Antimicrobial Stewardship in Long-term Care

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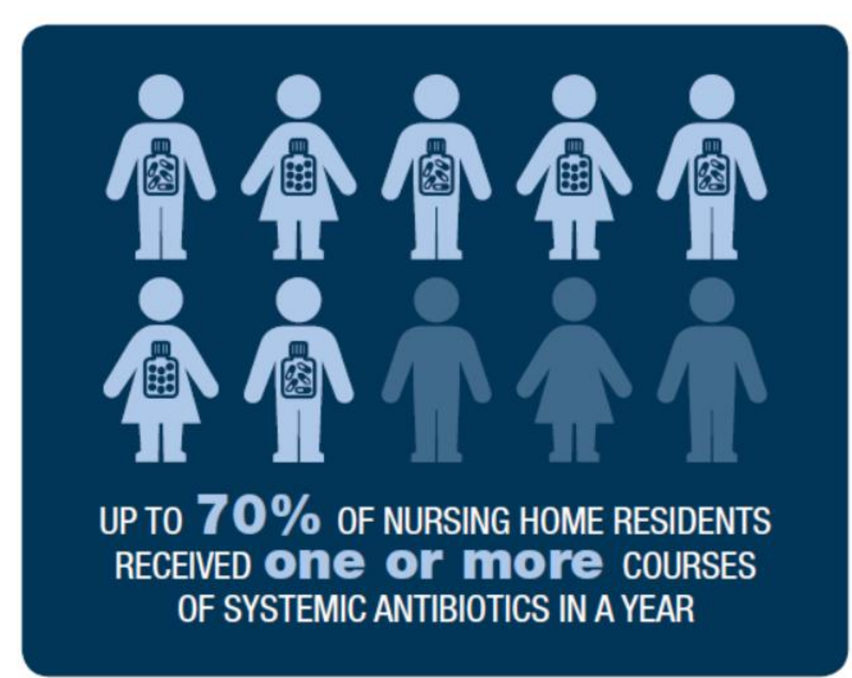
Objectives

- Describe the need for antimicrobial stewardship (AS) in long-term care
- Define AS in long-term care
- Provide resources to strengthen AS in long-term care

Antibiotic Use in Long-term Care

- Most frequently prescribed Medication in Nursing Homes
  - 70% of residents receive in NH receive one or more courses in a year[1,2]
- 40-75% of antibiotics may be inappropriate/unnecessary[3,4]
- Potential harm:
  - *C. diff*
  - Adverse drug events/interactions
  - MDRO infections



Common Conditions Prescribed Antibiotics in LTC

- Urinary Tract Infection
- Skin and Soft Tissue Infection
- Respiratory Infection

AMS Program required by CMS

- **42 CFR § 483.80 Infection control**
  - **(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:
    1. A system for preventing, identifying, reporting, investigating, and controlling infections and communicable diseases for all residents, staff, volunteers, visitors, and other individuals providing services…
    2. Written standards, policies, and procedures for the program…
    3. **An antibiotic stewardship program that includes antibiotic use protocols and a system to monitor antibiotic use**
    4. A system for recording events identified under the facility's IPCP and the corrective actions taken by the facility.

7 Core Elements of Antibiotic Stewardship in Nursing Homes

Leadership commitment
Demonstrate support and commitment to safe and appropriate antibiotic use in your facility

Accountability
Identify physician, nursing and pharmacy leads responsible for promoting and overseeing antibiotic stewardship activities in your facility

Drug expertise
Establish access to consultant pharmacists or other individuals with experience or training in antibiotic stewardship for your facility

Action
Implement **at least one** policy or practice to improve antibiotic use

Tracking
Monitor **at least one process** measure of antibiotic use and **at least one outcome** from antibiotic use in your facility

Reporting
Provide regular feedback on antibiotic use and resistance to prescribing clinicians, nursing staff and other relevant staff

Education
Provide resources to clinicians, nursing staff, residents and families about antibiotic resistance and opportunities for improving antibiotic use

Leadership & Accountability

- Core Element 1: Leadership
  - Demonstrate support and commitment to safe and appropriate antibiotic use in your facility
    - Create mission/leadership statement to display commitment appropriate prescribing to staff, residents, and families
- Core Element 2: Accountability
  - Identify physician, nursing and pharmacy leads responsible for promoting and overseeing antibiotic stewardship activities in your facility.

