

NHSN LabID Event Surveillance MDRO/CDI Module

Housekeeping

- This call is being recorded and will posted on our website.
- All questions will be answered at the end.
 - Please use the chat box for questions

Outline

- Reporting Requirements
- Summary Data (denominator data)
- LABID Event: MRSA (Methicillin-resistant Staphylococcus aureus)
- LABID Event: CDI (Clostridioides difficile)
- Resources





Current CMS and Tennessee Reporting Requirements

NHSN MDRO reporting requirements

- MRSA and CDI are the only required MDROs to be reported in NSHN
- Facilities can elect to monitor other MDROs in NHSN:
 - MSSA, VRE, CephR- Klebsiella, CRE, and/or multidrug-resistant Acinetobacter spp.
 - These can be isolated from any clinical specimen types
- While not reportable in NHSN, CRE, CP-CRAB, CP-CRPA, and Candida auris are Reportable Diseases in TN that are required to be reported by all labs located in TN as well was those who test TN residents



TN NHSN MRSA Reporting Requirements

- Acute Care Hospitals
 - Facility-wide Inpatient (FACWIDEIN)
 - Emergency Departments
 - 24-hour Observation Locations
 - CMS-certified Inpatient Rehabilitation Facility Units within the hospital
- Long Term Acute Care Hospitals (LTACH)
- Inpatient Rehabilitation Facility (Freestanding)
 - Facility-wide Inpatient (FACWIDEIN)



TN NHSN CDI Reporting Requirements

- Acute Care Hospitals
 - Facility-wide Inpatient (FACWIDEIN)
 - Excluding neonatal intensive care units, well baby nurseries and well baby clinics)
 - Emergency Departments
 - 24-hour Observation Locations
 - CMS-certified Inpatient Rehabilitation Facility Units within the hospital
- Long Term Acute Care Hospitals (LTACH)
- Inpatient Rehabilitation Facility (Freestanding)
 - Facility-wide Inpatient (FACWIDEIN)





2023 Changes

2023 MDRO & CDI Additions

No content change



MRSA and CDI Data

Data Types

- Numerator Data: Data is reported using the Laboratoryidentified MDRO or CDI Event form (CDC 57.128).
- Denominator Data: Patient days and admissions (for inpatient locations), and encounters (for outpatient locations) are reported using the MDRO and CDI Monthly Denominator Form (CDC 57.127).
 - Monthly summary data captured for 3 locations:
 FACWIDEIN, ED, and 24 Hr Obs



Numerator Data: LabID Event

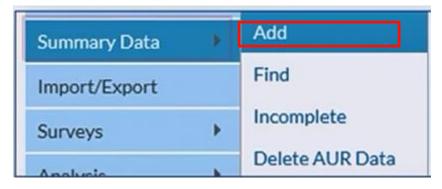
 To report numerator data each month, facilities should use the MDRO/CDI Module protocol to identify MRSA bacteremia and C. difficile LabID events

vent Information
Event Type *: LABID - Laboratory-identified MDRO or CDI Event
Date Specimen Collected *: 12/31/2018 6
Specific Organism Type ★: CDIF - C. difficile
Outpatient *: N - No 🗸
Specimen Body Site/Source ★: DIGEST - Digestive System ✔
Specimen Source ★: STOOL - Stool specimen ✓
Date Admitted to Facility *: 12/30/2018 6
Location *: ICU - MEDICAL ICU
Date Admitted to Location *: 12/30/2018 6
Last physical overnight location of patient immediately prior to arriving into facility (applies to specimen(s) collected in outpatient setting or <4 days after RES - Personal residence/Residential care inpatient admission):
Has patient been discharged from your facility in the past 4 weeks? ★: N - No ∨
Has the patient been discharged from another facility in the past 4 weeks?: N - No
Documented evidence of previous infection or colonization with this specific Organism type from a previously reported LabID Event in any prior month? N - No



