Webinar #3
Reporting C. difficile in NHSN for LTC Facilities

Nursing Home C. difficile Initiative Three-Part Educational Webinar Series
What we’ve covered so far...

- **Webinar 1** - [https://youtu.be/2zrPgj4tkpw](https://youtu.be/2zrPgj4tkpw)
  - Steps 1 through 3 of the NHSN enrollment process
- **Webinar 2** - [https://youtu.be/ze6LKCHgbOQ](https://youtu.be/ze6LKCHgbOQ)
  - Steps 4 & 5 of the NHSN enrollment process
  - Facility Set Up
  - Joining a Group

Where are you in the NHSN enrollment process?

- Haven’t started
- Submitted identity verification
- Received SAMS Grid Card
- Submitted Facility Contact Form & Annual Facility Survey
- Completed enrollment
- Joined required groups
- Completed facility set up and/or added users
A note about Joining Groups

Remember – there are TWO groups with different IDs & passwords:

- National (NCC)
- State Specific

Objectives Today

1. Locate various tools and resources on the NHSN website
2. Reviews long term care facility *C. difficile* data collection forms, protocols and online submission
3. Understand data documentation process through case review examples
NHSN

- Nation’s most widely used HAI tracking system
- Surveillance tool → systematic tracking and analysis
- Establish benchmarks
- Reporting functionality
- Available across a number of care settings
- Ability to share data

What is the data used for?

- National comparison
- Establishing Risk Adjustments
- Benchmarking
- Inform internal quality improvement
- Demonstrates trends both for improvements and/or areas of opportunity
- Raise awareness and motivate change
Why monitor CDI in long-term care facilities?

- Residents in long term care facilities are at risk of carrying or acquiring *C. difficile*.
- Infections from *C. difficile* can be more severe, harder to treat, and are associated with increased risk of hospitalization, debility, and death, especially in older adults.

Why monitor CDI in long-term care facilities? (cont.)

- Focused monitoring of *C. difficile* helps to evaluate trends and changes in the occurrence of these pathogens and related infections in the facility over time.
- Tracking these events will also inform infection prevention staff of the impact of targeted prevention efforts.
How is NHSN organized?

- NHSN is organized into components.
- Long-term Care Facilities report *C. difficile* in the LTCF component in the Laboratory Identified (Lab-ID) Event Module.


![Diagram of NHSN components](image)
What is Laboratory-identified Event Surveillance and Reporting?

- Standardized case definition allows estimation of healthcare acquisition, infection burden, and exposure burden
- LabID Event reporting method is based solely on laboratory data and limited resident admissions/transfer data

What is Laboratory-identified Event Surveillance and Reporting? (cont.)

- LabID Event reporting is a proxy measure for *C. difficile* events, exposures and healthcare acquisition
- Does not include clinical evaluation of the resident making it less labor intensive method to track *C. difficile*
- It only includes tests performed on residents while at the facility
Tools and resources for C. difficile surveillance

http://www.cdc.gov/nhsn/ltc/index.html

- Training
- Protocols
- Forms
- Support Materials
- Analysis Resources
- FAQs
- Link to training/Demo
- Sign up to receive newsletters
- NHSN Help Desk: nhsn@cdc.gov

Recommended Training

http://www.cdc.gov/nhsn/pdfs/training/ltc/session4-cdi-labid-event-reporting-ltcf-participant.pdf
**C. difficile LabID Event Reporting**

Use the *C. difficile* Lab ID protocol to identify *C. difficile* LabID events.

**Reporting Requirements**
- *C. difficile* surveillance is performed facility-wide

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**LTCF Checklist for CDI Lab ID Event Reporting**

- Map LTCF locations in NHSN
- Review Monthly Reporting Plan (MRP) and update if needed
- Identify and enter all *C. difficile* LabID events into NHSN by location
- Enter denominator data for each month under surveillance
- Resolve “Alerts”, if applicable
Definition

*C. difficile* (CDI) LabID Event

- *C. difficile* positive laboratory assay, tested on a liquid stool specimen, and collected while a resident is receiving care in the LTCF, and the resident has no prior *C. difficile* positive laboratory assay collected in the previous 14 days while receiving care in the LTCF.

