Antimicrobial Stewardship Program Awareness

January 21, 2016
Presented by Jill Hanson, WHA

Objectives for Today

• Importance of an Antimicrobial Stewardship Program (ASP)
• What is occurring on the national level
• What is occurring on the state level
• WHA and MetaStar (LSQIN) partnership
• How you can become involved
Antimicrobial Stewardship Program

Promotes appropriate use of antimicrobials by selecting the appropriate agent, dose, duration and route of administration.

Polling Question 1

The following reflects the current state of my hospital’s Antimicrobial Stewardship Program:

• We have extensive experience and have impacted our antimicrobial resistance
• We have moderate experience and are making progress
• We have limited experience with an Antimicrobial Stewardship Program
• We have no experience with an Antimicrobial Stewardship Program
Polling Question 2
What is your biggest hurdle with starting an Antimicrobial Stewardship Program in your organization?
• Other competing priorities
• We don’t have a champion to lead the team
• Leadership support
• Drug expertise
• IT limitations

Polling Question 3
Which of the following interventions have you implemented related to antibiotic prescribing (select all that apply)?
• Broad (e.g., time out, “look back” for appropriate use)
• Pharmacy-driven (e.g., P&T Committee/governing body approving interventions to be implemented)
• Diagnosis and Infections Specific (e.g., UTI, MRSA)
• We don’t have any yet
Polling Question 4

What ways are you using to monitor antibiotic prescribing, use, and resistance (check all that apply):

• We monitor adherence of existing antibiotic policies
• We track specific data related to a clinical condition (e.g., Clostridium difficile infection rate)
• We monitor antibiotic use, either by unit or facility-wide (e.g., Defined Daily Dose)
• We are in the infancy stages for monitoring
• We have not begun to monitor

The Stewardship Progression

Infectious Diseases Society of America and the Society for Healthcare Epidemiology of America Guidelines for Developing an Institutional Program to Enhance Antimicrobial Stewardship


ASHP Statement on the Pharmacist’s Role in Antimicrobial Stewardship and Infection Prevention and Control


2011

http://www.ihi.org/education/WEBTraining/Expeditions/AntibioticStewardship/Pages/default.aspx
Early Calls for Legislation

- California State Senate Bill 729
  - By Jan 1, 2008 all general acute care hospitals must develop a process for evaluating the judicious use of antibiotics, the results of which shall be monitored jointly by appropriate representatives and committees involved in quality improvement activities.

Early Calls For Legislation

Shea/Idsa/Pids Policy Statement

Policy Statement on Antimicrobial Stewardship by the Society for Healthcare Epidemiology of America (Shea), the Infectious Diseases Society of America (Idsa), and the Pediatric Infectious Diseases Society (Pids)

Infection Control and Hospital Epidemiology 33; Special Topic Issue: Antimicrobial Stewardship (April 2012), 322-7.

- Recommended that the Centers for Medicare and Medicaid Services (CMS) require participating healthcare institutions to develop and implement antimicrobial stewardship programs
2013: CDC Threat Report

http://www.cdc.gov/drugresistance/threat-report-2013

2013: CDC Threat Report - Levels

HAZARD LEVEL

URGENT

These are high-consequence antibiotic-resistant threats because of significant risks identified across several criteria. These threats may not be currently widespread but have the potential to become so and require urgent public health attention to identify infections and to limit transmission.

Clostridium difficile (C. difficile), Carbapenem-resistant Enterobacteriaceae (CRE), Drug-resistant Neisseria gonorrhoeae (cephalosporin resistance)

HAZARD LEVEL

SERIOUS

These are significant antibiotic-resistant threats. For varying reasons (e.g., low or declining domestic incidence or reasonable availability of therapeutic agents), they are not considered urgent, but these threats will worsen and may become urgent without ongoing public health monitoring and prevention activities.

Multi-drug-resistant Acinetobacter, Drug-resistant Campylobacter, Fluoroquinolone-resistant Candida (a fungus), Extended spectrum β-lactamase producing Enterobacteriaceae (ESBLs), Vancomycin-resistant Enterococcus (VRE), Multi-drug-resistant Pseudomonas aeruginosa, Drug-resistant Non-typhoidal Salmonella, Drug-resistant Salmonella Typhi, Drug-resistant Shigella, Methicillin-resistant Staphylococcus aureus (MRSA), Drug-resistant Streptococcus pneumoniae, Drug-resistant Tuberculosis (MDR and XDR)

HAZARD LEVEL

CONCERNING

These are bacteria for which the threat of antibiotic resistance is low, and/or there are multiple therapeutic options for resistant infections. These bacterial pathogens cause severe illness. Threats in this category require monitoring and in some cases rapid incident or outbreak response.

