CDI AWARENESS CAMPAIGN CHALLENGE # 2:

Antibiotic Stewardship

Part 1: Current State Checklist

This self-assessment will help you identify opportunities for improvement and choose the most appropriate challenge to help prevent CDI in your facility. A collaborative team working on healthcare-associated infections (HAI) and *Clostridium difficile* infection (CDI) may provide the most accurate assessment of your facility's current state.

STRATEGIES	YES	NO
Program Support		
1. Does your facility have an Antibiotic Stewardship Committee? If yes, does it include the following key members:	☐	☐
• Infectious Disease (ID) Physician or Physician with ID background	☐	☐
• Pharmacist	☐	☐
• Clinical Microbiologist	☐	☐
• Nursing Representative	☐	☐
• Infection Control Practitioner	☐	☐
2. Does your senior leadership support Antibiotic Stewardship activities?	☐	☐
3. Does your medical director support Antibiotic Stewardship activities?	☐	☐
Processes		
4. Does your facility have Antibiotic Stewardship education in place? If yes, does it target the following key audiences?	☐	☐
• Physicians/Nurse Practitioners/Physician Assistants	☐	☐
• Nursing Staff	☐	☐
• Pharmacy Staff	☐	☐
5. Does your facility have guidelines to assist with antibiotic selection?	☐	☐
6. Does your facility utilize clinical pathways for antibiotic use?	☐	☐
7. Does you facility utilize standardized order sets for antibiotic use in disease-specific conditions (such as pneumonia, UTI, etc.)?	☐	☐
8. Does your facility have formulary restrictions for antibiotic use?	☐	☐
9. Does you facility require pre-authorization for specific antibiotics?	☐	☐
10. Does your facility have a parenteral-to-oral conversions program?	☐	☐
11. Does your facility utilize dose optimization?	☐	☐
12. For patients receiving antibiotics, does your facility conduct daily pharmacy reviews for the following?		
• Cultures	☐	☐
• Renal function	☐	☐
• Combination therapy	☐	☐
• Broad-spectrum antibiotics	☐	☐
13. Does your facility utilize information technology for the following?		
• Antibiotic usage	☐	☐
• Daily print-outs of patients receiving antibiotics	☐	☐
• Computerized Physician order entry (CPOE) with embedded decision-making support	☐	☐
• Medication administration system	☐	☐
Does your facility have a process/protocol for reviewing antibiotic history before prescribing to a patient (primary care setting)?	☐	☐

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Part 2: The Challenge

Based on opportunities identified in your Current State Checklist (Part 1), ***please choose one action-oriented challenge*** *to implement in your facility.* If you have something else in mind, you can write in your own custom challenge and how you will measure your change.

SELECT	CHALLENGE	MEASURE
☐	**Staff Education** Initiate staff education on Antibiotic Stewardship **KEY POINTS:** • Risks of antibiotic use • Issues with overuse of antibiotics • What is Antibiotic Stewardship • What our facility is doing to advance Antibiotic Stewardship • What is your role in Antibiotic Stewardship	Administer a pre/post-test (see Appendix page ii)
☐	**Committee Development** Form an Antibiotic Stewardship Committee **KEY POINTS:** • Meets monthly • Includes the following key members; ✓ Infectious Disease Physician **or** Physician with ID background ✓ Pharmacist ✓ Clinical Microbiologist ✓ Nursing Representative ✓ Infection Control Practitioner	• Monthly meetings with minutes • Clearly defined goals and timelines
☐	**Pharmacy Review** Begin pharmacy reviews: • **Level 1:** Pharmacy to review all broad-spectrum antibiotics • **Level 1**: Pharmacy to review one specific antibiotic with noted high use in your facility • **Level 2:** Pharmacy to review renal function of all patients receiving antibiotics • **Level 2:** Pharmacy to review cultures of all patients receiving antibiotics	Increased number of reviews completed by Pharmacy
☐	**Lab Testing** Lab to develop an antibiogram/formulary and implement use	Completion and implementation

