North Carolina SPICE Statewide Program for Infection Control & Epidemiology

ANTIBIOTIC STEWARDSHIP FOR LONG TERM CARE FACILITIES

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Statewide Program for Infection Control and Epidemiology (SPICE)

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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.

NATIONAL STRATEGY FOR COMBATING ANTIBIOTIC
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

NATIONAL STRATEGY FOR COMBATING ANTIBIOTIC - RESISTANT BACTERIA; September 2014
National Nursing Home Quality Improvement Campaign
Quality Improvement Organization (QIO)

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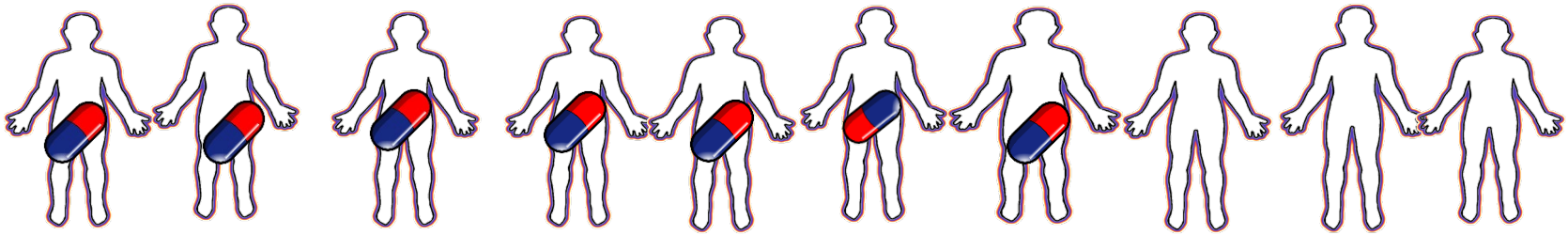
REALITY

- 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

Urinary Tract Conditions
Positive urine culture/asymptomatic patient
Urinalysis/culture for malodorous urine
Non-specific symptoms (poor appetite, agitation, etc.,)
Respiratory Tract Conditions
Upper respiratory infections (Generally caused by viral pathogens)
Bronchitis absent COPD
Suspected/confirmed influenza
Respiratory Symptoms/terminal patient
Skin
Skin wounds without cellulitis (absence of infection)
Localized abscess (Benefit from I&D)
Decubitus ulcer in terminal patient (focus on comfort care)

Issue: Volume 20 - Issue 4 - April 2012 - ALTC

Citation: Khandelwal C, Lathren C, Sloane P. Ten clinical situations in long-term care for which antibiotics are often prescribed but rarely necessary. *Annals of Long-Term Care: Clinical Care and Aging*. 2012;20(4):23-29.

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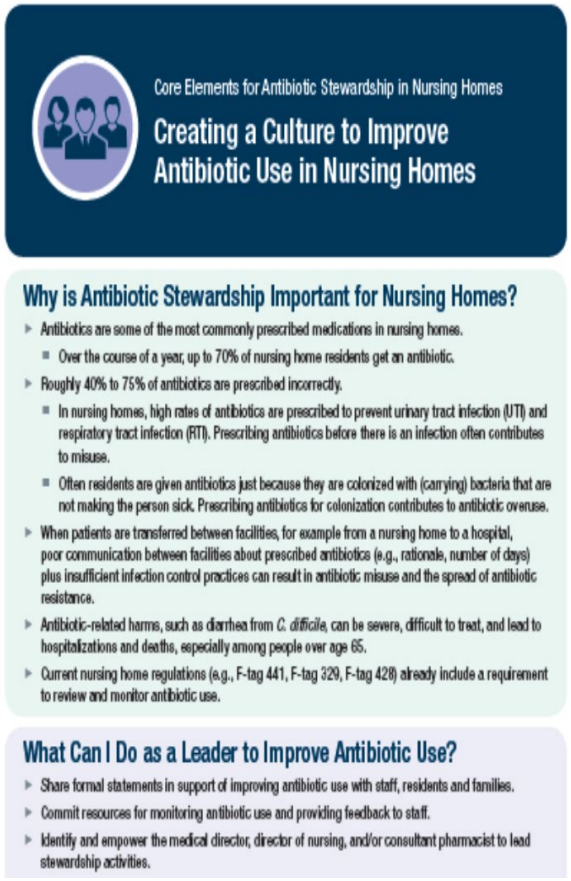
CORE ELEMENTS FOR ANTIBIOTIC STEWARDSHIP IN LONG TERM CARE FACILITIES (CDC)

➢ **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 Nursing Homes

Creating a Culture to Improve Antibiotic Use in Nursing Homes

Why is Antibiotic Stewardship Important for Nursing Homes?