Drug Expertise

- Core Element 3: Drug Expertise
  - Establish access to individuals with experience or training in AS for your facility
    - Consultant pharmacists
    - Referring hospital antimicrobial stewardship team
    - Local AS/ID consultants

Action

- Core Element 4: Action
  - Implement at least one policy or practice to improve antibiotic use
    - Documentation
      - Dose, Duration, Indication
    - Specific infection criteria
      - Loeb Criteria
      - Use SBAR tool
    - Proper communication
      - During patient transfers
      - Any change in patient condition
    - Antibiotic review/“antibiotic time-out”

Tracking and Reporting

- Core Element 5: Tracking
  - Monitor at least one process measure of antibiotic use and at least one outcome from antibiotic use in your facility
  - Process Measures
    - Number of times proper documentation given for antibiotic starts
    - Number of times SBAR form used
  - Antibiotic Use Measures
    - Number of antibiotic starts
    - Antibiotic Days of Therapy (DOT)
  - Outcome Measures
    - C.diff
    - Antibiotic resistance
    - Adverse Reactions
- Core Element 6: Reporting
  - Provide regular feedback on antibiotic use and resistance to prescribing clinicians, nursing staff, and other relevant staff

Education

- Core Element 7: Education
  - Provide resources to clinicians, nursing staff, residents, and families about antibiotic resistance and opportunities for improving antibiotic use
    - Handouts and Posters for residents and families
      - CDC
      - AHRQ

Getting Started

- CDC
  - Core Elements of Antimicrobial Stewardship for Nursing Homes
  - Infection Preventionist Training module
- AHRQ Nursing Home Antimicrobial Stewardship Guide
- Nebraska ASAP
- Minnesota Department of Health

Getting Started

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CDC's Core Elements

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- Minnesota Department of Health

CDC Infection Prevention Training

CDC
NURSING HOME INFECTION PREVENTIONIST TRAINING COURSE
Infection Prevention and Control Program
MODULE 1
TABLE OF CONTENTS HELP CAPTIONS SOUND 1 of 63 BACK NEXT

- Free CDC Training
  - 23 modules
- Core activities of IPC programs
  - antimicrobial stewardship

Getting Started

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AHRQ Nursing Home Antimicrobial Stewardship Guide

Nursing Home Infection Control Guidelines for *C. Difficile*

When to Perform Toxin Assay on Stool:

- Resident symptomatic with diarrhea (>3 loose/watery stools a day).
- Especially consider in residents who received antibiotics in previous 60 days and have one or more of the following: fever, elevated WBC, fecal leukocytes, abdominal pain/tenderness.
- Do not perform toxin assay on formed stool.
- Do not culture stool; only perform toxin assay.
- After treatment, do not retest for cure (toxin may stay positive even when resident is improved).

When to Treat:

- Symptomatic resident with toxin-positive stool.

How to Isolate Culture-positive Residents:

- Limit time outside of room for *C. difficile* positive resident while symptomatic; limit time especially if resident is unable to contain stool.
- Use gloves for contact with resident or resident's environment while on therapy.
- Perform hand hygiene with soap and water (alcohol does not kill *C. difficile* spores).
- Consider daily use of diluted hypochlorites (household bleach diluted 1:10 with water) to disinfect resident's environment.

When to Decolonize a Resident:

- Do not attempt; no proven successful regimen exists.

AHRQ
Agency for Healthcare Research and Quality
Advancing Excellence in Health Care ● www.ahrq.gov

AHRQ Pub. No. 14-0011-3-EF
May 2014 ●

www.ahrq.gov/NH-ASPGuide

12 Common Nursing Home Situations in Which Systemic Antibiotics are Generally Not Indicated

1. Positive urine culture in an asymptomatic resident.
2. Urine culture ordered solely because of change in urine appearance.
3. Nonspecific symptoms or signs not referable to the urinary tract, such as falls or mental status change (with or without a positive urine culture).
4. Upper respiratory infection (common cold).
5. Bronchitis or asthma in a resident who does not have COPD.
6. "Infiltrate" on chest x-ray in the absence of clinically significant symptoms.
7. Suspected or proven influenza in the absence of a secondary infection (but DO treat influenza with antivirals).
8. Respiratory symptoms in a resident with advanced dementia, on palliative care, or at the end of life.
9. Skin wound without cellulitis, sepsis, or osteomyelitis (regardless of culture result).
10. Small (<5cm) localized abscess without significant surrounding cellulitis (drainage is required of all abscesses).
11. Decubitus ulcer in a resident at the end of life.
12. Acute vomiting and/or diarrhea in the absence of a positive culture for shigella or salmonella, or a positive toxin assay for Clostridium difficile.

