ANTIBIOTIC STEWARDSHIP FOR LONG TERM CARE FACILITIES
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OBJECTIVES

1. Define Antibiotic Stewardship Programs
2. Recall two key components of CMS F881, Antibiotic Stewardship Program
3. Describe CDC Core Elements of Antibiotic Stewardship in Nursing Homes
4. Explore tools for assessing residents for infection, interpreting antibiograms, measures of use.
ANTIBIOTIC STEWARDSHIP PROGRAM (F881)

Antibiotic Stewardship Program (F881) will be surveyed in Phase 2, effective November 28, 2017.

§483.80(a) Infection prevention and control program.

• The facility must establish an infection prevention and control program (IPCP) that must include, at a minimum, the following elements:

• §483.80(a)(3) An antibiotic stewardship program that includes antibiotic use protocols and a system to monitor antibiotic use.
WHAT IS ANTIBIOTIC STEWARDSHIP?

• The act of using antibiotics appropriately—that is, using them only when truly needed and using the right antibiotic for each infection.

• It is called "stewardship" because it protects the effectiveness of the most important tool we have to fight life-threatening bacterial infections: antibiotics.

• The Alliance for the Prudent Use of Antibiotics states: "Antibiotics are uniquely societal drugs because individual use affects others in the community and environment..."
WHAT HAPPENS WHEN WE ARE NOT GOOD STEWARDS OF ANTIBIOTICS?

• Antibiotic resistance occurs when bacteria adapt so that the drugs used to treat infections are less effective or do not work at all.

• Some bacteria (MSRA, VRE, CRE) have become resistant to multiple types of antibiotics, making infections harder to treat.

• Increased antibiotic use increases the risk for health care-associated infections, such as *Clostridium difficile* infections, to emerge in the nursing home.
EXECUTIVE SUMMARY

• Antibiotics now save millions of lives each year
• Rise of antibiotic-resistant strains represent a serious threat to public health and economy
• CDC estimates, antibiotic resistance causes at least two million illnesses and 23,000 deaths in US annually
REALITY

- Antibiotics are among the most frequently prescribed medications in nursing homes
- Up to 70% of residents receive one or more courses of systemic antibiotics
- Studies have shown that 40-75% of antibiotics may be unnecessary or inappropriate

*CDC Core Elements of Hospital Antibiotic*
REALITY

• Harms from antibiotic overuse may be significant for the frail and older adults in long term care facilities

• May include:
  
  • Risk of serious diarrheal infections from *Clostridium difficile*
  
  • Increased adverse drug events
  
  • Increased drug interactions
  
  • Potential for colonization and/or infection with antibiotic-resistant organisms.
FACTORS AFFECTING UNNECESSARY ANTIBIOTIC PRESCRIBING

- Prescribers treating nursing home residents depend on someone else's assessment.
- Difficulty obtaining lab data
- Older adults with multiple co-morbidities, may not be reliable historians, may have vague symptoms
TEN CLINICAL SITUATIONS IN LONG-TERM CARE FOR WHICH ANTIBIOTICS ARE OFTEN PRESCRIBED BUT RARELY NECESSARY

<table>
<thead>
<tr>
<th>Urinary Tract Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive urine culture/asymptomatic patient</td>
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<tr>
<td>Urinalysis/culture for malodorous urine</td>
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<tr>
<td>Non-specific symptoms (poor appetite, agitation, etc.,)</td>
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</table>

<table>
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<tr>
<th>Respiratory Tract Conditions</th>
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<tbody>
<tr>
<td>Upper respiratory infections (Generally caused by viral pathogens)</td>
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<tr>
<td>Bronchitis absent COPD</td>
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<tr>
<td>Suspected/confirmed influenza</td>
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<tr>
<td>Respiratory Symptoms/terminal patient</td>
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<table>
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<tr>
<th>Skin</th>
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<tr>
<td>Skin wounds without cellulitis (absence of infection)</td>
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<tr>
<td>Localized abscess (Benefit from I&amp;D)</td>
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<tr>
<td>Decubitus ulcer in terminal patient (focus on comfort care)</td>
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</table>
CORE ELEMENTS FOR ANTIBIOTIC STEWARDSHIP IN LONG TERM CARE FACILITIES (CDC)

Leadership Commitment

• Write statements that support improving antibiotic use

• Include stewardship-related duties in job descriptions and annual performance reviews