Lab Specimens to consider

Only consider a sample if-

- The laboratory sample is collected while a resident at the LTCF
- The sample conforms to the shape of the container (only liquid stool samples)
- No prior *C. difficile* positive laboratory assay collected in the previous 14 days while receiving care in the LTCF.
Definition CDI Positive Laboratory assay:

*C. difficile* positive laboratory assay is defined as:
A positive result for a laboratory test detecting presence of either of the following:
- *C. difficile* toxin A and/or B, (includes enzyme immunoassays or EIA test).

OR
- A toxin-producing *C. difficile* organism detected by culture or other laboratory means performed on a stool sample (e.g., (NAAT) nucleic acid amplification testing by polymerase-chain reaction, or PCR).

<table>
<thead>
<tr>
<th>Diagnostic Test</th>
<th>Demonstrates Evidence of Toxinogenic Strain</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glutamate dehydrogenase (GDH) antigen</td>
<td>YES</td>
<td>Detects antigen in both toxin and non-toxin producing strains</td>
</tr>
</tbody>
</table>
| Toxin enzyme immunoassay (EIA)                       | X                                         | - *C. difficile* toxin A and/or B  
- GDH has EIA for toxin (2-step algorithm)            |
| Nucleic acid amplification test [NAAT] (e.g., PCR, LAMP) | X                                         | - *C. difficile* toxin B  
- GDH has NAAT (2-step algorithm)  
- GDH has EIA for toxin, followed by NAAT for discrepant results |
| Cytotoxicity neutralization assay (CCNA)              | X                                         | * Requires tissue culture                                                   |
| Toxinogenic (cytotoxic) *C. difficile* culture        | X*                                        | * Requires use of second test for toxin detection.                        |
Identification of Reportable *C. difficile* Positive Assay

Any *C. difficile* positive laboratory test from the same resident following a previous *C. difficile* positive test within 14 days *while in the facility* is a duplicate.

**DO NOT REPORT A DUPLICATE**

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*C. Difficile* LabID Events

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Positive C. difficile test result