Denominator Data: Facility – wide Inpatient Summary Data

Navigate to the form



Select

Add Patient Safety Summary Data





Facility-wide Inpatient Summary Data

Select Correct Location Code, Month, and Year

```
Mandatory fields marked with *

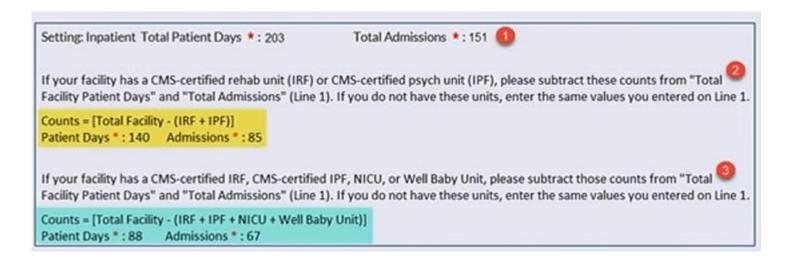
Facility ID *: DHQP MEMORIAL HOSPITAL (ID 10018)

Location Code *: FACWIDEIN - Facility-wide Inpatient (FacWIDEIn

Month *: January

Year *: 2019
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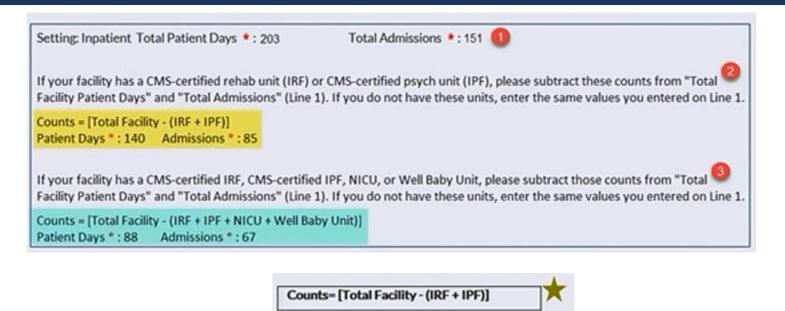
Facility-wide Inpatient Summary Data



- Row 1: Counts from all inpatient locations in the facility
 - Exclude outpatient location totals from these fields



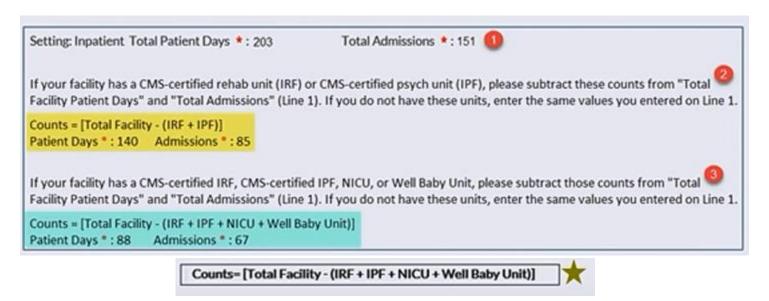
Facility-Wide Inpatient Summary Data



- Row 2: Counts from all inpatient locations in the facility, with the subtraction of CMS-certified Rehab (IRF) and Psych (IPF) units
 - □ Totals from CMS-Certified Rehab and Psych units are subtracted from the totals found on row 1, and new totals are entered in row 2



Facility-wide Inpatient Summary Data



- Row 3: Counts from all inpatient locations in the facility except CMS-certified Rehab (IRF) and Psych (IPF) units, NICUs, and Well Baby units
 - Totals from CMS-certified Rehab and Psych units, NICUs, and Well-Baby units are subtracted from totals found on row 1 and new totals entered on row 3



Facility-wide Inpatient Summary Data

Primary CDI Test Method

- Indicated on the FacWidelN denominator record for the third month of each quarter-select the test used >50% time
 - March (Q1), June (Q2), September (Q3), December (Q4)

For this quarter, what is the primary testing method for C. difficile used most often by your facility's laboratory or the outside laboratory where your facility's testing is performed?

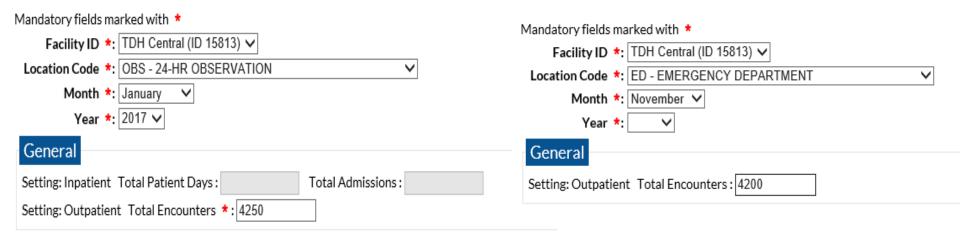
Note: PCR testing should be indicated by selecting NAAT *

NAATEIA - NAAT plus EIA, if NAAT positive (2-step algorithm)



Emergency Department/Observation Locations Summary Data

- Total number of encounters each month
 - No exclusions by age (include infants)



 FacWideOut, Emergency Department, Dedicated observation units and other outpatient units, monthly denominator data are reported as encounters



Determining Patient Days: Observation vs Inpatients

- Observation patients in <u>observation locations</u>