• Ensure staff are given sufficient time to contribute to stewardship activities

• Support training and education

• Ensure participation from the many groups that can support stewardship activities
CORE ELEMENTS FOR ANTIBIOTIC STEWARDSHIP IN LONG TERM CARE FACILITIES (CDC)

➢ Accountability
  • Empower staff (Medical Director, DON, consultant pharmacist, IP etc.,)

➢ Drug Expertise
  • Identify consultant Pharmacist
  • Develop relationships with infectious disease experts and other ASPs

➢ Action
  • Take action through policy and practice change to improve use
CORE ELEMENTS FOR ANTIBIOTIC STEWARDSHIP IN LONG TERM CARE FACILITIES

- **Tracking and Reporting**
  - Process measures
    - How and why antibiotics are prescribed
  - Antibiotic use measures
    - How often and how many
  - Antibiotic outcome measures
    - Adverse outcomes and cost

- **Education**
  - Clinicians, nursing staff, residents, and families

F-TAG 881 CMS NURSING HOME ASP REGULATIONS

• Regulations requiring an antibiotic stewardship program (ASP) that includes:
  - Antibiotic use protocols,
  - System to monitor antibiotic use,
  - Education for prescribing practitioners, residents and nursing staff
  - Be reviewed on an annual basis and as needed

• Effective: November 28, 2017
  - 42 C.F.R 483.80(a)(3) Infection Control
NURSING HOME ANTIMICROBIAL STEWARDSHIP GUIDE

Agency for Healthcare Research and Quality
Advancing Excellence in Health Care

Provides toolkits to help nursing homes optimize their use of antibiotics.  https://www.ahrq.gov/nhguide/index.html

Nursing Home Antimicrobial Stewardship Guide

Overview of the Guide
The Nursing Home Antimicrobial Stewardship Guide provides toolkits to help nursing homes optimize their use of antibiotics.

Browse Antimicrobial Stewardship Toolkits
Toolkits on four topic areas are available.

Implement, Monitor, and Sustain a Program
Two toolkits help nursing homes start and maintain antimicrobial stewardship programs.
AHRQ’S ASP GUIDE

Sections of the AHRQ Guide

I. Implement, Monitor, and Sustain an Antimicrobial Stewardship Program

II. Determine Whether it is Necessary to Treat Potential Infections With Antibiotics

III. Help Prescribing Clinicians Choose the Right Antibiotics

IV. Educate and Engage Residents and Family Members
AHRQ SBAR TOOL: MINIMUM CRITERIA FOR ANTIBIOTICS

- Tool is a web app with a diagnostic guidance tool for prescribing clinicians—to improve the use of antibiotics for three common infections. (http://nhguide.airprojects.org/tool3)
In this example, select "no indwelling catheter".

Resident does not have acute dysuria. Select "No".

Resident does not have temperature >99 F. Select "No".
 Residents have urgency but none of the other symptoms.

Based on evidence-based algorithm, criteria for initiating antibiotics is NOT MET. Alternative approaches suggested:
- Encourage liquid intake daily until urine is light yellow in color (suggest an amount and duration).
- Record fluid intake (suggest frequency and duration).
- Assess vital signs, including temp (suggest frequency and duration).
- Request notification if symptoms worsen or if unresolved (suggest duration).
AHRQ TOOL 2: SUSPECTED UTI SBAR

• The Suspected UTI Situation, Background, Assessment, and Request (SBAR) toolkit helps nursing home staff and prescribing clinicians communicate about suspected UTIs and facilitates appropriate antibiotic prescribing.

• Suspected UTI SBAR form consists of questions that help nurses collect the most relevant information about a resident with a suspected UTI for the prescribing clinician, who then uses the information to assess the need for an antibiotic prescription.
Complete this form before contacting the resident’s physician.

Nursing Home Name ____________________________ Date/Time ________________

Resident Name ____________________________ Date of Birth ________________

Physician/NP/PA ____________________________ Phone ________________

Fax ________________

Nurse ____________________________ Facility Phone ________________

Submitted by □ Phone □ Fax □ In Person □ Other ________________

S Situation

I am contacting you about a suspected UTI for the above resident.

