North Carolina SPICE
Statewide Program for Infection Control & Epidemiology

LABORATORY-IDENTIFIED (LabID) EVENT REPORTING

MRSA BACTEREMIA AND *C. DIFFICILE*

National Healthcare Safety Network (NHSN)

REFERENCE ACKNOWLEDGMENT

2024 NHSN ANNUAL TRAINING

- *Ins and outs of NHSN MRSA Bacteremia & CDI LabID Event Reporting*

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KEY POINTS FOR LabID EVENT REPORTING

- FacWideIN LabID event reporting is based on patient and location.
  - Include ALL in patient units as well as ED/Observation locations in LabID event surveillance with an exception for *C. difficile* surveillance in baby-based locations (e.g. NICU, Nursing)
- NHSN does NOT use patient 'status' for reporting.
  - An 'inpatient' is a patient housed on an inpatient location.
  - An 'outpatient' is a patient housed on an outpatient unit such as the ED or a dedicated 24-hr observation unit.
  - Facility specific status designations such a 'observation', 'inpatient', 'outpatient', 'swing bed patient', or 'short stay patient' are **not** used for in NHSN reporting.

KEY POINTS FOR LabID EVENT REPORTING

- For NHSN reporting purposes, the ‘date admitted to facility’ is the calendar day the patient locates to an inpatient location. Time spent in the ED or on a dedicated 24-hour observation unit is outpatient hours.

- LabID event reporting includes a ‘14-day’ rule which prohibits a ‘new’ LabID event to be submitted for the patient in the SAME location until 15 days has passed between positive specimens. This rule is organism and location specific. Reporting resets each time the patient moves to a ‘new’ location.

KEY POINTS FOR LabID EVENT REPORTING

- LabID event reporting is based strictly on laboratory testing data without clinical evaluation of the patient, allowing for a much less labor-intensive method to track *C. difficile* and MDROs, such as MRSA.
- Symptoms are NOT used in LabID event reporting. No clinical determination is included in LabID event reporting.
- The first positive specimen for the patient in the location meeting definition is submitted as a LabID event.

KEY POINTS FOR LabID EVENT REPORTING

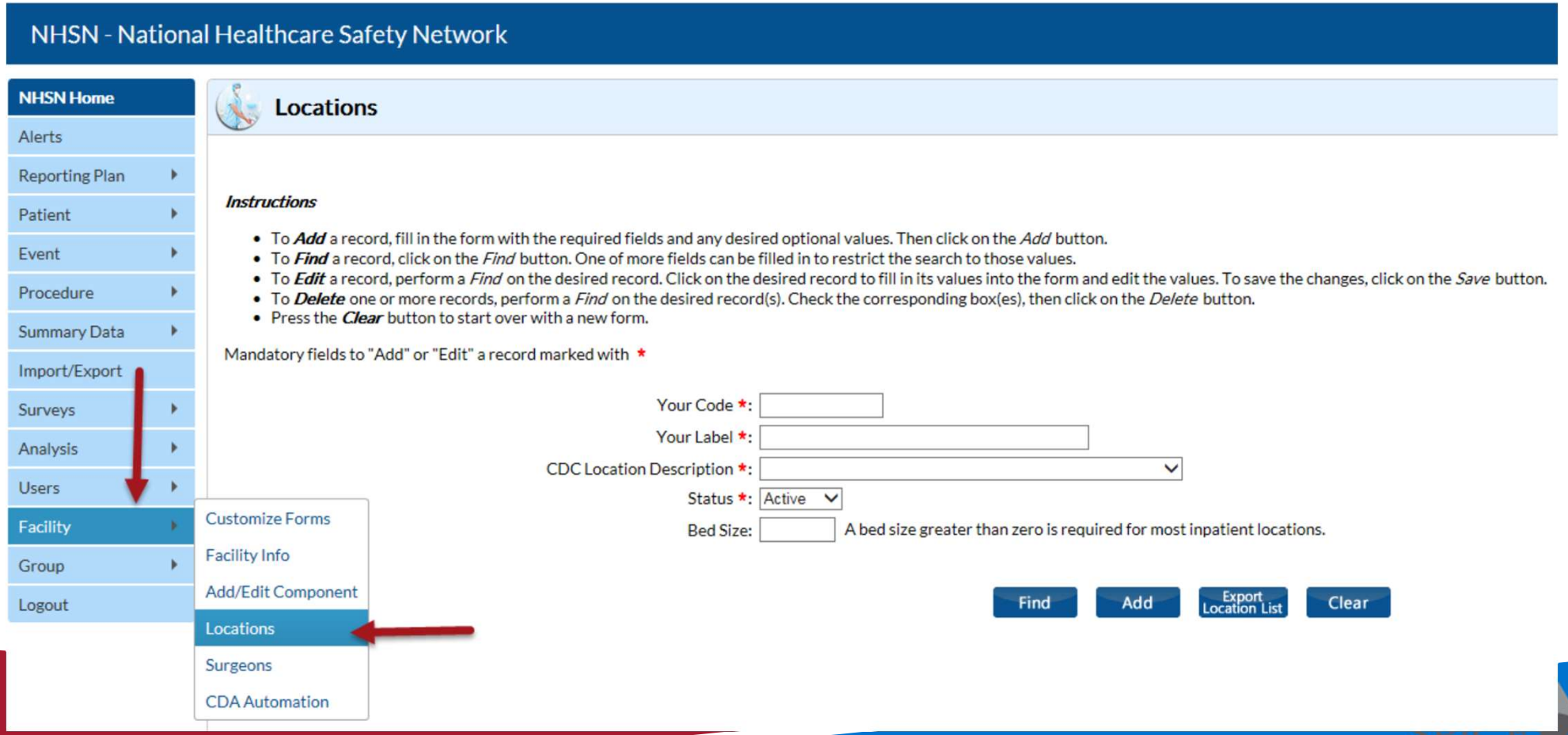
- LabID Event reporting is by single facility; prior positives identified at a different facility will not influence reporting at your facility and are not considered in event categorization
- The **'Transfer Rule'** does **NOT** apply to LabID event reporting
- LabID Events are attributable to the location where the positive specimen is collected. There is no time requirement for 'how long' the patient must be housed on the unit to be eligible for reporting.

