

# National Healthcare Safety Network NHSN CASE STUDIES

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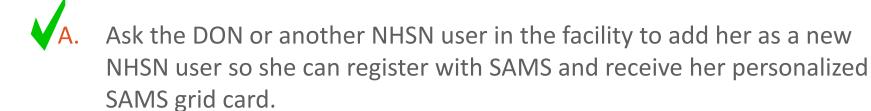
# **MEET JANE**



Jane was recently hired as an IP to work for DHQP Nursing Home. Prior to hiring Jane, the recently resigned Director of Nursing (DON) had responsibilities for infection prevention and control, including participating in NHSN. Jane is a new IP, but she is hopeful that her pediatric experience will help in her new role. This facility has 125 beds and includes a 25 bed skilled nursing unit, 25 bed locked unit for dementia care, and 75 general nursing care beds. Jane is very excited to start her job as a new IP for this NHSN facility.

# **Scenario 1: Answer**

It's her first day on the job and the new DON informed Jane that she will need to use NHSN for surveillance and data reporting. Since Jane has never used NHSN, what is the first step she must take?



- B. Re-enroll the facility and enter herself as the NHSN facility administrator.
- C. Add herself as a NHSN user.

# Scenario 1-continued: Answer

The DON informs Jane that she also does not have access to NHSN. The previous DON was the NHSN facility administrator, and the only one with NHSN access. Now what? (Select all that apply)



- If possible, contact the previous DON and ask her to log back into NHSN facility and add Jane as a user and reassign the role of NHSN facility Admin to her.
- B. Re-enroll the facility and enter herself as the NHSN facility administrator.
- C. Add herself as a NHSN user



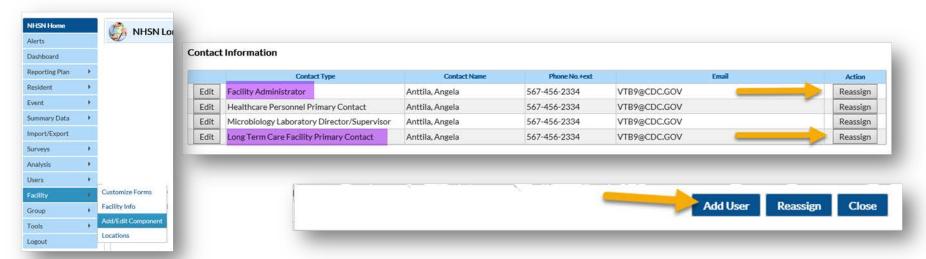
If it's not feasible to request the previous DON to reassign the NHSN facility administrator role, request the new DON to submit a letter to NHSN requesting the NHSN facility administrator role to be reassigned to Jane.

# A FACILITY SHOULD ENROLL INTO NHSN ONE TIME



# The NHSN facility administrator can reassign the role of facility administrator by following the below instructions.

- Log into NHSN → Select Facility from the left navigation bar → select Add/Edit component → Select Reassign, either by selecting an existing user or by adding a new user..
- Once you check Submit, you should see "Contact successfully reassigned" at the top of the screen.



# **Scenario 2: Answer**

# After receiving her SAMS grid card, what actions would you recommend Jane take? (Select all that apply)

- Create a monthly reporting plan for each month in which event data will be submitted.
- B. Print the event forms for the CNAs to complete when an infection is suspected.
- Verify that resident care locations have been set-up in the NHSN application.
- De-activate users no longer working in the facility, including the outgoing DON.
- E. Re-enroll the facility and enter herself as the NHSN facility administrator.
- Review the facility annual survey to become familiar and check for accuracy.
- Identify and add at least one additional user to NHSN.

# **Scenario 3: Answer**

# Jane is interested in performing UTI surveillance just for the general nursing unit. Which locations must she select when submitted up the NHSN monthly reporting plan?

