



# HEALTHCARE-ASSOCIATED INFECTION (HAI) MODULE

## Part Three

### Urinary Tract Infections (UTI): Knowledge Checks and Examples

Date: October 2022

# Learning Objectives

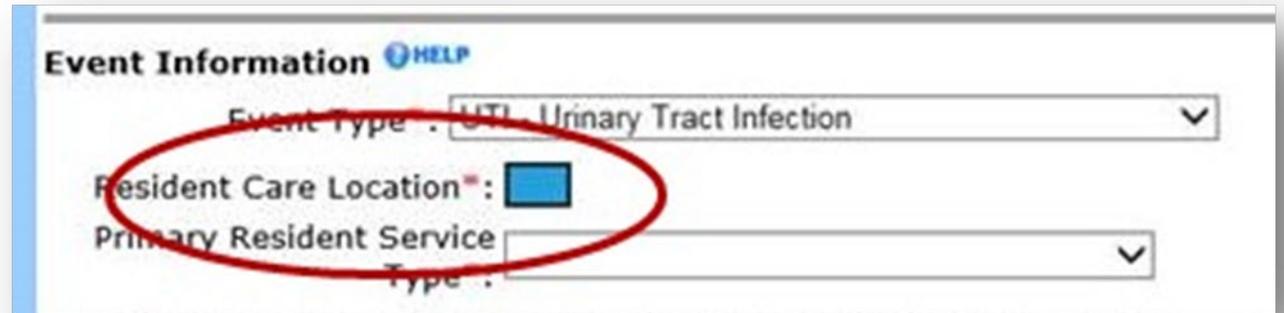
- Practice applying the NHSN UTI definitions and protocols through case studies.

# KNOWLEDGE CHECK

## Knowledge Check 1:

I'm entering a UTI event for a resident in my facility, but when I try to select her resident care location, the drop-down box is blank. What is wrong?

- A. The resident doesn't really have a UTI
- B. The resident is not really a resident in your facility
-  C. The resident care locations have not been set-up (mapped) for your facility and you must do this before submitting events to NHSN



The screenshot shows a web form titled "Event Information" with a "HELP" link. The form contains three fields: "Event Type" is a dropdown menu with "UTI - Urinary Tract Infection" selected; "Resident Care Location" is a dropdown menu that is currently blank, highlighted with a red oval; and "Primary Resident Service Type" is a dropdown menu. The "Resident Care Location" field is the focus of the problem described in the text.

# Scenario 1: Understanding use of Changes in Mental Status for CA-SUTI

## Acute change in mental status AND >10,000 leukocytes

- ✓ A. A resident who is usually able to follow instructions has been unable to focus or pay attention to instructions for the last couple of days and has a WBC count of more than 20,000 leukocytes.
- ✓ B. A resident suddenly has fluctuating course, difficulty paying attention, and is not making sense during conversation, and has a WBC of greater than 10,000 leukocytes.
- C. A resident who recently begins to urinate in the bed.
- D. A resident who is usually able to follow instructions has been unable to focus or pay attention to instructions for the last couple of days and has a WBC count of more than 2,000 leukocytes.

## Scenario 2: Criteria for CA-SUTI.

### Which of the following criteria would confirm a CA-SUTI?

-  A. The resident's oral temperature is 100.2 °F and the indwelling catheter specimen is positive for *E. coli* >100,000 CFU ( $10^5$ ).
- B. The resident has purulent discharge around the **suprapubic catheter** and the suprapubic catheter specimen is positive for *E. coli* >100,000 CFU ( $10^5$ ).
- C. The resident has a fluctuating change in mental status, and a voided specimen positive for *E. coli* **100 CFU ( $10^2$ )** four days after the indwelling catheter was removed.
- D. The resident has multiple oral temps of **98.2 °F**, chills, sweating and the indwelling catheter specimen is positive for *E. coli* >100,000 CFU ( $10^5$ ).

## Scenario 3: Mr. U

1. Mr. U, a resident of a LTC facility has a urinary catheter in place for 3 days for acute urinary retention. On day 3, he spikes a fever of 101°F and has a cough with shortness of breath.
2. The physician orders a urine culture and it comes back positive with >100,000 CFU/ml of *Pseudomonas aeruginosa* and *Candida albicans*.
3. Upon further work-up Mr. U is determined not to have any other symptoms that meet the NHSN CA-SUTI criteria,
  - But a chest X-ray does show infiltrates in the right upper lobe of the lung.

## Scenario 3, *continued*: Does Mr. U Have a CA-SUTI?

- A. YES, he meets NHSN criteria for a CA-SUTI
- B. NO, he does not meet NHSN criteria for CA-SUTI because the fever has another alternative source (respiratory infection)
  - ✓ Indwelling urinary catheter in place >2 calendar days
  - ✓ Urine culture positive for at least one bacteria of at least 100,000 CFU/ml
  - ✓ Fever of 101 degrees Fahrenheit does meet the fever criterion and since fever is considered a non-specific sign of infection, it can be used to meet NHSN CA-SUTI criteria **even** if the resident may have another infection cause for the fever.

## Scenario 4: Mr. G

- A voided urine culture is positive for mixed flora, *E. coli*, and *Candida glabrata*  $10^5$  CFU/ml.
- During the medical record review, you read that four days earlier Mr. G complained of burning during urination. You did not see documentation of an indwelling urinary device, but he does receive intermittent catheterization for urinary retention.