 - An observation location (e.g., 24-hour observation area) is considered an outpatient unit, so time spent in this type of unit does not contribute to any inpatient counts (i.e., patient days, device days, admissions). Admissions to such outpatient units represent "encounters" and are reported for the observation location.
- Observation patients in <u>inpatient locations</u>
 - An observation patient housed in an inpatient location should be included in any appropriate patient or device day counts for that inpatient location.



MDRO and CDI Monthly Denominator Form

Location Code *: ER - EMERGENCY DEPARTMENT

Month *: October

Year *: 2019

General

Setting: Outpatient Total Encounters *: 4229

Organism Selection/Confirmation of No Events									
Specific Organism Type	MRSA	Report No Events	CDIF	Report No Events	CephR- Kleb	Report No Events	CRE- Ecoli	Report No Events	
Infection Surveillance		1		•				(F)	
LabID Event (All specimens)		í.	* 🗸	>		· ·		i i	
LabID Event (Blood specimens only)	* 🗸	✓				(i)		P	

The boxes for MRSA and CDI will be checked if you have correctly completed the monthly reporting plan. Check "Report No Events" boxes if you have no LabID events for the month.





NHSN Definitions

MRSA Definition

- Methicillin-resistant Staphylococcus aureus
 - Includes S.aureus cultured from any specimen that tests oxacillin-resistant, cefoxitin-resistant, or methicillin-resistant by standard susceptibility testing methods, or any laboratory finding of MRSA (includes but not limited to PCR or other molecular based detection methods).

CDI Definition

- CDI-positive laboratory assay:
 - A positive laboratory test result for *C. difficile* toxin A and/or B, (includes molecular assays [PCR] and/or toxin assays) tested on <u>an unformed stool</u> specimen (specifically, conforming to the shape of the container)

OR

 A toxin-producing C. difficile organism detected by culture or other laboratory means performed on an unformed stool sample (must conform to container)



CDI Multi-Step Testing

Examples of Multi-step Testing Interpretations (does not consider prior positives):

Multi-step Testing Same Specimen	Testing Step	Testing Method	Documented Findings	Eligible LabID Event?
Example A	Test 1	NAAT	Negative	
	Test 2	GDH	Positive	Yes
Last test	Test 3	EIA	Positive	
Example B	Test 1	NAAT	Positive	
	Test 2	GDH	Positive	No
Last test	Test 3	EIA	Negative	
Example C	Test 1	GDH	Positive	
	Test 2	EIA	Negative	Yes
Last test	Test 3	NAAT	Positive	
Example D	Test 1	GDH	Positive	
	Test 2	EIA	Positive	No
Last test	Test 3	NAAT	Negative	

Other MDRO Definitions

