regulatory requirements and/or meet criteria in checklists for agencies ranking hospitals <ul style="list-style-type: none"> – The Joint Commission – Centers for Medicare and Medicaid Services – US News and World Report (pediatric facilities)  <p>AHRQ Safety Program for Improving Antibiotic Use – Acute Care</p> <p>Sustaining Stewardship 6</p>
<p>Focusing on Administrators</p> <p>SAY:</p> <p>Periodically develop brief summaries of requirements for administrators and remind them how your facility is being compliant. In these summaries, make sure to include any recent local successes related to your program. These could include cost savings or interventions that likely improved patient safety efforts. It is important to remind administrators that monetary gains with your stewardship program may be apparent initially but then may plateau. The goal after the first few years may have to move from cost savings to maintenance of costs. If this is not enough for your administrators, you may want to consider focusing on interventions to reduce the use of specific high-cost agents.</p>	<p>Slide 7</p> <p>Focusing on Administrators</p> <ul style="list-style-type: none"> • Periodically develop <u>brief</u> summaries of requirements for administrators and remind them how your facility is compliant • Make sure to include any recent, local successes related to your program • Monetary gains with the program may be apparent initially but then may plateau  <p>AHRQ Safety Program for Improving Antibiotic Use – Acute Care</p> <p>Sustaining Stewardship 7</p>

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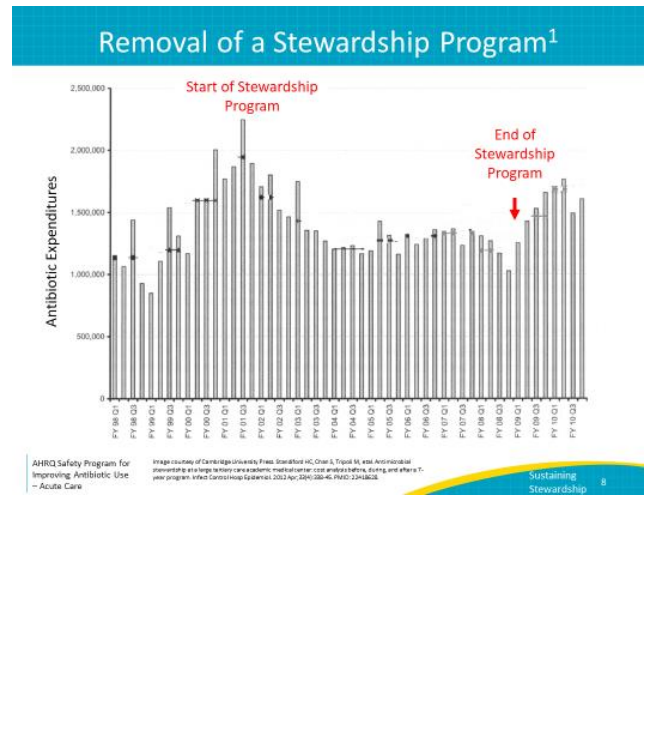
Removal of a Stewardship Program

SAY:


As we just discussed, at some point in the life of the stewardship program, perhaps after 2–3 years, antibiotic costs should be expected to stabilize. You should plan how you will explain this to the hospital administration to avoid budget cuts to your program. A study from Standiford and colleagues can serve as a cautionary tale. They showed that their antibiotic stewardship program achieved a 46 percent decrease in antibiotic expenditures over a 7-year period. Most cost savings were within the first 3 years. Monetary support for the program was eventually removed, and within 2 years of discontinuing the program, antibiotic costs increased 32 percent, resulting in an estimated \$2 million increase in antibiotic-related expenditures.