Prior Positive ≤ 2 weeks

- NO
  - Report as CDI LabID Event

- YES
  - Duplicate – Not a CDI LabID Event

**DO NOT REPORT A DUPLICATE**
```
Track *C. difficile* test results

Keep a log of all the positive *C. difficile* tests for each resident your facility so you can track duplicate results to ensure they are not incorrectly entered as CDI LabID Events.

<table>
<thead>
<tr>
<th>Date of Positive C. difficile lab test for a resident</th>
<th>Duplicate?</th>
<th>Enter as a CDI LabID Event?</th>
</tr>
</thead>
<tbody>
<tr>
<td>9/3/2016</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>9/12/2016</td>
<td>Yes</td>
<td>No (within 2 weeks of the most recent positive test)</td>
</tr>
<tr>
<td>9/20/2016</td>
<td>Yes</td>
<td>No (within 2 weeks of the most recent positive test)</td>
</tr>
<tr>
<td>9/28/2016</td>
<td>Yes</td>
<td>No (within 2 weeks of the most recent positive test)</td>
</tr>
<tr>
<td>11/1/2016</td>
<td>No</td>
<td>Yes</td>
</tr>
</tbody>
</table>

The Numerator: Laboratory-identified Event Form (CDC 56.138)

- Use a separate form for each *C. difficile* event that meets the LabID Event definition.

Do not fill this out if the positive test result is a duplicate.

Instructions for completing form:
http://www.cdc.gov/nhsn/forms/instr/57.138-toi-for-lab-id-event.pdf

http://www.cdc.gov/nhsn/ltc/cdiff-mrsa/index.html
Entering LabID Events into NHSN

Log into NHSN to Enter a LabID Event

1. Log in the SAMS Portal access to NHSN
   https://sams.cod.gov
2. Select the NHSN Reporting link on the welcome page
3. On the NHSN Landing Page select the facility and LTCF as the component and click on submit
NHSN Long Term Care Facility Component Home Page

Add Event
On the blue navigation window select Event and Add.

Add Resident Information
Required Resident Information

- Resident ID: Assign a unique ID for each resident with a positive LabID Event reported. Should remain the same for all visits and admissions.
- Resident type:
  - Short-stay: Resident has been in facility for ≤ 100 days from date of first admission
  - Long-stay: Resident has been in facility for > 100 days from date of first admission

*NHSN Long-term Care Facility Component Table of Instructions*
http://www.cdc.gov/nhsn/forms/instr/57.138-toi-for-lab-id-event.pdf

Date of First Admission to Facility defined

- Resident first entered the facility, even if the resident leaves the facility for short periods (<30 consecutive days)
- Resident leaves the facility and is away for > 30 consecutive days, update to the date of return to the facility.
**Date of Current Admission:**

- Most recent date the resident entered the facility. If the resident has never left, the date current admission will be the same as the date of first admission.
- If the resident leaves the facility for > 2 calendar days (the day the resident left the facility = day 1) and returns, the date of current admission should be updated to the date of return.

What if the resident leaves the facility for 10 calendar days and returns?

1. Should the Date of First Admission remain the same?
2. Should the Current Date of admission remain the same?
What if the resident leaves the facility for 10 calendar days and returns?

1. The date of First Admission should remain the same as it was before the patient was discharged from the LTCF.
2. The date of Current Date of admission should be updated to the date of return to the facility.

Enter *C. difficile* Event Information

In the Event Type drop down choose LABID - Laboratory-identified MDRO or CDI Event.
The event information window will open.

Documented evidence of previous infection or colonization with the specific organism type from a previously reported LabID Event in any prior month? [ ]

Has resident been transferred from an acute care facility in the past 3 months? [ ]

Specific Organism Type:

Specimen Body Site/System:

Resident Care Location:

Primary Resident Service Type:

Data Specimen Collected:

Enter C. difficile Event Information
Enter C. difficile Event Information

Enter the date the specimen was collected
Specific Organism Type: CDF-C. difficile
Specimen Body Site/System: DIGEST-Digestive System
Specimen Source: STOOL specimen

Resident Location and Services

- Resident Care location: location where the resident was residing on the date the specimen was collected.

- Primary Service type: Select the service that best represents the type of care the resident is receiving on the date the specimen was collected:
Resident Location and Services

Resident transfer:

- If the resident has been an inpatient of an acute care facility (Hospital, Long-term acute care hospital, or acute inpatient rehabilitation facility) and was directly admitted to facility in the past four weeks select “Yes”, otherwise select “No”.

  A. If resident has transferred indicate the date of transfer from the acute care facility to your facility
  B. If resident transferred indicate if the resident was on antibiotic therapy for C. difficile at the time of transfer
  C. Optional: Document evidence of previous infection with C. difficile from a previously reported LabID Event

Custom Fields and Comments

- Optional fields can customize data collected and submitted
- Create fields that capture text or numeric data
- Custom fields must be set-up in NHSN prior to use
LTCF Checklist for CDI LabID Event Reporting