Vital Signs BP _______ / _______ HR _______ Resp. rate _______ Temp. _______

B Background

Active diagnoses or other symptoms (especially, bladder, kidney/genitourinary conditions)

Specify ____________________________

☐ No ☐ Yes The resident has an indwelling catheter

☐ No ☐ Yes Patient is on dialysis

☐ No ☐ Yes The resident is incontinent If yes, new/worsening? ☐ No ☐ Yes

☐ No ☐ Yes Advance directives for limiting treatment related to antibiotics and/or hospitalizations

Specify ____________________________

☐ No ☐ Yes Medication Allergies

Specify ____________________________

☐ No ☐ Yes The resident is on Warfarin (Coumadin®)
A Assessment Input (check all boxes that apply)

Resident WITH indwelling catheter
The criteria are met to initiate antibiotics if one of the below are selected

No Yes
☐ ☐ Fever of 100°F (38°C) or repeated temperatures of 99°F (37°C)*
☐ ☐ New back or flank pain
☐ ☐ Acute pain
☐ ☐ Rigors/shaking chills
☐ ☐ New dramatic change in mental status
☐ ☐ Hypotension (significant change from baseline BP or a systolic BP <90)

Resident WITHOUT indwelling catheter
Criteria are met if one of the three situations are met

No Yes
☐ ☐ 1. Acute dysuria alone

☐ ☐ OR
☐ ☐ 2. Single temperature of 100°F (38°C) and at least one new or worsening of the following:
   ☐ ☐ urgency
   ☐ ☐ frequency
   ☐ ☐ suprapubic pain
   ☐ ☐ back or flank pain
   ☐ ☐ gross hematuria
   ☐ ☐ urinary incontinence

☐ ☐ OR
☐ ☐ 3. No fever, but two or more of the following symptoms:
   ☐ ☐ urgency
   ☐ ☐ suprapubic pain
   ☐ ☐ frequency
   ☐ ☐ gross hematuria
   ☐ ☐ incontinence

Nurses: Please check box to indicate whether or not criteria are met
☐ Nursing home protocol criteria are met. Resident may require UA with C&S or an antibiotic.†
☐ Nursing home protocol criteria are NOT met. The resident does NOT need an immediate prescription for an antibiotic, but may need additional observation.††

R Request for Physician/NP/PA Orders

Orders were provided by clinician through ☐ Phone ☐ Fax ☐ In Person ☐ Other _______________
☐ Order UA
☐ Urine culture
☐ Encourage _______ ounces of liquid intake ________ times daily until urine is light yellow in color.
☐ Record fluid intake.
☐ Assess vital signs for _______ days, including temp. every _______ hours for _______ hours.
☐ Notify Physician/NP/PA if symptoms worsen or if unresolved in _______ hours.

☐ Initiate the following antibiotic
   Antibiotic: __________________ Dose: __________ Route: __________ Duration: __________
   ☐ No ☐ Yes Pharmacist to adjust for renal function
   ☐ Other ______________________________

Physician/NP/PA signature _______________ Date/Time _______________
Telephone order received by _______________ Date/Time _______________
Family/POA notified (name) _______________ Date/Time _______________

* For residents that regularly run a lower temperature, use a temperature of 2°F (1°C) above the baseline as a definition of a fever.
† This is according to our understanding of best practices and our facility protocols. Minimum criteria for a UTI must meet 1 of 3 criteria listed in box.
†† This is according to our understanding of best practices and our facility protocols. The information is insufficient to indicate an active UTI infection.
Implementing the toolkit involves four steps.

1. Introduce the Suspected UTI SBAR form to prescribing practitioners (Tool 1)
2. Clinician Letter: A template for a letter to prescribing clinicians explaining the form and its rationale (Tool 2)
3. Introduce the tools to nurses (Tool 4)
4. Incorporate tools into daily practice (Tool 3)
F881 states that Antibiotic Stewardship Program must include:
1) Antibiotic use protocols and
2) System to monitor antibiotic use

Appendix PP, F881 states, A system of reports related to monitoring antibiotic usage and resistance data may include:

• Summarizing antibiotic resistance (e.g., antibiogram) based on laboratory data from, for example, the last 18 months.

• In the new LTC survey Infection Control Care Pathway, Antibiogram is also referenced.
WHAT IS AN ANTIBIOGRAM?

• A tool that presents specific nursing home facility microbiologic sensitivity data to assist prescribing clinicians to choosing the right antibiotic.

• Facility can ask lab partner to help develop antibiogram.