BEWARE THE PITS

- LabID Events and HAI Events are two reporting pathways
  - An Event that is both a LabID Event and an HAI should be reported (if in plan)

MAPPING FOR LABID

- FacWideIN requires mapping of bedded inpatient location for the facility, all Eds and dedicated 24-hr observation units.



MONTHLY REPORTING PLAN

- The monthly reporting plan informs CDC which modules a facility is participating in during a given month.
- A facility must enter a plan for every month of the year.
- Add facility-wide inpatient reporting for MRSA bacteremia and *C. difficile* LabID events to your monthly reporting plan using the FACWIDEIN location.
- Emergency departments and 24-hr observations location are included in FacWideIN Reporting.

Note: ED and OBS units will automatically be added to your monthly reporting plan if mapped in NHSN. However, newly mapped EDs or OBs locations may require adding manually.

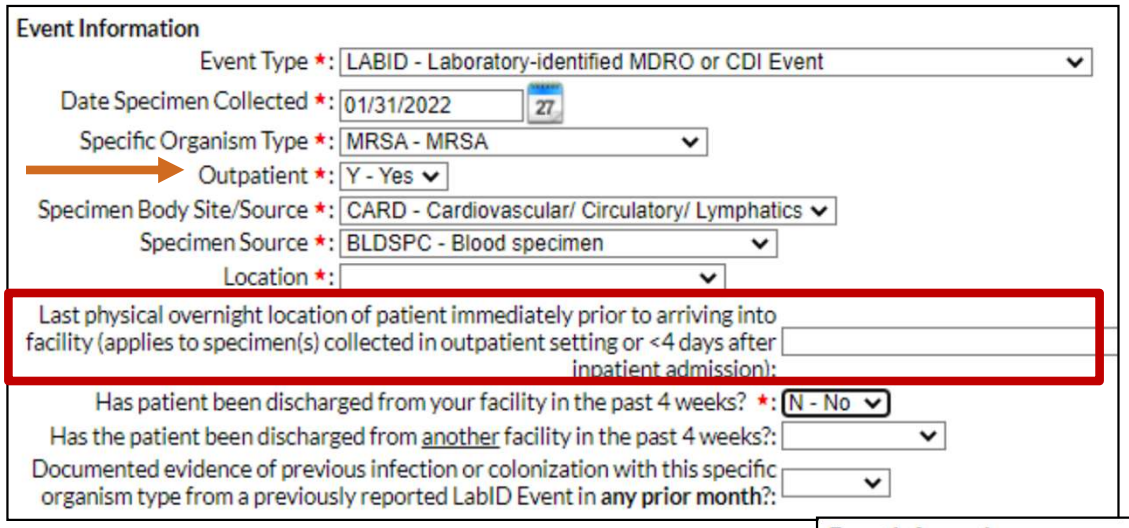
DEFINITION: MRSA BACTEREMIA LabID EVENT

- MRSA identified from blood culture:
  - Includes S. aureus cultured from a blood specimen that tests oxacillin-resistant, cefoxitin resistant, or methicillin-resistant by standard susceptibility testing methods, OR
  - Any lab finding where MRSA is specifically identified 9includes but not limited to PCR or other molecular based detection methods).