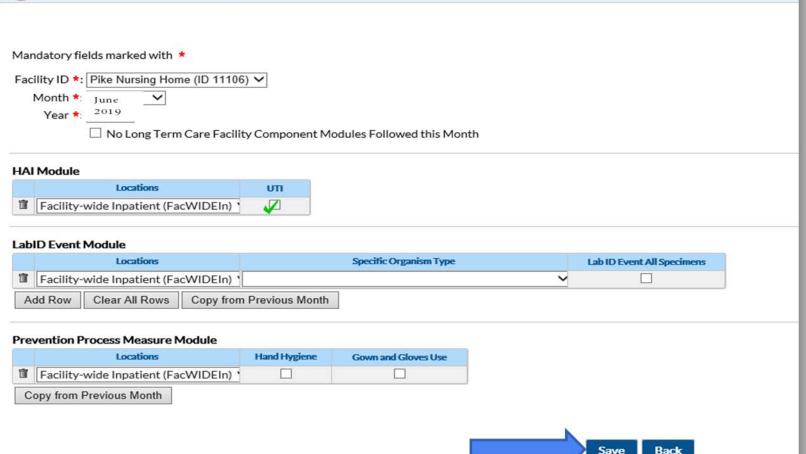
- A. She can select the general nursing unit if she has mapped the location in the NHSN application.
- B. She must select facility-wide inpatient on the NHSN monthly reporting plan and perform UTI surveillance and reporting for all resident care units in the facility.
  - C. She must select facility-wide inpatient on the NHSN monthly reporting plan, but can perform surveillance only on the general nursing unit.

# **Setting for Surveillance**

UTI surveillance and reporting require facility-wide inpatient (FacWideIN), which means all resident care locations in the facility must be monitored for catheter and non-catheter associated UTIs



#### **Add Monthly Reporting Plan**



# Scenario 4: Answer

# Jane understands the importance of data accuracy. How can she be sure the NHSN data are accurate?

- A. Resolve all outstanding alerts every month
- B. Generate datasets before running analysis reports
- C. Assure annual facility survey accuracy
- D. Submit summary data for each month, even if not events were reported
- **E.** All of the above

# Data Quality – Places to look

- Monthly reporting plans:
  - Are the monthly reporting plans complete?
- Event:
  - Are all required fields for the UTI event complete?
- Summary Data:
  - Did you complete all required fields?
  - Did you remember to check "report no events" if there were no events reported?
- Annual Survey:
  - Are the number of beds updated from the previous survey year?
  - Has the facility affiliation changed?
- Alerts:
  - Have the alerts been resolved for the required analysis months?
- Using NHSN Analysis:
  - Are new datasets generated?
  - Were new events entered after I ran my analysis?

Data Accuracy is essential for surveillance of infections and development of key quality metrics

#### **Scenario 5: Answer**

While reviewing positive cultures for July, Jane found that Ms. Lee had a urine culture with 100,000 cfu/ml of *E. coli*. During chart review, she found that Ms. Lee was transferred to her skilled nursing facility on 7/4 after having hip surgery. On 7/5, Ms. Lee complained of burning when she "goes to the bathroom" and feels like she constantly needs to urinate. The urine culture was ordered on 7/5, but was not collected until 7/7. After reviewing the NHSN UTI criteria, Jane knows Ms. Lee does meet NHSN SUTI criteria, but not sure if a UTI event should be reported since she recently transferred to the facility. What advice can we give Jane?

- A. Don't report the UTI to NHSN because it was present on admission to the LTCF.
  - B. Report the UTI since the urine culture was not collected until 4 days after admission.
  - C. Since Jane is new, she gets a one month learning curve and doesn't have to report anything to NHSN.

# **Present on Admission**

- Residents with NHSN UTI signs or symptoms presenting on day one or two of current admission date.
  - If a resident is transferred from an acute care facility and develops signs/symptoms of a UTI within the first 2 calendar days of admission to the LTCF, it would be considered present at the time of transfer to the LTCF and not reported to NHSN as a LTCF UTI event.

#### Scenario 6: Answer

Jane doesn't understand how to apply the new onset confusion/functional decline criteria for CA-SUTI. Which of the residents below fits NHSN CA-SUTI criteria? (Choose one.)

- 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 <u>and</u> has a WBC count of more than 5,000 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 14,000 leukocytes.
  - C. A resident who recently begins to urinate in the bed.

#### Scenario 7: Criteria for CA-SUTI: Answer

# Which of the following criteria would confirm a CA-SUTI? (Select all that apply.)



- A. The resident's oral temperature is  $100.2 \, ^{\circ}$ 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 catheter specimen is positive for  $E.\ coli > 100,000\ cfu\ (10^5)$ .



