



## Using NHSN Analysis Features for Prevention: MDRO and CDI LabID Data

The NHSN MDRO/CDI Module has two different options for performing surveillance and reporting: Active Infection surveillance and LabID event reporting. For the purposes of public reporting, acute care hospitals in California are required to use **LabID reporting** for MRSA BSI, VRE BSI, and CDI. LabID surveillance differs from both device-associated (e.g. CLABSI) and procedure-associated (e.g. SSI) surveillance in that it measures the burden of MDRO/CDI in a hospital using the availability of positive laboratory findings. Hospitals can use these LabID data to describe both the prevalence and incidence of CDI and MRSA/VRE BSI in the hospital. The LabID SIR can be used to compare a facility's current number of infections to the predicted number of infections based on individual facility risk factors.

### Using Output Options to Review Facility-wide Summary Data

To run any Analysis in NHSN, you must Generate a data set. Generate a new data set after entering new data.

- 1) Run a line list of your Summary (denominator) data to review the information you reported to NHSN:  
**Click Analysis → Output Options → Advanced → Summary-level Data → CDC Defined Output → Line Listing - All Summary Data → Modify**

The screenshot shows the NHSN web application interface. The browser address bar displays the URL: <https://nhsn2.cdc.gov/nhsn/analysisrequest.do?method=ListAnalysisRequests&appModule=PS&navReset=true&optForUser=&currenttr>. The page title is "Patient Safety Component Analysis Output Options".

The left sidebar contains a navigation menu with the following items: Patient, Event, Procedure, Summary Data, Import/Export, Analysis, Surveys, Users, Facility, Group, and Log Out. The "Analysis" menu item is highlighted, and a red arrow points to it. Below "Analysis", the following sub-items are listed: Generate Data Sets, Output Options, and Statistics Calculator. A red box highlights these three items, and a red arrow points to "Generate Data Sets".

The main content area displays a tree view of analysis options. The "Advanced" folder is expanded, and a red arrow points to it. Under "Advanced", the following folders are listed: CMS Reports, Patient-level Data, Event-level Data, Procedure-level Data, Summary-level Data, and CDC Defined Output. A red arrow points to "Summary-level Data", and another red arrow points to "CDC Defined Output".

Under "CDC Defined Output", the following analysis options are listed:

- Line Listing - All Summary Data (Run, Modify)
- User-Defined Rate Table - ICU-Other (Run, Modify)
- User-Defined Rate Table - NICU (Run, Modify)
- User-Defined Rate Table - SCA (Run, Modify)
- Line Listing - CLAB Rates for NICU (Run, Modify)

The "Modify" button for "Line Listing - All Summary Data" is circled in red. The "Run" button for the same item is also visible.

- 2) From the Line Listing screen, modify Output Name, Date Variable (by month, 2012), select criteria to limit **location** to include only Facility-wide Inpatient Summary data . Next we will Modify the Variables to display in our report.

**NHSN Home**

Alerts

Reporting Plan

Patient

Event

Procedure

Summary Data

Import/Export

Analysis

Generate Data Sets

Output Options

Statistics Calculator

Surveys

Users

Facility

Group

Log Out

Logged into California General Hospital (ID 15633) as TRACYLANIER.  
Facility California General Hospital (ID 15633) is following the PS component.

## Line Listing

[HELP](#)

**Analysis Data Set:** PSSummary Export Analysis Data Set

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**Modify Attributes of the Output:**

Last Modified On: **05/27/2014**

Output Type: **Line Listing**

Output Name: →

Output Title:

---

**Select output format:**

Output Format:

Use Variable Labels

---

**Select a time period or Leave Blank for Cumulative Time Period:** [HELP](#)

Date Variable:  Beginning:  Ending:  Clear Time Period

Enter Date variable/Time period at the time you click the Run button

**Specify Other Selection Criteria:** [HELP](#)

→ [Show Criteria](#) [Column +](#) [Row +](#) [Clear Criteria](#)

