

Antibiotic Stewardship

Certificate of Mastery Program

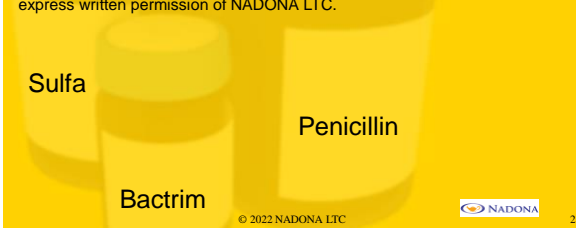
Cindy Fronning RN-BC, IC-BC, AS-BC, CDONA, RAC-Ct, FACDONA
Director of Education , NADONA

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Session Three: Elements of Antibiotic Stewardship: Leadership; Accountability & Drug Expertise

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OBJECTIVES

The Participant will be able to:

- List 2 areas that reflect Administrative support in Antibiotic Stewardship
- Explain what the Medical Director is accountable for in the Antibiotic Stewardship program
- Identify who would be optimal partners in the community regarding Antibiotic Stewardship



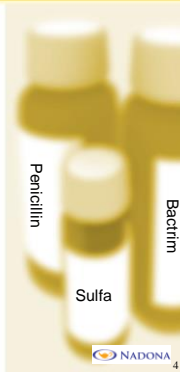
Purpose of Antibiotic Stewardship

• Purpose:

- Limit inappropriate and excessive antibiotic use
- Improve and optimize therapy and clinical outcomes for the individual infected patient

OH CA. Seminar Infect Control 2001;1:210-21. OH CA, Luther VP. J. Hosp. Med. 2011;6:54 Delle TH, et. al. Clin Infect Dis. 2007;44:159-177

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Antibiotic Stewardship

- Is pertinent to inpatient, outpatient, and long-term care settings
 - Is practiced at the Level of the patient
 - Level of a health-care facility or system, or network
- Should be a core function of the medical staff (i.e. doctors and other healthcare providers)
- Utilizes the expertise and experience of clinical pharmacists, microbiologists, infection control practitioners and information technologists Antibiotic Stewardship

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Six Goals of Antibiotic Stewardship Programs:

1. Reduce antibiotic consumption and inappropriate use
2. Reduce Clostridioides difficile infections
3. Improve patient outcomes
4. Increase adherence/utilization of treatment guidelines
5. Reduce adverse drug events
6. Decrease or limit antibiotic resistance
 - Hardest to show
 - Best data for health-care associated gram negative organisms

Tamma PD, Cosgrove SE. Infect Dis Clin North Am. 2011 25:245 OH CA, Luther VP. J. Hosp. Med. 2011;6:54

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Core Elements

1. Leadership
2. Accountability
3. Drug Expertise
4. Action
5. Tracking
6. Reporting
7. Education

Sulfa

Penicillin

Bactrim

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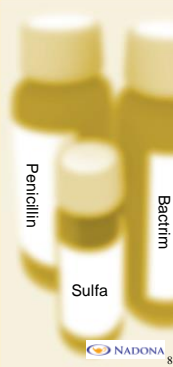


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Leadership Commitment



- Leaders need to establish antimicrobial stewardship as a priority of the organization & demonstrate support and commitment to safe and appropriate antibiotic use in the facility
 - Accountability Documents:
 - Write statements that support the improvement of antibiotic use that is shared with staff, residents and families
 - Budget Plans
 - Infection Prevention plans
 - Strategic plans
 - Electronic Health record (collecting data)



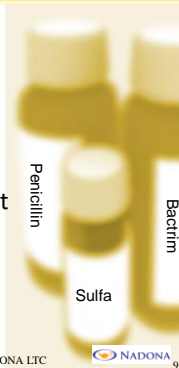
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Leadership Commitment cont.

- Job Descriptions of:
 - Medical Director
 - Clinical Nurse Leads
 - Consultant Pharmacist
- Include Stewardship Duties
- Creates a culture in the facility that promotes antibiotic stewardship through:
 - Messaging
 - Education
 - Celebrating Improvement



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Leadership Commitment cont.