- Map LTCF locations in NHSN
- Review Monthly Reporting Plan (MRP) and update if needed
- Identify and enter all *C. difficile* LabID events into NHSN by location
- Enter denominator data for each month under surveillance
- Resolve “Alerts”, if applicable

Denominator (Summary) Data

- **Denominators for LTCF Form (CDC 57.142)** One form for the entire month to collect both LabID event and UTI denominator data
- **Monthly totals** will be entered into the NHSN application
- Electronic version: [http://www.cdc.gov/nhsn/PDFs/LTC/forms/57.142_DenominatorLTCF_BLANK.pdf](http://www.cdc.gov/nhsn/PDFs/LTC/forms/57.142_DenominatorLTCF_BLANK.pdf)
- Table of Instructions-LTCF Component Denominators [http://www.cdc.gov/nhsn/forms/instr/57.142-toi-denominators-ltcf.pdf](http://www.cdc.gov/nhsn/forms/instr/57.142-toi-denominators-ltcf.pdf)
Denominator Form for LTCF
(CDC57.142)

Enter resident daily counts for the entire month.

Total the daily counts for the month.

Use one form for the entire month. For *C. difficile* reporting, report the Total Resident days, Resident admissions and Resident admissions on *C. difficile* treatment. Monthly totals will be entered into NHSN.

Enter Summary Data into NHSN

Locate ‘Summary Data’ on Blue left-hand navigation Bar, and then ‘Add’

- Enter the Facility ID, month, and year for which denominator data will be reported.
Adding Summary Data

- Enter the monthly totals from the denominator form
  - Resident-days
  - Resident admissions
  - Residents admitted on C. difficile treatment.

A check box will appear for each in-plan organism for the month. Check *C. difficile*.
Adding Summary Data

If you do not have any *C. difficile* events to report check this box.

Don’t forget to SAVE IT!!!!

LTCF Checklist for CDI LabID Event Reporting

- Map LTCF locations in NHSN
- Review Monthly Reporting Plan (MRP) and update if needed
- Identify and enter all *C. difficile* Lab ID events into NHSN by location
- Enter denominator data for each month under surveillance
- Resolve “Alerts”, if applicable
Resolve Alerts

- Facilities must resolve Alerts before data is considered complete
- Alerts are displayed on the NHSN Long Term Care Facility Component Home Page

NHSN Long Term Care Facility Component Home Page

Use the navigation bar on the left to access the features of the application.

Resolving Alerts

NHSN Long Term Care Facility Component Home Page

You must complete these items:
- A survey is required for 2012 Alerts
- You have 1 missing summary

Click blue/underlined hyperlink to see incomplete summaries
Resolve Alerts

The most common reason for alerts when reporting in the LabID Event module are:

- missing summary data for the month
- incomplete summary data when no CDI LabID Events were identified during the month “Report No Events”

Example No LabID Events to Report
If no CDI LabID Events were identified for the month, and this box is not checked the facility data will be considered as incomplete.

LTCF Checklist for CDI LabID Event Reporting

- Map LTCF locations in NHSN
- Review Monthly Reporting Plan (MRP) and update if needed
- Identify and enter all *C. difficile* Lab ID events into NHSN by location
- Enter denominator data for each month under surveillance
- Resolve “Alerts”, if applicable
NHSN LabID Event Categorization

LabID Event Categorization

- NHSN will categorize CDI LabID Events based on current specimen date and prior specimen collection date of a previous CDI LabID Event entered into NHSN
  - Incident CDI LabID Event
  - Recurrent CDI LabID Event

**Remember, duplicate *C. difficile* positive laboratory tests for a resident should NOT be entered as LabID events**
Incident CDI Lab ID Event

- Any CDI LabID Event from a specimen collected >8 weeks after the most recent CDI LabID Event entered into the NHSN application or the first LabID Event ever entered for the resident while in the facility

Recurrent CDI Lab ID Event

- Any LabID Event entered >2 weeks and <8 weeks after the most recent LabID Event reported for an individual resident in the facility
Let’s Practice

<table>
<thead>
<tr>
<th>Resident ID</th>
<th>Current Admit Date</th>
<th>CDI Event Date</th>
<th>Organism</th>
<th>Categorization</th>
</tr>
</thead>
<tbody>
<tr>
<td>1234</td>
<td>03/01/2015</td>
<td>03/06/2015</td>
<td>CDI</td>
<td>Incident</td>
</tr>
<tr>
<td>1234</td>
<td>03/01/2015</td>
<td>04/08/2015</td>
<td>CDI</td>
<td>Recurrent</td>
</tr>
<tr>
<td>1234</td>
<td>05/10/2015</td>
<td>05/14/2015</td>
<td>CDI</td>
<td>Recurrent</td>
</tr>
<tr>
<td>1234</td>
<td>05/10/2015</td>
<td>08/10/2015</td>
<td>CDI</td>
<td>Incident</td>
</tr>
<tr>
<td>1234</td>
<td>05/10/2015</td>
<td>11/21/2015</td>
<td>CDI</td>
<td>Incident</td>
</tr>
</tbody>
</table>

LabID Event Categorization (cont.)

- NHSN will further categorize CDI LabID Events based on date of current admission to the facility and date of specimen collection
  - Community-onset (CO) Lab ID Event
  - Long-term Care Facility-onset (LO) LabID Event
Community-onset (CO) Lab ID Event

- Date specimen collected ≤3 calendar days after current admission to the facility (i.e., days 1, 2, or 3 of admission)

Long-term Care Facility-onset (LO) Lab ID Event

- Date specimen collected >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):