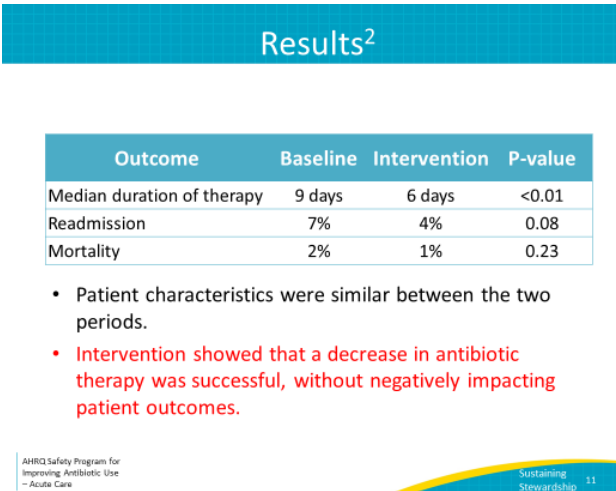
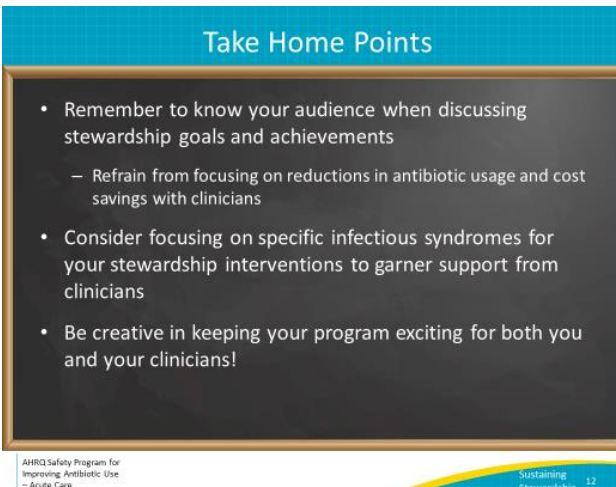
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Slide Title and Commentary	Slide Number and Slide
<p>Focusing on Clinicians</p> <p>SAY:</p> <p>The message should be different for clinicians. Most clinicians want to see improvements in patient-centered outcomes. A reduction in antibiotic use is usually not enough for motivation, unless the clinician is already focused on antibiotic overuse.</p> <p>Clinicians tend to be more worried about patient harm. You may need to communicate that existing practices are harming patients, which would necessitate a change in practice. For example, the routine addition of quinolones to beta-lactams for hospital-acquired pneumonia may increase the risk of a <i>Clostridioides difficile</i> infection. Similarly, they will want to know that a new treatment approach will not worsen their patients' outcomes. For example, that reducing antibiotic duration from 14 days to 7 days for hospital-acquired pneumonia will not lead to more treatment failures or hospital readmissions. You should refrain from focusing on cost savings unless it is a specific discussion about saving a specific patient antibiotic costs.</p> <p>You may want to consider focusing on one stewardship intervention annually. To be successful, you need to think carefully about what the main goals of the intervention are, who needs to be involved in the planning and implementation phases, what outcomes data you will be able to show, etc.</p>	<p>Slide 9</p> <p style="text-align: center;">Focusing on Clinicians</p> <ul style="list-style-type: none"> • Most clinicians want to see improvements in patient-centered outcomes <ul style="list-style-type: none"> – Reduction in antibiotic use is usually not enough • Clinicians want to know if existing practices are harming patients, necessitating a change in practice, or that a new treatment approach will not worsen clinical outcomes <ul style="list-style-type: none"> – Refrain from focusing on cost-savings • Consider selecting at least 1 intervention annually <div style="display: flex; justify-content: space-between; align-items: flex-end; margin-top: 20px;"> <div data-bbox="915 688 1016 722" style="font-size: small;"> <p>AHRQ Safety Program for Improving Antibiotic Use – Acute Care</p> </div> <div data-bbox="1289 688 1528 722" style="text-align: right;"> <p>Sustaining Stewardship 9</p> </div> </div>

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<p>Example Intervention</p> <p>SAY:</p> <p>This is an example of a stewardship intervention to reduce the duration of therapy for community-acquired pneumonia or CAP. The stewardship team wanted to reduce the duration from the current median of 9 days of therapy to 5 days. To accomplish this, the team developed evidence-based guidelines regarding empiric antibiotic therapy and duration of therapy for CAP and specifically included durations of therapy as well as recommended agents to prescribe. The team made sure the guidelines were user-friendly and sought multidisciplinary input when developing them. The team also made sure the guidelines were available to clinicians at the point of care and were easily accessible when clinicians were putting in patient orders.</p> <p>Additionally, the stewardship team provided educational sessions on the diagnosis and management of CAP to clinicians at various levels of training including residents, nurse practitioners, physician assistants, and attending physicians.</p> <p>Furthermore, the team provided prospective audit and feedback for patients admitted to the general medicine service with an admitting diagnosis of CAP Monday through Friday. The results of the CAP intervention were fed back to prescribers.</p>	<p>Slide 10</p> <p>Example Intervention²</p> <ul style="list-style-type: none"> • Goals <ul style="list-style-type: none"> – To decrease the duration of therapy prescribed for community-acquired pneumonia (CAP) from a median of 9 days to 5 days • Approach <ul style="list-style-type: none"> – Updated CAP guidelines were user-friendly and available at the point of care – Provided educational sessions on the diagnosis and management of CAP – Prospective audit and feedback provided for patients admitted for CAP to the medicine service Monday through Friday  <p><small>AHRQ Safety Program for Improving Antibiotic Use – Acute Care</small></p> <p><small>Sustaining Stewardship 20</small></p>