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AHRQ Pub. No. 14-0011-3-EF
May 2014

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Nursing Home Antimicrobial Stewardship Guide

Determine Whether To Treat

Toolkit 3. Minimum Criteria for Common Infections Toolkit

Tool 1. Sample Policy

[NAME OF NURSING HOME]

Protocol for Three Common Infections

[DATE]

Between 25 percent and 75 percent of antibiotic prescriptions in nursing homes do not meet clinical guidelines for prescribing. Unnecessary antibiotics can result in side effects and drug-resistant bacteria. Unnecessary prescribing practices by prescribing clinicians and overuse of newer, broad-spectrum antibiotics when either no antibiotic or a narrow-spectrum drug would suffice are large contributors to this problem. The Minimum Criteria for Common Infections toolkit ("Minimum Criteria toolkit") aims to reduce unnecessary prescribing for the three infections where antibiotics are most frequently prescribed in nursing homes: (1) urinary tract infections (UTIs), (2) lower respiratory tract infections, and (3) skin and soft tissue infections.

To improve appropriate antibiotic use for the residents at [NAME OF NURSING HOME], the minimum criteria for three common infections will be implemented on [DATE].

The minimum criteria are shown below. [NAME OF NURSING HOME] will be using [INDICATE WHICH TOOL(S) THE NURSING HOME WILL USE, I.E., THE FAXES, THE LETTER, THE WEB APP, OR THE TRAINING]

Prescribing Tool for UTI, SSTI, and RTI

CHOOSE POTENTIAL INFECTION (CHOOSE ONE):

Urinary Tract Infection | Skin and Soft Tissue Infection | Lower Respiratory Tract Infection

Does the resident have new or increasing purulent drainage at a wound, skin, or soft-tissue site?

Yes

No

Notes:

1. For residents who regularly run a lower temperature, use a temperature of 2°F (1°C) above the baseline as a definition of a fever.
2. Herpes zoster is a virus and therefore does not require antibiotics but appropriate antivirals.
3. Deeper infections such as bursitis may present with similar signs/symptoms.
4. Underlying osteomyelitis should be considered when managing a resident with an infected diabetic or decubitus ulcer.
5. Thromboembolic disease should be considered when a resident presents with an erythematous or swollen leg.
6. These criteria do not apply to residents with burns.
7. Gout can at times be mistaken for cellulitis or vice versa.

Does the resident have at least TWO of the following? Check all that apply.

- [ ] Fever (temperature > 100°F [37.9°C] or two repeated temperatures of 99°F [37°C])
- [ ] Redness
- [ ] Tenderness
- [ ] Warmth
- [x] Swelling that is new or increasing at the affected site
- [ ] None of the above

Continue

Minimum criteria for initiating antibiotics are NOT MET

Consider initiating the following:

- For discomfort or prior to cleaning/dressing changes, use acetaminophen or other pain relievers as needed.
- Assess vital signs, including temp (suggest frequency and duration) ; and/or
- Notify physician/nurse practitioner/physician assistant if symptoms worsen or if unresolved in (suggest duration).

Getting Started

- CDC
  - Core Elements of Antimicrobial Stewardship for Nursing Homes
  - Infection Preventionist Training module
- AHRQ Nursing Home Antimicrobial Stewardship Guide
- Nebraska ASAP
- Minnesota Department of Health

Nebraska ASAP

[Facility Logo]

FROM: [Executive Director, Medical Director, Director of Nursin

DATE: [Date]

RE: Antimicrobial Stewardship Program

Antibiotics are among the most commonly prescribed medicatio
However, misuse of antibiotics can lead to undesirable outcome
resistant pathogens, development of *Clostridium difficile* infecti
mortality, and higher costs.

As part of the continuing commitment to provide high quality ca
team of [facility name] has created an Antibiotic Stewardship Pr
appropriate use of antibiotics in our facility. The overall goal of
related to antibiotic misuse by optimizing the selection of drug,
Antibiotic use protocols and systems to monitor antibiotic use w

The ASP will be a part of the facility's Infection Prevention and C
will play a central role and the key leaders accountable for the p
Director of Nursing, Consultant Pharmacist, etc.]. This multidisc
appropriateness of antibiotic courses and make recommendatio
necessary, establish new or revise existing protocols relevant to
monitor and report patterns of antibiotic use and resistance; an
of antibiotics.

The success of this initiative requires the full participation and s
administer, and receive antimicrobial therapy. The facility will p
to support the functions and goals of the ASP. ASP team will en
residents, and residents' families to ensure that antibiotic use p
Facility leadership is confident that with the help of frontline sta
understanding of resident and families, and guidance of ASP tea
mini

Sample leadership support statement template

ANTIMICROBIAL STEWARDSHIP COMMITTEE MEETING MINUTES

Date/Time:

Location:

Minutes Prepared by:

Attended by:

Excused:

Guests:

AGENDA ITEM	DISCUSSION	ACTION	RESPONSIBLE PERSON	TARGET DATE OF COMPLETION
oval of minutes from last ing	Meeting minutes were distributed to committee member for review.	On a motion by ____________ and seconded by _________minutes from the last meeting was approved as written	N/A	N/A
Summary of infections since last meeting				
Summary of antimicrobial use data since last meeting				
Progress of ongoing infection control and antimicrobial stewardship initiatives				
Planned future infection and antimicrobial stewardship initiatives				