location			
= FACWIDEIN			

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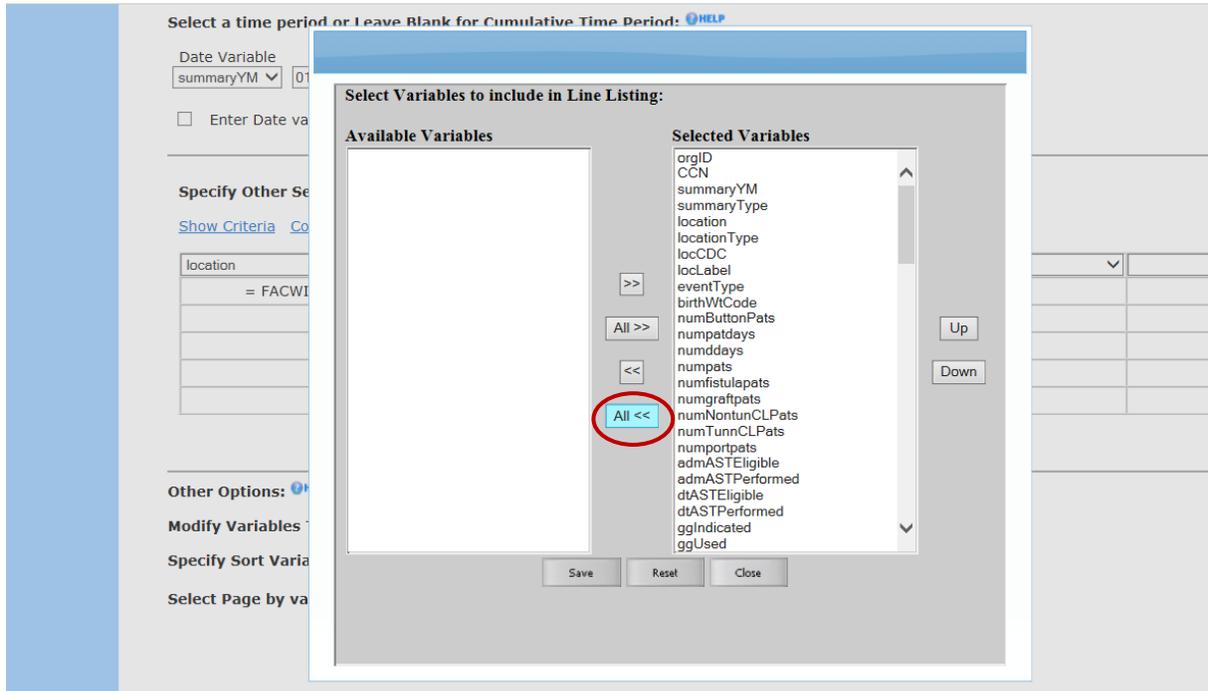
**Other Options:** [HELP](#) [Print Variable Reference List](#)

→ **Modify Variables To Display By Clicking:** Modify List

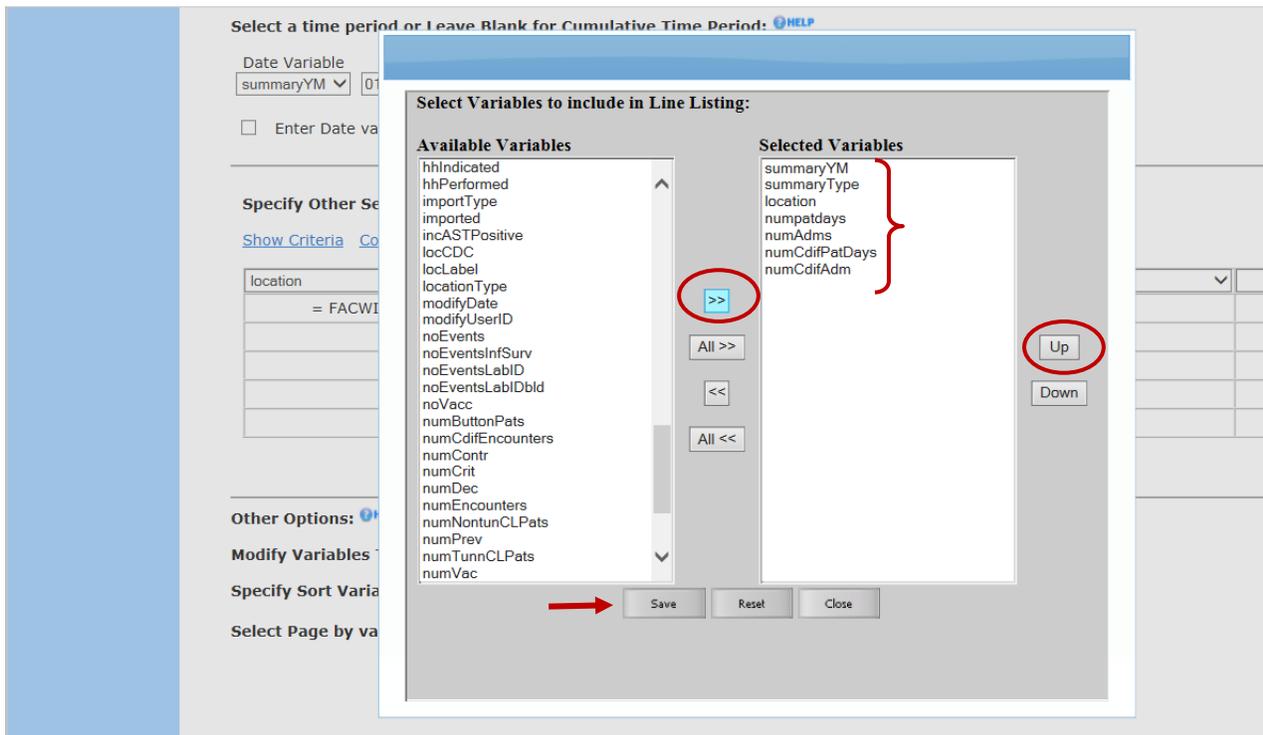
Specify Sort Variables By Clicking: [Modify List](#)

Select Page by variable:

3) When you click Modify List, a gray box will appear with all possible Variables pre-selected to Display. We don't want to see all the Variables in our report. Use **ALL<<** (all back) button to clear the Selected Variables box.



4) Then select only the Variables necessary to review your monthly Facility- wide Summary data as shown below. Highlight each variable you want in the Available list and use the **>>** to move to Selected list. Use Up/Down to order the list of variables as you want the columns to appear in your report. Save.