- Communicates the facilities expectations
 - About:
 - The use of antibiotics
 - Monitoring of antibiotics
 - Enforcement of Antibiotic Stewardship policies
 - To:
 - Nursing Staff
 - Prescribing clinicians



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Sample Letter to Providers: Communicate Antibiotic Stewardship Priorities MDH

USE THIS TEMPLATE TO DEVELOP YOUR OWN FACILITY LETTER

TO: [Relevant staff, associated providers]
 FROM: [Medical Director and Antimicrobial Stewardship Program staff, as appropriate]
 RE: [Antibiotic Stewardship Program Policy and Procedures]
 DATE: [Date]

Dear Prescriber,

This letter is written to inform you of our facility's commitment to antibiotic stewardship. Antibiotics are important tools and are among the most commonly prescribed pharmaceuticals in long-term care settings. However, research has shown that a high proportion of antibiotic prescriptions are unnecessary or inappropriately prescribed. To improve resident outcomes and reduce resistance, and in response to requirements from CMS (Centers for Medicare & Medicaid Services), [NAME OF FACILITY] has implemented an antibiotic stewardship program (ASP). Please review [NAME OF FACILITY]'s ASP policy attached. We are asking you to commit to AS by supporting these current activities:

[EXAMPLE 1] Prescription record keeping.
 Dose, duration, route, and indication of every antibiotic prescription MUST be documented in the medical record for every resident, regardless of where prescriptions or documentation elsewhere (e.g., in medical record of a discharging facility). Notation of this information should be made on the day that an in-hour prescription is written or on the day that a resident returns to the facility on an antibiotic prescribed elsewhere.

[EXAMPLE 2] Antibiotic "time-out."
 At 72 hours after antibiotic initiation or first dose in the facility, each resident will be reassessed for continuation of antibiotic need, duration, selection, and de-escalation potential. At the time, laboratory test results, response to therapy, resident condition, and facility needs (e.g., outbreak situation) will be considered. Completion of an antibiotic time-out must be recorded in the resident record.

[EXAMPLE 3] Use of a clinical algorithm and evidence-based criteria to guide the decision to initiate antibiotics for suspected urinary tract infection.
 Our facility has developed a Situation Background Assessment Recommendation (SBAR) form to be used for all suspected urinary tract infections. The SBAR form provides a standard for communication among staff and providers and outlines the peer-reviewed clinical criteria to which our facility refers to determine appropriateness of antibiotic initiation and diagnostic urine testing.

[AS APPROPRIATE] Records will be reviewed monthly to assess compliance with these requirements. Each provider will receive an individual compliance report, and results will be discussed at monthly quality meetings.

Please see the entire AS policy for a more comprehensive description of the AS program. To support your stewardship practice, we have also included [AS APPROPRIATE] a facility antibiotic, resident and family information materials, and Level criteria for initiation of antibiotics in long-term care residents.

Sincerely,

[MEDICAL DIRECTOR] (OTHER AS LEADER IF APPROPRIATE)

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CDC CORE ELEMENT CHECKLIST

LEADERSHIP SUPPORT

ESTABLISHED AT FACILITY

1. Can your facility demonstrate leadership support for antibiotic stewardship through one or more of the following actions? Yes No

If yes, indicate which of the following are in place (select all that apply)

- Written statement of leadership support to improve antibiotic use
- Antibiotic stewardship duties included in medical director position description
- Antibiotic stewardship duties included in director of nursing position description
- Leadership monitors whether antibiotic stewardship policies are followed
- Antibiotic use and resistance data is reviewed in quality assurance meetings

<https://www.cdc.gov/antibiotic-use/core-elements/pdfs/core-elements-antibiotic-stewardship-checklist-508.pdf>

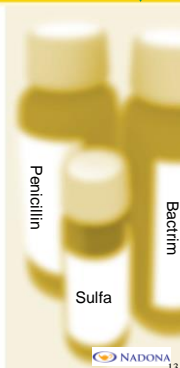
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Accountability



- Who is accountable?
 - Medical Director
 - Sets standards for antibiotic prescribing practices for all clinicians delivering care in the facility
 - Responsible for overseeing the adherence of the standards and dealing with those failing to follow the policies



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Accountability cont.

- Medical Director cont.
 - Reviews antibiotic use data
 - Ensures best practices are followed
- Director of Nursing
 - Importance of antibiotic stewardship is conveyed by the expectations set by the nursing leadership
 - Sets the practice standards for:
 - Assessing
 - Monitoring
 - Communicating resident's change in condition – frontline staff



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Accountability cont.