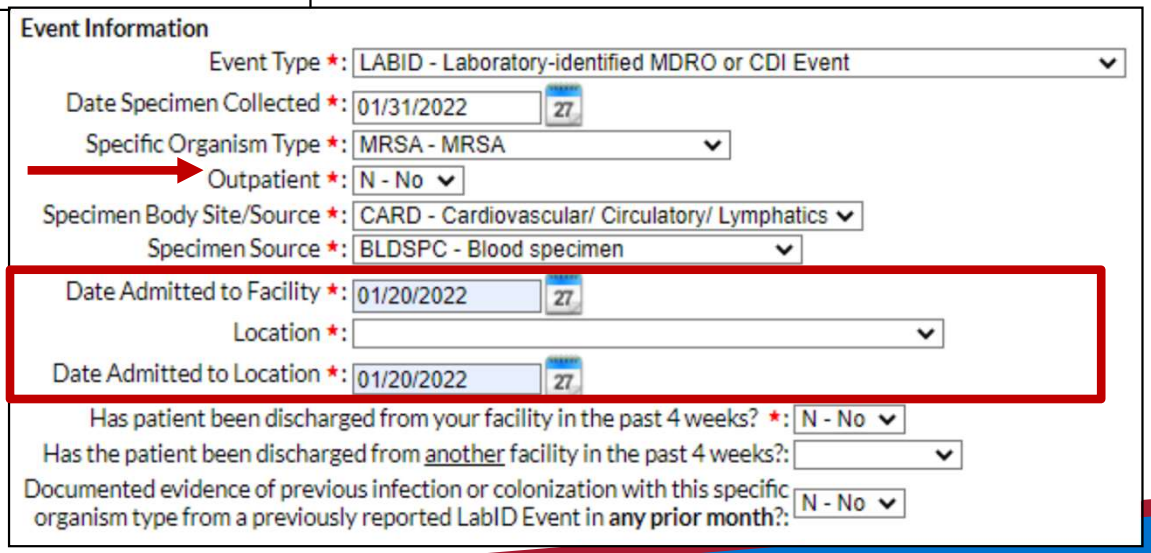
- ***Applies to ALL inpatient locations [including locations known to predominately house babies] and Emergency Departments and 24-hour Observation locations***.

EVENT INFORMATION- SPECIMENS COLLECTED FROM

Outpatient Location

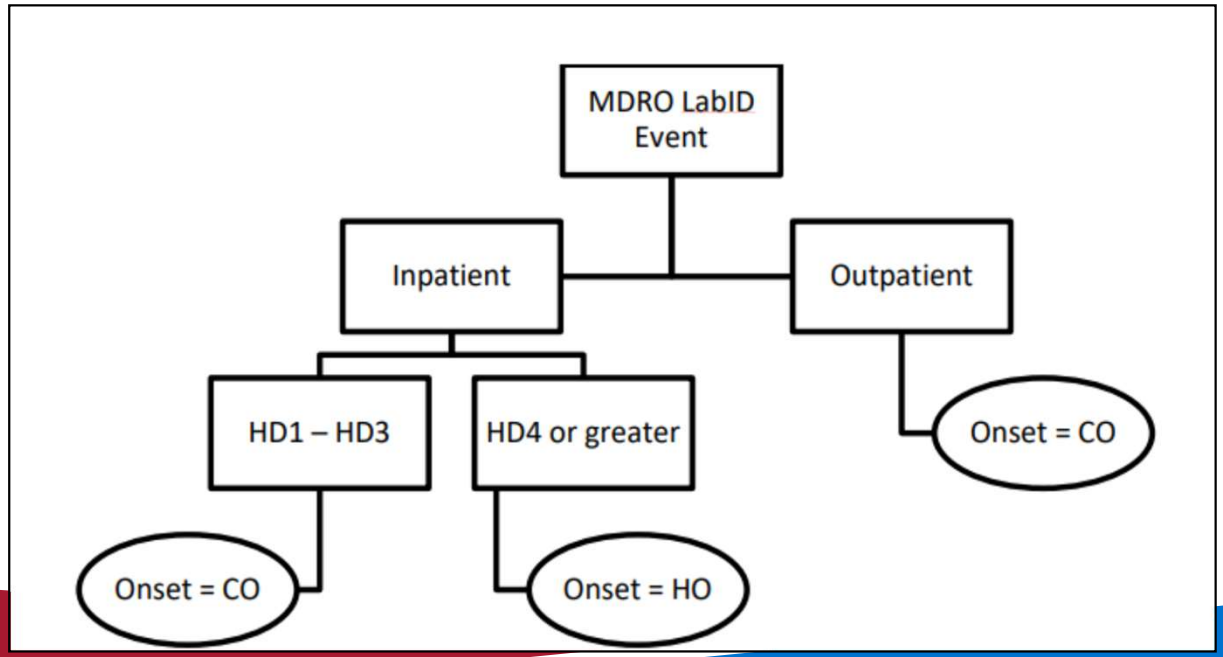


Inpatient Location



CATEGORIZATION OF MRSA BLOOD LabID EVENTS

- Community-Onset (CO):
  - LabID Event specimen collected in an outpatient location or an inpatient location on Hospital day 1 (day of admission), HD 2 or HD 3.
- Healthcare Facility-Onset (HO):
  - LabID Event specimen collected on or after day 4 where HD 1 is the day of admission.
  - Note: All HO LabID Events will have occurred more than 3 calendar days after admission.