5) Click Run at the bottom of the Line Listing page. Your report will appear showing each month, and the LabID Facility Wide Summary data you reported ordered by

- Patient Days
- Patient Admissions
- C diff Patient Days
- C diff Admissions

Note: Each month's Summary data is repeated multiple times in the line list. This is a glitch in the report. Extra points to whoever can figure out how to produce only one line of data for each month ☺

Review your data to look for omissions and errors. IT IS A COMMON MISTAKE TO FORGET ENTERING MDRO/CDI SUMMARY DATA EVERY MONTH. Use this report to check periodically that your data are complete and as you intended.

File Edit View Favorites Tools Help

**National Healthcare Safety Network**  
**MDRO / CDI Facility Wide Summary Data 2012**  
 As of: June 4, 2014 at 8:21 PM  
 Date Range: PSSUMMARY summaryYM 2012M01 to 2012M12

Summary Year/Month	Type of summary record	Location	Patient Days	Admissions	C. dif Patient Days	C. dif Admissions
2012M01	MDRO	FACWIDEIN	100	80	100	80
2012M01	MDRO	FACWIDEIN	100	80	100	80
2012M01	MDRO	FACWIDEIN	100	80	100	80
2012M02	MDRO	FACWIDEIN	100	5	100	5
2012M02	MDRO	FACWIDEIN	100	5	100	5
2012M02	MDRO	FACWIDEIN	100	5	100	5
2012M03	MDRO	FACWIDEIN	100	30	100	30
2012M03	MDRO	FACWIDEIN	100	30	100	30
2012M03	MDRO	FACWIDEIN	100	30	100	30
2012M04	MDRO	FACWIDEIN	100	10	100	10
2012M04	MDRO	FACWIDEIN	100	10	100	10
2012M05	MDRO	FACWIDEIN	120	45	120	45
2012M05	MDRO	FACWIDEIN	120	45	120	45
2012M06	MDRO	FACWIDEIN	100	30	100	30
2012M06	MDRO	FACWIDEIN	100	30	100	30
2012M06	MDRO	FACWIDEIN	100	30	100	30
2012M07	MDRO	FACWIDEIN	170	7	170	7
2012M07	MDRO	FACWIDEIN	170	7	170	7
2012M07	MDRO	FACWIDEIN	170	7	170	7
2012M09	MDRO	FACWIDEIN	1000	15	1000	15
2012M09	MDRO	FACWIDEIN	1000	15	1000	15
2012M11	MDRO	FACWIDEIN	550	34	550	34
2012M11	MDRO	FACWIDEIN	550	34	550	34
2012M12	MDRO	FACWIDEIN	100	40	100	40
2012M12	MDRO	FACWIDEIN	100	40	100	40

Sorted by orgID summaryYM  
 Data contained in this report were last generated on May 27, 2014 at 6:02 PM.

## Using Output Option to Review LabID Event Data: CDI and MRSA/VRE Infections

- 1) Run a line list to review the Event (infection) data you reported to NHSN. Follow the instructions in the text box below.

The screenshot shows the NHSN web application interface. The browser address bar displays the URL: <https://nhsn2.cdc.gov/nhsn/analysisrequest.do?method=ListAnalysisRequests&appModule=PS&navReset=true&optForUser=&current>. The page header includes the CDC logo and the text "Department of Health and Human Services Centers for Disease Control and Prevention". The main navigation menu on the left includes "NHSN Home", "Alerts", "Reporting Plan", "Patient Event Procedure", "Summary Data", "Import/Export", "Analysis", "Surveys", "Users", "Facility", "Group", and "Log Out". The "Analysis" menu item is circled in red with the number 1. Under "Analysis", the "Output Options" sub-menu item is circled in red with the number 2. The "MDRO/CDI Module - LABID Event Reporting" folder is circled in red with the number 3. Under this folder, the "All LabID Events" folder is circled in red with the number 4. Under "All LabID Events", the "CDC Defined Output" folder is circled in red with the number 5. Under "CDC Defined Output", the "Line Listing for All LabID Events" item is circled in red with the number 6. To the right of this item are "Run" and "Modify" buttons, with the "Modify" button circled in red with the number 7. A callout box on the right side of the screen contains the following instructions: "Click in order: 1. Analysis, 2. Output Options, 3. MDRO/CDI Module – LABID Event Reporting, 4. All LabID Events, 5. CDC Defined Output, 6. Line Listing for All LabID Events, 7. Modify".

- 2) When you click Modify, the Line Listing screen will appear. Follow the instructions in the text box to produce a list of all your MDRO/CDI Events for 2011.

## Line Listing

**Analysis Data Set: LabID\_Events** [Export Analysis Data Set](#)

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**Modify Attributes of the Output:**

Last Modified On: **05/27/2014**

Output Type: **Line Listing**

Output Name:

Output Title: 1

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**Select output format:**

Output Format:

Use Variable Labels 2

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**Select a time period or Leave Blank for Cumulative Time Period:** [HELP](#)

Date Variable:  Beginning:  Ending:  4 [Clear Time Period](#)

Enter Date variable/Time period at the time you click the Run button

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**Specify Other Selection Criteria:** [HELP](#)

[Show Criteria](#) [Column +](#) [Row +](#) [Clear Criteria](#)

<span style="border: 1px solid red; border-radius: 50%; padding: 2px;">5</span>		

1. Name your report if you wish to save it for future use. Not necessary for a one-time view.
2. For Output Format, use HTML (or CSV if you plan to export to Excel)
3. Always check "Use Variable Labels".
4. Select a Date Variable. We are choosing year (2011).
5. To include only specific data variables in your report, e.g. a certain location, age group, gender, organism type, etc., you can add instructions to the Selection Criteria table. In this example, we are going to leave it blank to include all LabID Event types reported.
6. In Other Options: We will **Display** the data variables in our report including the Selected Variables pre-selected by CDC.