Agenda items in red represent topics that can be considered for discussion during the antimicrobial stewardship committee meeting

Sample ASP Committee Meeting Minutes

Getting Started

- CDC
  - Core Elements of Antimicrobial Stewardship for Nursing Homes
  - Infection Preventionist Training module
- AHRQ Nursing Home Antimicrobial Stewardship Guide
- Nebraska ASAP
- Minnesota Department of Health

Minnesota Department of Health

Companion Guide to Using the Sample Antibiotic Stewardship Long-Term Care Facilities

DEVELOP A POLICY THAT WORKS FOR YOUR FACILI

As you review the Sample Antibiotic Stewardship Policy, use this documer working policy for your long-term care facility. The sample policy is meant of how a nursing home might get started with an antibiotic stewardship p are identified by this fictitious facility and reflected in the sample policy: 1 Medicare and Medicaid Services (CMS) requirements for 2017, and 2) out actions that can be implemented immediately and in the second year of t

Your facility's policy might be longer or shorter, be more or less detailed, stewardship actions, or have different tracking and reporting priorities. It necessary people together to discuss stewardship in your facility, get the begin your own program, step by step.

Also provided, starting on page 5, are the interpretive guidelines for the a CMS requirements of participation, which take effect November 28, 2017

BACKGROUND:

Write something here about why antibiotic resistance and antibiotic stew individual residents, your facility, and the wider health care community.

POLICY:

Include a policy mission statement here. The statement should be agreed clinical leaders (see Leadership section below)

We suggest including the 7 Centers for Disease Control and Prevention (C stewardship as a reference and as a preface to the rest of the policy docu

Include key objectives for the Antibiotic Stewardship Program (ASP) in the year, when you update the policy, edit these objectives as needed to refle Be specific and realistic, and make sure that everyone agrees upon these

In this sample policy, our key objectives for Year 1 are to meet CMS requi some stewardship actions targeted at UTI diagnosis and management.

PROCEDURE:

1. Administrative Leadership
   Identify administrative leadership and describe how commitment be communicated by leadership to staff, residents, and families. A have a role in identifying the ASP leader, if appropriate in your fa

Interpretive Guidelines for CMS Requirements of Participation, Effective November 28, 2017

The following interpretive guidelines are reproduced from pp. 656–660, CMS Manual System Publication 100–07 State Operations Provider Certification, section F881, §483.80(a)(3). Available at: https://www.cms.gov/Medicare/Provider-Enrollment-and-Certification/GuidanceforLawsAndRegulations/Downloads/ .pdf.

Guidance

Antibiotic Stewardship

As part of their infection prevention and control programs stewardship program that promotes the appropriate use o monitoring to improve resident outcomes and reduce antib antibiotic is prescribed for the correct indication, dose, and while also attempting to reduce the development of antibi

Nursing home residents are at risk for adverse outcomes a antibiotics that may include but are not limited to the follo

- Increased adverse drug events and drug interactions (e
- Serious diarrheal infections from C. difficile;
- Disruption of normal flora (e.g., this can result in overg
- Colonization and/or infection with antibiotic-resistant resistant GNB.

NOTE: The Centers for Disease Control and Prevention (CDC) has identif the control of the nursing home. For more information, refer to CDC NH http://www.cdc.gov/longtermcare/pdfs/core-elements-an

NOTE: For examples of antibiotic use protocols, policies and practices d Quality, see: http://www.ahrq.gov/nhguide/index.html

NOTE: References to non-U. S. Department of Health and Human Servic a service and do not constitute or imply endorsement of these organiza for the content of pages found at these sites. URL addresses were curre

As summarized by the CDC[a], the core elements for antibiot

- Facility leadership commitment to safe and appropriat
- Appropriate facility staff accountable for promoting an
- Accessing pharmacists and others with experience or t
- Implement policy(ies) or practice to improve antibiotic
- Track measures of antibiotic use in the facility (i.e., one
- Regular reporting on antibiotic use and resistance to re nursing staff; and
- Educate staff and residents about antibiotic stewardshi

The facility must develop an antibiotic stewardship progra protocols and a system to monitor antibiotic use. This deve and accountability via the participation of the medical dire administrative leadership, and individual with designated responsibility for the infection control program if different[a].