- C. The resident has multiple oral temps of 99.2  $^{\circ}$ F, chills, sweating and the indwelling catheter specimen is positive for *E. coli* >100,000 cfu (10 $^{\circ}$ ).
- D. The resident's oral temperature is 100.9 °F and the indwelling catheter specimen is positive for E. coli >100,000 cfu and mixed flora.
- E. 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.
- F. The resident has oral temp of 101 °F, chills, sweating, and the indwelling catheter specimen is positive for *Candida albicans* >100,000 cfu.

# Scenario 8: Meet Mr. G

Mr. G has a positive voided urine culture that is positive for mixed flora,
 E. coli, and Candida glabrata 10<sup>5</sup> CFU/ml.

 During the medical record review, you read that four days earlier he 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 8: Mr. G: Answer

#### 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
  - ✓ No indwelling urinary device
  - ✓ Acute dysuria
  - ✓ Urine culture requirement are not met since culture was collected from a voided urine specimen and the urine culture grew more than 2 species of microorganisms (mixed flora = at least 2 species of organisms)

# Scenario 9: Answer

Jane was reviewing her events for the month of June when she realized Mr. Jones was transferred to her SNF on 6/30 with a recent history of CDI. She did not find evidence of a stool culture collected after he was admitted to her facility. Should she report a CDI LabID event just to be on the safe side?

A. Yes

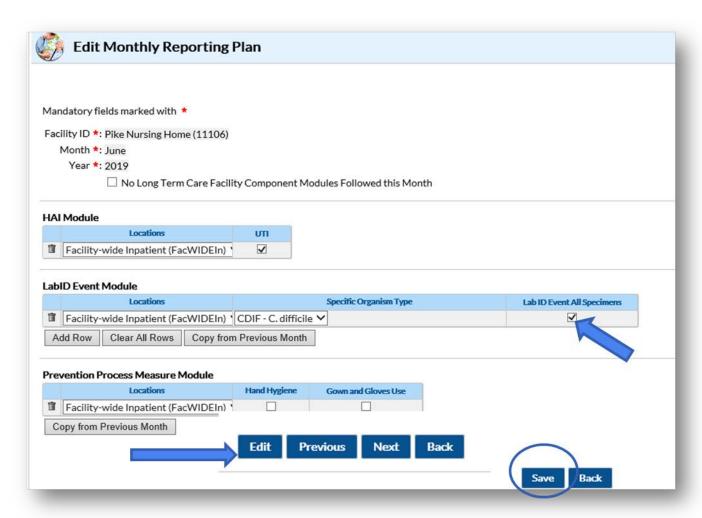


# Scenario 10: Answer

After getting the hang of UTI surveillance, Jane decides that she wants to retrospectively add *C. difficile* LabID Event to her reporting plan for June. Can she update her NHSN monthly reporting plan?

- ✓A. Yes. She can edit the NHSN monthly reporting plan and add CDI LabID Event to the plan.
  - B. No. It's too late. She will need to wait until June 2015 to add CDI LabID Event reporting to her plan.
  - C. She should call NHSN and let them decide.





# **Scenario 11: Answer**

#### **Define Event Date for a LabID event**

- ✓ A. Date the specimen 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 culture was ordered.
  - D. Date the events were entered.

#### Scenario 12 : Answer

Mr. Smith, a resident in your facility developed copious diarrhea and was sent to the emergency department on 6/1 for evaluation. While in the ER a loose stool specimen was collected and tested positive for *C. difficile*. Mr. Smith received IV fluids and a new prescription for oral vancomycin, returning back to your facility on 6/2.

According to NHSN LabID event rules, should Jane submit a CDI LabID event for Mr. Smith?



- B. No
- C. I wasn't paying attention during the LabID event presentation

### Scenario 12-continued : Answer

Mr. Smith, a resident in your facility developed copious diarrhea and was sent to the emergency department on 6/1 for evaluation. While in the ER a loose stool specimen was collected and tested positive for *C. difficile*. Mr. Smith received IV fluids and a new prescription for oral vancomycin, returning back to your facility on 6/2.

Should Jane include Mr. Smith in the monthly summary count for *Number of Admissions on C. diff Treatment:* 

- A. Yes
- ✓ B. No This represents OP visit, not a re-admission
  - C. I wasn't paying attention during the LabID event presentation

### Scenario 12-continued : Answer

Mr. Smith, a resident in your facility developed copious diarrhea and was sent to the emergency department on 6/1 for evaluation. While in the ER a loose stool specimen was collected and tested positive for *C. difficile*. Mr. Smith received IV fluids and a new prescription for oral vancomycin, returning back to your facility on 6/2.

