



# Nursing Home Antimicrobial Stewardship Guide Determine Whether To Treat

## Toolkit 1. Suspected UTI SBAR Toolkit

### Tool 4. Training Modules: Urinalysis and UTIs Improving Care

#### Overview

These training modules are designed to be flexible to meet your needs. Training coordinators can use them individually or combine them to suit the needs of their facility.

#### Goals and Objectives for Training

The overall goal of training is to learn how to apply the Situation, Background, Assessment Input, and Request (SBAR) process for suspected urinary tract infections (UTIs). This tool includes lesson plans to meet the following objectives:

1. Recognize the consequences of overuse of antibiotics.
2. Identify the signs and symptoms of UTIs and apply best practices for antibiotic stewardship to residents with suspected UTIs.
3. Review the SBAR communication approach (Situation, Background, Assessment Input, Request) and discuss how it can be applied in your facility.
4. Practice applying the SBAR tool with case studies of residents with suspected UTIs.

#### Target Audience

Nursing directors, nursing care team, registered nurses, licensed practical nurses or licensed vocational nurses, and nursing assistants

#### What You Need for These Training Sessions

- Lesson plan (this document)
- Copies of the case studies (Lesson 4)
- Copies of the Suspected UTI SBAR tool for each participant

Note: Lesson plans are intended to guide discussions in staff meetings and should involve questions and answers and hands-on application of the SBAR tool.



## Lesson Plan #1: Consequences of Overuse of Antibiotics

### Antibiotic Use in Nursing Homes

- Antibiotics are one of the most commonly prescribed medications in nursing homes.
- About 7 out of 10 residents in long-term care facilities receive an antibiotic every year.

### Consequences of Overuse of Antibiotics in Nursing Homes

- **Question for discussion:** What are some of the concerns that you may have read about or heard regarding antibiotic use in nursing homes?
- **Concerns about antibiotic use in nursing homes:**
  - Evidence has shown that antibiotics given to people who do not have symptoms of infection are not effective, and these antibiotics can be harmful.
  - All medications can have side effects, so it is important to use them only when needed.
  - There is a growing problem with antibiotic-resistant organisms, such as multidrug-resistant Gram-negative bacteria, methicillin-resistant *Staphylococcus aureus*, and vancomycin-resistant enterococci.
  - Antibiotic-resistant organisms are difficult and costly to treat, threaten human health, and can result in death.
  - Antibiotic-resistant bacteria not only pose a threat to nursing home residents but also to the community at large.

### What Can We Do? Antibiotic Stewardship

- Antibiotic stewardship is an approach or program that focuses on improving antibiotic use by avoiding unnecessary or inappropriate antibiotics.
- It is an approach to providing healthier and safer care to residents.
- Nursing staff play an essential role in antibiotic stewardship as everyone must work together to make sure that residents only get antibiotics when needed.
- Antibiotic stewardship involves everyone:
  - Physicians, nurse practitioners (NPs), and physician assistants (PAs) need information about the resident's status to make decisions about tests or treatment.
  - Pharmacists need to know the resident's condition to avoid medication errors.
  - Nursing home administrators and quality leaders need data about possible infections to track problems and improve quality of care.
  - Nursing staff are in an ideal position to find out the right information at the right time so the resident can get the right type of care.

## Overview of Roles for Nurses in Antibiotic Stewardship

- Participation in antibiotic stewardship
  - One of the most important roles for nurses is communication, specifically knowing what to communicate, as well as how, when, and to whom.
  - Another role is measurement, which includes observing residents, taking vital signs, measuring resident complaints and status, and documenting what you see.
  - An additional role is assessment, which means interpreting the data or information that is measured.
- Next steps
  - Now that you're familiar with why antibiotic stewardship is important, other learning modules will cover specific types of infections and the tools you can use to record and communicate information.

## Questions for Discussion

- Who is in charge of this facility's antibiotic stewardship program?
- What do you do now when a resident shows signs of potential infection? What are some things we could do differently that might help residents avoid getting antibiotics if they don't need them?