• A report that displays the organisms present in diagnostic clinical specimens that nursing homes send for laboratory testing—aggregated across all residents suspected of having an infection during a certain time period—along with the susceptibility of each organism to various antibiotics.
Step-by-Step Guide to Working With a Laboratory To Obtain an Antibiogram:

1. Contact the nursing home’s lab to inquire about creating an antibiogram - use at least 12 months of culture data

2. Make an agreement with the lab to create an antibiogram, if needed (see sample Tool 3)

3. Establish the specifications for the antibiogram - lab creates the antibiogram in accordance with quality standards as established by the Clinical and Laboratory Standards Institute (CLSI) guideline number M39 (see www.clsi.org)

4. Specify the format of the antibiogram (see sample Tool 4)
### Example of Antibiogram report

#### Gram Negative

<table>
<thead>
<tr>
<th>Antibiotic Tested</th>
<th>Escherichia coli</th>
<th>Klebsiella pneumoniae</th>
<th>Proteus mirabilis</th>
<th>Pseudomonas aeruginosa</th>
</tr>
</thead>
<tbody>
<tr>
<td># of isolates‡</td>
<td>165</td>
<td>75</td>
<td>39</td>
<td>33</td>
</tr>
</tbody>
</table>

#### Oral or Oral Equivalent

<table>
<thead>
<tr>
<th>Antibiotic</th>
<th>Oral or Oral Equivalent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ampicillin</td>
<td>46%</td>
</tr>
<tr>
<td>Amox / Clav</td>
<td>77%</td>
</tr>
<tr>
<td>Cefazolin</td>
<td>70%</td>
</tr>
<tr>
<td>Cefotaxin</td>
<td>82%</td>
</tr>
<tr>
<td>Ceftriaxone</td>
<td>85%</td>
</tr>
<tr>
<td>Ciprofloxacin</td>
<td>58%</td>
</tr>
<tr>
<td>Levofloxacin</td>
<td>59%</td>
</tr>
<tr>
<td>Nitrofurantoin</td>
<td>100%</td>
</tr>
<tr>
<td>TMP / SMX</td>
<td>64%</td>
</tr>
<tr>
<td>Tetracycline</td>
<td>64%</td>
</tr>
<tr>
<td>Oxacillin</td>
<td>100%</td>
</tr>
<tr>
<td>Clindamycin</td>
<td>50%</td>
</tr>
<tr>
<td>Erythromycin</td>
<td>50%</td>
</tr>
<tr>
<td>Linezolid</td>
<td>100%</td>
</tr>
</tbody>
</table>

### Gram Positive

<table>
<thead>
<tr>
<th></th>
<th>Staphylococcus aureus non-MRSA</th>
<th>Staphylococcus aureus MRSA †</th>
<th>Staphylococcus coag. Neg</th>
<th>Enterococcus sp</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral or Oral Equivalent</td>
<td>10*</td>
<td>35</td>
<td>18</td>
<td>68</td>
</tr>
</tbody>
</table>

* Organisms with fewer than 30 isolates should be interpreted with caution, as small numbers may bias the group susceptibilities

† MRSA - Methicillin-resistant Staph aureus, represents a subset of all Staph aureus isolates

‡ N= pooled isolates by species from urine, wound, sputum and blood specimens

**Abbreviations**: PIP/TAZ = Piperocillin/Tazobactam; TMP/SMX= Trimethoprim/sulfamethoxazole ;Amox/Clav = Amoxicilin/Clavunate

Please direct questions to: [Insert program champion name, phone, e-mail]
THE NURSING HOME ANTIBIIOGRAM PROGRAM

TOOLKIT 3

Phase 2. Development

https://www.ahrq.gov/sites/default/files/wysiwyg/nhguide/5_TK2_P2O-Comprehensive_Antibiogram_Toolkit_Phase_2_Development.pdf

- Nursing Home/Clinical Laboratory Communication
  - The Antibiogram Program: Sample Letter of Agreement (Word only)
  - The Antibiogram Program: Sample Data Request (Word only)
  - The Antibiogram Program: Antibiogram Specifications
    https://www.ahrq.gov/sites/default/files/wysiwyg/nhguide/5_TK2_P2T3-Antibiogram_Specifications_Phase_2.pdf

- Antibiogram Development
  - The Antibiogram Program: Antibiogram Development Tool Workbook (Excel)
  - The Antibiogram Program: Sample Laboratory Data Print Out (Word only)
  - The Antibiogram Program: Checklist for Identifying Nursing Home-Specific Antibiogram Modifications
    https://www.ahrq.gov/sites/default/files/wysiwyg/nhguide/5_TK2_P2T7-Checklist_for_Identifying_Nursing_Home_Specific_Antibiogram_Modifications_Phase_2.pdf