KEY POINTS: MRSA BACTEREMIA LABID EVENT REPORTING

- All LabID Event(s) must be entered without regard to date of occurrence. Community-onset (CO) or Healthcare facility-onset (HO).
- The first MRSA positive blood culture for the patient and the location qualifies as a LabID event.
  - No additional MRSA LabID events are submitted for the patient in the location until there has been >14 days form the prior MRSA positive blood culture.
  - This is a rolling 14-day timeframe not specifically based on a previously submitted MRSA LabID event(s).
- Each location change resets reporting.

EXAMPLE:
Monitoring *Blood Specimens only* with multiple isolates from same location

On January 1, an ICU patient has a positive MRSA urine culture which is **not entered** into NHSN because blood specimens only are being monitored. On January 2, while in the same location (ICU), the same patient has a positive MRSA blood culture which **is entered** into NHSN. This starts the 14-day count. On January 5, while in the same location (ICU), the same patient has another positive MRSA blood culture which is **not entered** into NHSN because it has not been 14 days since the original positive MRSA blood culture while in the same location. The January 5 positive blood culture starts a new 14-day count. On January 19, while in the same location (ICU), the same patient has another positive MRSA blood culture. The January 19 MRSA blood culture **is entered** into NHSN because it has been more than 14 days since the patient's most recent positive blood culture (January 5) while in the **same** location (January 19 is day 15).

Date	Location	Specimen Body Site	Reportable?	
1-Jan	ICU	Urine – MRSA isolate	NO	
2-Jan	ICU	Blood – MRSA isolate	YES	
3-Jan	ICU			
4-Jan	ICU			
5-Jan	ICU	Blood – MRSA isolate	NO	1
6-Jan	ICU			2
7-Jan	ICU			3
8-Jan	ICU			4
9-Jan	ICU			5
10-Jan	ICU			6
11-Jan	ICU			7
12-Jan	ICU			8
13-Jan	ICU			9
14-Jan	ICU			10
15-Jan	ICU			11
16-Jan	ICU			12
17-Jan	ICU			13
18-Jan	ICU			14
19-Jan	ICU	Blood – MRSA isolate	YES	15

Non-blood isolate

<14 days from prior blood isolate -- no new blood isolate can be reported

>14 days -- new blood isolate should be reported

C. Difficile LabID EVENT DEFINITION

- A positive lab test result for *C. difficile* toxin A and/or B (includes molecular assays [PCR] and/or toxin assays) tested on an unformed stool specimen (must conform to the container).

OR

- A toxin-producing *C. difficile* organism detected in an unformed stool specimen by culture or other laboratory means.

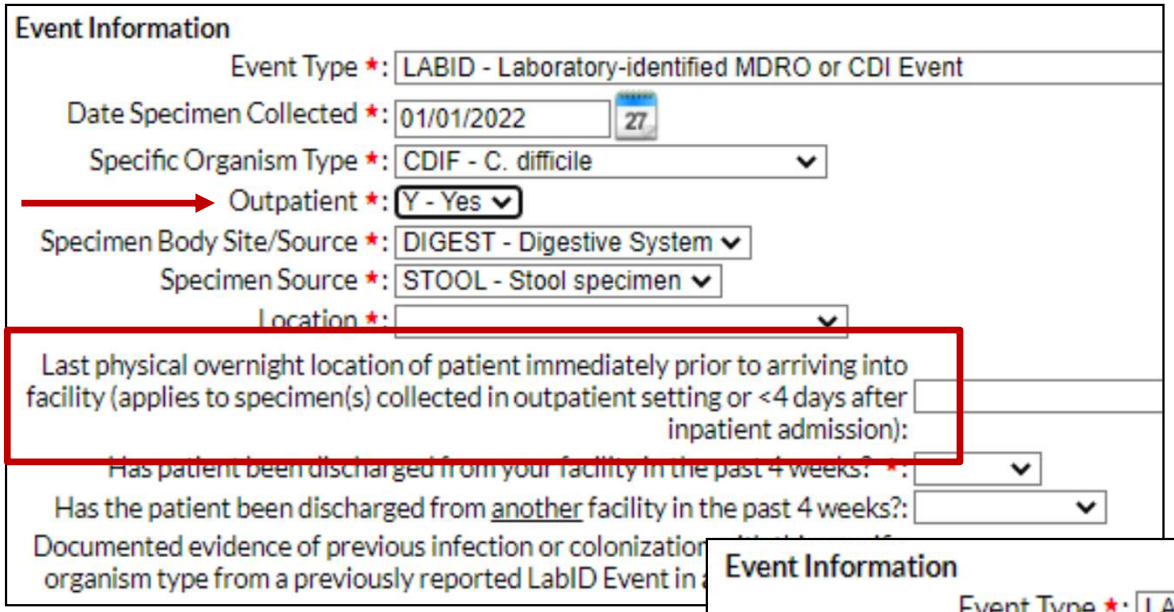
- ***Applies to ALL inpatient locations within a facility, including Emergency Departments and 24-hour Observation locations but NOT for predominantly baby locations (e.g. nursing, NICU)***

