

Antimicrobial Stewardship

Clinical Staff

Antimicrobial Stewardship (AS)

- Refers to coordinated interventions designed to improve and measure the appropriate use of antimicrobials by promoting the selection of the optimal antimicrobial drug regimen, dose, duration of therapy, and route of administration

https://www.idociety.org/Stewardship_Policy/

Importance of Antimicrobial Stewardship

- Global threat of antibiotic resistance
- A decrease in the number of new antibiotics being developed and approved
- Requirement (survey element) by CMS and The Joint Commission effective January 1, 2017

Antimicrobial Use and Resistance

- Each year in the U.S. at least 2 million people become infected with resistant bacteria and at least 23,000 people die as a direct result of these infections
- At least 250,000 *C.diff* infections and 14,000 deaths which are directly related to antibiotic use and resistance occurs each year in the U.S.

<http://www.cdc.gov/drugresistance/about.html>

Antimicrobial Use and Resistance

- Antimicrobial resistance is more prevalent in healthcare-associated bacterial infections, compared with those from community-acquired infections
- Patients with healthcare-associated infections caused by resistant strains are more likely than control patients to have received prior antimicrobials

CID 2007;44:159-77

Antimicrobial Use and Resistance

- Areas within hospitals that have the highest rates of antimicrobial resistance also have the highest rates of antimicrobial use
- Increasing duration of patient exposure to antimicrobials increases the likelihood of colonization with resistant organisms

CID 2007;44:159-77

Goals of Antimicrobial Stewardship

- Optimize clinical outcomes
 - Reduce morbidity/mortality
 - Decrease length of stay
- Minimize unintended consequences
 - Toxicity
 - Selection of pathogenic organisms
 - Emergence of resistance
- Reduce healthcare costs

CID 2007;44:159-77

Strategies of an Antimicrobial Stewardship Program

- Prospective audit with intervention and feedback
- Education
- Guidelines and clinical pathways
- Streamlining or de-escalation of therapy
- Dose optimization
- Formulary restriction and preauthorization
- Antimicrobial cycling
- Antimicrobial order forms
- Combination therapy
- Parenteral to oral conversion

CID 2007;44:159-177

Current Actions at “Facility”

- What is WHS doing to decrease antibiotic use and improve appropriate therapy?
 - Multidisciplinary Antimicrobial Stewardship Team
 - ID physicians
 - ID pharmacists
 - Reporting antimicrobial use data
 - Education
 - Order set review
 - Medication use evaluations
 - Research projects
 - Drug shortages with recommendations
 - Antibiogram

What can clinical staff do to help?

- Ensure antibiotics have appropriate **indications and dosing regimens**
- Assess **allergies** (especially β -lactam allergy)
 - Include name of antibiotic, reaction, and if tolerated other antibiotics since reaction occurred
- **IV to PO conversion**
- **Renal dose adjustment**
- Confirm the **medication label and the actual medication match**

What can clinical staff do to help?

- Ensure antibiotics are **administered on time**
- **Obtain cultures/levels** in a timely manner
- Document **recent antibiotic exposure**
- **Decrease risk of spreading *C.diff*** by performing appropriate hand hygiene
- Provide patient with **information on antibiotic at discharge** (if applicable)