 NHSN definitions for VRE, CephR- Klebsiella, CRE, and/or multidrug-resistant Acinetobacter spp can be found in Chp. 12 Section 1A of the Patient Safety Manual

 If facilities elect to report additional MDROS, facilities must indicate each reporting choice chosen for the calendar month on the Patient Safety Monthly Reporting

Patient Safety Monthly Reporting Plan

Plan

						•			
Page 2 of 2									
MDRO and C	CDI Module								
+Locations (Circle one)	Specific Orga		ecific Organ	ism Type		*LabID Event Blood specimens only		only	
FacWideIN	FacWideOl	JT							
FacWideIN	FacWideOl	JT							
FacWidelN	FacWideOl	JT							
FacWidelN	FacWideOl	JT							
			Process an	d Outcome	Measures				
Locations	Specific Organism Type	Infection Surveillance	§AST Timing	§AST Eligible	Incidence	Prevalence	LabID Event	нн	GG
			Adm Both	All NHx					
			Adm Both	All NHx					
			Adm Both	All NHx					
			Adm Both	All NHx					
			Adm	All					



Reminders!

 Specimens collected in ED or 24-hour observation location(s) are only entered into NHSN once, assigned to the outpatient (ED/observation) location

 NOTE: Specimens collected from other affiliated outpatient locations should still be reported to an inpatient location, if collected on the <u>same calendar</u> <u>day</u> as inpatient admission



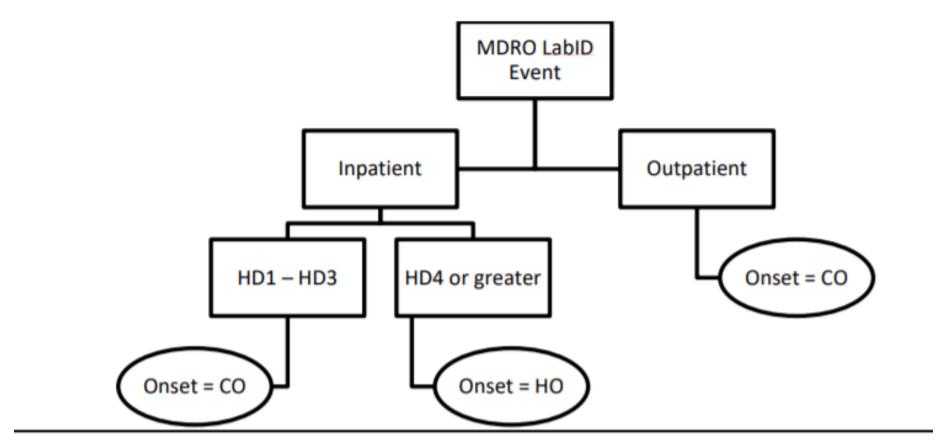
LabID Event Categorization

Community –Onset (CO):

- collected in an outpatient location in which the patient was not previously discharged from an inpatient location within the same facility less than or equal to 28 days prior to current date of specimen collection
- Collected in an inpatient location less than or equal to 3 days after admission to the facility (specifically, days 1, 2, or 3 of admission.
- Healthcare Facility –Onset (HO):
 - LabID Event specimen collected greater than 3 days after admission to the facility (specifically, on or after day 4).



MDRO LabID Event Categorization



Hospital Day (HD)



CO Example

January 2023

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	Admit HD 1	18 <u>HD 2</u>	CDI+ HD 3	20	21
22	23	24	25	26	27	28
29	30	31	1	2	3	4

HO Example

January 2023

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	Admit HD 1	18 <u>HD 2</u>	19 <u>HD 3</u>	CDI+ HD 4	21
22	23	24	25	26	27	28
29	30	31	1	2	3	4

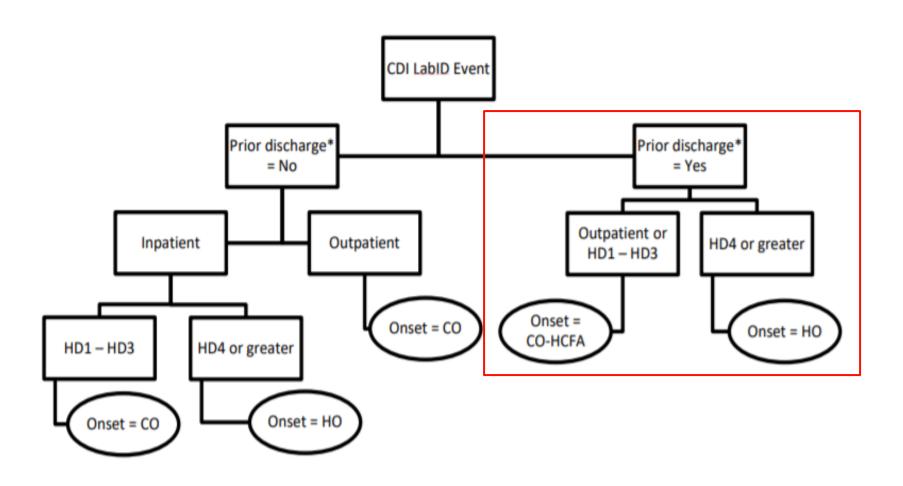
CDI LabID Event Categorization

- Community-Onset Healthcare Facility-Associated (CO-HCFA):
