

Role of the Infection Prevention Program in Antimicrobial Stewardship

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Objectives

- Identify the role of the infection preventionist in antibiotic stewardship activities for long term care and small hospital settings.
- Discuss the tool that is used to implement an effective antimicrobial stewardship program

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Core Elements of Antibiotic Stewardship

- What we know:
 - The proper use of antibiotics reduces morbidity and saves lives
 - Like all medications, antibiotics can have serious adverse effects
 - Misuse of antibiotics can lead to antibiotic resistance
- The Centers for Disease Control and Prevention (CDC) released the Core Elements of Antibiotic Stewardship Programs to help develop successful stewardship programs in the following types of facilities:
 - Hospital
 - Nursing Home
 - Outpatient
 - Small and Critical Access Hospitals
 - Resource-Limited Settings
- Infection Preventionist role will vary depending on the type of facility and the type of patients or residents served in the facility.

<https://www.cdc.gov/antibiotic-use/core-elements/index.html>

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Core Elements

- The Core Elements are similar for each setting
 - Leadership
 - Accountability
 - Drug expertise
 - Action
 - Tracking
 - Reporting
- The methods to achieve each of the elements will vary from one setting to another
- Infection Preventionist role will vary from one setting to another

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Leadership Commitment

- How does Leadership in your facility support safe and appropriate antibiotic use?
- Are there adequate resources dedicated to safe antibiotic use?
 - Financial resources
 - Information technology
 - Human resources

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Accountability

- Is there a leader appointed to manage the program?
- Is there a physician and pharmacist responsible for overseeing antibiotic stewardship activities and outcomes?
- Is there proper representation from the nursing areas?

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Pharmacy/Drug Expertise

The pharmacist may help lead implementation efforts to improve antibiotic use

- In the nursing home setting, establish access to consultant pharmacists or other individuals with experience or training in antibiotic stewardship for your facility
- In CAH the pharmacist:
 - Provides expertise in dosing and tapering antibiotics
 - Assists in writing algorithms for urine cultures, pneumonia order sets and soft tissue infections
 - Is encouraged to become certified in Antimicrobial Stewardship

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Action

- Use the CDC Antibiotic Stewardship Program Assessment Tool
 - Provides facilities with examples of ways to implement the Core Elements
 - Try to implement at least one policy or practice to improve antibiotic use
 - Implement interventions, such as prospective audit and feedback or preauthorization, to improve antibiotic use.
- The assessment tool can be completed regularly to identify areas that could improve the effectiveness of your program.

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Checklist for Core Elements of Antibiotic Stewardship in Nursing Homes

The following checklist is a companion to the Core Elements of Antibiotic Stewardship in Nursing Homes. The CDC recommends that all nursing homes take steps to implement antibiotic stewardship activities. Before getting started, use this checklist as a baseline assessment of policies and practices which are in place. Then use the checklist to review progress in expanding stewardship activities on a regular basis (e.g., annually). Over time, implement activities for each element in a step-wise fashion.

LEADERSHIP SUPPORT	ESTABLISHED AT FACILITY
1. Can your facility demonstrate leadership support for antibiotic stewardship through one or more of the following actions? <small>If yes, indicate which of the following are in place (select all that apply)</small>	Yes No
<input type="checkbox"/> Written statement of leadership support to improve antibiotic use <input type="checkbox"/> Antibiotic stewardship duties included in medical director position description <input type="checkbox"/> Antibiotic stewardship duties included in director of nursing position description <input type="checkbox"/> Leadership monitors whether antibiotic stewardship policies are followed <input type="checkbox"/> Antibiotic use and resistance data is reviewed in quality assurance meetings	

ACCOUNTABILITY	ESTABLISHED AT FACILITY
2. Has your facility identified a leader for antibiotic stewardship activities? <small>If yes, indicate who is accountable for stewardship activities (select all that apply)</small>	Yes No
<input type="checkbox"/> Medical director <input type="checkbox"/> Director or assistant director of nursing services <input type="checkbox"/> Consultant pharmacist <input type="checkbox"/> Other _____	

DRUG EXPERTISE	ESTABLISHED AT FACILITY
3. Does your facility have access to individuals with antibiotic stewardship expertise? <small>If yes, indicate who is accountable for stewardship activities (select all that apply)</small>	Yes No
<input type="checkbox"/> Consultant pharmacy has staff trained/experienced in antibiotic stewardship <input type="checkbox"/> Partnership with stewardship team at referral hospital <input type="checkbox"/> External infectious disease/stewardship consultant <input type="checkbox"/> Other _____	