- The Antibiogram Program: Sample Antibiogram
  https://www.ahrq.gov/sites/default/files/wysiwyg/nhguide/5_TK2_P2T8-Sample_Antibiogram_Phase_2.pdf
EXAMPLE REPORTS FOR MONITORING ANTIBIOTIC USAGE & RESISTANCE DATA

Reports to prescribers, providers and staff could include data on:

• Compliance with antibiotic use protocols based on review of medical records;

• Prescription documentation including the indications for use, dosage, and duration; and the clinical justification for the use of an antibiotic beyond the initial duration order;

• Summarizing antibiotic use from pharmacy data such as the rate of new starts to types of antibiotics prescribed;

• Summarizing antibiotic resistance based on laboratory data and tracking measures of outcomes related to antibiotic use. For example, infections from clostridium difficile and multi drug resistant organisms.
MCKNIGHT’S LTC NEWS

• Antibiotic use has to be tracked, and not only through a prevalence survey.

• Clinical management should know when antibiotics start and how days of therapy are calculated.

• Interventions related to antibiotics need to be documented.
## Tool 2. Antibiotic Use Tracking Sheet [8.5x11 format, simplified]

<table>
<thead>
<tr>
<th>Patient Identifier</th>
<th>Room #</th>
<th>Admit Date</th>
<th>Admit From</th>
<th>Onset Date</th>
<th>Type of Infection</th>
<th>Signs &amp; Symptoms</th>
<th>Indicate Diagnostic Tool Used and Whether Criteria Were Met</th>
<th>HAI/CAI/NHAI/Other Nosocomial*</th>
<th>X-ray or Lab Results (organism identified)</th>
<th>Prescribing Clinician (PC)</th>
<th>Prescription Date and Duration</th>
<th>Antibiotic Name</th>
<th>Dose</th>
</tr>
</thead>
</table>

CAI = community-acquired infection; HAI = hospital-acquired infection; NHAI = nursing home-acquired infection; Other Nosocomial = acquired in another health care setting

AHRQ Pub. No. 17-0006-2-EF
October 2016
Summary Report of Infections and Antibiotic Use
(This example focuses on data for evaluating antibiotic use for suspected UTIs)

<table>
<thead>
<tr>
<th>Month</th>
<th>Number of Resident Days</th>
<th>Number of Antibiotic Rx</th>
<th>Number of Antibiotic Rx Divided by Number of Resident Days</th>
<th>Number of Residents Receiving Antibiotics for UTI (incl. Repeats)</th>
<th>Number of UTI SBAR Forms Used</th>
<th>Number of UTIs That Met Diagnostic Criteria</th>
<th>Number of Negative Cultures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan</td>
<td>2,790 (90 residents x 31 days)</td>
<td>3</td>
<td>3/2790 x 1000 = 1.1</td>
<td>3</td>
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</table>
Percent of residents receiving antibiotics (time):

\[
\text{Number of residents on antibiotic} \times 100 \\
\text{Total number of residents in the facility}
\]

(\textit{Can be stratified by specific characteristics....long versus short stay})

OR

Percent of new admissions receiving antibiotics:

\[
\text{Number of residents admitted on antibiotic} \times 100 \\
\text{Total number of new admissions}
\]
Rate of New Antibiotic Starts (in LTCF):
Number of new antibiotic prescriptions
Total number of resident days x 1000
(Can be stratified by indication....UTI for example)

OR

Rate of New Antibiotic Start by Provider:
Number of prescriptions by provider
Total number of new admissions (by prescriber) x 1000
Rate of Antibiotic DOT:
Total monthly DOT
Total monthly resident days x 1000

OR

Antibiotic Utilization Ratio:
Total monthly DOT
Total Monthly resident days
TOOL 6- QUARTERLY OR MONTHLY PRESCRIBING PROFILE

An example of how to communicate results to prescribing practitioner

<table>
<thead>
<tr>
<th>Resident Name</th>
<th>Infection Type/ Diagnosis</th>
<th>Last Treated</th>
<th>Organism Identified</th>
<th>Rx Date</th>
<th>Rx Duration</th>
<th>Antibiotic Name</th>
<th>Dose</th>
<th>Met Minimum Criteria</th>
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SPICE
AHRQ SECTION 4 EDUCATE CLINICIANS, STAFF AND RESIDENTS