Don't click Run yet .

We will **Sort the Variables** to view the same Event type (e.g. CDI) listed together.

Other Options: [HELP](#)

[Print Variable Reference List](#)

Modify Variables To Display By Clicking: [Modify List](#)

Specify Sort Variables By Clicking: [Modify List](#)

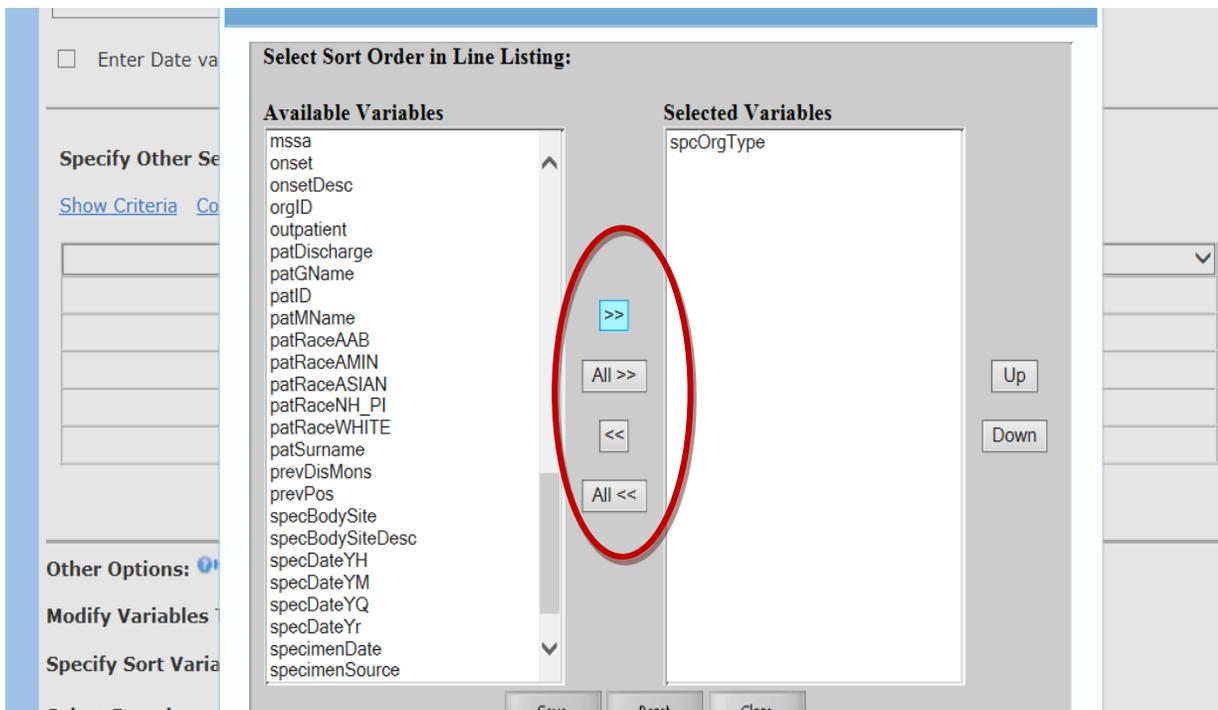
Select Page by variable:

6

- Click the Specify Sort Variables Modify List. A grey box will appear. For our line list of 2011 LabID Events, we will sort by **organism type** to group each type together, e.g. CDI, MRSA, VRE. This allows us to more easily look for patterns and trends in the data. Follow the instructions in the text box below.

**Select the Sort Order in your report.**

- “Available Variables” lists all LabID related variables available in NHSN for analysis
- “Selected Variables” indicates those variables chosen to sort the line list.
  - Note, CDC does not pre-select variables to Sort by. The CDC “canned” report will run the line list by date, listing CDI, MRSA (blood) and VRE (blood) in the order they occurred during the year.
- To move variables from the Available list to the Selected list, highlight a variable then use the >> key. (If you want to remove a variable you accidentally Selected, use the << key.)
- To sort by organism type, highlight “spcOrgType” from “Available Variables” and move to “Selected Variables” (shown below).
- Press “Save” on grey box, and then press “Run” at the bottom of the Line Listing screen.



**Tips for using Sort feature:**

- For best results, Sort by only 1 or 2 variables.
- Be careful. Using the “All” keys will move the entire variable list.

4) The Line Listing shows all of your MDRO/CDI LabID Event data for 2011, grouped by organism type.

- Events are sorted alphabetically by organism type.
- Review this type of line list periodically to assess your reported Event data for accuracy and completeness.

- If you want to further sort the line list, such as by location, go back to Line Listing screen. Modify Specify Sort Variables , selecting **“location”** as a second sort variable.