ACTIONS TO IMPROVE USE	ESTABLISHED AT FACILITY
4. Does your facility have policies to improve antibiotic prescribing/use? <small>If yes, indicate which policies are in place (select all that apply)</small>	Yes No
<input type="checkbox"/> Requires prescribers to document a clear, duration, and indication for all antibiotic prescriptions <input type="checkbox"/> Developed facility-specific algorithms for assessing residents <input type="checkbox"/> Developed facility-specific algorithms for appropriate diagnostic testing (e.g., obtaining cultures for specific infections) <input type="checkbox"/> Developed facility-specific treatment recommendations for infections <input type="checkbox"/> Approp. antibiotic agents listed on the exception formulary <input type="checkbox"/> Other _____	

Core Elements of Hospital Antibiotic Stewardship Programs: Assessment Tool

The antibiotic stewardship program assessment tool is a companion to Core Elements of Hospital Antibiotic Stewardship Programs. This tool provides examples of ways to implement the Core Elements. The Core Elements are intended to be an adaptable framework that hospitals can use to guide efforts to optimize antibiotic prescribing. Thus, not all of the examples listed in the Core Elements (and below) may be necessary and/or feasible in all hospitals.

The assessment tool can be used on a periodic basis (e.g., annually) to document current program infrastructure and activities and to help identify areas that could improve the effectiveness of the stewardship program. Consider listing specific details, such as points of contacts or facility-specific guidelines with the date, in the "comments" column as reference for the antibiotic stewardship team.

CORE ELEMENTS OF HOSPITAL ANTIBIOTIC STEWARDSHIP PROGRAMS: ASSESSMENT TOOL	ESTABLISHED AT FACILITY	COMMENTS
Hospital Leadership Commitment		
1. (Priority Example) Does facility leadership provide stewardship program leader(s) dedicated time to manage the program and conduct daily stewardship interventions?	Yes No	
2. (Priority Example) Does facility leadership provide stewardship program leader(s) with resources (e.g. IT support, steering) to effectively execute the program?	Yes No	
3. (Priority Example) Does your antibiotic stewardship program have a senior executive that serves as a point of contact or "champion" to help ensure the program has resources and support in accomplishing its mission?	Yes No	
4. (Priority Example) Do stewardship program leaders have regular scheduled meetings with facility leadership across the hospital board to report and discuss stewardship activities, resources and outcomes?	Yes No	
5. Does your facility leadership ensure that staff from key support departments and groups have sufficient time to contribute to stewardship activities (refer to Core Elements for key support staff)?	Yes No	
6. Does facility leadership ensure that antibiotic stewardship activities are integrated into other quality improvement and patient safety efforts, such as quality management and diagnostic stewardship?	Yes No	

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Tracking

- The program should monitor for antibiotic prescribing, checking for the right antibiotic, right dose, right length of time, etc.
- Monitor the impact of interventions using data such as new cases of resistant organisms and *C.difficile* infections.
- Monitor the new antibiotic starts and review how and why the antibiotic is prescribed to help determine if policies are being followed.
- Track the number of antibiotics used in the facility, and days of therapy to check for patterns of use as well as improvement in stewardship processes.
- If at all possible review antibiogram annually to identify trends of resistance and new emerging multi drug resistances.

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Reporting

- Provide regular feedback on antibiotic use and resistance to:
 - prescribing clinicians
 - pharmacy staff
 - nursing staff and other relevant staff
 - facility leadership
- Utilize data to determine staff education needs
- Utilize reports to show improvement in stewardship

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Education

- Education should include information regarding what stewardship is and why it is important.
- Education should include prescribers, pharmacists, nurses and others who pass medication.
- Education for patients and residents should include adverse reactions from antibiotics, antibiotic resistance, and optimal prescribing.
- Be prepared to provide resources to clinicians, nursing staff, patients, residents and families about antibiotic resistance and opportunities for improving antibiotic use

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Summary

- Optimizing the use of antibiotics is critical to effectively treat infections, protect patients from harms caused by unnecessary antibiotic use, and combat antibiotic resistance.
- Antibiotic Stewardship Programs can help improve patient outcomes and minimize harms by improving antibiotic prescribing
- Infection Preventionists do surveillance and assist in gathering meaningful data that aids in aligning stewardship practices to patient outcomes

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CDC Antibiotic Stewardship Resources

Overall Stewardship site

- <https://www.cdc.gov/antibiotic-use/core-elements/index.html>

Nursing Facilities

- <https://www.cdc.gov/antibiotic-use/core-elements/nursing-homes.html>

Small and Critical Access Hospitals

- <https://www.cdc.gov/antibiotic-use/healthcare/pdfs/core-elements-small-critical.pdf>

Hospitals

- <https://www.cdc.gov/antibiotic-use/healthcare/pdfs/hospital-core-elements-H.pdf>

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