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<p>Results</p> <p>SAY:</p> <p>What the stewardship team found was that its intervention successfully reduced the median duration of therapy for CAP from 9 days to 6 days. While the team didn't quite reach the targeted 5 days, the intervention still led to a notable reduction in antibiotic duration. Importantly, the team was able to reassure clinicians that the reductions in antibiotic duration were not harming patients. There was no signal that there was an increase in hospital readmissions or mortality.</p>	<p>Slide 11</p>  <p>Results²</p> <table border="1" data-bbox="938 373 1487 499"> <thead> <tr> <th>Outcome</th> <th>Baseline</th> <th>Intervention</th> <th>P-value</th> </tr> </thead> <tbody> <tr> <td>Median duration of therapy</td> <td>9 days</td> <td>6 days</td> <td><0.01</td> </tr> <tr> <td>Readmission</td> <td>7%</td> <td>4%</td> <td>0.08</td> </tr> <tr> <td>Mortality</td> <td>2%</td> <td>1%</td> <td>0.23</td> </tr> </tbody> </table> <ul style="list-style-type: none"> • Patient characteristics were similar between the two periods. • Intervention showed that a decrease in antibiotic therapy was successful, without negatively impacting patient outcomes. <p><small>AHRQ Safety Program for Improving Antibiotic Use – Acute Care</small></p> <p><small>Sustaining Stewardship 11</small></p>	Outcome	Baseline	Intervention	P-value	Median duration of therapy	9 days	6 days	<0.01	Readmission	7%	4%	0.08	Mortality	2%	1%	0.23
Outcome	Baseline	Intervention	P-value														
Median duration of therapy	9 days	6 days	<0.01														
Readmission	7%	4%	0.08														
Mortality	2%	1%	0.23														
<p>Take-Home Points</p> <p>SAY:</p> <p>In summary, remember to know your audience when discussing stewardship goals and achievements.</p> <p>Refrain from focusing on reductions in antibiotic usage and cost savings with clinicians.</p> <p>Consider focusing on specific infectious syndromes for your stewardship interventions to garner support from clinicians, and gather data to show them that your interventions are not causing harm.</p> <p>Be creative in keeping your program exciting for both you and your clinicians!</p>	<p>Slide 12</p>  <p>Take Home Points</p> <ul style="list-style-type: none"> • Remember to know your audience when discussing stewardship goals and achievements <ul style="list-style-type: none"> – Refrain from focusing on reductions in antibiotic usage and cost savings with clinicians • Consider focusing on specific infectious syndromes for your stewardship interventions to garner support from clinicians • Be creative in keeping your program exciting for both you and your clinicians! <p><small>AHRQ Safety Program for Improving Antibiotic Use – Acute Care</small></p> <p><small>Sustaining Stewardship 12</small></p>																

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<p>Disclaimer</p> <p>SAY:</p> <p>The findings and recommendations in this presentation are those of the authors, who are responsible for its content, and do not necessarily represent the views of AHRQ. No statement in this presentation should be construed as an official position of AHRQ or of the U.S. Department of Health and Human Services.</p> <p>Any practice described in this presentation must be applied by health care practitioners in accordance with professional judgment and standards of care in regard to the unique circumstances that may apply in each situation they encounter.</p>	<p>Slide 13</p> <p style="text-align: center;">Disclaimer</p> <ul style="list-style-type: none"> • The findings and recommendations in this presentation are those of the authors, who are responsible for its content, and do not necessarily represent the views of AHRQ. No statement in this presentation should be construed as an official position of AHRQ or of the U.S. Department of Health and Human Services. • Any practice described in this presentation must be applied by health care practitioners in accordance with professional judgment and standards of care in regard to the unique circumstances that may apply in each situation they encounter. <p><small>AHRQ Safety Program for Improving Antibiotic Use – Acute Care</small></p> <p style="text-align: right;"><small>Sustaining Stewardship 13</small></p>
<p>References</p> <p>SAY:</p> <p>Here are the references.</p>	<p>Slide 14</p> <p style="text-align: center;">References</p> <ol style="list-style-type: none"> 1. Standiford HC, Chan S, Tripoli M, et al. Antimicrobial stewardship at a large tertiary care academic medical center: cost analysis before, during, and after a 7-year program. <i>Infect Control Hosp Epidemiol.</i> 2012 Apr;33(4):338-45. PMID: 22418628. 2. Foolad F, Huang AM, Nguyen CT, et al. A multicenter stewardship initiative to decrease excessive duration of antibiotic therapy for the treatment of community-acquired pneumonia. <i>J Antimicrob Chemother.</i> 2018 Feb 16:Epub ahead of print. PMID: 29462306. <p><small>AHRQ Safety Program for Improving Antibiotic Use – Acute Care</small></p> <p style="text-align: right;"><small>Sustaining Stewardship 14</small></p>