- Antibiotics are some of the most commonly prescribed medications in nursing homes.
  - Over the course of a year, up to 70% of nursing home residents get an antibiotic.
- Roughly 40% to 75% of antibiotics are prescribed incorrectly.
  - In nursing homes, high rates of antibiotics are prescribed to prevent urinary tract infection (UTI) and respiratory tract infection (RTI). Prescribing antibiotics before there is an infection often contributes to misuse.
  - Often residents are given antibiotics just because they are colonized with (carrying) bacteria that are not making the person sick. Prescribing antibiotics for colonization contributes to antibiotic overuse.
- When patients are transferred between facilities, for example from a nursing home to a hospital, poor communication between facilities about prescribed antibiotics (e.g., rationale, number of days) plus insufficient infection control practices can result in antibiotic misuse and the spread of antibiotic resistance.
- Antibiotic-related harms, such as diarrhea from *C. difficile*, can be severe, difficult to treat, and lead to hospitalizations and deaths, especially among people over age 65.
- Current nursing home regulations (e.g., F-tag 441, F-tag 329, F-tag 428) already include a requirement to review and monitor antibiotic use.

What Can I Do as a Leader to Improve Antibiotic Use?

- Share formal statements in support of improving antibiotic use with staff, residents and families.
- Commit resources for monitoring antibiotic use and providing feedback to staff.
- Identify and empower the medical director, director of nursing, and/or consultant pharmacist to lead 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

Who are the Antibiotic Stewardship Leaders in Nursing Homes?

- Medical Director
- Director of Nursing
- Consultant Pharmacist

What are their Roles?

Medical Directors can:

- Set standards for antibiotic prescribing practices for all healthcare providers prescribing antibiotics.
- Oversee adherence to antibiotic prescribing practices.
- Review antibiotic use data and ensure best practices (e.g., the right drug at the right dose for the right amount of time) are followed.

Directors of Nursing can:

- Establish standards for nursing staff to assess, monitor and communicate changes in a resident's condition that could impact the need for antibiotics.
- Use their influence as nurse leaders to help ensure antibiotics are prescribed only when appropriate.
- Educate front line nursing staff about the importance of antibiotic stewardship and explain policies in place to improve antibiotic use.

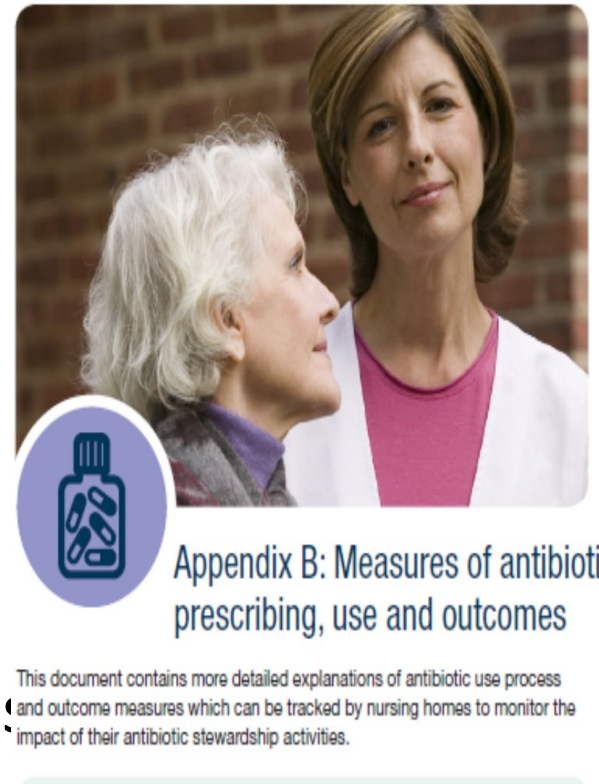
Consultant Pharmacists can:

- Provide education to staff about the different types of antibiotics and their uses.
- Review antibiotic prescriptions as part of the drug regimen review for new medications and ensure they are ordered appropriately.
- Establish laboratory testing protocols to monitor for adverse events and drug interactions related to use of antibiotics and other high risk medications.
- Review microbiology culture results and provide feedback to prescribers on

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

http://www.cdc.gov/longtermcare/pdfs/core-elements-antibiotic-stewardship-appendix-b.pdf



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

63688 Federal Register / Vol. 81, No. 192 / Tuesday, October 4, 2016 / Rules and Regulations

DEPARTMENT OF HEALTH AND HUMAN SERVICES

Centers for Medicare & Medicaid Services

42 CFR Parts 405, 431, 447, 482, 483, 485, 488, and 489

[CMS-3260-F]

RIN 0938-AR61

Medicare and Medicaid Programs; Reform of Requirements for Long-Term Care Facilities

AGENCY: Centers for Medicare & Medicaid Services (CMS), HHS.

ACTION: Final rule.

SUMMARY: This final rule will revise the requirements that Long-Term Care facilities must meet to participate in the Medicare and Medicaid programs. These changes are necessary to reflect the substantial advances that have been made over the past several years in the theory and practice of service delivery and safety. These revisions are also an integral part of our efforts to achieve broad-based improvements both in the quality of health care furnished through federal programs, and in patient safety, while at the same time reducing procedural burdens on providers.

DATES: Effective date: These regulations are effective on November 28, 2016.

Implementation date: The regulations included in Phase 1 must be implemented by November 28, 2016.

The regulations included in Phase 2 must be implemented by November 28, 2017.

The regulations included in Phase 3 must be implemented by November 28, 2019.

A detailed discussion regarding the different phases of the implementation timeline can be found in Section II. B "Implementation Date."

FOR FURTHER INFORMATION CONTACT: LTC Regulations Team, (410) 786-6633; Sheila Blackstock, Romisha Blackstone, Diane Corning, Lisa Parker.

SUPPLEMENTARY INFORMATION:

Acronyms

Because of the many terms to which we refer by acronym in this final rule, we are listing the acronyms used and their corresponding meanings in alphabetical order below:

AAA Area Agencies on Aging
ACL Administration for Community Living
ADL Activities of Daily Living
AHCA American Health Care Association
AHLA American Health Lawyers Association
ANSI American National Standards Institute
ASPE Assistant Secretary for Planning and Evaluation
BPSD Behavioral and Psychological Symptoms of Dementia
CASPER Certification and Survey Provider Enhanced Reports
CIL Centers for Independent Living
CLIA Clinical Laboratory Improvement Amendment
CMS Centers for Medicare & Medicaid Services
CNS Clinical Nurse Specialist
CPR Cardiopulmonary Resuscitation
DoN Director of Nursing
EHR Electronic Health Records
FDA Food and Drug Administration
GAO Government Accountability Office
HACCP Hazard Analysis and Critical Control Point
HAI Healthcare-Associated Infection
HHS U.S. Department of Health and Human Services
HIPAA Health Insurance Portability and Accountability Act of 1996
ICN International Council of Nurses
IDT Interdisciplinary Team
IG Interpretive Guidance
IP Infection Preventionist
IPCP Infection Prevention and Control Program
LSC Life Safety Code
LTC Long-Term Care
NATCEP Nurse Aide Training Competency Evaluation Program
MAR Medication Administration Record
MDS Minimum Data Set
NA Nurse Aide
NF Nursing Facility
NP Nurse Practitioner
OIG Office of the Inspector General
OMB Office of Management and Budget
ONC Office of the National Coordinator
PA Physician Assistant
PASARR Preadmission Screening and Resident Review
PIPs Performance Improvement Projects
PEG Percutaneous Endoscopic Gastrostomy
QA Quality Assurance
QAA Quality Assessment and Assurance
QAPI Quality Assurance and Performance Improvement
QIO Quality Improvement Organization
RFA Regulatory Flexibility Act
RN Registered Nurse
SNF Skilled Nursing Facility
WHO World Health Organization

Table of Contents

This final rule is organized as follows:

I. Background
A. Executive Summary
1. Purpose
2. Summary of the Major Provisions
3. Summary of Costs and Benefits
B. Statutory and Regulatory Authority of the Requirements for Long-Term Care Facilities
C. Why revise the LTC requirements?
II. Provisions of the Proposed Regulation and Responses to Public Comments
A. General Comments
B. Implementation Date
C. Basis and Scope (§ 483.1)
D. Definitions (§ 483.5)
E. Resident Rights (§ 483.10)
F. Facility Responsibilities (§ 483.11)
G. Freedom From Abuse, Neglect, and Exploitation (§ 483.12)
H. Transitions of Care (§ 483.15)
I. Resident Assessments (§ 483.20)
J. Comprehensive Resident-Centered Care Planning (§ 483.21)
K. Quality of Care and Quality of Life (§ 483.25)
L. Physician Services (§ 483.30)
M. Nursing Services (§ 483.35)
N. Behavioral Health Services (§ 483.40)
O. Pharmacy Services (§ 483.45)
P. Laboratory, Radiology, and Other Diagnostic Services (§ 483.50)
Q. Dental Services (§ 483.55)
R. Food and Nutrition Services (§ 483.60)
S. Specialized Rehabilitative Services (§ 483.65)
T. Outpatient Rehabilitative Services (§ 483.67)
U. Administration (§ 483.70)
V. Quality Assurance and Performance Improvement (§ 483.75)
W. Infection Control (§ 483.80)
X. Compliance and Ethics Program (§ 483.85)
Y. Physical Environment (§ 483.90)
Z. Training Requirements (§ 483.95)
III. Provisions of the Final Regulations
IV. Long-Term Care Facilities Crosswalk
V. Collection of Information Requirements
VI. Regulatory Impacts

I. Background

A. Executive Summary

1. Purpose

Consolidated Medicare and Medicaid requirements for participation (requirements) for long term care (LTC) facilities (42 CFR part 483, subpart B) were first published in the **Federal Register** on February 2, 1989 (54 FR 5316). These regulations have been revised and added to since that time, principally as a result of legislation or a need to address a specific issue. However, they have not been comprehensively reviewed and updated since 1991 (56 FR 48826, September 26, 1991), despite substantial changes in service delivery in this setting.

Since the current requirements were developed, significant innovations in resident care and quality assessment practices have emerged. In addition, the population of LTC facilities has changed, and has become more diverse and more clinically complex. Over the last two to three decades, extensive, evidence-based research has been conducted and has enhanced our knowledge about resident safety, health outcomes, individual choice, and quality assurance and performance improvement. In light of these changes, we recognized the need to evaluate the regulations on a comprehensive basis, from both a structural and a content perspective. Therefore, we reviewed regulations in an effort to improve the quality of life, care, and services in LTC

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

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AHRQ'S ASP GUIDE

Sections of the AHRQ Guide

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

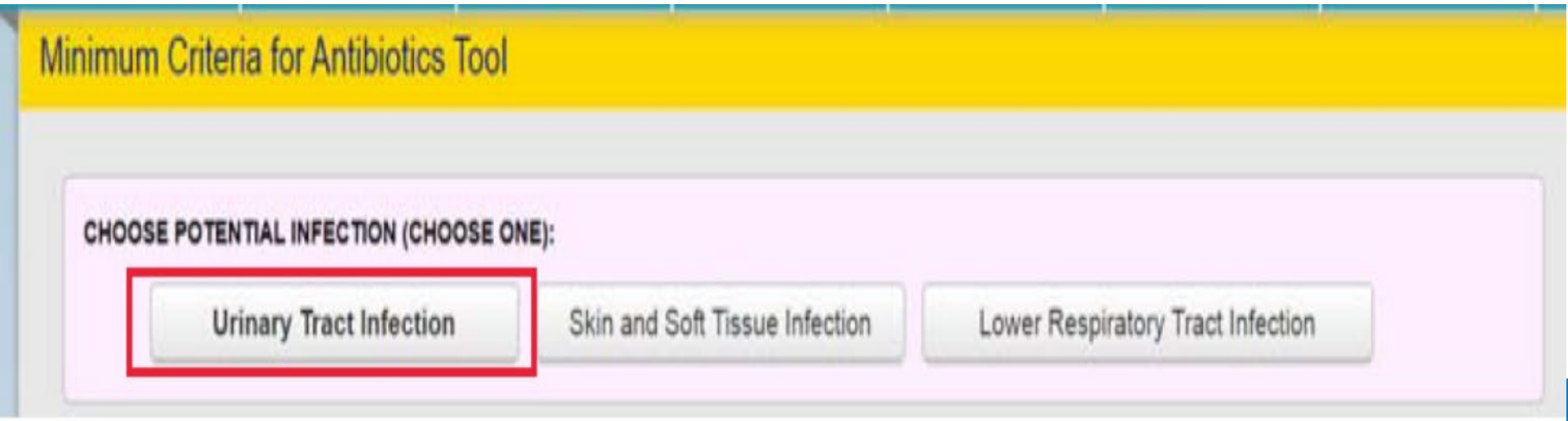
II. Determine Whether it is Necessary to Treat Potential Infections With Antibiotics