- Director of Nursing cont.
 - Nurses and Nursing assistants - have key role in decision making process for whether an antibiotic is started.
 - Knowledge, Perceptions & Attitudes among nursing staff influence how info is communicated to clinicians who are making antibiotic decisions
- Pharmacists (Critical Function)
 - Needs to support antibiotic stewardship through
 - Quality Assurance
 - Medication Regimen review
 - Reporting Antibiotic use data
 - Reviews culture data to assess and guide antibiotic selection



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Accountability cont.



Partners

Infection Prevention Program Coordinator

- Have key expertise and data to determine strategies to improve antibiotic use
 - Tracking Antibiotic starts
 - Monitoring adherence to evidence-based criteria (Eval an management of treated infections)
 - Reviews Antibiotic resistance patterns to determine which infections are caused by antibiotic resistance pathogens



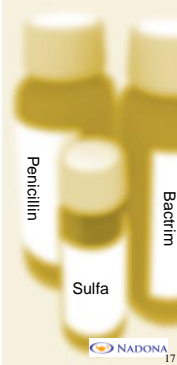
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Accountability cont.

IP Program coordinator cont.

- Needs training
- Dedicated time
- Resources to collect and analyze infection data
- This allows for the information to be used to:
 - Monitor & Support antibiotic stewardship activities



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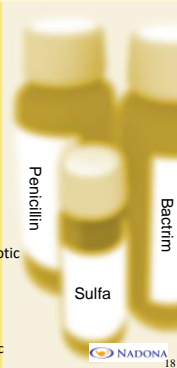


Accountability cont.



Consultant Laboratories

- To support antibiotic stewardship activities
 - Request reports
 - Services
- Types of laboratory support
 - Alert system
 - Notifying facility if antibiotic resistant pathogens are identified
 - Provide education on:
 - Differences in diagnostic tests available
 - Antibigram - summary report of antibiotic susceptibility patterns from organisms isolated in cultures
 - Help decide empiric antibiotic selection (before culture results available)
 - Monitor for new or worsening antibiotic resistance

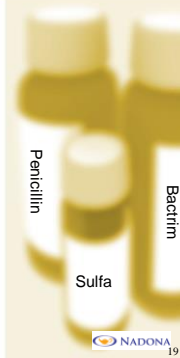


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Accountability cont.

- State & Local Health Departments
 - Provide educational support
 - Resources on Antibiotic Stewardship
 - Resources on infection prevention
 - From Healthcare Associated Infection Prevention programs at state and local levels



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Facilities work together to protect patients.

Common Approach *(Not enough)*

- Patients can be transferred back and forth from facilities for treatment without all the communication and necessary infection control actions in place.

Independent Efforts *(Still not enough)*

- Some facilities work independently to enhance infection control but are not often alerted to antibiotic-resistant or difficult outbreaks in the area.
- Lack of shared information from other facilities means that necessary infection control actions are not always taken and germs are spread to other patients.

Coordinated Approach *(Needed)*

- Public health departments track and alert health care facilities to antibiotic-resistant or *C. difficile* germs coming from other facilities and outbreaks in the area.
- Facilities and public health authorities share information and implement shared infection control actions to stop spread of germs from facility to facility.

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CDC CORE ELEMENT CHECKLIST

ACCOUNTABILITY

2. Has your facility identified a lead(s) for antibiotic stewardship activities? Yes No

If yes, indicate who is accountable for stewardship activities (select all that apply)

Medical director

Director or assistant director of nursing services

Consultant pharmacist

Other: _____

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Drug Expertise



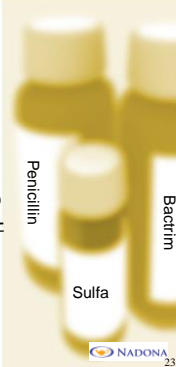
- Establish access to individuals with antibiotic expertise to implement antibiotic stewardship activities
- Support from infectious disease consultants and consultant pharmacists with antibiotic stewardship training can help the nursing home reduce antibiotic use and lower the rates of C Diff



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Drug Expertise cont.

- Antibiotic Expertise:
 - Consultant Pharmacist
 - Training in
 - Antibiotic Stewardship or
 - Specialized infectious diseases
 - Potential training courses
 - Making a Difference in Infectious Diseases (MAD-ID) antibiotic stewardship course (<http://mad-id.org/antimicrobial-stewardship-programs/>), and
 - The Society for Infectious Diseases Pharmacists antibiotic stewardship certificate program (www.ProCE.com/SIDP-LTC)



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Drug Expertise cont.