Vancomycin-resistant Staphylococcus aureus (VISA), Erythromycin-resistant Streptococcus Group A, Clindamycin-resistant Streptococcus Group B
2013: CDC Threat Report

Four Core Actions to Prevent Antibiotic Resistance

- Preventing infection prevents the spread of antimicrobial resistance
- Tracking Resistance Patterns
- Improving antibiotic prescribing and stewardship
- Developing new drugs and diagnostic tests

2014 Executive Order & Subsequent 2015 National Action Plan

“Combating antibiotic-resistant bacteria is a national security priority”

- Established the Task Force for Combating Antibiotic-Resistant Bacteria
- Call to establish the Presidential Advisory Council on Combating Antibiotic-Resistant Bacteria

https://www.whitehouse.gov/sites/default/files/docs/national_action_plan_for_combating_antibiotic-resistant_bacteria.pdf
2015 Action Plan Goals

The goals of the National Action Plan include:

1. Slow the Emergence of Resistant Bacteria and Prevent the Spread of Resistant Infections.

https://www.whitehouse.gov/sites/default/files/docs/national_action_plan_for_combating_antibiotic-resistant_bacteria.pdf

2015 Action Plan Structure

• Milestones set for 1 year, 3 years, 5 years for each sub-objective

• Sub-Objective 1.1.1A
  • Strengthen antibiotic stewardship in inpatient, outpatient, and long-term care settings by expanding existing programs, developing new ones, and monitoring progress and efficacy
### CMS 2014 Infection Control Surveyor Worksheet

<table>
<thead>
<tr>
<th>Written ASP Procedures</th>
<th>Yes</th>
<th>No</th>
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<tbody>
<tr>
<td>1.C.9 The hospital has written policies and procedures whose purpose is to improve antibiotic use (antibiotic stewardship).</td>
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<thead>
<tr>
<th>Responsible Leader</th>
<th>Yes</th>
<th>No</th>
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<tbody>
<tr>
<td>1.C.10 The hospital has designated a leader (e.g., physician, pharmacist, etc.) responsible for program outcomes of antibiotic stewardship activities at the hospital.</td>
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<table>
<thead>
<tr>
<th>Documentation of antibiotic indication</th>
<th>Yes</th>
<th>No</th>
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<tbody>
<tr>
<td>1.C.11 The hospital’s antibiotic stewardship policy and procedures requires practitioners to document in the medical record or during order entry an indication for all antibiotics, in addition to other required elements such as dose and duration.</td>
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<tr>
<th>Review at 48 hours</th>
<th>Yes</th>
<th>No</th>
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<tr>
<td>1.C.12 The hospital has a formal procedure for all practitioners to review the appropriateness of any antibiotics prescribed after 48 hours from the initial order (e.g., antibiotic time out).</td>
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<tr>
<th>Metrics</th>
<th>Yes</th>
<th>No</th>
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<tr>
<td>1.C.13 The hospital monitors antibiotic use (consumption) at the unit and/or hospital level.</td>
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No citation risk for 1.C.9 through 1.C.13; for information only.


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### The Joint Commission

**Antimicrobial Stewardship**

- **Antimicrobial stewardship information**
  - Antimicrobial stewardship can help prevent the development of multi-drug resistant organisms, and reduce unnecessary drug use and costs associated with expensive, broad-spectrum therapies used to treat HAIs. Resources include a free toolkit that provides guidance to health care organizations building or looking to improve antimicrobial stewardship programs.

[http://www.jointcommission.org/topics/hai_antimicrobial_stewardship.aspx](http://www.jointcommission.org/topics/hai_antimicrobial_stewardship.aspx)
Antibiotic Stewardship: Does It Work?

• Hospital Antibiotic Stewardship Programs have been shown to:
  • Improve antibiotic use
  • Reduce antibiotic resistance
  • Reduce *C. difficile*
  • Improve patient outcomes
  • Save $
Meta-analysis of 16 studies

- Stewardship programs significantly protective against *C. difficile*
  - Risk ratio 0.48 (0.35-0.62)

- **Restrictive interventions most effective**
Clinical outcomes better with antimicrobial stewardship program

<table>
<thead>
<tr>
<th>Condition</th>
<th>AMP</th>
<th>UP</th>
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<tbody>
<tr>
<td>Appropriate</td>
<td>100%</td>
<td>30%</td>
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<tr>
<td>RR: 2.8 (2.1-3.8)</td>
<td></td>
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<tr>
<td>Cure</td>
<td>90%</td>
<td>50%</td>
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<tr>
<td>RR: 1.7 (1.3-2.1)</td>
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<tr>
<td>Failure</td>
<td>10%</td>
<td>5%</td>
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<tr>
<td>RR: 0.2 (0.1-0.4)</td>
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AMP = Antibiotic Management Program
UP = Usual Practice

CDC Publication March 2014

Core Elements:
- Leadership Commitment
- Accountability
- Drug Expertise
- Action
- Tracking
- Reporting
- Education

http://www.cdc.gov/getsmart/healthcare/implementation/core-elements.html
ASP Strategy Selection