SELECT	CHALLENGE	MEASURE
☐	**Order Sets/Pathways** Development and implementation of order sets and pathways for top diagnoses **KEY POINTS:** • Include standardized protocols for order cultures and other diagnostic tests prior to initiating antibiotics • Develop a standardized antibiotic selection based on common diagnosis, commonly used antibiotics and local susceptibility and facility formulary • Include appropriate time from order to administration • Utilize computerized decision support when EHR is available	Completion and implementation
☐	**Time-outs – Acute Care** Implement "antibiotic time-outs" – can be facility-wide or unit-based **KEY POINTS:** • Reassess therapy upon receipt of culture results • Stop and reassess therapy • Engage pharmacist	Completion and implementation
☐	**Time-outs – Primary Care** Implement "antibiotic time-outs" before prescribing **KEY POINTS:** • Review cultures and labs • Review patient antibiotic history • Limit use of broad-spectrum antibiotics	Completion and implementation
☐	**Get Smart "Prescriptions" – Primary Care** Implement use of Get Smart "prescription" for viral infections: http://tiny.cc/viralRx **KEY POINTS:** • Give to patients for viral infections, when there is no need for antibiotics • Can be incorporated into EHR • Patients feel that they have a plan of care even when they are not prescribed an antibiotic	Completion and implementation
	CREATE YOUR OWN CHALLENGE	
☐		

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Part 3: The Results

Please share the results of your challenge.

Challenge Selected:

Measurement Target:

TOPIC	RESULTS
Measurement Results	
Barriers	
Successes	
Additional comments	

Please indicate your plans to continue.

Next Steps:

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Appendix: Resources

ITEM/LINK	DESCRIPTION
Patient Resources	
5 Things You Can Do to Prevent CDI http://tiny.cc/CDIprev	1-page summary outlines simple steps patients can take to prevent infection.
Cold and Flu Season: No Reason for Antibiotics http://tiny.cc/CFabx	3-page document explains why antibiotics are not appropriate for treating the cold and flu.
FAQs: "*Clostridium Difficile*" http://tiny.cc/CDIfaq	2-page fact sheet presents basic CDI information in large print format.
Patient Antibiotic Fact Sheet http://tiny.cc/abxfact	2-page document explains the problem of antibiotic resistance.
Prescription Adherence Tool http://tiny.cc/PAtool	1-page handout explains how to take antibiotics the right way.
Virus Bacteria Chart http://tiny.cc/VBchart	Chart outlines usual causes of upper respiratory infections, and when antibiotics are needed.
Staff Resources	
Antibiotic Use in Nursing Homes http://tiny.cc/NHabx	2-page fact sheet explains how antibiotic resistance is a serious health concern in the nursing home setting, and how providers can take action for better resident care.
Delivering Safe Care for Patients: All Healthcare Providers Play a Role http://tiny.cc/GSWfact	2-page fact sheet explains how antibiotic resistance poses a threat to public health, and how providers can take action to address the problem.
Get Smart "Prescription" http://tiny.cc/viralRx	Use this "prescription" from the CDC Get Smart about Antibiotics campaign for patients with a viral infection.
Leadership Resources	
Antibiotic Prescribing Rates across the U.S. by State (2011-2012) http://tiny.cc/USabx	Map ranks states from level 1-5 with prescribing data from July 2011 to June 2012.
Antibiotic Stewardship Driver Diagram and Change Package http://tiny.cc/ASCP	12-page resource provides conceptual model of key drivers for reducing inappropriate antibiotic utilization in the hospital setting.
Antibiotic Stewardship – the Ultimate Return on Investment http://tiny.cc/abxcost	2-page fact sheet outlines the costs of antibiotic resistance and the business case for a strong stewardship program.
Keys for Success, Getting Started http://tiny.cc/startAS	CDC Get Smart campaign tips for implementing and improving stewardship efforts.

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Pre-Test/Post-Test

The test on the following page was designed to be used as part of the Antibiotic Stewardship Challenge Change Package (initiating an Antibiotic Stewardship/CDI Education and Annual Skills Day). The test should be administered in two steps:

1. **As a pre-test** - prior to beginning your Antibiotic Stewardship/CDI Education and Annual Skills Day
   Use as an assessment of current staff knowledge.