## Lesson Plan #2: Signs and Symptoms of Urinary Tract Infections

### Introduction

- The primary goal of this session is to review the signs and symptoms of suspected urinary tract infections or UTIs.
- UTIs are a leading cause of misuse of antibiotics in nursing homes.
- We will discuss:
  - Signs and symptoms of UTIs
  - Three common myths about UTIs

### What Is a UTI?

- A UTI is an infection in any part of your urinary system.
- This can include your kidneys, ureters, bladder, and urethra.
- Most infections involve the lower part of the urinary tract—the bladder and the urethra.
- In one research study, more than half of the antibiotic prescriptions for UTIs were for residents who didn't have symptoms.

### Signs and Symptoms of a UTI

- **Question:** What are the signs and symptoms of a UTI?
- *Instructor: Listen, Reflect, Discuss*
- Signs and symptoms of a UTI may vary and are different depending on whether the resident has an indwelling catheter.
- A lot of research has been done to identify the symptoms that indicate a UTI in nursing home residents.
- The **key symptoms** of urinary tract infections are:
  - Dysuria or acute pain when urinating
  - Fever with another symptom
    - Note that fever should be evaluated for each individual resident. Some residents regularly run a lower temperature. Notice the asterisk and footnote in the SBAR.
  - Back or flank pain
  - Frequent urination
  - Incontinence
  - A strong, persistent urge to urinate
  - Suprapubic pain
  - Gross hematuria
  - New or dramatic change in mental status for residents with an indwelling catheter
  - Hypotension
- Even when there seem to be signs or symptoms of a UTI, sometimes they could be related to some other issue or problem. It may not be a UTI.
- When a resident has a suspected UTI, the nursing staff can communicate with the physician, NP, or PA about symptoms and the resident's condition. This information is essential to making a decision about whether to start antibiotics or take other actions first.

## Common Myths About Urinary Tract Infections

There are at least three common myths about urinary tract infections:

### 1. Change in mental status

- The first myth is that *any* change in mental status *by itself* indicates that a resident *without an indwelling catheter* has a UTI.
- However, if the resident *has an indwelling catheter*, then a new and dramatic change in mental status alone *is reason to suspect* a UTI.
  - **Question:** What are some reasons that a person without an indwelling catheter may have a change in mental status?
  - *Possible reasons for a change in mental status:* Dehydration; being tired; medication side effects; vascular problems; head trauma; dementia; hearing or other sensory deficiencies; infection; or many other possible causes
- Even though a change in mental status can be related to an infection, it does not necessarily mean that someone has a UTI.
- It may be better to wait and assess the resident frequently for other symptoms of infection.

### 2. Foul smelling and/or dark urine

- The second myth is that dark and/or foul smelling urine means that someone has a UTI.
  - **Question:** What are some reasons that a person may have *dark urine*?
  - *Possible reasons for dark-colored urine:* The color of urine comes from a pigment called urochrome. If urine is darker, then it is more concentrated; this may indicate that a person is dehydrated and needs additional fluids.
  - **Question:** What are some reasons that a person may have *foul-smelling urine*?
  - *Possible reasons for foul-smelling urine:* The smell of urine has to do with the amount and concentration of substances that are excreted by the kidneys. Urine that is more concentrated may smell more like ammonia. Dehydration, some foods, vitamins, and health conditions can affect the smell of urine.

### 3. Urinalysis with positive findings

- The third myth is that finding bacteria, nitrites, and/or white blood cells (or leukocytes) in a urinalysis means that the resident has a UTI *even if* the resident shows no other signs of infection.
  - **Question:** What are some reasons that people may have positive results with a urinalysis?
  - *Possible reasons for positive results of a urinalysis:*
    - It's not easy to get a clean catch or midstream catch urine specimen, especially among persons who may have cognitive issues or mobility problems.
    - There can be problems with contamination. False positives and false negatives can occur with dipstick urinalysis.
    - White blood cells in the urine can be related to use of a catheter, stones, tumors, or infections.
  - Bacteria in the urine does not mean that there is an infection if the resident shows *no other signs or symptoms* of a UTI.

## Questions for Discussion

- What is our usual approach now when we think a resident might have a UTI?
- What are some things we would want to know before requesting antibiotics for a resident who has symptoms of a UTI?
- What are some things we could do to help reduce residents' risk of a UTI?
- Who are the people that you might communicate with about a suspected UTI in a resident?
  - People that nursing staff communicate with include physicians, RNs, residents, and families.