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)



Does the resident have:

- [x] No indwelling catheter
- [ ] Indwelling catheter

In this example, select "no indwelling catheter"

Notes:

1. Urine cultures should not be performed on a scheduled basis (e.g., monthly).
2. Urine cultures should not be used to identify UTIs in the absence of symptoms.
3. Smelly or cloudy urine is not a symptom of a UTI.
4. Residents with an intermittent catheter or a condom catheter should be evaluated as if they are not catheterized.
5. Urine cultures should be used to identify the most appropriate antibiotic. For residents with acute dysuria, it may be appropriate to initiate empirical antibiotic therapy; but for all other symptoms, wait for a urine culture.
6. 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.

Does the resident have acute dysuria?

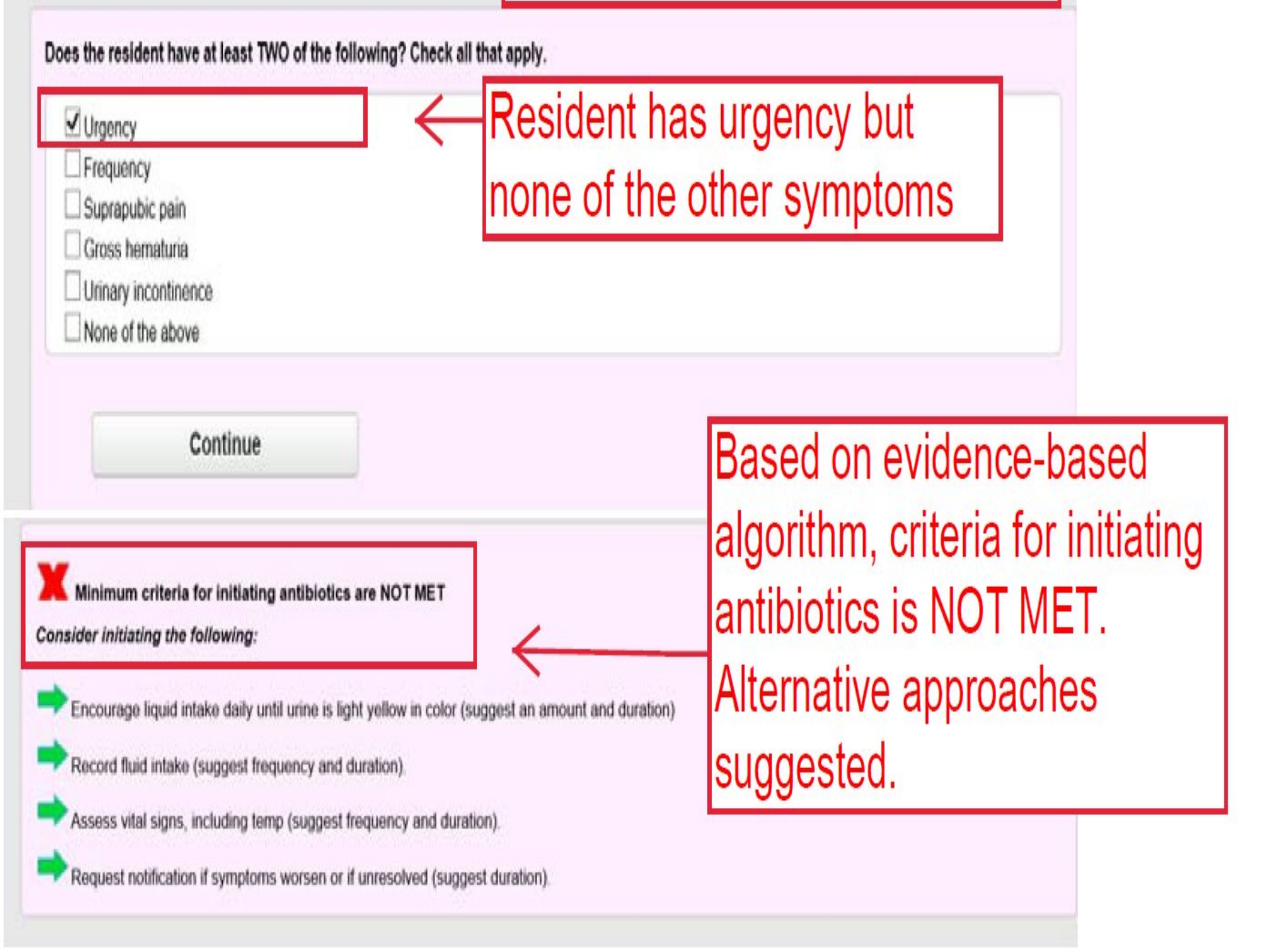
- [ ] Yes
- [x] No

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

Fever (temperature > 100°F [37.9°C] or two repeated temperatures of 99°F [37°C])

- [ ] Yes
- [x] No

Resident does not have temperature >99 F. Select "No".


Does the resident have at least TWO of the following? Check all that apply.
Urgency
Frequency
Suprapubic pain
Gross hematuria
Urinary incontinence
None of the above
Continue
Resident has urgency but none of the other symptoms
Minimum criteria for initiating antibiotics are NOT MET
Consider initiating the following:
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).
Based on evidence-based algorithm, criteria for initiating antibiotics is NOT MET. Alternative approaches suggested.

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.

Date/Time _____

Nursing Home Name _____

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®)

Nursing Home Name _____ Facility Fax _____

