Creating an Antimicrobial Stewardship Program for Your ASC

Angela Vassallo, MPH, MS, CIC, FAPIC, Clinical Improvement Advisor, Infection Prevention, Health Services Advisory Group (HSAG)
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Angela Vassallo, MPH, MS, CIC, FAPIC

Nationally recognized expert in infection prevention

- Certified in Infection Control (CIC) and Fellow of APIC (FAPIC)
- Association for Professionals in Infection Control and Epidemiology (APIC)
  - Chair: APIC Communications
  - Past-President: California and Los Angeles APIC chapters
- Assistant Professor, MPH and MHA programs
  - West Coast University
- Education
  - MPH, University of Texas Health Science Center, School of Public Health, Houston, TX
  - MS, Healthcare Management, West Coast University, Los Angeles, CA
  - BA, International Service, American University, Washington, D.C.
Objectives

- Describe the need for antimicrobial stewardship in ambulatory surgery centers (ASCs).
- Implement the Centers for Disease Control and Prevention’s (CDC’s) targeted approach to antimicrobial stewardship.
- Use HSAG’s antimicrobial stewardship checklist to create an ASC antimicrobial stewardship program (ASP).
HSAG Is a Quality Innovation Network-Quality Improvement Organization (QIN-QIO)
HSAG Is a QIN-QIO

- Funded by the Centers for Medicare & Medicaid Services (CMS).
- Medicare QIN-QIO for Arizona, California, Florida, Ohio, and the U.S. Virgin Islands.
- Largest federal program dedicated to improving health quality at the community level.
- Dedicated to improving healthcare at the population level.
- Ensures that Medicare beneficiaries get the best quality healthcare.
Nearly 25% of the nation’s Medicare beneficiaries

HSAG is the Medicare QIN-QIO for Arizona, California, Florida, Ohio, and the U.S. Virgin Islands.
ASC Special Innovation Project

Knock Out Infections
ASC Infection Prevention Initiative
HSAG’s Knock Out Infections—ASC Infection Prevention Initiative

www.hsag.com/asc
Definitions

- The term **antimicrobial** encompasses the treatment options for all forms of microbes:
  - **Bacteria** ➔ **Antibiotics**
    - E. coli, Methicillin-resistant *Staphylococcus aureus*, carbapenem-resistant *Enterobacteriaceae*
  - **Fungi** ➔ **Antifungals**
    - *Candida auris*
  - **Viruses** ➔ **Antivirals**
    - Influenza
“Antimicrobial stewardship is a coordinated program that promotes the appropriate use of antimicrobials (including antibiotics), improves patient outcomes, reduces microbial resistance, and decreases the spread of infections caused by multi-drug resistant organisms.”

– APIC

Why Do ASCs Need ASPs When They Do Not Treat Patients?
“Antibiotic use is the most important modifiable driver of antibiotic resistance, and antibiotic-resistant infections lead to higher healthcare costs, poor health outcomes, and more toxic treatments.”

At least 30% of antibiotic courses prescribed in the outpatient setting are unnecessary, meaning that no antibiotic is needed at all. Most of this unnecessary use is for acute respiratory conditions, such as colds, bronchitis, sore throats caused by viruses, and some sinus and ear infections.
Total inappropriate antibiotic use, which includes unnecessary antibiotic use plus inappropriate antibiotic selection, dosing, and duration, may approach 50% of all outpatient antibiotic use.
Improving antibiotic prescribing can reduce harm. **A 10% decrease in inappropriate prescribing in the community can result in a 17% reduction in *Clostridium difficile* infection.**

Inappropriate Outpatient Prescribing

“In the United States in 2010–2011, there was an estimated annual antibiotic prescription rate per 1,000 population of 506, but only an estimated 353 antibiotic prescriptions were likely appropriate, supporting the need for establishing a goal for outpatient antibiotic stewardship.”