The antibiotic stewardship program protocols shall describe how the program will be implemented and antibiotic use will be monitored, consequently protocols must:

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Minimum Criteria for Initiation of Antibiotics in Long-Term Care Residents

Suspected Lower Respiratory Tract Infection

- Fever >38.9°C [102°F]
  and at least one of the following:
  - Respiratory rate >25
  - Productive cough

or

- Fever (>37.9°C [100°F] or a 1.5°C [2.4°F] increase above baseline temperature, but ≤38.9°C [102°F])
  and cough
  and at least one of the following:
  - Pulse >100
  - Rigors
  - Delirium
  - Respiratory rate >25

or

- Afebrile resident with COPD and >65 years
  and new or increased cough with purulent sputum production

or

- Afebrile resident without COPD and new cough with purulent sputum production
  and at least one of the following:
  - Respiratory rate >25
  - Delirium

or

- New infiltrate on chest X-ray thought to represent pneumonia
  and at least one of the following:
  - Fever (>37.9°C [100°F] or a 1.5°C [2.4°F] increase above baseline temperature)
  - Respiratory rate >25
  - Productive cough

Chest X-ray and complete cell count with differential is reasonable for residents with fever, cough, and at least one of the following: pulse >100, worsening mental status, rigors.

Fever with Unknown Focus of Infection

- Fever (>37.9°C [100°F] or a 1.5°C [2.4°F] increase above baseline temperature)
  and at least one of the following:
  - New onset delirium
  - Rigors

Note: fever + mental status changes that do not meet delirium criteria (e.g. reduced functional activities, withdrawal, loss of appetite) need to be investigated but empiric antibiotics are not needed.

Suspected Urinary Tract Infection

NO indwelling catheter:

- Acute dysuria

or

- Fever (>37.9°C [100°F] or a 1.5°C [2.4°F] increase above baseline temperature)
  and at least one of the following:
  New or worsening:
  - Urgency
  - Frequency
  - Suprapubic pain
  - Gross hematuria
  - Costovertebral angle tenderness
  - Urinary incontinence

WITH indwelling catheter (Foley or suprapubic):

- *At least one* of the following:
  - Fever (>37.9°C [100°F] or a 1.5°C [2.4°F] increase above baseline temperature)
  - New costovertebral tenderness
  - Rigors
  - New onset of delirium

Note: Foul smelling or cloudy urine is not a valid indication for initiating antibiotics. Asymptomatic bacteriuria should not be treated with antibiotics.

Suspected Skin and Soft-tissue Infection

- New or increasing purulent drainage at a wound, skin, or soft-tissue site

or

- *At least 2* of the following:
  - Fever (>37.9°C [100°F] or a 1.5°C [2.4°F] increase above baseline temperature)
  - Redness
  - Tenderness
  - Warmth
  - New or increasing swelling

DEPARTMENT OF HEALTH 651-201-5414, 1-877-676-5414 www.health.state.mn.us 7/10/2017

Source: Loeb et al. Development of Minimum Criteria for the Initiation of Antibiotics in Residents of Long-Term Care Facilities: Results of a Consensus Conference. Inf Control Hosp Epi. 2001

Sample AMS Policy

- Should include all 7 core elements
  - Leadership Statement
    - Identify AMS champions
  - Accountability
    - Clearly define AMS team member roles and responsibilities
  - Expertise
    - Identify who the AMS team should look to for guidance on appropriate antibiotic use

Sample AMS Policy

- Action
  - Define record keeping expectations
    - Dose, duration, route of administration, indication must be included in all medical records
  - Define infection assessment criteria
    - Set clear guidelines on when to test for infection
    - Loeb criteria
    - Require use of SBAR tool
  - Antibiotic "time-out"
    - Set an expectation for resident reassessment after 72 hours

Sample AMS Policy

- Tracking
  - Define how the actions taken by the AMS team will be evaluated
  - Measure process measures, antibiotic starts, days of therapy, outcomes etc.
- Reporting
  - Explain how the results of the AMS program will be shared with relevant parties
- Education
  - Outline training that will be provided to all new staff members and annually
  - Provide educational resources to be provided to residents/families as needed

Situation, Background, Assessment, Recommendation

Suspected UTI SBAR

Complete this form before contacting the resident's physician. Date/Time

Nursing Home Name | Date of Birth
Resident Name | Phone
Physician/NP/PA | Fax
Facility Phone
Nurse
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®)

Suspected LRI SBAR

Complete this form before contacting the resident's physician.

Nursing Home Name | Date/Time
Resident Name | Date of Birth
Physician/NP/PA | Phone
Nurse | Fax
Submitted by ☐ Phone ☐ Fax ☐ In Person ☐ Other | Facility Phone

S Situation

I am contacting you about a suspected lower respiratory tract infection for the above resident.