- Facility dependent
  - Beds and acuity of care
  - Dedicated personnel
  - Funds
  - Pharmacy support
  - Electronic systems
  - Laboratory support

Implementation Tips

The challenge is to move physician behavior

- Develop standards, expectations, guidelines (such as nurse-driven catheter removal)
- Develop process to measure feedback and have accountability to the standards and feed that back to those at the front lines
Start the Discussion

• DON’T talk about saving money
• DON’T start hammering outliers

• DO talk about the “4 Rights”
  • right antibiotics
  • right patient
  • right dose
  • right length of time

WI Approach

• Where we started
  • National Action Plan (March 2015): Within five years, all states will establish or enhance antibiotic stewardship activities in healthcare delivery settings
• Collaborative approach
• Existing resources
• Input from members
Design Team Members

- Pharmacy Society Members
- Hospital and Clinic Pharmacists across the state
- Hospital and Clinic Infection Preventionist across the state
- Quality Representation
- Pharmacy Schools

Key to Success → Representation from small, medium, and large facilities

Goal Determination

- All states will establish or enhance antibiotic stewardship activities in healthcare delivery settings.
- Enhance [CDC Checklist for Core Elements of Hospital Antibiotic Stewardship Programs](https://www.cdc.gov/hhsa/antibiotic_stewardship/)
- Support organizations and re-evaluate current needs.
CDC Core Elements of Hospital ASPs

<table>
<thead>
<tr>
<th>Leadership Commitment</th>
<th>Dedicating necessary human, financial and information technology resources</th>
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<tbody>
<tr>
<td>Accountability</td>
<td>Appointing a single leader responsible for program outcomes. Experience with successful programs show that a physician leader is effective.</td>
</tr>
<tr>
<td>Drug Expertise</td>
<td>Appointing a single pharmacist leader responsible for working to improve antibiotic use.</td>
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<tr>
<td>Action</td>
<td>Implementing at least one recommended action, such as systemic evaluation of ongoing treatment need after a set period of initial treatment (i.e. “antibiotic time out” after 48 hours).</td>
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<tr>
<td>Tracking</td>
<td>Monitoring antibiotic prescribing and resistance patterns.</td>
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<tr>
<td>Reporting</td>
<td>Regular reporting information on antibiotic use and resistance to doctors, nurses and relevant staff.</td>
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<tr>
<td>Education</td>
<td>Educating clinicians about resistance and optimal prescribing.</td>
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Enhancement Tool Components

- Program Design
- Collaborative buy-in
- Physician’s Feedback
- Assessment of Current Practices
- Assessing Existing Allocated Resources
- Allotting Time for Physician Leaders
- Creative with no ID Physician or Pharmacist with ID Focus
- Outside Factors
- Drug Restrictions
- Addressing Potential Barriers
- Patient Education
- Monitoring Program

Next Steps

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<tr>
<th>Timeline</th>
<th>Task</th>
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<tr>
<td>January 2016</td>
<td>Antimicrobial Stewardship Awareness Webinar</td>
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<tr>
<td></td>
<td>• What’s occurring at national &amp; state level</td>
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<td></td>
<td>• AMS Design Team work</td>
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<td></td>
<td>• CDC Checklist for Core Elements</td>
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<tr>
<td>January 2016</td>
<td>Pilot tool finalized</td>
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<tr>
<td>February 2016 – March 2016</td>
<td>Pilot tool distributed to testers</td>
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<tr>
<td>April 2016</td>
<td>From the pilot process, gather feedback, &amp; make modifications</td>
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<tr>
<td>May &amp; June 2016</td>
<td>Distribute and train on new Antimicrobial Stewardship tool</td>
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Next Steps – Piloting the Tool

We will be developing a set of instructions for the Pilot tool

• If interested in being part of the pilot, please let Jill or DeAnn know.
Resources

Antibiotic Stewardship Programs


• Checklist for the Core Elements of Hospital Antibiotic Stewardship Programs, Centers for Disease Control and Prevention, Retrieved from http://www.cdc.gov/getsmart/healthcare/pdfs/checklist.pdf


Upcoming Webinars

• Clostridium difficile Webinar - January 26th from 10:00 to 11:00 am.

  Wisconsin’s plan for 2016
  Link between Clostridium difficile (CDI) and Antimicrobial Stewardship
  Review the CDC Targeted Assessment for Prevention (TAP) tool
  Highlight best practices of top performers in CDI reduction

Registration link: https://whaquality.webex.com/whaquality/onstage/g.php?MTID=ee8dcf8ec8f12f746ac60709c3a3d5bda

• How to Positively Influence Individuals to Participate in HAI Prevention Webinar – January 28th from 1:00 to 2:00 pm.

Registration link: https://qualitynet.webex.com
Any Questions?

Thank you for attending 😊
Jill Hanson (jhanson@wha.org)