

Antimicrobial Stewardship

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Learning Objectives

1. Describe the importance of antimicrobial stewardship in the acute care setting.
2. Evaluate the principles and objectives of antimicrobial stewardship programs.
3. Identify methods for implementation of a successful stewardship program within a community health system.

What is Antimicrobial Stewardship?

Antimicrobial stewardship refers to coordinated interventions designed to improve and measure the appropriate use of **antibiotics** by promoting the selection of the optimal drug regimen, dose, duration of therapy, and route of administration.

AMS – Why does it matter?

- CDC estimates that more than 2.8 million antibiotic-resistant infections occur in the U.S. each year.
- 30% of all antibiotics prescribed in U.S. acute care hospitals are either unnecessary or suboptimal.
- Hospital AMS programs have been shown to increase infection cure rates while reducing:
 - Treatment failure
 - Hospital costs and LOS
 - Antibiotic resistance

CDC. *Core Elements of Hospital Antibiotic Stewardship Programs*. Atlanta, GA: US Department of Health and Human Services, CDC; 2019.

Core Elements of AMS



Hospital Leadership Commitment



- Support from senior leadership: CMO, CNO, Pharmacy Director
- Integral for ensuring resource availability
 - Time allocation
 - Effective staffing
- Appointing a “champion” for the stewardship program



Accountability

- Designated leader or co-leaders
- Focus on program management and outcome
- Clear delineation of roles and responsibilities
- Examples:
 - Regular stewardship rounds
 - “Handshake” stewardship

Pharmacy Expertise



- Pharmacist role as leader or co-leader of most successful stewardship programs
- Daily intervention and de-escalation efforts
- Regular prescriber communication

Action



- Regular assessments of prescribing habits to identify intervention targets
- Prospective audit and feedback
 - Post-prescription review
- Preauthorization



Tracking

- Measurement of stewardship interventions and antibiotic use
 - Pharmacy tracking tools
- Outcome measures:
 - *C. difficile* infections
 - Antibiotic resistance
- Financial Impact

Reporting



- Programs should provide regular updates to all those involved in patient care.
- Updates addressing both national and local issues
- Collaboration with the hospital's microbiology lab
- Examples:
 - Local antibiogram
 - MUE findings

Education



- A key component of comprehensive efforts to improve antibiotic use
- Most effective when paired with interventions and measurement of outcomes
- Case-based approaches for active learning

How are we implementing these practices at St. Vincent's?

- System-wide approach
 - Birmingham
 - East
 - Blount
 - St. Clair
 - Chilton
- AMS Committee
 - Meetings every third Wednesday of the month
 - 7:30 – 8:30 AM

Resources and More Information

1. CDC. Core Elements of Hospital Antibiotic Stewardship Programs. Atlanta, GA: US Department of Health and Human Services, CDC; 2019.
<https://www.cdc.gov/antibiotic-use/core-elements/hospital.html>
1. Dellit TH, Owens RC, McGowan JE et al. Infectious Diseases Society of America and the Society for Healthcare Epidemiology of America guidelines for developing an institutional program to enhance antimicrobial stewardship. *Clin Infect Dis* 2007;44:159–177. <https://doi.org/10.1086/510393>
1. Barlam TF, Cosgrove SE, Abbo LM, et al. Implementing an antibiotic stewardship program: Guidelines by the Infectious Diseases Society of America and the Society for Healthcare Epidemiology of America. *Clin Infect Dis* 2016;62(10):e51-77. doi: 10.1093/cid/ciw118.