Should Jane include Mr. Smith in the monthly summary count for *Residents started* on Antibiotic Treatment for C. diff Treatment?

- ✓ A. Yes since he was under the care of the LTCF- no change in current admission date
  - No
  - I wasn't paying attention during the LabID event presentation

#### Scenario 13: Answer

While continuing to review positive lab results for July, Jane found that Ms. Brown had a positive *C. difficile* PCR on July 15. During chart review, she read that Ms. Brown was admitted to the LTCF July 14 and a loose stool specimen was collected on July 15. Additionally, Ms. Brown was started on oral vancomycin on July 15.

# Jane is unsure if she needs to report this positive C. diff and needs our help! What advice can we give Jane?

- A. Don't report a CDI LabID event to NHSN because it was community acquired.
- B. Report a CDI LabID event to NHSN since the specimen represented the first positive C. diff from this resident.
  - C. Again, since Jane is new, she gets a one month learning curve and doesn't have to report anything to NHSN.

# **Both** Community-Onset and LTCF-Onset positive C. diff lab results must be submitted to the NHSN



#### Scenario 13-continued: Answer

While continuing to review positive lab results for July, Jane found that Ms. Brown had a positive *C. difficile* PCR on July 15. During chart review, she read that Ms. Brown was admitted to the LTCF July 14 and a loose stool specimen was collected on July 15.

Additionally, Ms. Brown was started on oral vancomycin on July 15.

How will NHSN categorize the CDI LabID event submitted by Jane?
\*Reminder- current admission date July 14; specimen collection date July 15\*



- A. Community-onset (CO)
- B. Long-term Care Facility-onset (LO)
- C. Acute Care Transfer-Long-term Care Facility-onset (ACT-LO)

LTCF Current Admission Date: July 14				
July 14	July 15	July 16	July 17	July 18
Day 1	Day 2	Day 3	Day 4	Day 5
Community-Onset (CO)			Long-term Care Facility Onset (LO)	

## **NHSN** will Categorize CDI LabID Events Based on:

- 1. Reported date of current admission to facility,
- 2. Reported specimen collection date (also referred to as date of event),
- 3. Reported date of last transfer from acute care to your facility.
- Community-onset (CO): Date specimen collected 3 calendar days or less after current admission to the facility (i.e., days 1, 2, or 3 of admission)
- Long-term Care Facility-onset (LO): Date specimen collected more than 3 calendar days after current admission to the facility (i.e., on or after day 4)
  - LO Events are further sub-classified:
    - Acute Care Transfer-Long-term Care Facility-onset (ACT-LO): LO LabID events with a specimen collection date 4 weeks or more following date of last transfer from an acute care facility

# **Scenario 13-continued: Answer**

While continuing to review positive lab results for July, Jane found that Ms. Brown had a positive *C. difficile* PCR on July 15. During chart review, she read that Ms. Brown was admitted to the LTCF July 14 and a loose stool specimen was collected on July 15. Additionally, Ms. Brown was started on oral vancomycin on July 15.

Based on the advice we gave Jane about the CDI LabID event. Would we advise Jane to include Ms. Brown in July's Monthly Summary count for *Number of Admissions on C. diff Treatment?* 

- A. Yes
- B. No- there is not documentation to indicate that Ms. Brown was on treatment for CDI at the time of admission to DHQP

# Scenario 13-continued: Answer

While continuing to review positive lab results for July, Jane found that Ms. Brown had a positive *C. difficile* PCR on July 15. During chart review, she read that Ms. Brown was admitted to the LTCF July 14 and a loose stool specimen was collected on July 15. Additionally, Ms. Brown was started on oral vancomycin on July 15.

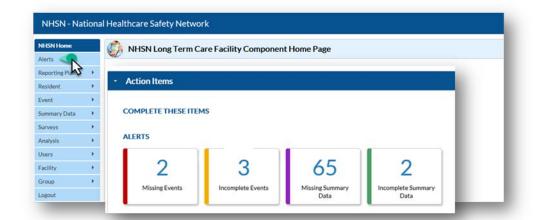
Based on the advice we've just given Jane about the CDI LabID event. Would we advise Jane to include Ms. Brown in July's Monthly Summary count for *Number of Residents Started on Antibiotic Treatment for C. diff?* 

- A. Yes -There was documentation that Ms. Brown was started on vancomycin for CDI
  - B. No