- Antibiotic Stewardship Personnel
 - Hospitals in referral network
- Relationships with
 - Infectious disease consultants in the community
 - Who are interested in supporting your antibiotic Stewardship endeavors



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CDC CORE ELEMENT CHECKLIST

DRUG EXPERTISE

3. Does your facility have access to individual(s) with antibiotic stewardship expertise? Yes No

If yes, indicate who is accountable for stewardship activities (select all that apply)

- Consultant pharmacy has staff trained/is experienced in antibiotic stewardship
- Partnering with stewardship team at referral hospital
- External infectious disease/stewardship consultant
- Other: _____

Gap Analysis 1/12



AHRQ Safety Program for Improving Antibiotic Use

Gap Analysis for Antibiotic Stewardship Programs in Long-Term Care

Instructions: Complete this document to evaluate your antibiotic stewardship program (ASP) on an annual basis and to define areas for further improvement. The ASP areas addressed in this document are addressed throughout the AHRQ Safety Program Toolkit.
 The questions labeled as Fundamentals (F) address components that all ASPs should have, and those labeled as Enhanced (E) address components that may further enhance ASPs. If your ASP is missing Fundamentals components or is not performing core interventions, then you should determine how to manage these deficiencies, including, but not limited to, seeking leadership to allocate additional resources. If your ASP does not have Enhanced items, discuss potential implementation of these items might be of benefit to your program and what resources would be needed to operationalize them.

Key: F = Fundamentals, E = Enhanced

Program Leadership

Job Title	Antibiotic Stewardship Area	Answers	Comments
	➔ Has an Infection Preventionist been identified?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	➔ Does the Infection Preventionist have appropriate education, training, experience, or certification for his/her responsibilities?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Infection Preventionist	➔ Does the Infection Preventionist work at least part-time at the facility?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	➔ What proportion of the Infection Preventionist's time is allocated specifically to the antibiotic stewardship program (exclusive of other infection prevention and control activities)?		
Medical Director	➔ Is the Medical Director or his/her designee a member of the Antibiotic Stewardship Team?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
	➔ Has the Medical Director or his/her designee received specialized training in antibiotic stewardship?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	

Gap Analysis cont.

Job Title	Antibiotic Stewardship Area	Answers	Comments
	➔ Is the Pharmacist Consulting or Dispensing a member of the Antibiotic Stewardship Team?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Pharmacist	➔ Is supporting antibiotic stewardship activities included in the Pharmacist's job description or contract?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
	➔ Does the Pharmacist have a certificate or advanced training in infectious diseases or antibiotic stewardship?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Other Team Members	➔ Indicate other members of the Antibiotic Stewardship Team	<input type="checkbox"/> Director of Nursing <input type="checkbox"/> Assistant Director of Nursing <input type="checkbox"/> Administrator <input type="checkbox"/> Executive Nurse <input type="checkbox"/> Infection Diseases <input type="checkbox"/> Consultants <input type="checkbox"/> Nurse Aide <input type="checkbox"/> Nurse Manager <input type="checkbox"/> Nurse Practitioner <input type="checkbox"/> Other Physicians <input type="checkbox"/> Other Pharmacists <input type="checkbox"/> Preceptor Assistant <input type="checkbox"/> Representative from Residency <input type="checkbox"/> Family Clinician <input type="checkbox"/> Wound Care Nurse <input type="checkbox"/> Other	
Senior Executive Leadership	➔ To whom does the Antibiotic Stewardship Team report?	<input type="checkbox"/> Monthly <input type="checkbox"/> Quarterly <input type="checkbox"/> Annually <input type="checkbox"/> Other	
	➔ How often does Antibiotic Stewardship Team leadership meet with senior leadership?	<input type="checkbox"/> Monthly <input type="checkbox"/> Quarterly <input type="checkbox"/> Annually <input type="checkbox"/> Other	

Gap Analysis cont.