<u>*C. difficile* testing only on UNFORMED stool samples!! Stool should conform to shape of container</u>

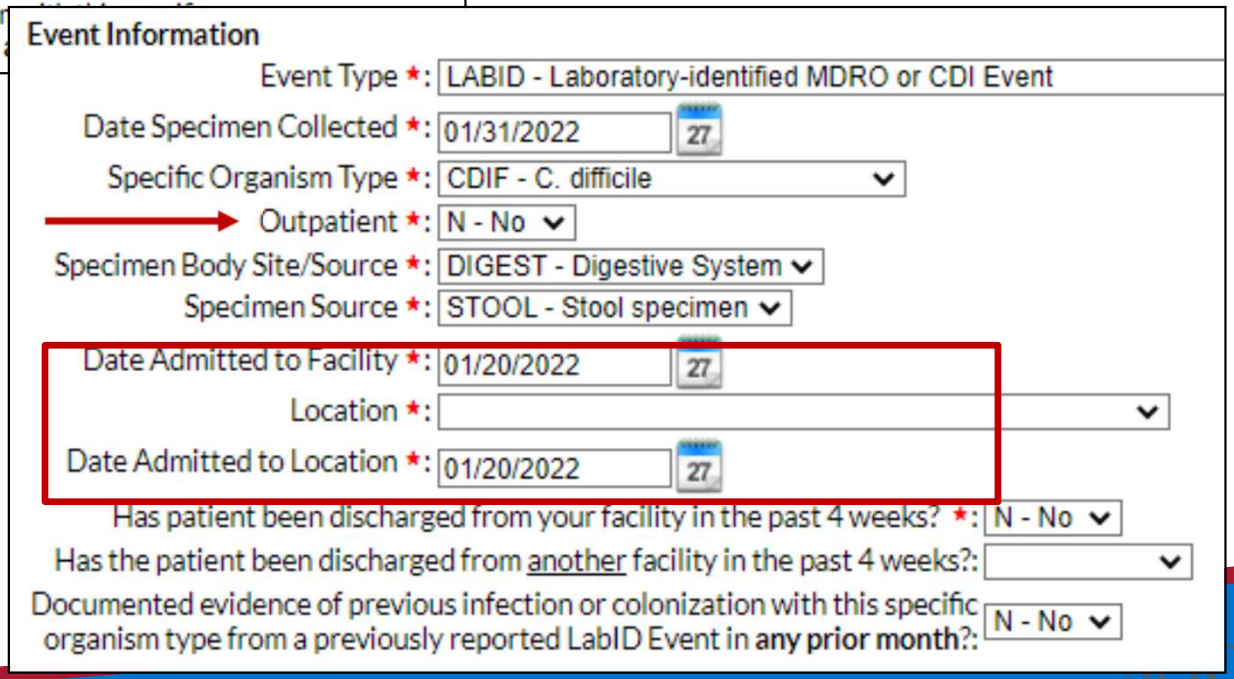
- When using a multi-testing algorithm on the same unformed stool specimen, the finding of the last test performed will determine if the CD(+) lab assay definition is met.
- Only when the final report has specific test times attached to each of the individual testing methods can one make a valid determination of which test is performed first and which is performed last.
- If there are no specific test times/time stamps attached to each individual testing method on the final lab report, consider the tests to be performed simultaneously and any positive finding is eligible for use.