## Scenario 14: Answer

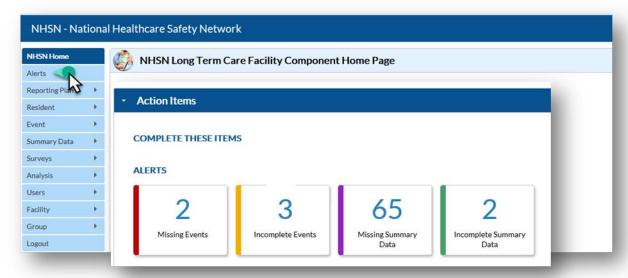
When logging into NHSN, Jane notices the following alerts on her screen. Since she is new and these are not her mistakes, does she have to do anything with these alerts?

- A. Yes. All alerts must be resolved before data are considered as complete.
  - B. No. She can clear these alerts and start fresh since she is new.
  - C. She must ask her DON.



# **Alerts**

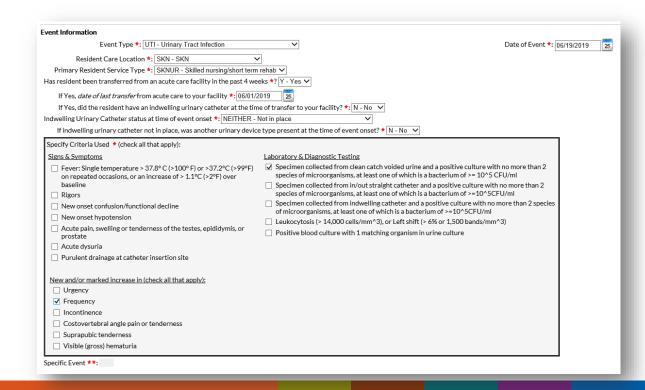
- Automatic checks in the NHSN that remind users of incomplete or missing in-plan data.
- Monthly data that are not considered complete and will be excluded from analysis unless resolved.
- Before using the analysis function, make sure to clear all (relevant) alerts.
- Found on the Home Page, or by clicking on the 'Alerts' tab on the sidebar.



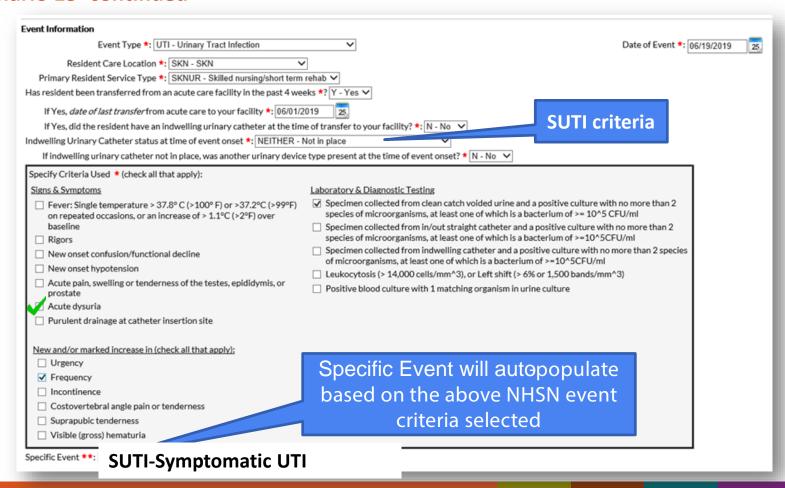
# Scenario 15: Answer

# Jane is attempting to resolve an incomplete event alert. After clicking on the event number, here is the incomplete event. What is wrong?

- ✓A. Specific event criteria is not met.
  - B. Specific event needs to be typed in.
  - C. NHSN has a defect.



#### Scenario 15- continued



# Scenario 16: Answer

In reviewing historical surveillance data, Jane verified that 0 UTIs were identified during the month of January. Since the facility did not report any UTIs to NHSN, does Jane still need to submit the NHSN monthly summary data for January?