Job Title	Antibiotic Stewardship Area	Answers	Comments
	<ul style="list-style-type: none"> Does senior leadership actively promote/endorse antibiotic stewardship prevention activities? 	<input type="checkbox"/> No <input type="checkbox"/> Yes: Antibiotic Stewardship Team member <input type="checkbox"/> Yes: Provides adequate funding for ASP <input type="checkbox"/> Yes: Provides funding for AB member training <input type="checkbox"/> Yes: Provides AB messages via newsletters, screen saver, etc. <input type="checkbox"/> Yes: Provides track up to ASP if prescribers do not follow AB approaches <input type="checkbox"/> Yes: Other	

Program Structure

Antibiotic Stewardship Area	Answers	Comments
<ul style="list-style-type: none"> What are the activities of the Antibiotic Stewardship Team? <p>Note: activities listed are suggestions for team activities; not all teams will perform all activities.</p>	<input type="checkbox"/> Education and review antibiotic use protocols <input type="checkbox"/> Monitor antibiotic use <input type="checkbox"/> Track antibiotic use data <input type="checkbox"/> Recommend approaches to improve antibiotic use <input type="checkbox"/> Obtain, review, and distribute the antibioticgram <input type="checkbox"/> Review, disseminate, update infection rates and recommend improvement approaches <input type="checkbox"/> Perform proactive risk assessments to determine areas in which harm related to antibiotic prescribing could be avoided with intervention <input type="checkbox"/> Review the antibioticgram and recommend improvement approaches <input type="checkbox"/> Develop, review, and distribute materials to prescriber, clinician, nursing staff, and residents/family members regarding optimal antibiotic prescribing <input type="checkbox"/> Provide feedback to prescribers about antibiotic prescribing habits <input type="checkbox"/> Review approaches employed by the converted microbiology lab for reporting culture and susceptibility data <input type="checkbox"/> N/A	

Gap Analysis cont.

Antibiotic Stewardship Area	Answers	Comments
<ul style="list-style-type: none"> Does the Antibiotic Stewardship Team report to the Quality Assessment and Assurance (QAA) or the Quality Assurance and Performance Improvement (QAPI) Committees? 	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
<ul style="list-style-type: none"> Does your ASP develop an annual plan setting goals for the following year? 	<input type="checkbox"/> Yes <input type="checkbox"/> No	
<ul style="list-style-type: none"> Does your ASP perform an annual risk assessment to identify antibiotic use? 	<input type="checkbox"/> Yes <input type="checkbox"/> No	
<ul style="list-style-type: none"> Does your ASP have a binder or other document detailing how it is compliant with Bureau of Requirements for Long-Term Care Facilities coverage by the Centers for Disease Control and Prevention (CDC) and/or The Core Elements of Antibiotic Stewardship for Long-Term Care Facilities? 	<input type="checkbox"/> Yes <input type="checkbox"/> No	

Antibiotic Use Protocols

Antibiotic Stewardship Area	Answers	Comments
<ul style="list-style-type: none"> Does your facility have facility-specific antibiotic use protocols? 	<input type="checkbox"/> Yes <input type="checkbox"/> No	
<ul style="list-style-type: none"> Do your antibiotic use protocols cover the following infections? 	<input type="checkbox"/> Acute viral infection <input type="checkbox"/> Acute bacterial infections <input type="checkbox"/> Bacterial meningitis <input type="checkbox"/> Community-acquired pneumonia <input type="checkbox"/> Skin and soft tissue infections <input type="checkbox"/> Other: _____ <input type="checkbox"/> Other: _____ <input type="checkbox"/> N/A	
<ul style="list-style-type: none"> Do your antibiotic use protocols provide recommendations on diagnostic testing? 	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
<ul style="list-style-type: none"> Do your antibiotic use protocols provide recommendations on empiric therapy? 	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
<ul style="list-style-type: none"> Do your antibiotic use protocols provide recommendations on duration of therapy? 	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	

Gap Analysis cont.

Antibiotic Stewardship Area	Answers	Comments
<ul style="list-style-type: none"> Do your antibiotic use protocols provide recommendations about the interpretation of microbiology return (include rapid diagnostic tests)? 	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
<ul style="list-style-type: none"> Do you have protocols/procedures or other policies or procedures provide recommendations about the interpretation of microbiology return (include rapid diagnostic tests)? 	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
<ul style="list-style-type: none"> Do you have protocols/procedures or other policies or procedures provide recommendations about the interpretation of microbiology return (include rapid diagnostic tests)? 	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
<ul style="list-style-type: none"> Are antibiotic use protocols disseminated to prescribers clinicians at the point of care? 	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
<ul style="list-style-type: none"> Who is involved in developing and reviewing antibiotic use protocols? 	<input type="checkbox"/> Antibiotic Stewardship Team <input type="checkbox"/> Infection disease consultants <input type="checkbox"/> Consulting microbiologists <input type="checkbox"/> Other prescribing clinicians <input type="checkbox"/> Pharmacy nurses <input type="checkbox"/> Other: _____ <input type="checkbox"/> N/A	

Gap Analysis cont.