- LabID surveillance applies an algorithm to reported Events to determine how to attribute onset.
- This column indicates if the Event was hospital onset (HO), community onset (CO), or community onset – healthcare facility associated (CO-HCFA).

Org ID	Patient ID	Event ID	Specific Organism	Location	Outpatient?	Previous Organism Infection	Onset	Fac Admission Date	Location Admission Date	Specimen Source	Date Specimen Collected
15633	100008	5490791	CDIF	1 MICU	N	N	HO	09/05/2011	09/12/2011	STOOL	09/19/2011
15633	1	5584401	CDIF	1 MICU	N	N	CO	07/10/2011	07/11/2011	STOOL	07/12/2011
15633	600670	6711643	CDIF	DLB	N	N	CO	12/13/2011	12/13/2011	STOOL	12/13/2011
15633	100008	6711644	CDIF	8585	N	N	CO-HCFA	12/23/2011	12/23/2011	STOOL	12/23/2011
15633	99999	6726945	CDIF	NEW2-15-12	Y	N	CO			STOOL	11/08/2011
15633	05012011	5509675	MRSA	1 MICU	N	N	HO	06/02/2011	06/04/2011	STOOL	06/07/2011
15633	098765	5511578	MRSA	1 MICU	N	Y	HO	06/02/2011	06/04/2011	BLDSPC	06/14/2011
15633	1000579	5515820	MRSA	1 MICU	N	N	CO	01/03/2011	01/04/2011	BLDSPC	01/04/2011
15633	104521	5515822	MRSA	1 MICU	N	N	CO	02/08/2011	02/08/2011	PERICSPC	02/08/2011
15633	105123	5515824	MRSA	1 MICU	N	N	HO	04/12/2011	04/17/2011	LIGAMENT	04/18/2011
15633	105644	5515837	MRSA	1 MICU	N	N	CO	05/10/2011	05/10/2011	BLDSPC	05/10/2011
15633	109012	5515838	MRSA	1 MICU	N	N	HO	07/12/2011	07/15/2011	BLDSPC	07/18/2011
15633	99933322	6161709	VRE	8585	N	N	CO	09/01/2011	09/01/2011	BLDSPC	09/01/2011

Remember you can choose to add or delete variables to create custom reports for your hospital. You can save any report you produce, export the data to Excel, or publish the report for other NHSN Users at your hospital to run using their own generated data sets.

In the previous example, we included all Event types reported in the MDRO/CDI Module. In addition to “All LabID Events” reports, CDC has created the same Output options for each Event type (organism). The output modification techniques demonstrated in this guidance document can be applied to any LabID Event type.

Analysis

- ▣ Generate Data Sets
- ▣ Output Options
- ▣ Statistics Calculator

Surveys

Users

Facility

Group

Log Out

- Device-Associated Module
- Procedure-Associated Module
- MDRO/CDI Module - Infection Surveillance
- MDRO/CDI Module - LABID Event Reporting
  - All LabID Events
    - CDC Defined Output
      - Line Listing for All LabID Events Run Modify
      - Frequency Table for All LabID Events Run Modify
      - Bar Chart for All LabID Events Run Modify
      - Pie Chart for All LabID Events Run Modify
    - Custom Output
  - All MRSA LabID Events
    - CDC Defined Output
      - Line Listing for All MRSA LabID Events Run Modify
      - Frequency Table for All MRSA LabID Events Run Modify
      - Bar Chart for All MRSA LabID Events Run Modify
      - Pie Chart for All MRSA LabID Events Run Modify
      - Rate Tables for MRSA LabID Data Run Modify
      - SIR - MRSA Blood FacwideIN LabID Data Run Modify
  - All MSSA LabID Events
  - All C. difficile LabID Events
    - CDC Defined Output
      - Line Listing for All CDIF LabID Events Run Modify
      - Frequency Table for All CDIF LabID Events Run Modify
      - Bar Chart for All CDIF LabID Events Run Modify
      - Pie Chart for All CDIF LabID Events Run Modify
      - Rate Tables for CDIF LabID Data Run Modify
      - SIR - CDI FacwideIN LabID Data Run Modify
  - All VRE LabID Events
    - CDC Defined Output
      - Line Listing for All VRE LabID Events Run Modify
      - Frequency Table for All VRE LabID Events Run Modify
      - Bar Chart for All VRE LabID Events Run Modify
      - Pie Chart for All VRE LabID Events Run Modify
      - Rate Tables for VRE LabID Data Run Modify
  - All CephR-Klebsiella LabID Events
  - All CRE-Klebsiella LabID Events
  - All CRE-Ecoli LabID Events
  - All Acinetobacter LabID Events
- MDRO/CDI Module - Process Measures

Line lists can be run for All MDRO Events combined or for each MDRO type separately (see green arrows).

Infection rates can be run only for each specific Event type separately: CDI, MRSA, VRE (see blue stars).

SIR analysis is also available for MRSA and CDI. Currently NHSN has no SIR risk-adjustment model for VRE or other MDROs (see purple arrows).

## Using Output Options to Produce Frequency Tables of MDRO/CDI Events

You can also view Events by producing Frequency Tables, which will allow a quick review of the distribution of your reported LabID Events by Onset type.