B. No

## Submit MONTHLY SUMMARY DATA to NHSN

- Referred to as denominator data
- At the end of the month, enter <u>monthly total</u> denominator data into the NHSN application
  - Unless otherwise stated, best practice is to have monthly events and summary data complete by
  - the end of the following month
  - Example: have June data submitted by the end of July
- Required even if no events were identified during the month
- Locate 'Summary Data' on left-hand navigation Bar, and then 'ADD'



## Scenario 17: Answer

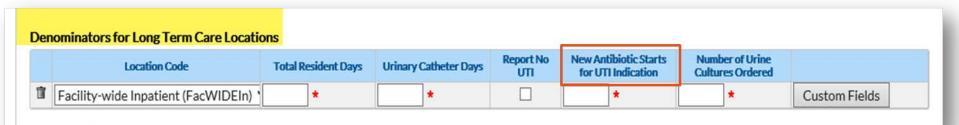
Jane sees a new order for Macrobid on a resident with a UTI. While reviewing the chart, she notices the medication was started and then changed once the sensitivity results became final.

Should Jane count this antibiotic in the NHSN monthly summary count for "New Antibiotic Starts for UTI Indication"?

- A. Yes. Only count the Macrobid since it was administered first.
- B. No. The full treatment was not given so it should not be counted.
- Yes. Count both the Macrobid and the new antibiotic.

## **New Antibiotic Starts for UTI Indication**

- Monthly sum of all new prescriptions/orders for antibiotics given to residents suspected or diagnosed with having a UTI.
- Count antibiotic starts even if the infection being treated did not meet
   NHSN criteria for a symptomatic UTI event.
- Capture all new antibiotic orders, regardless of number of doses or days of therapy.
- Do not include antibiotic courses started by another healthcare facility prior to the resident's admission or readmission back to your facility, even if the resident continues to take the antibiotic while in the facility.



## Scenario 18: Answer

In reviewing the NHSN UTI criteria, Jane does not understand criterion - "Fever of >99F on repeated occasions". Let's give her an example.

- A. Resident has a documented temperature of 99.2F the day before the urine culture was collected and for two days after the urine culture was collected.
- B. The documented temperatures must be consecutive.
- C. Resident has more than one documented temperature reading of >99F.
- D. A and C are correct.

## Scenario 19: Answer

Mr. Clark is a nonverbal, incontinent resident and was noted as having twitching of the face, hands and legs. He was sent to an ER for evaluation, where a urine culture was collected. He returned to the SNF the same day with a diagnosis of UTI, and the culture came back with Klebsiella pneumoniae (>100,000CFU/ml).

# Should this be reported as a UTI event if the patient is unable to verbalize any potential symptoms?

- A. Yes- if the ER diagnosed a UTI, then he must have one.
- B. No a positive urine culture alone does not mean UTI.
- C. Maybe-I'd need more information to determine if Mr. Clark meets NHSN criteria.

## **Scenario 19 continued : Answer**

Upon chart review, prior to being sent to the ED, Mr. Clark had a noticeable increase in twitching of the face and legs during the lower abdominal exam and his urine was pink in color. With this new information (plus the positive urine culture collected in the ED), should Jane report a UTI event?



B. No

Figure 1: Criteria for Defining Non-Catheter Associated Symptomatic Urinary Tract Infection (SUTI):

Resident without an indwelling catheter (Meets criteria 1 OR 2 OR 3):

#### SUTI - Criteria 1

#### **Either** of the following:

- 1. Acute dysuria
- Acute pain, swelling, or tenderness of the testes, epididymis or prostate

#### SUTI - Criteria 2

#### Either of the following:

1. Fever<sup>+ a</sup>

OR

2. Leukocytosis<sup>b</sup>

#### AND

#### **ONE or more** of the following:

- ☐ Costovertebral angle pain or tenderness
- New or marked increase in suprapubic tenderness
- Gross hematuria
- ☐ New or marked increase in incontinence
- New or marked increase in urgency
- ☐ New or marked increase in frequency

#### SUTI - Criteria 3

#### **TWO or more** of the following:

- Costovertebral angle pain or tenderness
- New or marked increase in suprapubic tenderness
- Gross hematuria

OR

- New or marked increase in incontinence
- ☐ New or marked increase in urgency
- New or marked increase in frequency



#### Either of the following:

- Specimen collected from clean catch voided urine and positive culture with no more than 2 species of microorganisms, at least one of which is a bacterium of
   ≥10<sup>5</sup> CFU/ml
- 2. Specimen collected from in/out straight catheter and positive culture with no more than 2 species of microorganisms, at least one of which is a bacterium of ≥10<sup>5</sup> CFU/ml

### Scenario 20 : Answer

Jane is preparing to submit the facility's NHSN Monthly Summary data for June 2019. During the review she was unsure of which residents to include in the summary count for "Number of residents started on antibiotic treatment for C.diff" and needs our help!