 - CO LabID Event collected from an inpatient or an outpatient location from a patient who was discharged from the facility less than or equal to 28 days prior to current date of stool specimen collection.
 - The previous discharge must have been from an inpatient location with the same facility (in other words, an outpatient visit does not qualify as "admitted", and therefore is not used to set the timeline for CO-HCFA).

When reporting to NHSN, you <u>DO NOT</u> have to calculate this! <u>NHSN will do it for you!</u>



LabID Event Categorization -CDI



CO-HCFA Example

January 2023

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1	Admit # 1	3	Discharged	5 <u>d</u>	6	7
8	9	10	11	12	13	14
15	16	17 Admit # 2 HD 1	18 <u>HD 2</u>	19 CDI+ HD 3	20 <u>HD 4</u>	Discharged HD 5
22	23	24	25	26	27	28
29	30	31	1	2	3	4



LabID Event: MRSA Blood Specimens

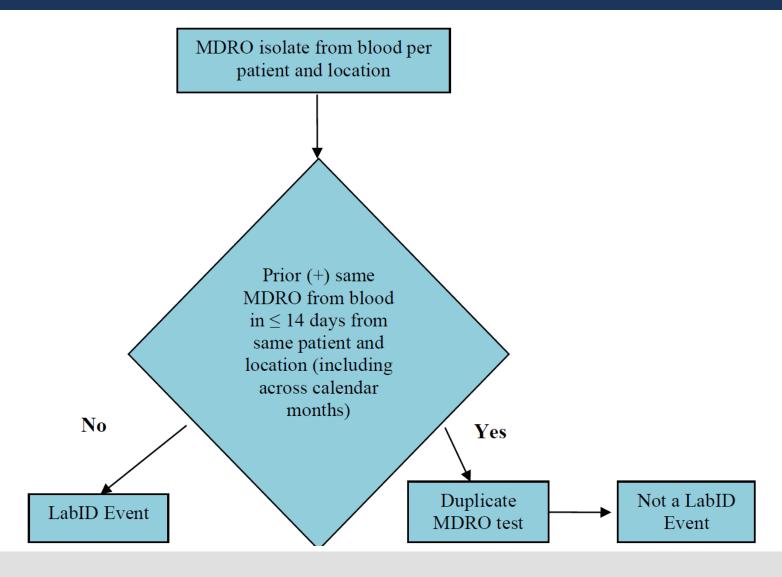
MRSA Bacteremia LabID Event Definition

- Non-duplicate, unique blood source
 - MRSA isolate from blood in a patient with no prior positive blood culture for the same MDRO and location in less than or equal to 14 days, even across calendar months and different facility admissions.

NOTE: Active Surveillance Culture/Testing results are **NOT** eligible



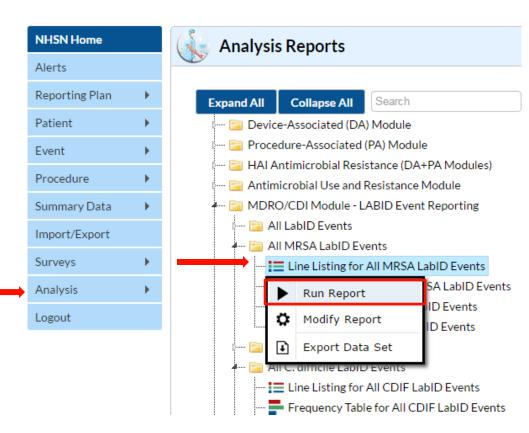
Identifying a MRSA Bacteremia LabID Event





LabID Analysis

Under the analysis tab Line lists can help you
determine which LabID
events will be included in
your SIR





LabID Analysis SIR Determination

- Line Listing of all MRSA LabID Events
 - The variable FWMRSA_bldincCount tells you whether the event will be included in your SIR

patID		spcOrg Type	location	outpatie nt	prevPos	onset	admitDate	IocationAdmitDate	specime nSource		FWMRSA admPrevE dCount	
1C10013231	4284474 7	MRSA	5S MED ONC	N	N	НО	05/30/2020	05/30/2020	BLDSPC	06/03/2020	0	1
1C11845928	4342675 5	MRSA	ED	Υ	N	СО	-		BLDSPC	08/08/2020	0	0
1C11845928	4342675 6	MRSA	5N SURG	N	Y	НО	08/09/2020	09/04/2020	BLDSPC	09/12/2020	0	1
1C11845928	4342675 7	MRSA	103	N	N	СО	08/09/2020	08/09/2020	BLDSPC	08/09/2020	0	0



LabID Event: CDI

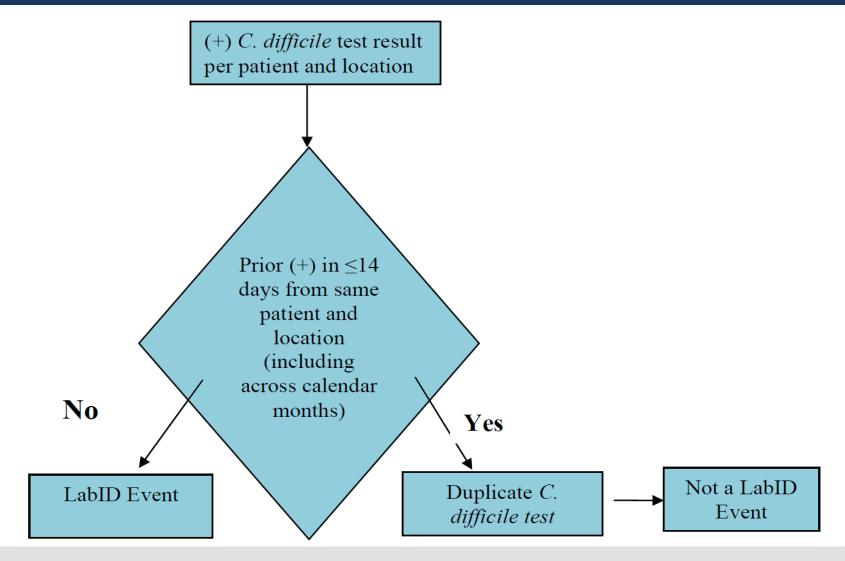
CDI LabID Event Definition

- Non-duplicate, C. difficile toxin-positive lab result
 - Any C. difficile lab result with no prior positive in the prior 14 days (even across calendar months) for this patient in this particular location.
 - Day of specimen collection is Day 1
 - Tests should only be performed on <u>unformed</u> stool
 - Stool that takes the shape of its container

NOTE: Active Surveillance Culture/Testing results are NOT eligible