30% = appropriate

The Pressure to Prescribe

- Veterans Affairs Western New York Healthcare System
- Urinary tract infections (UTIs), bronchitis, skin structure infections, and sinusitis
- 80% of unnecessary drug use from four antibiotics:
  - Azithromycin
  - Ciprofloxacin
  - Amoxicillin/Clavulanate
  - Cephalexin

The Death of Antibiotics: We’re Running Out of Effective Drugs to Fight Off an Army of Superbugs

David H. Freedman
• Microbes evolve at a very rapid rate
  – **Human women** need approximately **15 years** to mature to produce offspring
  – **Microbes** like *E. coli* reproduce every **20 minutes**

• Microbes can experience enormous evolutionary change within a **few years**
  – Similar change for humans would take **millions of years**

• New antibiotic to market
  – **Resistance** will emerge within approximately **1 year**
• Pharmaceutical antibiotic development
  – Approximate cost per drug = $2 billion
  – Approximate time to develop = 10 years

• Antimicrobial stewardship goals
  – Infrequent use = Less is more!
  – Shorter duration = Shorter is better!

What Is the ASC’s Role in Antimicrobial Stewardship?
CDC: Core Elements of Outpatient Antimicrobial Stewardship

Commitment

Action for Policy & Practice

Tracking & Reporting

Education & Expertise
Overview of the CDC’s Core Elements of Outpatient Antibiotic Stewardship

**Commitment:** Demonstrate dedication to and accountability for optimizing antibiotic prescribing and patient safety.

**Action for policy and practice:** Implement at least one policy or practice to improve antibiotic prescribing, assess whether it is working, and modify as needed.

**Tracking and reporting:** Monitor antibiotic prescribing practices and offer regular feedback to clinicians, or have clinicians assess their own antibiotic use.

**Education and expertise:** Provide educational resources to clinicians and patients on antibiotic prescribing and ensure access to needed expertise on antibiotic prescribing.

Surgical Site Infections (SSIs)
CDC: SSI Prevention Guidelines

- **Hair removal**
  - Clipping not shaving.
  - Not in operating room!
- **Pre-op skin cleansing**
  - Chlorhexidine gluconate (CHG) based products.
- **Hand hygiene**
  - Everyone, even the circulator!
- **Surgical site skin prep**
  - Alcohol/CHG-based products for extended persistence.
- **Blood glucose monitoring**
- **Safe injection practices**
  - Disinfect the tops of med vials
  - One and Only Campaign
- **Antibiotic stewardship**
  - HSAG checklist for ASCs
- **Environmental cleaning**
  - Are staff trained?
  - Is there any monitoring of their processes?
- **Instrument sterilization**
  - Biological indicators (BI), chemical indicators (CI), failure plans
- **High-level disinfection**
  - Pre-cleaning
  - Is there an annual staff training? (This is not vendor in-services!)
- **Post-op patient instructions**
  - CDC patient handout on SSI reduction at discharge

The Joint Commission
Proposed New Requirements for Antimicrobial Stewardship
CMS Infection Prevention Program Requirements

- Must have an **infection prevention program**
  - Must have a designated staff member who is trained in infection prevention

- Must follow **nationally recognized guidelines**
  - CDC
  - Association for periOperative Registered Nurses (AORN)
  - APIC
CMS ASC Infection Control Surveyor Worksheet
# Exhibit 351

**Ambulatory Surgical Center (ASC) Infection Control Surveyor Worksheet**


Name of State Agency or AO (please specify)

Instructions: The following is a list of items that must be assessed during the on-site survey, in order to determine compliance with the infection control condition for coverage. Items are to be assessed primarily by surveyor observation, with interviews used to provide additional confirming evidence of observations. In some cases information gained from interviews may provide sufficient evidence to support a deficiency citation.

The interviews and observations should be performed with the most appropriate staff person(s) for the items of interest (e.g., the staff person responsible for sterilization should answer the sterilization questions). A minimum of one surgical procedure must be observed during the site visit. The surveyor(s) must identify at least one patient and follow that case from registration to discharge to observe pertinent practices. Facilities that perform brief procedures, e.g., colonoscopies, it is preferable to follow at least two cases. When performing interviews and observations, any single instance of a breach in infection control would constitute a breach for that practice.

Citation instructions are provided throughout this instrument, indicating the applicable regulatory provision to be cited on the Form CMS-2567 when deficient practices are observed.