CORE INTERVENTIONS:	Antibiotic	Pre-authorization	Frequency	Post-authorization Review and Feedback	Frequency
Pre-authorization and Post-Prescription Review and Feedback For each agent or class, indicate whether the gap pertains to: pre-authorization and/or post-prescription review and feedback.	Aminocyclitol	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/> Daily weekdays <input type="checkbox"/> Daily 7 days <input type="checkbox"/> 2-3 times/week <input type="checkbox"/> Other <input type="checkbox"/> N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/> Daily weekdays <input type="checkbox"/> Daily 7 days <input type="checkbox"/> 2-3 times/week <input type="checkbox"/> Other <input type="checkbox"/> N/A
	Amoxicillin-clavulanate	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/> Daily weekdays <input type="checkbox"/> Daily 7 days <input type="checkbox"/> 2-3 times/week <input type="checkbox"/> Other <input type="checkbox"/> N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/> Daily weekdays <input type="checkbox"/> Daily 7 days <input type="checkbox"/> 2-3 times/week <input type="checkbox"/> Other <input type="checkbox"/> N/A
	Amphotericin	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/> Daily weekdays <input type="checkbox"/> Daily 7 days <input type="checkbox"/> 2-3 times/week <input type="checkbox"/> Other <input type="checkbox"/> N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/> Daily weekdays <input type="checkbox"/> Daily 7 days <input type="checkbox"/> 2-3 times/week <input type="checkbox"/> Other <input type="checkbox"/> N/A
	Cefazolin	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/> Daily weekdays <input type="checkbox"/> Daily 7 days <input type="checkbox"/> 2-3 times/week <input type="checkbox"/> Other <input type="checkbox"/> N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/> Daily weekdays <input type="checkbox"/> Daily 7 days <input type="checkbox"/> 2-3 times/week <input type="checkbox"/> Other <input type="checkbox"/> N/A
	Oral second-or third-generation cephalosporins	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/> Daily weekdays <input type="checkbox"/> Daily 7 days <input type="checkbox"/> 2-3 times/week <input type="checkbox"/> Other <input type="checkbox"/> N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/> Daily weekdays <input type="checkbox"/> Daily 7 days <input type="checkbox"/> 2-3 times/week <input type="checkbox"/> Other <input type="checkbox"/> N/A

Gap Analysis cont.

CORE INTERVENTIONS:	Antibiotic	Pre-authorization	Frequency	Post-authorization Review and Feedback	Frequency
Pre-authorization and Post-Prescription Review and Feedback For each agent or class, indicate whether the gap pertains to: pre-authorization and/or post-prescription review and feedback.	Ceftriaxone	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/> Daily weekdays <input type="checkbox"/> Daily 7 days <input type="checkbox"/> 2-3 times/week <input type="checkbox"/> Other <input type="checkbox"/> N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/> Daily weekdays <input type="checkbox"/> Daily 7 days <input type="checkbox"/> 2-3 times/week <input type="checkbox"/> Other <input type="checkbox"/> N/A
	Cefepime	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/> Daily weekdays <input type="checkbox"/> Daily 7 days <input type="checkbox"/> 2-3 times/week <input type="checkbox"/> Other <input type="checkbox"/> N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/> Daily weekdays <input type="checkbox"/> Daily 7 days <input type="checkbox"/> 2-3 times/week <input type="checkbox"/> Other <input type="checkbox"/> N/A
	Piperacillin/Tazobactam	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/> Daily weekdays <input type="checkbox"/> Daily 7 days <input type="checkbox"/> 2-3 times/week <input type="checkbox"/> Other <input type="checkbox"/> N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/> Daily weekdays <input type="checkbox"/> Daily 7 days <input type="checkbox"/> 2-3 times/week <input type="checkbox"/> Other <input type="checkbox"/> N/A
	Carbapenems	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/> Daily weekdays <input type="checkbox"/> Daily 7 days <input type="checkbox"/> 2-3 times/week <input type="checkbox"/> Other <input type="checkbox"/> N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/> Daily weekdays <input type="checkbox"/> Daily 7 days <input type="checkbox"/> 2-3 times/week <input type="checkbox"/> Other <input type="checkbox"/> N/A
	Fluoroquinolones	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/> Daily weekdays <input type="checkbox"/> Daily 7 days <input type="checkbox"/> 2-3 times/week <input type="checkbox"/> Other <input type="checkbox"/> N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/> Daily weekdays <input type="checkbox"/> Daily 7 days <input type="checkbox"/> 2-3 times/week <input type="checkbox"/> Other <input type="checkbox"/> N/A

Gap Analysis cont.