Identifying a CDI LabID Event





Incident vs. Recurrent

- Incident CDI LabID Event: a specimen obtained more than 56 days after the most recent CDI LabID Event (or with no previous CDI LabID Event documented) for that patient.
- Recurrent CDI LabID Event: a specimen obtained more than 14 days and and less than or equal to 56 days after the most recent CDI LabID Event for that patient.

When reporting to NHSN, you <u>DO NOT</u> have to calculate this! <u>NHSN will do it for you!</u>



LabID Event Calculator

 LabID event calculator available through the NHSN website to help with data entry decision making around the 14-day rule

http://www.cdc.gov/nhsn/labid-calculator/index.html

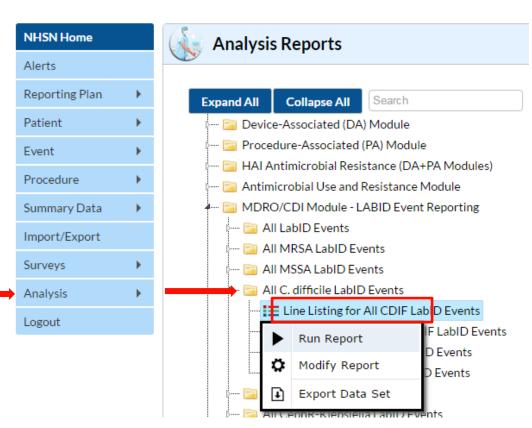




Analysis

LabID Analysis

Under the analysis tab Line lists can help you
determine which LabID
events will be included in
your SIR





Lab Analysis SIR Determination

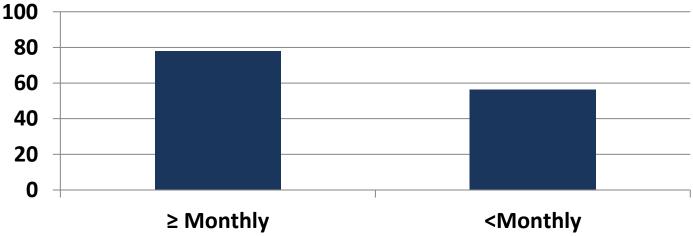
- Line Listing of all CDIF LabID Events
 - The variable FWCDIF_IncHOCount tells you whether the event will be included in your SIR

patID	eventID	spcOrgT ype	location	outpatient	prev Pos	onset	cdiAssa y	admitDate	locationAdmitD ate	specime nSource	specimenDat e	FWCDIF_fa cIncHOCou nt	_
1C1005 5063	43426036	CDIF	5N SURG	N	N	СО	Incident	08/22/2020	08/22/2020	STOOL	08/23/2020	0	
1C1009 9892	42844776	CDIF	3W ICUSD	N	N	CO- HCFA	Incident	07/02/2020	07/02/2020	STOOL	07/02/2020	0	•
1C1011 9335	43426042	CDIF	101	N	N	CO- HCFA	Incident	09/28/2020	09/28/2020	STOOL	09/29/2020	0	•
1C1014 9393	44277201	CDIF	ED	Y	N	CO- HCFA	Incident		•	STOOL	10/12/2020	0	•
1C1024 9643	42844761	CDIF	5N SURG	N	N	со	Incident	06/19/2020	06/19/2020	STOOL	06/20/2020	0	
1C1025 6861	44278094	CDIF	3S MS	N	N	НО	Incident	10/04/2020	10/04/2020	STOOL	10/19/2020	1	•
1C1055 5870	42844775	CDIF	ED	Υ	N	СО	Incident			STOOL	06/16/2020	0	

Clinical Decision Support Software

- If you use clinical decision support software (CDSS) it is best practice to compare your results monthly to a laboratory line list.
- As part of a validation conducted by TDH, facilities that verified their CDSS identified events, at least monthly, with a laboratory line list had significantly higher percentage of correctly reported events than facilities that validated less frequently or not at all.









Common Questions: LabID Event

- My facility is doing active surveillance testing (AST) and LabID Event reporting. If an MDRO is identified during AST is it also a LabID Event?