Vital Signs BP ___/___ HR ___ Resp. rate ___
Temp. ___ O2 Sat ___

B Background

- ☐ No ☐ Yes The resident has COPD
- ☐ No ☐ Yes The resident has diabetes
- ☐ No ☐ Yes The resident is a current smoker
- ☐ No ☐ Yes The resident is a former smoker
- ☐ No ☐ Yes Resident uses nebulizer/inhaler
- ☐ No ☐ Yes The resident is on supplemental O2
- ☐ No ☐ Yes O2 requirements have increased
  specify O2 amount:
- ☐ No ☐ Yes Resident reports chest pain or difficulty breathing
- ☐ No ☐ Yes Other active diagnoses (especially, chronic lung disease, chronic bronchitis, emphysema)
  Specify:
- ☐ 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®)

AHRQ Agency for Healthcare Research and Quality | HAIs

www.ahrq.gov/NH-ASPGuide • June 2014

Suspected SST SBAR

Date/Time
Date of Birth
Phone
Fax
Facility Phone

www.ahrq.gov/NH-ASPGuide • June 2014

IDPH Illinois Department of Public Health

UTI SBAR

Sample SBAR Tool for Suspected Urinary Tract Infection

[Facility Logo]	Resident Label

S **Situation**
I am concerned about a suspected UTI for the above resident.

B **Background**
Indwelling catheter ☐Yes ☐No If yes, ☐ Urethral ☐ Suprapubic
Incontinence ☐Yes ☐No If yes, is this new or worsening ☐Yes ☐No
UTI in last 6 months ☐Yes ☐No If yes, Date: _______ Organism: _____________ Treatment: ________________
Active diagnosis (especially bladder, kidney, genitourinary conditions; diabetes; receiving dialysis, anticoagulants):
____
Advance directives for limiting treatment (especially antibiotic use): ____________________________
Medication allergies:____

A **Assessment**
Vital signs: BP____/____ HR_____ Resp. rate_____ Temp._____ O_2 Sats_____

Resident WITH indwelling catheter	**Resident WITHOUT indwelling catheter**
The criteria are met to initiate antibiotics if one of the following are selected:	Criteria are met to initiate antibiotics if one of the three situations are met:
No Yes ☐ ☐ Fever of 100°F (38°C), or 2°F (1.1°C) above baseline, or repeated temperatures of 99°F (37°C) ☐ ☐ New back or flank pain ☐ ☐ Rigors / shaking / chills ☐ ☐ New onset delirium (new dramatic change in mental status) ☐ ☐ Hypotension (significant change in baseline BP or SBP <90) ☐ ☐ Acute suprapubic pain ☐ ☐ Acute pain, swelling or tenderness of the scrotal area	No Yes ☐ ☐ Any one of the following two: ☐ Acute dysuria alone (pain or burning while urinating) ☐ Acute pain, swelling or tenderness of the scrotal area — OR — ☐ ☐ Single temp of 100°F (38°C), or 2°F (1.1°C) above baseline, or repeated temperatures of 99°F (37°C) and at least one of the following new or worsening symptoms: ☐ Urgency ☐ Suprapubic pain ☐ Frequency ☐ Gross hematuria ☐ Back or flank pain ☐ Urinary incontinence — OR — ☐ ☐ No fever, but two or more of the following new or worsening symptoms: ☐ Urgency ☐ Suprapubic pain ☐ Frequency ☐ Gross hematuria ☐ Urinary incontinence

R **Recommendation**
☐ **Protocol criteria met**. Resident may require UA and urine culture or an antibiotic.
☐ **Protocol criteria are NOT met**. Resident **DOES NOT** need immediate antibiotic but may need additional observation.

Nurse's Signature: ______________________ **Date/Time:** ____________
☐ **Notification of Family/POA Name:** ______________________ **Date/Time:** ____________
☐ **Faxed or** ☐ **Called to:** ____________ **By:** ____________ **Date/Time:** ____________

Physician Orders/Response (Please check all that apply)

☐ I have reviewed the above **SBAR**.
☐ Urine culture (if indicated)
☐ Encourage 4oz of cranberry juice or another liquid (_____________) for _________ times/day, until symptoms resolve
☐ Record fluid intake & output until symptoms resolve (output can also be measured from urinal or by weighing diapers, etc.)
☐ Assess vital signs, including temp; every ________ hours for _________ hours
☐ Monitor and notify PCP if symptoms worsen or unresolved in _________ hours
☐ Other: ____
☐ For antibiotic orders (if needed) please complete script below:
Drug: ____________ Dose: ______ Route: ____ Frequency: ______ Duration: ______ Indication: __________

Physician Signature:	**Date/Time:**

Please Fax Back To: ______________________________ or ☐ **Telephone Order**

File Under Physician Order/Progress Notes

ASAP

Asymptomatic Bacteriuria

- Presence of bacteria in urine with no symptoms of infection
- Common among residents in nursing homes[2]
  - 25%-50% of women
  - 15%-40% of men
- Treatment not necessary or recommended
- Use of Loeb Criteria to prevent unnecessary antibiotic use
  - SBAR Tool