CORE INTERVENTIONS:	Antibiotic	Pre-authorization	Frequency	Post-authorization Review and Feedback	Frequency
Pre-authorization and Post-Prescription Review and Feedback For each agent or class, indicate whether the gap pertains to: pre-authorization and/or post-prescription review and feedback.	Aminoglycosides	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/> Daily weekdays <input type="checkbox"/> Daily 7 days <input type="checkbox"/> 2-3 times/week <input type="checkbox"/> Other <input type="checkbox"/> N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/> Daily weekdays <input type="checkbox"/> Daily 7 days <input type="checkbox"/> 2-3 times/week <input type="checkbox"/> Other <input type="checkbox"/> N/A
	Vancocin IV	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/> Daily weekdays <input type="checkbox"/> Daily 7 days <input type="checkbox"/> 2-3 times/week <input type="checkbox"/> Other <input type="checkbox"/> N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/> Daily weekdays <input type="checkbox"/> Daily 7 days <input type="checkbox"/> 2-3 times/week <input type="checkbox"/> Other <input type="checkbox"/> N/A

Antibiotic Stewardship Area	Answers	Comments
How is antibiotic use monitored at your facility?	<input type="checkbox"/> Limited (manual entry) <input type="checkbox"/> Data (manual entry) <input type="checkbox"/> Data from dispensing pharmacy <input type="checkbox"/> Data from electronic medical record <input type="checkbox"/> Other <input type="checkbox"/> N/A	
How are antibiotic stewardship interventions made?	<input type="checkbox"/> Phone call to clinicians <input type="checkbox"/> Text to clinicians <input type="checkbox"/> Records with team <input type="checkbox"/> Note in medical record <input type="checkbox"/> Other <input type="checkbox"/> N/A	
Where are antibiotic stewardship interventions documented?	<input type="checkbox"/> Medical record; visible to clinicians <input type="checkbox"/> Medical record; not visible to clinicians <input type="checkbox"/> Other <input type="checkbox"/> N/A	
Does your program monitor adherence to antibiotic stewardship recommendations?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	

Gap Analysis cont.

Other Interventions To Consider

Antibiotic Stewardship Area	Answers	Comments
<ul style="list-style-type: none"> ➔ Is there a formal procedure to review the appropriateness of all antibiotics 48-72 hours after the initial orders by the health care practitioners and nursing staff (e.g., antibiotic time out)? 	<input type="checkbox"/> Yes <input type="checkbox"/> No	
<ul style="list-style-type: none"> ➔ Is there a process for intravenous to oral conversion of antibiotics in the pharmacy? 	<input type="checkbox"/> Yes <input type="checkbox"/> No	
<ul style="list-style-type: none"> ➔ Does your facility have order-sets for any of the following indications? 	<input type="checkbox"/> Urinary tract infection <input type="checkbox"/> Bacterial pneumonia <input type="checkbox"/> Skin and soft tissue infection <input type="checkbox"/> Clostridioides difficile infection <input type="checkbox"/> Other: <input type="checkbox"/> Other: <input type="checkbox"/> N/A	
<ul style="list-style-type: none"> ➔ Are activities being conducted by the Antibiotic Stewardship Team to target Antibiotic community-associated with Clostridioides difficile infection (e.g., fluoroquinolones, clindamycin, cephalosporins)? 	<input type="checkbox"/> Yes <input type="checkbox"/> No	
<ul style="list-style-type: none"> ➔ Are activities being conducted by the Antibiotic Stewardship Team to reduce inappropriate treatment of asymptomatic bacteriuria? 	<input type="checkbox"/> Yes <input type="checkbox"/> No	
<ul style="list-style-type: none"> ➔ List interventions being conducted by the ASP to improve antibiotic use outside of core interventions. 		

Gap Analysis cont.