In this example, we will look at CDI. The process for creating a frequency table is the same for any of the LabID Event types (organisms).

- 1) To produce a Frequency table containing CDI Events reported to NHSN: Click **Analysis** → **Output Options** → **MDRO/CDI Module - LABID Event Reporting** → **All C.difficile LabID Events** → **CDC Defined Output** → **Frequency Table for All CDIF LabID Events** → **Modify**

The screenshot shows a software interface with a folder structure. The main folder is 'All C. difficile LabID Events'. Inside it is a sub-folder 'CDC Defined Output'. Under 'CDC Defined Output', there are six report options, each with a 'Run' and 'Modify' button:

- Line Listing for All CDIF LabID Events
- Frequency Table for All CDIF LabID Events (highlighted)
- Bar Chart for All CDIF LabID Events
- Pie Chart for All CDIF LabID Events
- Rate Tables for CDIF LabID Data
- SIR - CDI FacwideIN LabID Data

Below the 'CDC Defined Output' folder, there are three other folders: 'All VRE LabID Events', 'All CephR-Klebsiella LabID Events', and 'All CRE-Klebsiella LabID Events'.

### Click in order:

1. **Analysis**
2. **Output Options**
3. **MDRO/CDO Module – LABID Event Reporting**
4. **All C.difficile LabID Events**
5. **CDC Defined Output**
6. **Frequency Table for All CDIF LabID Events**
7. **Modify**

- When you click Modify, the Frequency Table screen will appear. Follow the instructions in the text box below to produce a frequency table of 2011 CDI.

## Frequency Table

[HELP](#)

Analysis Data Set: LabID\_Events [Export Analysis Data Set](#)

### Modify Attributes of the Output:

Last Modified On: 05/27/2014

Output Type: Frequency Table

Output Name:  ①

Output Title:

### Select output format:

Output Format:  ②

Use Variable Labels ③

### Select a time period or Leave Blank for Cumulative Time Period: [HELP](#)

④ Date Variable:  Beginning:  Ending:

Enter Date variable/Time period at the time you click the Run button

### Specify other Selection Criteria:

[Show Criteria](#) [Column +](#) [Row +](#) [Clear Criteria](#)

cdif	<input type="text" value="Y"/>	<input type="text" value=""/>	<input type="text" value=""/>
= Y			
⑤			

### Other Options: [HELP](#)

[Print Variable Reference List](#)

### Selected Variables to include in output: ⑥

Row:  Column:  Page by:

### Frequency Table Options:

- Table percent - Display cell frequency divided by table total
- Missing - Include observations with missing values
- Print the table in list form

### Two-Way Table Options:

- Row Percent - Display cell frequency divided by row total
- Column Percent - Display cell frequency divided by column total
- Expected - Expected cell frequencies
- Chi-square - Test for independence

⑦

- Name your report if you wish to save it for future use. Not necessary for a one-time view.
- For Output Format, use HTML (or CSV if you plan to export to Excel)
- Always check "Use Variable Labels".
- Select a Date Variable. We are choosing the year 2011. Note the variable is by specimen date year, 2011

The report could also be run more frequently (monthly or quarterly).

- Note that CDC has pre-populated the Selection Criteria table (cdif = Y) to exclude all LabID Events except *C.difficile*.
- We will not change anything in the Other Options section, which leaves it in the "canned" format developed by CDC.

You can try the other options later to understand how else you might want to see your frequency table.

- Click "Run"

3) When you click Run, a frequency table will be generated for your data:

**National Healthcare Safety Network  
 Frequency Table - All CDIF LabID Events  
 As of: June 25, 2014 at 9:32 PM  
 Date Range: LABID\_EVENTS specDateYr 2011 to 2011**

Org ID=15633

Frequency Row Pct	Table of specimenSource by onset			
	specimenSource(Specimen Source)	onset(Onset)		
	CO	CO-HCFA	HO	Total
<b>STOOL</b>	19	8	21	48
	39.58	16.67	43.75	
<b>Total</b>	19	8	21	48

Categories of CDI LabID Events are based on the date admitted to the hospital and the date of specimen collection. For California hospitals reporting only Inpatient CDI, categories are

- **Community-Onset (CO):** CDI positive test from an inpatient on Day 1-3 of hospitalization, or from an Emergency Department patient admitted to the hospital on the same calendar day. (Admission date is Day 1).
- **Community-Onset Healthcare Facility-Associated (CO-HCFA):** CO CDI Event (as above) in a patient who was discharged from the hospital ≤4 weeks prior to current CDI positive test date.
- **Healthcare Facility-Onset (HO):** CDI positive test collected on hospital Day 4 or after

Each CDI is also stratified in NHSN as a new (incident) infection or a recurrent (continuing) infection.

- CDI is considered **incident (new)** if the patient has no prior CDI reported to NHSN by your hospital, or it has been >8 weeks since prior CDI event
- CDI is considered **recurrent**, or a continuation of the same infection, if the patient has a prior CDI reported to NHSN by your hospital and another CDI event occurs >2 weeks but ≤ 8 weeks since the last reported CDI. Recurrent cases are not included in calculations of incidence rates.

## Using SIR for CDI Interpretation

The NHSN SIR Analysis feature allows you to easily analyze your CDI surveillance data. The focus of this instruction will be to create a CDI SIR table in NHSN using your facility's data.