- Answer: No, because a LabID Event is an MDRO isolate obtained for <u>clinical decision making</u>, not as part of routine surveillance.



 I have a patient with a positive MRSA blood specimen early in the month. If he has another positive blood specimen one week later, on the same unit, do I enter a second LabID Event in NHSN?

 Answer: You would not report an additional positive blood specimen that was obtained the following week (14-day rule).



- If I have a patient with a positive MRSA blood specimen late in the month and the following month he has another positive blood specimen, do I enter the second specimen as a LabID Event in NHSN?
- Answer: You need to apply the 14-day rule to determine if the specimen meets the LabID event definition. Remember that the 14-day rule crosses months.



- A MRSA-positive blood culture was obtained in the ED and then admitted to an inpatient unit on the same day. How do I report this LabID event?
- Answer: Report this MRSA blood specimen as a LabID Event for the ED.
- If the patient had went to an affiliated outpatient clinic, how would it have been reported?
- Answer: It would have been reported for the inpatient location.



- A MRSA-positive blood culture was obtained while patient was in dedicated observation unit and then was admitted as inpatient the same day. How do I report this LabID event?
- Answer: Report this MRSA blood specimen as a LabID Event for the dedicated observation unit.
- An observation patient is placed on an inpatient unit.
 MRSA + blood cultures are collected. How do I report this LabID event?
- Answer: It would have been reported for the inpatient location.





Resources

NHSN Resources

- NHSN MDRO/CDI Module and Protocol
 - https://www.cdc.gov/nhsn/pdfs/pscmanual/12pscmdro_cdadc urrent.pdf
- NHSN MDRO and CDI Resources
 - http://www.cdc.gov/nhsn/acute-care-hospital/cdiffmrsa/index.html
- MDRO & CDI LabID Event Calculator
 - https://nhsn.cdc.gov/labid-calculator/mdrolabidcalc.html
- Reportable Diseases and Conditions
 - https://www.tn.gov/health/cedep/reportable-diseases.html



Information and Support

CDC - NHSN

Helpdesk email: nhsn@cdc.gov

NHSN website: www.cdc.gov/nhsn/

Tennessee Department of Health

TDH HAI inbox: hai.health@tn.gov

TDH NHSN Website:

https://www.tn.gov/health/cedep/hai/state-based-nhsn.html





Next Meetings

- NHSN User Call
 - February 21st
- LTCF Call
 - February 22nd
- Next NHSN Training is February 27th
 - AU/AR Reporting





Questions?