Sample SBAR Tool for Suspected Urinary Tract Infection

[Facility Logo]	Resident Label

S	**Situation** I am concerned about a suspected UTI for the above resident.
B	**Background** Indwelling catheter ☐Yes ☐No If yes, ☐ Urethral ☐ Suprapubic Incontinence ☐Yes ☐No If yes, is this new or worsening ☐Yes ☐No UTI in last 6 months ☐Yes ☐No If yes, Date: _______ Organism: _____________ Treatment: ___________________ Active diagnosis (especially bladder, kidney, genitourinary conditions; diabetes; receiving dialysis, anticoagulants): ______________________________ Advance directives for limiting treatment (especially antibiotic use): ______________________ Medication allergies:______________________________
A	**Assessment** Vital signs: BP____/____ HR_____ Resp. rate_____ Temp._____ O_2 Sats_____

Resident **WITH** indwelling catheter	Resident **WITHOUT** indwelling catheter
The criteria are met to initiate antibiotics if one of the following are selected: No Yes ☐ ☐ Fever of 100°F (38°C), or 2°F (1.1°C) above baseline, or repeated temperatures of 99°F (37°C) ☐ ☐ New back or flank pain ☐ ☐ Rigors / shaking / chills ☐ ☐ New onset delirium (new dramatic change in mental status) ☐ ☐ Hypotension (significant change in baseline BP or SBP <90) ☐ ☐ Acute suprapubic pain ☐ ☐ Acute pain, swelling or tenderness of the scrotal area	Criteria are met to initiate antibiotics if one of the three situations are met: No Yes ☐ ☐ Any one of the following two: ☐ Acute dysuria alone (pain or burning while urinating) ☐ Acute pain, swelling or tenderness of the scrotal area — *OR* — ☐ ☐ Single temp of 100°F (38°C), or 2°F (1.1°C) above baseline, or repeated temperatures of 99°F (37°C) and at least one of the following new or worsening symptoms: ☐ Urgency ☐ Suprapubic pain ☐ Frequency ☐ Gross hematuria ☐ Back or flank pain ☐ Urinary incontinence — *OR* — ☐ ☐ No fever, but two or more of the following new or worsening symptoms: ☐ Urgency ☐ Suprapubic pain ☐ Frequency ☐ Gross hematuria ☐ Urinary incontinence

R	**Recommendation** ☐ **Protocol criteria met**. Resident may require UA and urine culture or an antibiotic. ☐ **Protocol criteria are NOT met**. Resident **DOES NOT** need immediate antibiotic but may need additional observation.
	Nurse's Signature: ______________________ **Date/Time:** ____________ ☐ **Notification of Family/POA Name:** ______________________ **Date/Time:** ____________ ☐ **Faxed or** ☐ **Called to:** ____________ **By:** ____________ **Date/Time:** ____________

Physician Orders/Response (Please check all that apply)

☐ I have reviewed the above **SBAR**.

☐ Urine culture (if indicated)
☐ Encourage 4oz of cranberry juice or another liquid (______________) for _________ times/day, until symptoms resolve
☐ Record fluid intake & output until symptoms resolve (output can also be measured from urinal or by weighing diapers, etc.)
☐ Assess vital signs, including temp; every ________ hours for ________ hours
☐ Monitor and notify PCP if symptoms worsen or unresolved in ________ hours
☐ Other: ______________________________
☐ For antibiotic orders (if needed) please complete script below:
Drug: ____________ Dose: ______ Route: ____ Frequency: ______ Duration: ______ Indication: ____________

Physician Signature:	Date/Time:

Please Fax Back To: ______________________________ or ☐ **Telephone Order**

File Under Physician Order/Progress Notes

ASAP

UTI SBAR

UTI SBAR

S	**Situation** I am concerned about a suspected UTI for the above resident.
B	**Background** Indwelling catheter □Yes □No If yes, □ Urethral □ Suprapubic Incontinence □Yes □No If yes, is this new or worsening □Yes □No UTI in last 6 months □Yes □No If yes, Date: _______ Organism: ______________ Treatment: ____________________ Active diagnosis (especially bladder, kidney, genitourinary conditions; diabetes; receiving dialysis, anticoagulants): ____ Advance directives for limiting treatment (especially antibiotic use): ______________________________ Medication allergies:______________________________________
A	**Assessment** Vital signs: BP____/____ HR_____ Resp. rate_____ Temp._____ 0_2 Sats._____