EVENT INFORMATION- SPECIMENS COLLECTED FROM

Outpatient Location



Inpatient Location



CATEGORIZATION OF *C. Difficile* LabID EVENTS

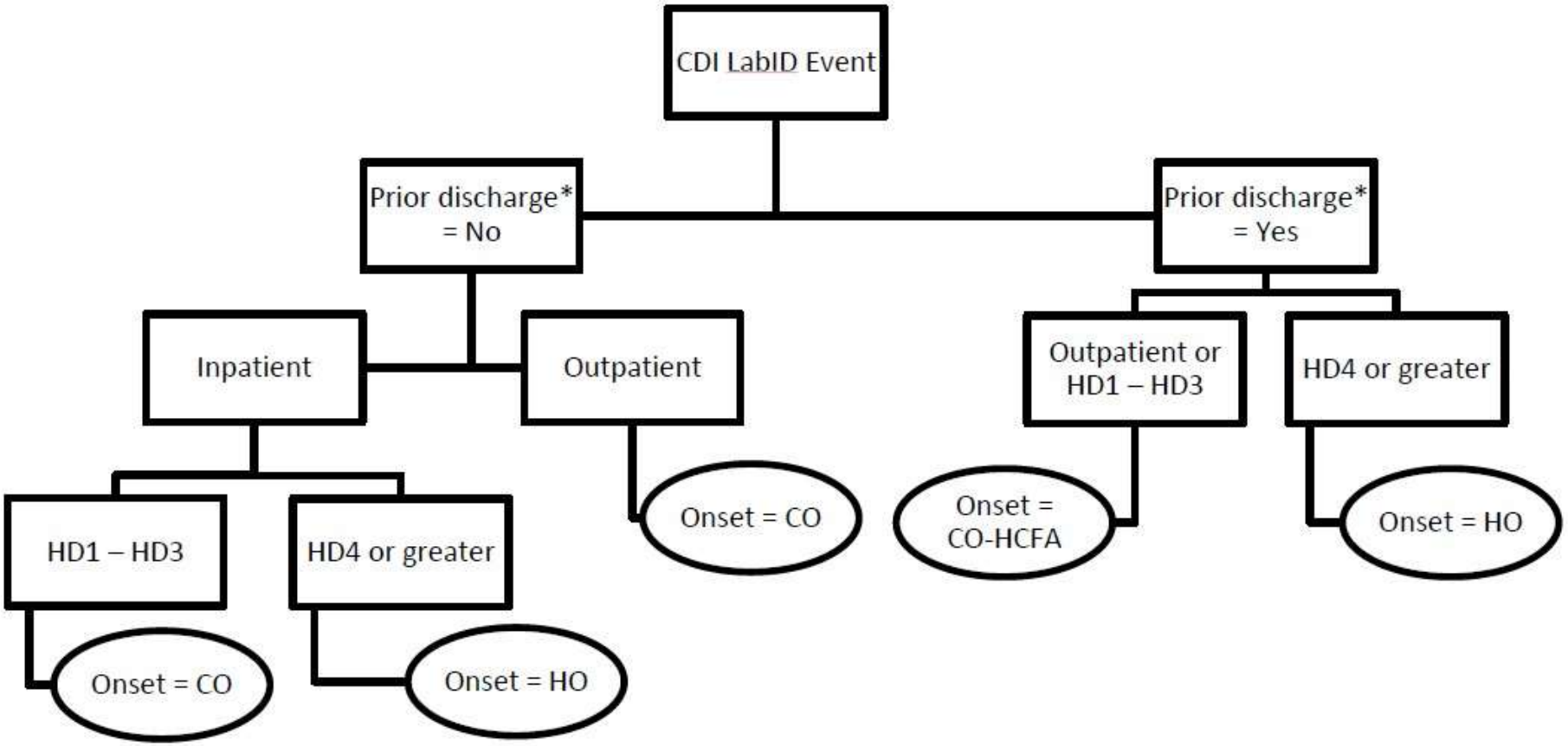
- **Community-Onset (CO):**
  - LabID Event specimen collected in an outpatient location in which the patient was not previously discharged from an inpatient location within the same facility ≤ 28 days prior to current date of specimen collection.

  OR

  - LabID Event specimen collected in an inpatient location on HD 1 (day of admission), HD 2 or HD 3.

- **Community-Onset Healthcare Facility-Associated (CO-HCFA):**
  - CO LabID Event specimen collected from an inpatient or outpatient location from a patient who was discharged from the facility **< 28** days prior to current date of stool specimen collection. Previous discharge must have been from an **IP location** within the same facility.

- **Healthcare Facility-Onset (HO):**
  - LabID Event specimen collected from an inpatient location on or after HD4 where HD 1 is the day of admission.



* Patient discharged from inpatient location within the same facility less than or equal to 28 days prior current event

Hospital Day (HD)

NHSN WILL CATEGORIZE C.DIFFICILE LABID EVENTS BASED ON LOCATION & SPECIMEN COLLECTION DATE

- **Incident** CDI LabID Event: Any CDI LabID Event from a specimen obtained > 56 day (day 57) after the most recent CDI LabID event (or with no previous CDI LabID Event documented) for that patient.
- **Recurrent** CDI LabId Event: Any CDI LabID Event from a specimen obtained > 14 days (day 15) and ≤ 56 days after the most recent CDI LabID event for that patient.

Note: The date of the 1st specimen collection is considered day 1.

KEY POINTS: LABID EVENT REPORTING *C. DIFFICILE*

- All LabID Event (s) must be entered without regard to date of occurrence. Community-Onset (CO) or healthcare facility-onset (HO).
- Only unformed stools should be tested for *C. difficile*. Internal rejection policies should be used to ensure appropriate testing.
- A positive CD finding from unformed stool specimen qualifies as a LabID Event if there has not been a previous positive laboratory result for the patient in the location within the previous 14 days.

EXAMPLE: On January 1, an ICU patient has a *C. difficile* toxin-positive laboratory result which **is** entered into NHSN. On January 4, while in the same location (ICU), the same patient has another positive *C. difficile* toxin-positive laboratory result which is **not** entered into NHSN because it is a duplicate for the patient and location (has not been more than 14 days since the original *C. difficile* toxin-positive laboratory result while in the same location). On January 16, while in the same location (ICU), the same patient has another *C. difficile* toxin-positive laboratory result. While it has been more than 14 days since the initial positive *C. difficile* toxin-positive laboratory result was entered into NHSN (January 1) for the same patient and same location, it has not been more than 14 days since the patient's most recent *C. difficile* toxin-positive laboratory result (January 4) **while in the same location**. Therefore, the *C. difficile* toxin-positive laboratory result for January 16 is **not** entered into NHSN. On January 31, the patient has another *C. difficile* toxin-positive laboratory result while in the same location (ICU). Since it has been more than 14 days since the patient's most recent *C. difficile* toxin-positive laboratory result (January 16) while in the same location, this event **is** entered into NHSN.