### Regarding the NHSN CDI SIR:

1. Includes only facility-wide inpatient data relevant to CDI LabID reporting.
2. An SIR value is only calculated if the number of expected C. difficile infections is greater than one.
3. The calculation of the SIR excludes
  1. months where CDIF patient days are missing,
  2. required quarterly survey-level data are missing,
  3. verification of 'report no CDI events' has not been completed for a given month, and/or
  4. when zero events have been reported.

[Note: for more information on understanding SIR in general, and the development of an SIR logistic regression model for risk adjustment, please refer to "[Using NHSN Analysis for SSI Prevention First Step: Understand the SIR](#)" (part of this guidance series)].

1. In the NHSN Portal click Analysis → Output Options → MDRO/CDI Module - LABID Event Reporting → All C. difficile LabID Events → CDC Defined Output → SIR – CDI FacwideIN LabID Data → Modify.

**Patient Safety Component**  
Analysis Output Options

Click in order:

- 1) Analysis
- 2) Output Options
- 3) MDRO/CDI Module - LabID Event Reporting
- 4) All C.*difficile* LabID Events
- 5) CDC Defined Output
- 6) SIR – CDI FacwideIN LabID Data
- 7) Modify

2. After clicking "Modify", the "Analysis SIR" screen appears. Make changes depending on what you want in your report:

- 1) Name your report if you wish to save it for future reports. Not necessary for a quick look.
- 2) Leave HTML for now. If you wish to export to Excel later, you may change the Output to a CSV file
- 3) Always check Use Variable Labels (column headings are easier to read.)
- 4) Select a Date Variable – We are choosing to look at the data by year “SummaryYr”
- 5) Use 2012 and 2012 for your beginning and ending dates
- 6) Be sure " SummaryYr" is visible in the "Group By" drop down box at the bottom of the screen.  
\*\*If Group By = SummaryYM, NHSN will not calculate SIR or number expected.
- 7) Click “Run” to see the data right now

3. The table below shows the NHSN CDI SIR Report

**National Healthcare Safety Network**  
**SIR - CDI FacwideIN LabID Data**  
 As of: June 3, 2014 at 5:36 PM  
 Date Range: LABID\_RATESCDIF summaryYr 2012 to 2012

orgID=15633 CCN=999999 **Your Facility's Data** **NHSN's Data**

orgID	location	summaryYr	months	CDIF_facIncHOCCount	numExpCDI	numpatdays	SIR	SIR_pval	sir95ci
15633	FACWIDEIN	2012	10	5	1.707	2440	2.930	0.0382	1.073, 6.493

**# HO Infections**

Includes only inpatient facility-wide (FACWIDEIN) data relevant to CDI LabID reporting. The number expected and SIRs are not calculated when Group By = summaryYM. Lower bound of 95% Confidence Interval only calculated if infCount > 0. SIR values only calculated if numExp >= 1. If a quarter's prevalence rate is >1.78, the number expected will not be calculated for that quarter. SIR excludes those months where CDIF patient days and/or admissions are missing, required survey-level data are missing, or verification of 'report no events' has not been completed when 0 events have been reported.

Source of aggregate data: 2010-2011 NHSN CDI LabID Data  
 Data contained in this report were last generated on May 27, 2014 at 6:02 PM.

**NHSN Referent Data**  
**Date Data Set was generated**

## Using Output Options to Create Graphical Presentations of LabID Data

Graphical presentations of your surveillance data can provide quick and easy visual representation. NHSN Analysis Output Options include both Bar Charts and Pie Charts that you can customize for different purposes and audiences. You can save the customized reports to re-create the charts and graphs for specific user groups, such as to present at regularly scheduled hospital committee meetings or to provide feedback of data to individual hospital units.

In a previous lesson, we demonstrated how to produce a Pie Chart of CLIP data using NHSN Analysis. Producing Pie Charts in the MDRO/CDI Module is very similar to those produced in the Device-Associated Module. Refer to the document “Using NHSN Data and Analysis Features for Prevention: CLIP” at [www.cdph.ca.gov/HAI](http://www.cdph.ca.gov/HAI), NHSN Analysis for Prevention Guidance-Week 2.

In this lesson we will demonstrate how to produce a Bar Chart to look at your CDI Events by quarter.

### Creating a Bar Chart in NHSN

- 2) To produce a Bar Chart of LabID CDI data: From blue navigation bare, click: **Analysis** → **Output Options** → **MDRO/CDI Module - LABID Event Reporting** → **All C difficile LabID Events** → **CDC Defined Output** → **Bar Chart for All CDIF LabID Events** → **Modify**

#### All C. difficile LabID Events

##### CDC Defined Output

Line Listing for All CDIF LabID Events

Run Modify

Frequency Table for All CDIF LabID Events

Run Modify

Bar Chart for All CDIF LabID Events

Run **Modify**

Pie Chart for All CDIF LabID Events

Run Modify

Rate Tables for CDIF LabID Data

Run Modify

SIR - CDI FacwideIN LabID Data

Run Modify

Click in order:

1. Analysis
2. Output Options
3. MDRO/CDO Module – LABID Event Reporting
4. All C. difficile LabID Events
5. CDC Defined Output
6. Bar Chart for All CDIF LabID Events