Resident <u>WITH</u> indwelling catheter	**Resident <u>WITHOUT</u> indwelling catheter**
The criteria are met to initiate antibiotics if one of the following are selected: No Yes □ □ Fever of 100°F (38°C), or 2°F (1.1°C) above baseline, or repeated temperatures of 99°F (37°C) □ □ New back or flank pain □ □ Rigors / shaking / chills □ □ New onset delirium (new dramatic change in mental status) □ □ Hypotension (significant change in baseline BP or SBP <90) □ □ Acute suprapubic pain □ □ Acute pain, swelling or tenderness of the scrotal area	Criteria are met to initiate antibiotics if one of the three situations are met: No Yes □ □ Any one of the following two: □ Acute dysuria alone (pain or burning while urinating) □ Acute pain, swelling or tenderness of the scrotal area *OR* □ □ Single temp of 100°F (38°C), or 2°F (1.1°C) above baseline, or repeated temperatures of 99°F (37°C) **<u>and</u>** at least one of the following new or worsening symptoms: □ Urgency □ Suprapubic pain □ Frequency □ Gross hematuria □ Back or flank pain □ Urinary incontinence *OR* □ □ No fever, but two or more of the following new or worsening symptoms: □ Urgency □ Suprapubic pain □ Frequency □ Gross hematuria □ Urinary incontinence

Diagnostic Stewardship

Fever of >37.9°C (100°F) or 1.5°C (2.4°F) increase above baseline on at least two occasions over last 12 hours?

- **Yes** → 2 or more symptoms or signs of non-urinary tract infection*?
  - **Yes** → Do not order urine culture
  - **No** → Order urine culture for one or more of following:
    - Dysuria
    - Urinary catheter
    - Urgency
    - Flank pain
    - Shaking chills
    - Urinary incontinence
    - Frequency
    - Gross haematuria
    - Suprapubic pain
- **No** → Urinary catheter?
  - **Yes** → Order urine culture for one or more of following:
    - New costovertebral tenderness
    - Rigors
    - New onset of delirium
  - **No** → Order urine culture for new onset burning urination or for two or more of following:
    - Urgency
    - Flank pain
    - Shaking chills
    - Urinary incontinence
    - Frequency
    - Gross haematuria
    - Suprapubic pain

* Respiratory symptoms include increased shortness of breath, increased cough, increased sputum production, new pleuritic chest pain.
Gastrointestinal symptoms include nausea or vomiting, new abdominal pain, new onset of diarrhoea
Skin and soft tissue symptoms include new redness, warmth, swelling, purulent drainage

- When to collect urine culture

Diagnostic Stewardship

A1. Early Recognition and Testing

Resident experiencing new onset of diarrhea

↓

Has the resident had ≥3 unformed stools in a 24 hour period?

No → Do not test asymptomatic residents for CDI

↓ Yes

Contact provider, order lab test for CDI. Do not start empiric treatment before collecting sample — Consider creating a standing order for nursing staff to initiate CDI testing

- Collect and submit fresh stool sample — Only unformed stools should be collected
- Collect specimen in clean, watertight container — Refrigerate (2-8°C; 36-46°F) until testing can be done

- When to collect stool sample for *C. difficile* testing

Role of Nurses in AS

- Assessment
- Diagnostic Stewardship
- Proper culturing technique
- Communication
  - ***S***ituation, ***B***ackground, ***A***ssessment, ***R***ecommendation
- Education

Illinois Summit on Antimicrobial Stewardship 2020

- July 24th -Normal IL
- APIC Infection Control Conference July 23rd-Normal IL
- To be added to the email list, notify DPH.DPSQ@Illinois.gov

References

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2. Nicolle LE, Bentley D, Garibaldi R, et al. Antimicrobial use in long-term care facilities. Infect Control Hosp Epidemiol 2000; 21:537–45.
3. Dellit TH, Owens RC, McGowan JE, Jr., et al. Infectious Diseases Society of America and the Society for Healthcare Epidemiology of America guidelines for developing an institutional program to enhance antimicrobial stewardship. Clinical infectious diseases. 2007;44(2):159-177.
4. Fridkin SK, Baggs J, Fagan R, et al. Vital Signs: Improving antibiotic use among hospitalized patients. MMWR. Morbidity and mortality weekly report. 2014;63.
5. Nicolle L. 2015. Asymptomatic bacteriuria and bacterial interference. microbiolspec 3(5): doi:10.1128/microbiolspec.UTI-0001-2012

THANK YOU

PRESENTER'S CONTACT INFO
IDPH WEBSITE

Useful Resources

- CDC Core Elements for Nursing Homes: https://www.cdc.gov/longtermcare/prevention/antibiotic-stewardship.html
- CDC Infection Preventionist Training: https://www.train.org/illinois/course/1081350/
- AHRQ Antimicrobial Stewardship Guide: https://www.ahrq.gov/nhguide/index.html
- Nebraska ASAP: https://asap.nebraskamed.com/long-term-care/
- Minnesota Department of Health: https://www.health.state.mn.us/diseases/antibioticresistance/hcp/asp/ltc/index.html