## PART 1 – ASC CHARACTERISTICS

1. ASC Name
   
2. Address, State and Zip Code
   
3. 10-digit CMS Certification Number
   
4. What year did the ASC open for operation?
   
5. Please list date(s) of site visit:
   
6. What was the date of the most recent previous federal (CMS) survey:
   
7. Does the ASC participate in Medicare via accredited “deemed” status?  
   - YES
   - NO

7a. If YES, by which CMS-recognized accreditation organization(s)?
   - Accreditation Association for Ambulatory Health Care (AAAHC)
   - American Associate for Accred. of Ambulatory Surgery Facilities (AAAASF)
   - American Osteopathic Association (AOA)
   - The Joint Commission (TJC)
### 14. Please indicate how the following services are provided: (fill in all that apply)

<table>
<thead>
<tr>
<th>Service</th>
<th>Contract</th>
<th>Employee</th>
<th>Other</th>
<th>If Other, Please Print</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anesthesia/Analgesia</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Environmental Cleaning</td>
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<tr>
<td>Linen</td>
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<tr>
<td>Nursing</td>
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<tr>
<td>Pharmacy</td>
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<tr>
<td>Sterilization/Reprocessing</td>
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<tr>
<td>Waste Management</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

### INFECTION CONTROL PROGRAM

15. Does the ASC have an explicit infection control program?

- [ ] YES
- [ ] NO

**NOTE:** If the ASC does not have an explicit infection control program, a condition-level deficiency related to 42 CFR 418.51 must be cited.

16. Does the ASC’s infection control program follow nationally recognized infection control guidelines?

- [ ] YES
- [ ] NO

**NOTE:** If the ASC does not follow nationally recognized infection control guidelines, a deficiency related to 42 CFR 418.51(b) must be cited. Depending on the scope of the lack of compliance with national guidelines, a condition-level citation may also be appropriate.

16a. Is there documentation that the ASC considered and selected nationally-recognized infection control guidelines for its program?

- [ ] YES
- [ ] NO

**NOTE:** If the ASC cannot document that it considered and selected specific guidelines for use in its infection control program, a deficiency related to 42 CFR 418.51(b) must be cited. This is the case even if the ASC’s infection control practices comply with generally accepted standards of practice/national guidelines. If the ASC neither selected any nationally recognized guidelines nor complies with generally accepted infection control standards of practice, then the ASC should be cited for a condition-level deficiency related to 42 CFR 418.51.
<table>
<thead>
<tr>
<th>Question</th>
<th>Options</th>
</tr>
</thead>
</table>
| 16b. If YES to (a), which nationally-recognized infection control guidelines has the ASC selected for its program? (Select all that apply) | - CDC/HICPAC Guidelines:  
  - Guideline for Isolation Precautions (CDC/HICPAC)  
  - Hand hygiene (CDC/HICPAC)  
  - Disinfection and Sterilization in Healthcare Facilities (CDC/HICPAC)  
  - Environmental Infection Control in Healthcare Facilities (CDC/HICPAC)  
- Perioperative Standards and Recommended Practices (AORN)  
- Guidelines issued by a specialty surgical society / organization (List)  
  Please specify (please limit to the space provided):  
- Others  
  Please specify (please limit to the space provided): |
| 17. Does the ASC have a licensed health care professional qualified through training in infection control and designated to direct the ASC’s infection control program? | - YES  
- NO |
| **NOTE:** If the ASC cannot document that it has designated a qualified professional with training (not necessarily certification) in infection control to direct its infection control program, a deficiency related to 42 CFR 416.51(b)(1) must be cited. Lack of a designated professional responsible for infection control should be considered for citation of a condition-level deficiency related to 42 CFR 416.51. |
| 17a. If YES, is this person an: (Select only ONE bubble) | - ASC employee  
- ASC contractor |
| 17b. Is this person certified in infection control (i.e., CIC) | - YES  
- NO |
| (Note: §416.50(b)(1) does not require that the individual be certified in infection control.) |
| 17c. If this person is NOT certified in infection control, what type of infection control training has this person received? |  |
| 17d. On average, how many hours per week does this person spend in the ASC directing the infection control program? |  hours per week |
| (Note: §416.51(b)(1) does not specify the amount of time the person must spend in the ASC directing the infection control program, but it is expected that the designated individual spends sufficient time on-site directing the program, taking into consideration the size of the ASC and the volume of its surgical activity.) |

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The Solution: Implementing a Targeted Approach
1.0 Implementation

- Most ASCs have a **consulting pharmacist** who reviews medication use, rounds quarterly, and reports findings to the Medical Executive Committee.
  - Be sure to add antimicrobial review to list of tasks.
- Most ASCs have **minimal use of antimicrobials** for treatment.
  - This means that the list to review won’t be very long!
- Most ASCs have **medical staff leaders** who want to keep the facility open and do well during regulatory surveys.
  - Keep track of this work in meeting minutes!