2. **As a post-test** - after the education is completed (approximately four weeks after the pre-test)
   The scores should reflect noted improvement from the baseline.
   Overall results will help you identify education gaps and areas where further education may be needed.

ANSWER KEY
1. True or false: Antibiotics are recommended for treatment of bacterial and viral infections. b) False
2. True or false: Up to 50% of antibiotic use in hospitals is either unnecessary or inappropriate. a) True
3. Which of the following bacteria are among the antibiotic-resistant organisms most commonly found in nursing home populations? d) All of the above
4. Healthcare providers help prevent the spread of antibiotic resistance by: d) All of the above
5. An infection characterized by watery diarrhea, fever, loss of appetite, nausea, belly pain and tenderness, and foul odor fecal matter is most likely due to: c) *Clostridium difficile*
6. The single most important risk factor for the development of *C. difficile* infection is: a) Antibiotic exposure
7. An antibiotic stewardship program can result in: d) All of the above
8. Antibiotic best practices include all of the following except: c) Using broad-spectrum antibiotics to cover all possible bacteria
9. According to the IDSA Guidelines screening and treatment of asymptomatic bacteriuria is recommended in which population? d) Pregnant women
10. Antibiotics are not needed to treat viral illnesses such as: d) All of the above
11. A Get Smart “prescription” is a feasible alternative to prescribing antibiotics for certain patients. a) True
12. Which of the following is important to tell a patient when an antibiotic is prescribed? d) All of the above

CDI AWARENESS CAMPAIGN CHALLENGE #2: Antibiotic Stewardship

Pre-Test/Post-Test

1. True or false: Antibiotics are recommended for treatment of bacterial and viral infections.
   a) True
   b) False
2. True or false: Up to 50% of antibiotic use in hospitals is either unnecessary or inappropriate.
   a) True
   b) False
3. Which of the following bacteria are among the antibiotic-resistant organisms most commonly found in nursing home populations?
   a) Multidrug-resistant Gram-negative bacteria
   b) Methicillin-resistant *Staphylococcus aureus* (MRSA)
   c) Vancomycin-resistant enterococci (VRE)
   d) All of the above
4. Healthcare providers help prevent the spread of antibiotic resistance by:
   a) Using antibiotic therapy only when it is likely to benefit the patient
   b) Using an antibiotic targeting the most likely pathogens
   c) Using an antibiotic for the appropriate dose and duration
   d) All of the above
5. An infection characterized by watery diarrhea, fever, loss of appetite, nausea, belly pain and tenderness, and foul odor fecal matter is most likely due to:
   a) *Staphylococcus aureus*
   b) *Escherichia coli*
   c) *Clostridium difficile*
   d) *Streptococcus pneumonia*
6. The single most important risk factor for the development of *C. difficile* infection is:
   a) Antibiotic exposure
   b) Hospitalization
   c) Increased age
   d) Poor hand hygiene
7. An antibiotic stewardship program can result in:
   a) Decreased antibiotic resistance
   b) Decreased costs
   c) Improved patient outcomes
   d) All of the above
8. Antibiotic best practices include all of the following except:
   a) Ensuring that all orders have dose, duration and indication
   b) Getting cultures before starting antibiotics
   c) Using broad-spectrum antibiotics to cover all possible bacteria
   d) Taking an “antibiotic timeout” to reassess antibiotics after 48-72 hours
9. According to the IDSA Guidelines screening and treatment of asymptomatic bacteriuria is recommended in which population?
   a) Diabetic women
   b) Older persons living in the community
   c) Premenopausal, nonpregnant woman
   d) Pregnant women
10. Antibiotics are not needed to treat viral illnesses such as:
    a) Influenza
    b) Runny nose with green or yellow mucus
    c) Otitis media with effusion
    d) All of the above
11. A Get Smart “prescription” is a feasible alternative to prescribing antibiotics for certain patients.
    a) True
    b) False
12. Which of the following is important to tell a patient when an antibiotic is prescribed?
    a) How to properly store the antibiotic
    b) Possible side effects to watch out for while taking the medication
    c) The importance of taking antibiotics for the full course prescribed
    d) All of the above