Click Modify

## Bar Chart

[HELP](#)

Analysis Data Set: LabID\_Events [Export Analysis Data Set](#)

### Modify Attributes of the Output:

Last Modified On: 05/27/2014

Output Type: Bar Chart

Output Name: Quarterly Bar Chart for All CDIF LabID Events

Output Title: Quarterly Bar Chart - All CDIF LabID Events

### Select output format:

Use Variable Labels

### Select a time period or Leave Blank for Cumulative Time Period: [HELP](#)

Date Variable	Beginning	Ending	<a href="#">Clear Time Period</a>
specDateYQ	2011Q1		

Enter Date variable/Time period at the time you click the Run button

### Specify Other Selection Criteria: [HELP](#)

[Show Criteria](#) [Column +](#) [Row +](#) [Clear Criteria](#)

cdif			
= Y			

### Other Options: [HELP](#)

[Print Variable Reference List](#)

### Select Variables to include:

Chart Variable:	Stratification Variable:	Page by:
specDateYQ	onset	

Orientation of Bars:	3D Vertical
Placement of the Percent:	None
Placement of the Value:	Outside

[Run](#) [Save As](#) [Reset](#) [Back](#)

1. Change Output Name if you plan to save and re-run later.

Change Output Title if you are going to show the graphs to others.

2. Check use variable labels.

3. Select date variable to produce a chart that shows quarterly CDI data from Apr 2010 to Mar 2012 (as shown)

4. CDC has pre-set the Selection Criteria to limit LabID events (Cdiff = Y)

5. Change the Chart variable to produce a chart with the bars as calendar quarter (YQ).

Page by your hospital NHSN **orgID** to produce a hospital-wide chart. (If you prefer location-specific bar charts, set to page by "location")

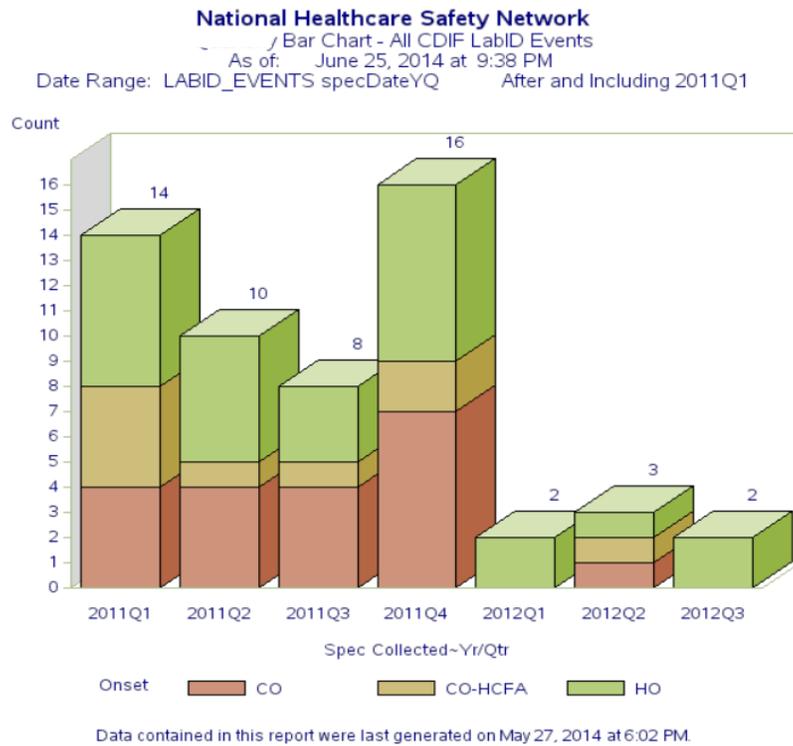
6. Set up how you want to orient your bars and where you want your data labels (inside or outside each bar).

Run the report.

**Tip:** If you would like to limit your report to include only HAI (HO & CO-HCFA) Events. In the Selection Criteria table, select the variable **onset**. Exclude CO Events by change the Operator to **~=** (not equal to).

&

Below, set the Stratification variable to **onset** to show the distribution of HO & CO-HCFA by quarter.



Our Bar Chart shows the number of CDI Events each quarter, stratified by CO, CO-HCFA and HO.

- CO will allow you to see the community burden of CDI in the community.
- HO and CO-HCFA are onset types that are included in your facility's incidence rate and SIR calculations.
  - These are your targets for prevention!
- Look for changes (expected and unexpected) over time. Consider whether there is consistency between the rates of CO / HO and CO-HCFA. Increases may illustrate outbreaks or can be due to changes in data collection or laboratory testing methods.

In our example, 2011 and 2012 data appear very different:

- Compare community onset to the hospital onset rates for each quarter and year.
  - How does the burden of CDI in the community compare to the incidence of CDI in the facility? (Hint: If the hospital incidence is higher than your community incidence, you may have a problem!)
- In the 2012 data, the overall incidence of CDI decreases significantly.
  - Is this change real? (i.e. Efforts were made across the continuum of care to reduce CDI). Or was there an issue with case finding efforts (i.e. Computer program changes, upgrades and glitches can affect data received by Infection Control.)

**California hospitals now have several years of MDRO/CDI LabID Data. Produce reports; use your data!**

*For more information about this guidance document, please contact  
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