Table 4: Measures Delivered to CMS For Facilities Participating in Quality Reporting Programs MRSA Bloodstream Infection and *C. difficile* LabID Events

Facility Type	CMS Quality Reporting Program	MRSA Bloodstream Infection LabID Event Measure Sent to CMS	*C. difficile* LabID Event Measure Sent to CMS
General Acute Care Hospitals	Inpatient Quality Reporting Program	FacWideIN MRSA Bacteremia SIR	FacWideIN CDI SIR
Long Term Care Hospitals (referred to as Long Term Acute Care Hospitals in NHSN)	Long Term Care Hospital Quality Reporting Program	None	FacWideIN CDI SIR
Inpatient Rehabilitation Facilities (IRFs)	Inpatient Rehabilitation Facility Quality Reporting Program	**IRF units within a hospital:** None	**IRF units within a hospital:** CDI SIR for IRF Units
		Free-standing IRFs: None	**Free-standing IRFs:** FacWideIN CDI SIR
PPS-Exempt Cancer Hospitals (PCHs)	PPS-Exempt Cancer Hospital Quality Reporting Program	FacWideIN MRSA Bacteremia SIR	FacWideIN CDI SIR

DENOMINATORS FOR LabID EVENT

Denominators = Patient Days, admissions (for inpatient locations) and encounters for emergency department, and observation units.

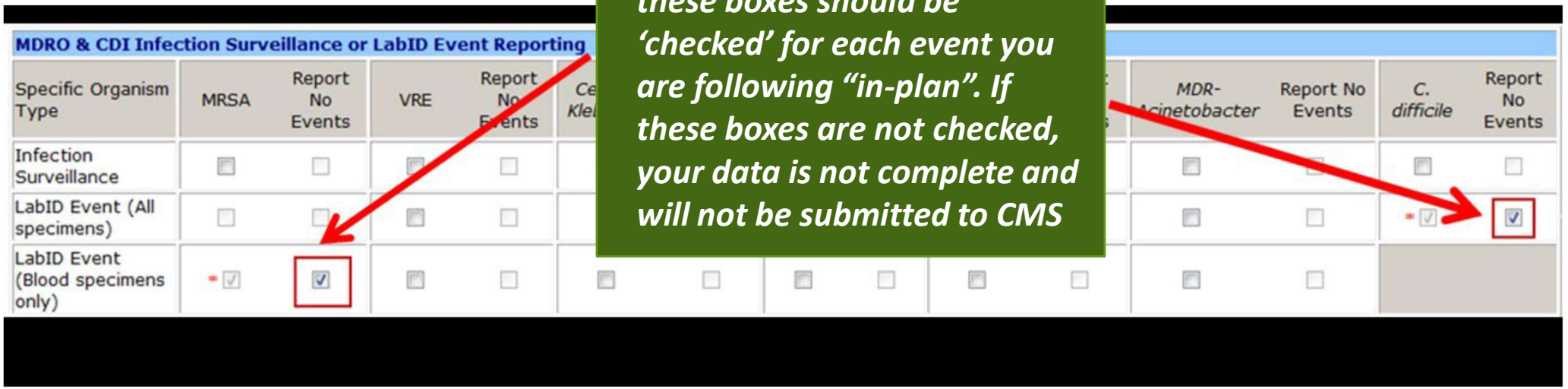
Patient Days:

- At the same time each day, the number of patients on the inpatient units should be recorded. This procedure should be followed regardless of the patient's status as an observation patient or an inpatient (based on IP location).

- Patient Admissions:
  - Include any **new** patients that are assigned to a bed in any inpatient location within the facility at the time of the facility-wide admission count (i.e., was not present on the previous calendar day at the time of patient count).
- Encounter:
  - A Patient visit to an outpatient location

Denominator Data: Report No Events

- If you have reported any LabID events during the month, you are ***finished*** with your reporting for the month and can skip this step.
- If you have no LabID events for the specific month of reporting, you must indicate this on the summary data record to complete your reporting efforts.
- On the MDRO and CDI Module summary data form, checkboxes for "Report No Events" are found underneath the patient day and admission count fields, as seen in the screenshot below.