    LTCF-onset (LO) Lab ID Event with specimen collection date ≤4 weeks following date of last transfer from an Acute Care Facility (hospital, long-term acute care hospital, or acute care inpatient rehabilitation facility only)
Case Study

Case Study-Practice
Is this a CDI LabID Event?

- On April 1, 2015, Mrs. G, a resident in your facility, had several episodes of diarrhea. The doctor was called and a stool sample was ordered for C. difficile testing. The resident does not have a history of C. difficile while in your facility, and she does not have a recent history of being in another facility.
- The next day, on April 2, a loose stool sample was collected and sent to the lab. The result came back positive for C. difficile Toxin A

Is this a CDI LabID Event?
Case Study (Cont.)

Answer: YES

- A *C. difficile* positive laboratory assay obtained while a resident is receiving care in the LTCF and the resident has no prior *C. difficile* positive laboratory assay collected in the previous 14 days while in the facility.
- Also referred to as non-duplicate LabID Events

Case Study (Cont.)

What is the CDI Event Date?

1. April 1\(^{st}\) since this was the data the diarrhea started
2. April 2\(^{nd}\) since this was the date the specimen was collected.
Case Study (Cont.)

What is the CDI Event Date?

1. April 1\textsuperscript{st} since this was the date the diarrhea started
2. April 2\textsuperscript{nd} since this was the date the specimen was collected.

Event Date=the date the specimen was collected

Case Study (Cont.)

The resident has been in your facility for more than 3 calendar days and has not transferred from an acute care facility in the previous 4 weeks, how will the NHSN application categorize this CDI LabID Event?

A. Community-onset (CO)
B. Long-term Care Facility-onset (LO)
C. Acute Care Transfer-Long-term Care Facility-onset (ACT-LO)
Case Study (Cont.)
The resident has been in your facility for more than 3 calendar days and has not transferred from an acute care facility in the previous 4 weeks, how will the NHSN application categorize this CDI LabID Event?

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

Community-onset (CO) LabID Event:
Date specimen collected ≤ 3 calendar days after current admission to the facility (i.e., days 1, 2, or 3 of admission)

Long-term Care Facility-onset (LO) LabID Event:
Date specimen collected > 3 calendar days after current admission to the facility (i.e., on or after day 4)

Case Study (Cont.)
Case continued: What if the resident had spent time in an acute care hospital the previous week; how will the NHSN application categorize this CDI LabID Event?

A. Community-onset (CO) LabID Event
B. Long-term Care Facility-onset (LO) LabID Event
C. Acute Care Transfer-Long-term Care Facility-onset (ACT-LO)
Case Study (Cont.)

Case continued: What if the resident had spent time in an acute care hospital the previous week; how will the NHSN application categorize this CDI LabID Event?

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

Acute Care Transfer-Long-term Care Facility-onset (ACT-LO): LTCF-onset (LO) LabID event with specimen collection date ≤ 4 weeks following date of last transfer from an Acute Care Facility (hospital, long-term acute care hospital, or acute inpatient rehabilitation facility only)

Case Study (Cont.)

Since the resident does not have a prior CDI Lab ID Event, how will it be categorized by NHSN?

1. Incident
2. Recurrent
3. Duplicate
Case Study (Cont.)

Since the resident does not have a prior CDI Lab ID Event, how will it be categorized by NHSN?

1. Incident
2. Recurrent
3. Duplicate

Incident CDI Lab ID Event definition: Any CDI Lab ID Event from a specimen collected >8 weeks after the most recent CDI Lab ID Event entered into the NHSN application or the first Lab ID Event ever entered for the resident while in the facility.

Homework

If you haven’t already...

Complete steps 4-5 of the enrollment process.
- Step 4: Submit the NHSN Long-Term Care Annual Facility Survey and the Facility Contact information
- Step 5: Submit consent forms that have been signed by the facility’s leadership

Set up NHSN for reporting
- Join the two groups associated with this initiative, following the instructions provided by your state QIN contact
- Add others who will be using NHSN in your facility
- Set up LTCF locations in the NHSN application
- Set up NHSN Monthly Reporting Plans for your facility
Homework
For Everybody

- Establish a process for determining resident-days, resident-admissions and resident admissions on C. diff treatment using NHSN Denominators for LTCF form http://www.cdc.gov/nhsn/forms/57.142_denominatorltcf_blank.pdf
- Familiarize with NHSN LabID Event Form http://www.cdc.gov/nhsn/forms/57.138_labidevent_ltcf_blank.pdf

Next Steps
Virtual Learning Labs

- Two offerings each month
- Walk through data collection, submission and confirming receipt of data
- Opportunity to ask questions
- Review case studies
- More info to come!
NHSN Support

- NHSN Helpdesk at nhsn@cdc.gov
- SAMS Help desk samshelp@cdc.gov or 877-681-2901

State Specific Contacts

- **Michigan**
  - Kathleen Lavich – klavich@mpro.org
  - Annett Simon – asimon@mpro.org

- **Minnesota**
  - Sarah Brinkman – sbrinkman@stratishealth.org
  - Janet Lilleberg – janet.lilleberg@state.mn.us

- **Wisconsin**
  - Diane Dohm – ddohm@metastar.com
  - Emily Nelson – enelson@metastar.com