## Scenario 4, *continued*: Mr. G

### Does Mr. G meet NHSN UTI criteria?

- A. YES, he meets NHSN criteria for a SUTI
- B. NO, he does not meet NHSN criteria for UTI
- C. Yes, he meets NHSN criteria for CA-SUTI
- D. Yes, he meets NHSN criteria for ABUTI

## Scenario 5: Mr. S

- Mr. S is an 90 year old resident in the facility. He has a history of multiple medical issues. On 3/3/18, blood, urine, and wound cultures were collected.
- You review the following lab reports, reported on 3/5/18:
  - Blood culture positive for >100,000 cfu/ml of *Streptococcus pyogenes*.
  - Urine culture positive for >100,000 cfu/ml of *Streptococcus pyogenes*.
  - Wound culture positive for *Pseudomonas aeruginosa* (>10<sup>5</sup>).
- Mr. S does have an indwelling catheter that has been in place for the past 10 days, but you do not find documentation indicating signs or symptoms of a urinary tract infection in the previous 7 days.

## Scenario 5: *continued*: Mr. S

### Does Mr. S have a SUTI?

- A. Yes. Because he had a positive urine culture + positive blood culture with the same organism
- B. Yes. Because he had a urine culture positive for >100,000 cfu/ml of *Streptococcus pyogenes*.
-  C. No. Because he does not have any localizing signs or symptoms of a UTI
- D. Not sure

## Scenario 7: Ms. R

- **Day 1:** Ms. R had an indwelling urinary catheter inserted in for a bladder outlet obstruction
- **Day 2:** The indwelling urinary catheter remains in place
- **Day 3:** The resident's indwelling urinary catheter remains in place. The resident had a single oral temp of 100.2°F. A urine culture was collected from the catheter

## Scenario 7, *Continued*: Ms. R

- **Day 4:** The indwelling urinary catheter remains in place. No symptoms documented
- **Day 5:** The urine culture was positive for *Candida glabrata*  $10^5$  CFU/ml

**Does Ms. R have a CA-SUTI?**

A. Yes

B. No

Fact check: Is  
*Candida glabrata*  
bacteria?

*Candida glabrata* is a  
yeast

## Scenario 8: If your facility is interested in reporting UTI events to NHSN, which module would you select on the Monthly Reporting Plan?

- A. LabID Event Module
- B. Prevention Process Measures Module
- C. Healthcare Associated Infection Module
- D. Dialysis Module

**Scenario 9: For NHSN UTI event reporting, a facility may choose to report catheter-associated UTIs only.**

A. True

B. False

## Scenario 10: When entering the monthly total for New Antibiotic Starts, which residents are included?

- A  All residents who had new prescriptions or orders for antibiotics for suspected or diagnosed UTI.
- B. Only residents who received antibiotic orders and met NHSN criteria for a UTI event.
- C. Only residents who had a positive urine culture.

## Scenario 11: When entering the monthly total for Number of Urine Cultures ordered, which residents are included?

- A. Only urine cultures for residents who met NHSN UTI criteria.
- ✓ B. All new urine cultures ordered for a resident regardless of whether the resident has a UTI meeting the NHSN event criteria.
- C. Only urine cultures ordered for residents with documentation of a UTI.

## Scenario 12 : Define Date of Event for an UTI

- A. Date the urine culture was collected.
-  B. Date when the first clinical evidence (signs or symptoms) of infection appeared or the date the specimen used to meet the infection criteria was collected, whichever comes first.
- C. Date urine culture is ordered
- D. The date the event is submitted to NHSN

## Scenario 13: If DHQP nursing home is interested in submitting UTI data to the NHSN only for the Dementia Unit, which locations must be selected when setting up the NHSN monthly reporting plan?

A. The Dementia Unit if it has been mapped (set-up) in the NHSN as a resident care location.



Facility-wide inpatient (FacWideIN) must be selected on the NHSN monthly reporting plan and UTI surveillance must be performed for all resident care locations.

C. Facility-wide inpatient (FacWideIN) must be selected on the NHSN monthly reporting plan, but the facility can limit UTI surveillance to include only the Dementia Unit.

# Setting for UTI Surveillance

**Urinary Tract Infection (UTI) surveillance and reporting for LTCFs require facility-wide inpatient (FacWideIN), which means all residents in all locations in the facility must be monitored for catheter and non-catheter associated UTIs**

# Scenario 14: Indwelling Urinary Cather Count at 12 Noon on May 2

How many indwelling catheter days?

- A. 6
- B. 5
- C. 4
- D. 3
- E. 2
- F. 1

Resident	Urinary Status
101 Black ★	Indwelling catheter
102 White	Condom catheter
103 Gray	Voiding
104 Orange ★	Foley
105 Green	Suprapubic to direct drainage
106 Berry ★	Indwelling Foley
107 Brown	Straight cath Q3 hours
108 Sunny	Foley placed at 2 pm on May 2
109 Summer	Voiding. Straight cath for UA



**THANK YOU**  
**Questions?**  
**nhsn@cdc.gov**

Add “UTI Reporting”  
to the subject line in  
order to have your  
inquiry routed to the  
appropriate subject  
matter expert

For more information please contact Centers for Disease Control and Prevention

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Telephone: 1-800-CDC-INFO (232-4636)/TTY: 1-888-232-6348

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The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.