## Lesson Plan #3: The Situation, Background, Assessment Input, Request (SBAR) Communication Approach

### Introduction to SBAR

- What is SBAR?
  - SBAR stands for: Situation, Background, Assessment Input, and Request.
  - SBAR is a standardized communication technique that is becoming a best practice for handoffs, transferring residents, and for communicating important information to other providers.
  - SBAR can help nursing home staff document a resident's condition to make it easier to determine whether antibiotics are appropriate.

### Why SBAR Works

- It is a focused communication process that emphasizes the most important points that the person you're communicating with needs to know.
- It allows people to communicate critical information briefly and concisely.
- It is an organized way to present information and document decisions.
- It is effective at bridging differences in communication styles.

### Steps in Using SBAR

- First, organize the information that you want to tell the clinician for each of the four parts of SBAR.
  - Do this on paper when possible.
- Second, contact the clinician and present the information in the SBAR order.
- Third, the clinician may confirm or ask for clarification, or the clinician may request that a specific action be taken.
- In our nursing home, the process for using the SBAR will be [OUTLINE THE PROCESS FOR USING THE SBAR THAT REFLECTS YOUR HOME'S WORKFLOW FOR MANAGING A RESIDENT WHO MAY HAVE A CONDITION REQUIRING ANTIBIOTICS].

### What the SBAR Provides

[THIS SECTION SHOULD BE ADAPTED TO FIT YOUR NURSING HOME'S NEEDS AND PROCEDURES]

- Situation
  - Who you are; your organization; your unit or location—if you are communicating with a clinician outside the nursing home
  - Resident's name
  - Who you are contacting [WHO WOULD BE CONTACTED FOR RESIDENTS AT YOUR FACILITY]
  - Reason for contacting the clinician, describing factual information

- Background
  - Provide significant medical history of the resident or resident.
  - Mention any diagnoses, current medications, or allergies.
  - Note any other concerns.
- Assessment Input
  - The “assessment input” component identifies specific criteria needed to make a clinical decision.
  - Who completes the assessment input? [ADAPT THIS DISCUSSION TO REFLECT THE WAY YOUR NURSING HOME IS STAFFED AND WHAT YOUR WORK FLOW IS. FOR EXAMPLE, WILL NURSING ASSISTANTS REFER CONCERNS TO RN?]
  - **Role Play:** Have the group take turns describing an assessment input briefly.
    - Task: Briefly describe an assessment input of your sample situation.
    - *Instructor: Provide feedback.*
- Request
  - This section is for documenting instructions from the clinician.
  - If instructions are received by phone, repeat any orders or recommendations to the clinician and verify the actions to be taken.
  - **Role Play:** Have the group take turns briefly describing a request.
    - Task: Briefly describe a request to a clinician for the situation described.
    - *Instructor: Provide feedback.*

#### [OPTIONAL] SBAR Video Example

- *Instructor:* Show the short SBAR video vignette.
- This example doesn’t clearly indicate the specific SBAR steps, but it provides a nice example of the clear communication.
  - <https://www.ahrq.gov/teamstepps-program/resources/additional/check-back-long.html>
- Questions:
  - What did you think went well with this approach?
  - What parts seemed to follow the SBAR approach well?
  - Was there anything that could be done differently to better follow the SBAR approach?



## Lesson Plan #4: Using the Suspected UTI SBAR Tool

In this lesson, use the case studies that follow as examples and walk nursing staff through the process of using the Suspected UTI SBAR tool to evaluate and communicate information about each resident. If time permits, the instructor may want to supplement these three cases with additional examples drawn from actual residents in the nursing home. From time to time during routine staff meetings, the director of nursing may also wish to use a recent case from the nursing home to review how to use the SBAR form.

### Case Study – Resident Without Indwelling Catheter

Grace has been a resident at Beachside Nursing Home for 3 years. She was born on June 30, 1923. She weighs 186 pounds, is 5' 5" tall, and has a body mass index (BMI) of 30.9. She has a current history of hypertension, osteoporosis, occasional constipation, and mild dementia. She sometimes thinks it is the 1970s. Grace is prescribed a diuretic for her hypertension and Dulcolax for constipation. She does not have an indwelling catheter. Approximately 1 year ago, her eGFR was 79. She has a history of a rash when she took amoxicillin about 20 years ago. She has occasional incontinence of urine only. Her advanced directive indicates do not resuscitate (DNR) if she has an unobserved cardiac or respiratory arrest, and to initiate cardiopulmonary resuscitation (CPR) if she has an observed cardiac or respiratory arrest.