Should residents who receive empiric treatment be included in the summary count for: *Number of residents started on antibiotic treatment for C. diff?* 

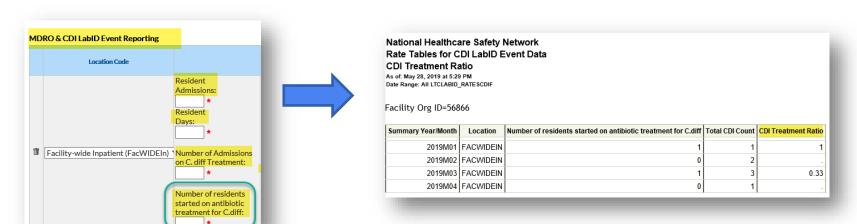


B. No

## Submitting Monthly Summary Data in NHSN for CDI LabID Event Reporting

#### Number of Residents Started on Antibiotic Treatment for C. diff:

- Informs understanding of CDI management practices (CDI treatment ratio)
- Can inform burden of CDI in the facility
- Captures number of residents started on treatment for CDI that month based on clinical decisions; specifically residents without a positive C. difficile test.
- This count is independent of testing
  - □ Includes ALL residents with order for treatment, including those not tested and those who were tested, but had negative results, and those started on empiric treatment



## Scenario 21: Answer

# Jane is interested in participating in the NHSN Prevention Process Measures module. NHSN recommends which useful data collection tips to monitor Hand Hygiene and Gown & Gloves Use?

- A. Observations should be discrete.
- B. Try to ensure that observations are as representative as possible of normal practice at the facility.
- C. Focus on an area of the unit where staff interaction with residents are clearly visible.
- D. Perform at least 30 different unannounced observations.



E. All of above

## Scenario 22: Answer

True or False? The data reported into annual surveys are reflective of the year that the survey is completed.

A. TRUE



## **Annual Surveys and Data Analysis**

- Every year a new survey is entered into NHSN to reflect data from the prior calendar year
  - Surveys capture data of the previous year. For instance, the 2019 survey is collecting data from 2018
- Important to ensure accurate responses for future development of quality metrics such as risk-adjusted models

## Scenario 23: Answer

The new DON requested to see an NHSN UTI rate report for June. Before running this report in NHSN, Jane knows that she must first.....

(Select all that apply)

- A. Verify that all UTI events identified in June were submitted to NHSN.
- B. Verify the complete monthly summary data were submitted for June.
- C. Verify that all outstanding alerts for June have been resolved.
- D. Generate data immediately before running the report.
- E. All of the above.

## Scenario 24: Answer

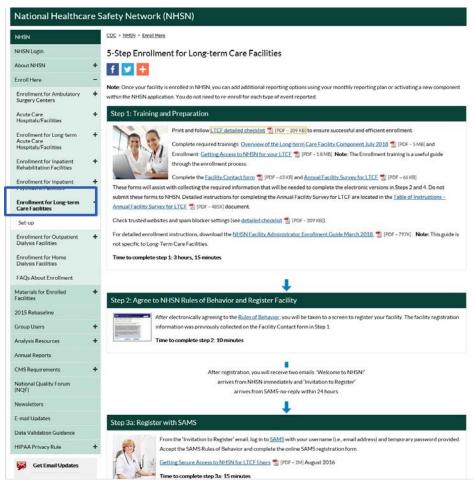
Now that Jane has more experience with NHSN, the DON asked her to help enroll a sister facility in NHSN. What are the first steps for enrolling a new facility into NHSN?

- A. Identify who will be the NHSN facility administrator for the new facility.
- B. Access the LTCF enrollment page and follow the 5-step enrollment process.
- C. The identified NHSN facility administrator will register the facility with NHSN by reading and agreeing to the NHSN Facility/Group Administrator Rules of Behavior.
- D. All of the above.

## **LTCF Enrollment Page**

Review the LTCF Enrollment page to access helpful resources for NHSN enrollment and set-up

https://www.cdc.gov/nhsn/ltc/enroll.html



## Nursing Home Infection Preventionists Training Course

Training course is designed to help facilities provide staff with the required specialized infection prevention and control training as it relates to the phased implementation of CMS Requirements for Participation for Nursing Homes.

https://www.train.org/cdctrain/training\_plan/3814