Resident Name _____

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
  - ☐ back or flank pain
  - ☐ suprapubic pain
  - ☐ gross hematuria
  - ☐ urinary incontinence

OR

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

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.

TOOLKIT 1-IMPLEMENT THE SUSPECTED UTI SBARS

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)

SYSTEM TO MONITOR ANTIBIOTIC USE

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.

HOW TO OBTAIN AN ANTIBIOGRAM FROM A LAB

HTTPS://WWW.AHRQ.GOV/SITES/DEFAULT/FILES/WYSIWYG/NHGUIDE/5_TK1_T2-WORKING_WITH_A_LAB_FINAL.PDF

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)

Antibiogram for dd/mm/yyyy to dd/mm/yyyy

Your Nursing Home Name / Clinical Lab Name

Example of Antibiogram report

	Gram Negative				Gram Positive			
Antibiotic Tested	Escherichia coli	Klebsiella pneumoniae	Proteus mirabilis	Pseudomonas aeruginosa	Staphylococcus aureus non-MRSA |	MRSA †	Staphylococcus coag. Neg	Enterococcus sp
# of Isolates‡	165	75	39	33	10*	35	18	68
Oral or Oral Equivalent					Oral or Oral Equivalent			
Ampicillin	46%	0%	62%		50%	0%	50%	96%
Amox / Clav	77%	96%	100%					
Cefazolin	70%	93%	88%		100%	0%	50%	
Cefoxitin	82%	100%	100%					
Ceftriaxone	85%	79%	92%					
Ciprofloxacin	58%	79%	62%	56%		0%	0%	47%
Levofloxacin	59%	79%	62%	57%	33%	20%	0%	64%
Nitrofurantoin	100%	0%	0%		100%	100%	100%	100%
TMP / SMX	64%	79%	54%		67%	100%	100%	
Tetracycline	64%	60%	0%		100%	100%	80%	38%
Oxacillin					100%	0%	50%	
Clindamycin					50%	50%	100%	
Erythromycin					50%	0%	0%	
Linezolid					100%	100%		100%
IV Only					IV Only			
Pip / Taz	98%	96%	100%	100%				
Cefepime	89%	95%	92%	91%				
Ceftazidime				91%				
Gentamicin	85%	83%	92%	91%	100%	100%	67%	
Imipenem	100%	100%	100%	71%				
Vancomycin					100%	100%	100%	100%