• Facility must provide educational resources and materials about antibiotic resistance and opportunities for improving antibiotic use to include:
  • Prescribing practitioners (MD, NP, PA, Pharm D)
  • Nursing staff (RN, LPN, CNA)
  • Residents and representatives
EDUCATING RESIDENTS AND FAMILY

- *Residents Talking Points* is for nurses to educate residents about antibiotics and encourage them to ask questions or report symptoms (Tool 1)
  - Long version
    [https://www.ahrq.gov/sites/default/files/wysiwyg/nhguide/6_TK1_T1-Talking_with_Residents_checklist_version_Final.docx](https://www.ahrq.gov/sites/default/files/wysiwyg/nhguide/6_TK1_T1-Talking_with_Residents_checklist_version_Final.docx)

- *Talking With Residents’ Family Members* provides similar talking points for nurses to use (Tool 2)
  - Long version
    [https://www.ahrq.gov/sites/default/files/wysiwyg/nhguide/6_TK1_T2_Talking_with_Residents_Family_Members_Final.docx](https://www.ahrq.gov/sites/default/files/wysiwyg/nhguide/6_TK1_T2_Talking_with_Residents_Family_Members_Final.docx)

- *Resident Information Sheet: Antibiotic-Resistant Bacteria* provides a template for informing and educating residents who test positive for a resistant organism (Tool 3)
EDUCATE CLINICIANS, STAFF, AND RESIDENTS

- *Be Smart About Antibiotics* is a handout that can be given to residents to provide basic information about antibiotics and their risks (Tool 4)

- *Suspect a Urinary Tract Infection?* Handout for residents to explain the risks associated with unnecessary antibiotic use to treat a suspected UTI (Tool 5)

- *Managing Resident and Family Expectations* provides a template to discuss the tools at a staff meeting (Tool 6)
SAMPLE EDUCATION TOOLS

Be Smart About Antibiotics

Taking antibiotics when you don’t need them is like leaving the lights on all the time.

- The lights may burn out, leaving you in the dark when you most need them.
- If you use antibiotics when you don’t need them, they may not work when you get sick.

Antibiotics can help the body fight infections caused by germs called bacteria, but they are not miracle drugs for everything.

When antibiotics are NOT needed:

- You have an infection caused by a virus (such as a cold, bronchitis, the flu, or most types of diarrhea). Antibiotics don’t work on viruses.
- You don’t have an infection but instead have some other medical problem (such as anemia).
- You are not actually sick (except in rare cases where antibiotics

Nursing Home Antimicrobial Stewardship Guide Determine Whether To Treat


Tool 4. Letter to Prescribing Clinicians on the Protocol for Three Common Infections

PRINTED ON NURSING HOME OR MEDICAL DIRECTOR’S STATIONERY

[DATE]

[PRESCRIBING CLINICIAN NAME]
RECIPIENT ADDRESS
CITY, STATE ZIP

Re: Change in protocol regarding three common infections and antibiotic stewardship

Dear Dr. Ms. Mr. [LAST NAME],

Based on clinical practice guidelines developed by nursing home, infectious disease, and geriatric experts, our facility has decided to modify its protocol around the three most common infectious syndromes treated in nursing homes—urinary tract infections (UTIs), skin and soft-tissue infections, and lower respiratory tract infections. We will use the Minimum Criteria for Common Infections toolkit. The tools seek to facilitate gathering critical information by nurses to communicate to prescribing clinicians and/or to enable prescribing clinicians to make decisions based on the most recent guidelines. The toolkit includes a Web-based application with
RESOURCES

- CDC Core Elements of Antibiotic Stewardship for Nursing Homes ([https://www.cdc.gov/longtermcare/pdfs/core-elements-antibiotic-stewardship.pdf](https://www.cdc.gov/longtermcare/pdfs/core-elements-antibiotic-stewardship.pdf))


- AHRQ SBAR UTI form ([https://www.ahrq.gov/sites/default/files/wysiwyg/nhguide/4_TK1_T1-SBAR_UTI_Final.pdf](https://www.ahrq.gov/sites/default/files/wysiwyg/nhguide/4_TK1_T1-SBAR_UTI_Final.pdf))

“Let us glory in living in a time when antibiotics can save us from death related to infection, but let us also recognize that they are not to be trifled with.”

Elizabeth Newman, McKnight’s LTC News.
QUESTIONS?