Microbiology

Antibiotic Stewardship Area	Answers	Comments
<ul style="list-style-type: none"> ➔ Does the Antibiotic Stewardship Team have a regular meeting with the contracted microbiology laboratory to discuss relevant issues (e.g., developing an antibiogram, interpretation of susceptibility tests, implementation of new diagnostic tests, etc.)? 	<input type="checkbox"/> Yes <input type="checkbox"/> No	
<ul style="list-style-type: none"> ➔ Does your microbiology laboratory develop an annual antibiogram? 	<input type="checkbox"/> Yes, specific to our facility <input type="checkbox"/> Yes, combined with regional facilities <input type="checkbox"/> Yes, combined with hospital <input type="checkbox"/> No	
<ul style="list-style-type: none"> ➔ Does your microbiology lab follow Clinical and Laboratory Standards Institute (CLSI) guidelines for making the antibiogram? 	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
<ul style="list-style-type: none"> ➔ Is the antibiogram disseminated to healthcare practitioners? 	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
<ul style="list-style-type: none"> ➔ Does your microbiology lab blind any culture or susceptibility results as a strategy to assist prescribers in selecting appropriate antibiotics? 	<input type="checkbox"/> Yes <input type="checkbox"/> No	
<ul style="list-style-type: none"> ➔ Does your facility perform or order rapid diagnostics on other specimens? 	<input type="checkbox"/> Influenza test <input type="checkbox"/> Respiratory viral panel <input type="checkbox"/> Streptococcus pneumoniae urinary antigen test <input type="checkbox"/> SARS-CoV-2 (COVID-19) test <input type="checkbox"/> Other: <input type="checkbox"/> No	

Gap Analysis cont.

Data

Antibiotic Stewardship Area	Answers	Comments
<ul style="list-style-type: none"> ➔ Do you have access to antibiotic use data? 	<input type="checkbox"/> Yes <input type="checkbox"/> No	
<ul style="list-style-type: none"> ➔ If you have access to antibiotic use data, what type of data is it? 	<input type="checkbox"/> Purchasing data <input type="checkbox"/> Days of therapy/1,000 patient-days (preferred) <input type="checkbox"/> Days of therapy/1,000 days-patient (National Healthcare Safety Network denominator – preferred) <input type="checkbox"/> Defined daily doses <input type="checkbox"/> Other: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
<ul style="list-style-type: none"> ➔ Do you monitor antibiotic use trends over time? 	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
<ul style="list-style-type: none"> ➔ Do you stratify data by antibiotic/antibiotic class? 	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
<ul style="list-style-type: none"> ➔ Do you stratify data by provider? 	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
<ul style="list-style-type: none"> ➔ How frequently does the Antibiotic Stewardship Team review antibiotic use data? 	<input type="checkbox"/> Quarterly <input type="checkbox"/> Annually <input type="checkbox"/> Other: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
<ul style="list-style-type: none"> ➔ Does your Antibiotic Stewardship Team present antibiotic use data to facility leadership? 	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
<ul style="list-style-type: none"> ➔ Does your Antibiotic Stewardship Team present antibiotic use data to front-line staff and/or healthcare practitioners? 	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
<ul style="list-style-type: none"> ➔ Do you report antibiotic use data to the National Healthcare Safety Network Antimicrobial Use and Resistance Monitor? 	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	

Gap Analysis cont.

Antimicrobial Stewardship (AS)	Answers	Comments
<p>How often does your ASP provide updates to health care providers about judicious antibiotic prescribing and the role of ASP?</p> <p>How frequently does your ASP provide updates to health care providers about judicious antibiotic prescribing and the role of ASP?</p>	<input type="checkbox"/> No <input type="checkbox"/> Yes - Nurses <input type="checkbox"/> Yes - Pharmacists <input type="checkbox"/> Yes - Health care practitioners <input type="checkbox"/> Yes - Other(s) <input type="checkbox"/> Annually <input type="checkbox"/> Annually, and as needed <input type="checkbox"/> Unscheduled <input type="checkbox"/> Other: <input type="checkbox"/> N/A	

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Resources

- https://www.jointcommission.org/assets/1/6/New_Antimicrobial_Stewardship_Standard.pdf
- <https://www.cdc.gov/longtermcare/prevention/antibiotic-stewardship.html>
- <https://www.cdc.gov/antibiotic-use/core-elements/pdfs/core-elements-antibiotic-stewardship-checklist-508.pdf>