* 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 = Piperacillin/Tazobactam; TMP/SMX= Trimethoprim/sulfamethoxazole ;Amox/Clav = Amoxicillin/Clavunate

Please direct questions to: Insert program champion name, phone, e-mail

THE NURSING HOME ANTIBIOGRAM 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.*

Nursing Home Antimicrobial Stewardship Guide

Toolkit 2. Monitor and Sustain Stewardship

Tool 2. Antibiotic Use Tracking Sheet [8.5x11 format, simplified]

Month:

ent ifier	Room #	Admit Date	Admit From	Onset Date	Type of Infection	Signs & Symptoms	Indicate Diagnostic Tool Used and Whether Criteria Were Met	HAI/CAI/ NHAI/ Other Nosocomial*	X-ray or Lab Results (organism identified)	Prescribing Clinician (PC)	Prescription Date and Duration	Antibiotic Name	Dose

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

TOOL 3 - SAMPLE MONTHLY SUMMARY REPORT

Summary Report of Infections and Antibiotic Use

(This example focuses on data for evaluating antibiotic use for suspected UTIs)

Month	Number of Resident Days	Number of Antibiotic Rx	Number of Antibiotic Rx Divided by Number of Resident Days	Number of Residents Receiving Antibiotics for UTI (incl. Repeats)	Number of UTI SBAR Forms Used	Number of UTIs That Met Diagnostic Criteria	Number of Negative Cultures
Jan	2,790 (90 residents x 31 days)	3	3/2790 x 1000 = 1.1	3	3	3	0
Feb							
Mar							
Apr							
May							
Jun							
Jul							
Aug							
Sept							
Oct							
Nov							
Dec							
TOTAL							

Percent of residents receiving antibiotics (time):

Number of residents on antibiotic

Total number of residents in the facility x 100

(Can be stratified by specific characteristics….long versus short stay)

OR

Percent of new admissions receiving antibiotics:

Number of residents admitted on antibiotic

Total number of new admissions x 100

Rate of New Antibiotic Starts (in LTCF):

$$\frac{\text{Number of new antibiotic prescriptions}}{\text{Total number of resident days} \times 1000}$$

(Can be stratified by indication….UTI for example)

OR

Rate of New Antibiotic Start by Provider:

$$\frac{\text{Number of prescriptions by provider}}{\text{Total number of new admissions (by prescriber)} \times 1000}$$

Rate of Antibiotic DOT:

$$\frac{\text{Total monthly DOT}}{\text{Total monthly resident days x 1000}}$$

OR

Antibiotic Utilization Ratio:

$$\frac{\text{Total monthly DOT}}{\text{Total Monthly resident days}}$$

TOOL 6- QUARTERLY OR MONTHLY PRESCRIBING PROFILE

An example of how to communicate results to prescribing practitioner

Resident Name	Infection Type/ Diagnosis	Last Treated	Organism Identified	Rx Date	Rx Duration	Antibiotic Name	Dose	Met Minimum Criteria

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

- *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

- *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

PREVENT HAIs Healthcare-Associated Infections

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

PREVENT HAIs Healthcare-Associated Infections

Determine Whether To Treat

Toolkit 3. Minimum Criteria for Common Infections Toolkit

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

SPICE

RESOURCES

- CDC Core Elements of Antibiotic Stewardship for Nursing Homes (https://www.cdc.gov/longtermcare/pdfs/core-elements-antibiotic-stewardship.pdf)
- AHRQ Nursing Home Antimicrobial Stewardship Guide (https://www.ahrq.gov/nhguide/index.html)
- AHRQ SBAR UTI form (https://www.ahrq.gov/sites/default/files/wysiwyg/nhguide/4_TK1_T1-SBAR_UTI_Final.pdf)
- AHRQ: Toolkit for How to Build a Nursing Home Antibiogram (https://www.ahrq.gov/nhguide/toolkits/help-clinicians-choose-the-right-antibiotic/toolkit2-concise-antibiogram-toolkit.html)

“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?