Today Grace has new complaints of right-sided sharp flank pain when she urinates. She calls one of the nurses her daughter's name. She has voided three times in the last 12 hours. At each meal she has consumed about 8 ounces of fluids but has not had water or other fluids in between meals for the last 3 days. Her urine appears dark amber. Her oral temperature ranged between 98.2° and 98.8° yesterday. This morning her oral temperature was 99.7°. Over the last 3 days, her diastolic blood pressure (BP) has ranged between 62 and 78. Her systolic BP has ranged between 92 and 132.

- *Criteria were not met for this resident. Discussion can touch on how symptoms are approaching the criteria: temperature has risen to nearly 100° and resident has new flank pain. Discussion should also address how urine color is not considered as part of the criteria. Discuss how nursing staff might respond in this case, such as closely monitoring the resident's temperature and watching for other symptoms. Talk about how the SBAR could be used in this case to request other orders such as increasing fluids.*

## Case Study – Resident With Indwelling Catheter

Zachary has been a resident of Pleasantville Care and Rehabilitation Center for the last 4 years. His wife of 48 years lives in their family home. He was born on December 22, 1936. Zachary weighs 262 pounds, is 5' 9" tall, and has a body mass index (BMI) of 38.7. He has a current history of chronic obstructive pulmonary disease (COPD) and throat cancer. He is a former three-pack-per-day smoker; he quit 6 years ago. He has dementia and often has difficulty expressing his needs and thoughts. He takes a short acting bronchodilator as needed (PRN). He has an indwelling catheter. His most recent eGFR, drawn 2 months ago was 62. He has no known drug allergies. His advanced directive indicates do not resuscitate (DNR) if he has an unobserved cardiac or respiratory arrest, and to initiate cardiopulmonary resuscitation (CPR) but no other extensive measures if he has an observed cardiac or respiratory arrest.

Today Zachary has a temperature of 100.6°. The nursing assistant noted nonvisible trace hematuria on a urine dipstick sample this morning. His urine output was 862 milliliters (ml) yesterday and 622 ml over the last 10 hours. His urine appears dark yellow and slightly cloudy. Zachary complains of mild abdominal discomfort. Over the last 2 days, his diastolic blood pressure (BP) has ranged between 82 and 96. His systolic BP has ranged between 122 and 143.

- *Criteria were met for this resident: resident has an indwelling catheter and a fever. Discussion should touch on how dark, cloudy urine and trace hematuria are not considered and address how to record other relevant information on the form.*

## Case Study – Resident Without Indwelling Catheter

Gloria has been a resident of Cedar Ridge Nursing Home for almost 2 years. She was born on March 31, 1932. She weighs 126 pounds, is 5' 6" tall, and has a body mass index (BMI) of 20.3. She has a current history of mild aphasia and dementia. Prior to the onset of her dementia she was physically active at least an hour every day, swimming, riding bicycle, and lifting weights at the gym. She now ambulates with assistance, but has an unsteady gait. She is not taking routine medications, and does not have an indwelling catheter. She had 5 live births through vaginal delivery, and began to experience mild stress incontinence in the 1990s. This was treated with a Marshall-Marchetti-Krantz (MMK) procedure in 1992. It was somewhat successful. She has continued to experience occasional incontinence of urine only. She has been treated for urinary tract infections several times in the past several years with antibiotics; however, she is allergic to penicillins and cephalosporins. Her advanced directive indicates do not resuscitate (DNR) if she has an unobserved cardiac or respiratory arrest, and to initiate cardiopulmonary resuscitation (CPR) only if she has an observed cardiac or respiratory arrest.

Over the past 24 hours Gloria developed a mild fever of 101 degrees F, orally. She also has been urinating almost every hour and complains of moderate discomfort in the lower abdomen or pelvic region. Her urine is slightly cloudy. Her appetite is diminished, yet she continues to drink fluids with each meal and approximately 4 ounces of water between each meal. Her blood pressure (BP) was 132/86 this afternoon.

- *Criteria were met for this resident. Discussion can focus on the criteria that are met, including her temperature, urinary frequency, and suprapubic pain. Discussion should also address how cloudy urine is not considered as part of the criteria, and how to record other information such as incontinence and antibiotic allergy.*