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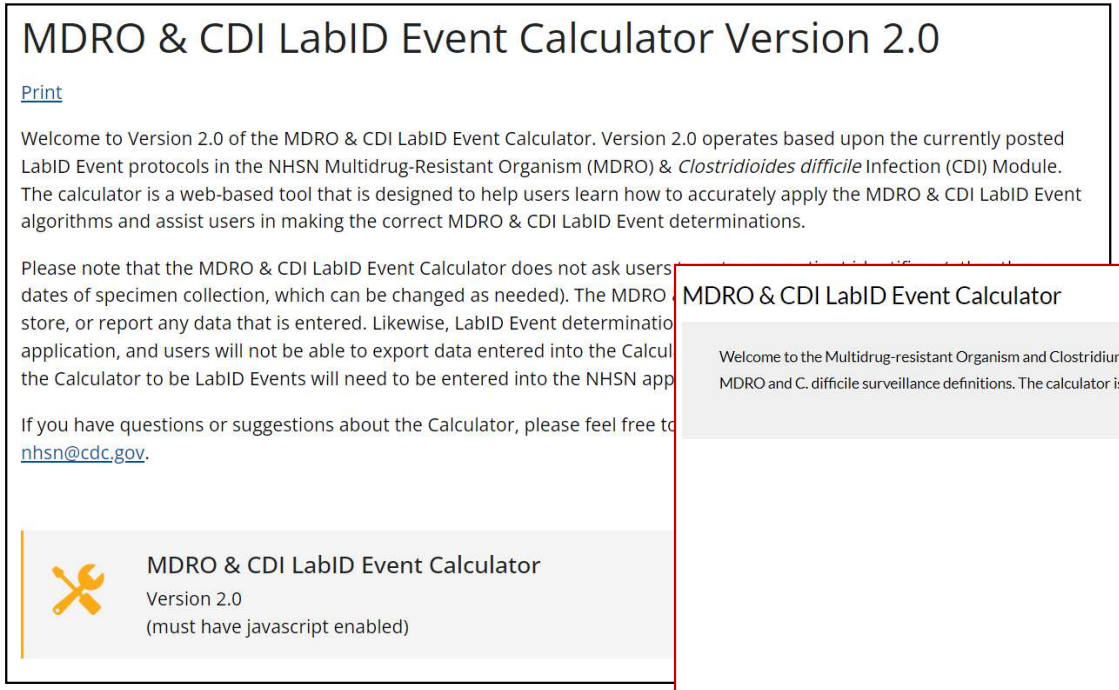
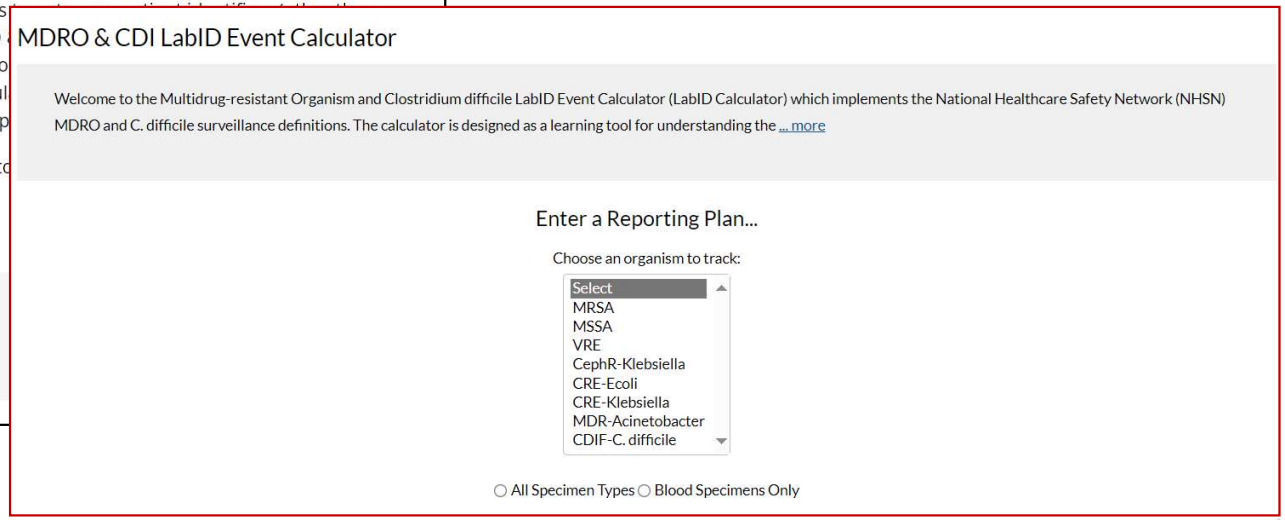
LabID Event Calculator: https://www.cdc.gov/nhsn/labid-calculator/index.html

- *Available for use with C. difficile and MRSA LabID Event reporting*
- *Aids in decision making around the 14-day rule*
- *External calculator*





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LINKS TO ANALYSIS

- SIR Guide, to learn more about the SIR & how it's calculated [updated 2/21]:
  - https://www.cdc.gov/nhsn/pdfs/ps-analysis-resources/nhsn-sir-guide.pdf

- Introduction to NHSN Analysis:
  - https://www.cdc.gov/nhsn/pdfs/training/2019/intro-nhsn-analysis-508.pdf.

- Analyzing LabID Event Data in NHSN:
  - https://www.cdc.gov/nhsn/pdfs/training/2020/labid-update-508.pdf


THANK YOU!