*With these elements in place, the framework for antimicrobial stewardship already exists.*
HSAG Antimicrobial Stewardship Checklist for ASCs

Created in a step-wise fashion so ASCs can build their program from the foundation.

1. Leadership Support
2. Accountability
3. Policies
4. Interventions to Improve Antibiotic Use
5. Education
HSAG Antimicrobial Stewardship Checklist for ASCs (cont.)

Antimicrobial Stewardship Checklist for Ambulatory Surgery Centers (ASCs)

**Leadership Support**
1. Does your facility have a formal, written statement of support from leadership that supports efforts to improve antimicrobial use (antimicrobial stewardship)?
   - Yes
   - No

2. Does your facility receive any budgeted financial support for antimicrobial stewardship activities (e.g., support for salary, training, or IT support)?
   - Yes
   - No

**Accountability**
3. Is there a physician leader responsible for program outcomes of stewardship activities at your facility?
   - Yes
   - No

4. Is there a pharmacist leader responsible for working to improve antimicrobial use at your facility?
   - Yes
   - No

**Policies**
5. Does your facility have a policy that requires prescribers to document in the medical record or during order entry a dose, duration, and indication for all antimicrobial prescriptions?
   - Yes
   - No

6. Does your stewardship program monitor adherence to the policy (such as by monitoring dose, duration, and indication)?
   - Yes
   - No

7. Does your facility have facility-specific treatment recommendations, based on national guidelines and local susceptibility, to assist with antimicrobial selection for common clinical conditions?
   - Yes
   - No

8. Does your stewardship program monitor adherence to facility-specific treatment recommendations?
   - Yes
   - No

**Interventions to Improve Antibiotic Use**
9. Do specified antimicrobial agents need to be approved by a physician or pharmacist prior to dispensing (i.e., pre-authorization) at your facility?
   - Yes
   - No

10. Does a physician or pharmacist review courses of therapy for specified antimicrobial agents (i.e., prospective audit with feedback) at your facility?
    - Yes
    - No

**Education**
11. Does your stewardship program provide education to clinicians and other relevant staff members on improving antimicrobial prescribing?
    - Yes
    - No

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This material was adapted from Health Services Advisory Group; the Medicare Quality Improvement Organizations: California, under contract with the Centers for Medicare & Medicaid Services (CMS), an agency of the U.S. Department of Health and Human Services, from material originally prepared by the Centers for Disease Control and Prevention (CDC). The contents presented do not necessarily reflect CDC policy. Publication No. CA-LHSAG-15-06-01-00.
2.0 Monitoring Treatment

• Tracking basic use
  – Which antibiotic is the most frequently used?
  – Why was it chosen?
  – What is the indication for use?

• Duration
  – Why did the surgeon prescribe it for 14 days?

• Drug-Bug mismatch
  – Example: Vancomycin used to treat a wound infection for a patient with a history of Vancomycin resistant enterococcus (VRE).

Which guidelines are followed to make these decisions?

Monitoring Treatment (cont.)

• Discuss prescribing profiles at medical staff member committees
  – Peer pressure and competition can help!

• Leadership approval for certain antimicrobials
  – This can be used to refine use and set facility standards.

*Which guidelines are followed to make these decisions?*

3.0 Treatment Guidelines

  - The references in this document highlight key papers from the past 15-plus years.

- IDSA Practice Guidelines. Available at: https://www.idsociety.org/PracticeGuidelines/?q=&ref=journalyear%3B%5B2018+TO+2018%5D%3BYear%2C#/date_na_dt/DESC/0/+/
  - This list is based on topic. Click the “view alphabetical list of guidelines” link.

  - This is an older document and was used to help develop guidelines for hospitals. We used it to inform HSAG’s checklist.
3.0 Treatment Guidelines (cont.)


- **Sanford Guide.** Available at: [https://www.sanfordguide.com/](https://www.sanfordguide.com/).
  - Most clinical environments will have at least one copy of these guidelines.
References


References (cont.)


Angela Vassallo, MPH, MS, CIC, FAPIC,
Clinical Improvement Advisor, Infection Prevention, HSAG
480.287.3655 | avassallo@hsag.com