April 2018

Using the "SIR - MRSA Blood FacwideIn LabID Data for Hospital IQR" Report

The NHSN Analysis Report, "SIR - MRSA Blood LabID Data for Hospital IQR" was created in order to allow acute care facilities to review those MRSA Blood LabID data that would be submitted to CMS on their behalf. It's important to keep in mind the following as you begin to use this report:
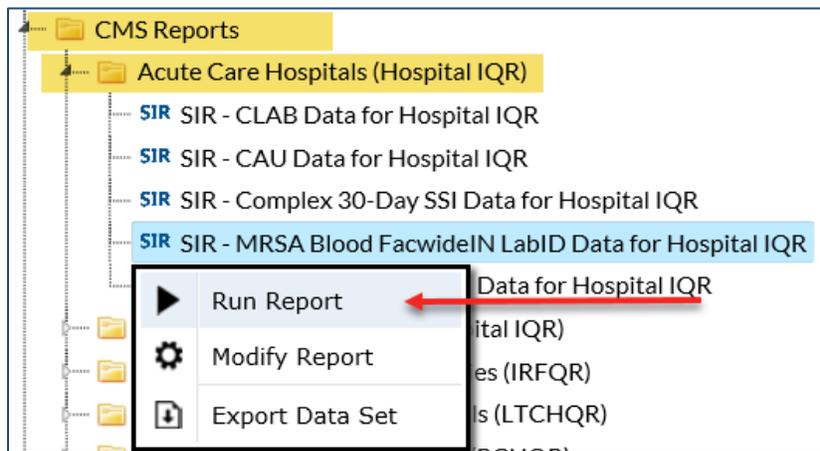
- These data will only be submitted for those facilities that are participating in the CMS Inpatient Prospective Payment System (IPPS) Hospital IQR Program, as indicated by their CCN recorded in NHSN.

- **The SIRs generated in this output will be calculated using the 2015 national baseline data**. To learn more about the standardized infection ratio (SIR) under the 2015 baseline as it pertains to MRSA data, please see: https://www.cdc.gov/nhsn/2015rebaseline/.

- This report will only include **in-plan FacWideIn (facility-wide inpatient) MRSA blood LabID data beginning with January 2015 data.** Earlier years for which you may have reported these data will not be included in this output. Data that have previously been submitted to CMS for participation in a Quality Reporting Program can be found at the following folders: Baseline Set 1 > CMS Acute Care Hospitals (Hospital IQR) > SIR - MRSA Blood FacwideIN LabID Data for CMS IPPS.

- **IMPORTANT!** Facilities must appropriately **Report No Events** for those FacWideIn months for which no MRSA LabID events were identified in an inpatient location.

- This output option represents an SIR report for each hospital, not each CCN. If your hospital shares a CCN, this SIR will only represent the data that your hospital has contributed to the overall SIR for all hospitals that share the CCN. You may wish to use the Group feature in NHSN to obtain a single SIR for all the hospitals that share a CCN. More information about the Group feature can be found here: http://www.cdc.gov/nhsn/group-users/index.html .

- The data in this report will represent data current as of the last time you generated datasets. **NOTE:** Data in the Provider Participation Report are not updated simultaneously with your data in NHSN. Data changes made in NHSN will be reflected in the next monthly submission to CMS. **EXCEPTION:** Quarterly data are frozen as of the final submission date for that quarter (e.g., first quarter (Q1) data will be frozen as of 3am ET on August 16th); any changes made to these data in NHSN after the final submission deadline will not be reflected in later months on the Provider Participation Report or on Hospital Compare.

- The information in this document should be used in conjunction with the document, "How to Set Up NHSN Reporting for Facility-Wide Inpatient MRSA Bacteremia and *C. difficile* LabID events for the

National Center for Emerging and Zoonotic Infectious Diseases
Division of Healthcare Quality Promotion

CMS Inpatient Quality Reporting Program", available at: https://www.cdc.gov/nhsn/pdfs/cms/how-to-set-up-and-report-mrsa-cdi.pdf

Example of the "SIR - MRSA Blood FacWideIn LabID Data for Hospital IQR": Interpretation and Data Checking

Before running this output option, remember to generate your datasets for the most up-to-date data reported to NHSN by your facility! To generate datasets, go to Analysis > Generate Data Sets, then click "Generate New".

1. After selecting Analysis > Reports, navigate through the following folders: CMS Reports > Acute Care Hospitals (Hospital IQR) > SIR – MRSA Blood FacwideIN LabID Data for Hospital IQR. After clicking the title of the report, click "Run" on the subsequent pop-up menu.

2. By default, the results will appear in an HTML window. If a second window does not pop-up, please be sure to check your pop-up blocker and allow pop-ups from *.cdc.gov.

3. Within the output, there may be multiple tables, each described below. ***Data presented below are fictitious.***

   a. **SIR Example Report:**

   "SIR - MRSA Blood FacwideIN LabID Data for CMS Hospital IQR (2015 Baseline)"

   The table below represents an overall, single SIR for your facility, per calendar quarter. This is the information that will be submitted to CMS for each IPPS-participating facility, as indicated by the facility's CCN.

National Healthcare Safety Network
SIR for MRSA Blood FacwideIN for CMS Hospital IQR (2015 Baseline)
As of: February 6, 2018 at 10:49 AM
Date Range: BS2_LABID_RATE SMRSA summaryYr After and Including 2015
if (((mrsaLabIDBldPlan = "Y")))

orgID	location	summaryYQ	months	MRSA_bldIncCount	numPred	numpatdays	SIR	SIR_pval	sir95ci
10401	FACWIDEIN	2015Q1	3	4	1.003	10621	3.988	0.0229	1.267, 9.619

1. This report includes facility-wide inpatient data from acute care hospitals for 2015 and forward.
2. The SIR is only calculated if number predicted (numPred) is >=1. Lower bound of 95% Confidence Interval only calculated when number of observed events > 0.
3. The # of predicted events is calculated based on national 2015 NHSN data. It is adjusted for inpatient and outpatient community-onset MRSA prevalence rates, avg length of stay, medical school teaching status, facility type, and # ICU beds.
4. Events from rehabilitation wards and behavioral health/psych wards with a unique CCN are excluded. Information on how to determine which events are counted in the SIR can be found here: http://www.cdc.gov/nhsn/pdfs/ps-analysis-resources/mrsacdi_tips.pdf
5. If any risk factor data are missing, the record is excluded from the SIR.
Source of aggregate data: 2015 NHSN MRSA Blood LabID Data
Data contained in this report were last generated on January 31, 2018 at 10:08 AM.

Using the above table, one can conclude the following:

o During the first quarter of 2015 (2015Q1), the facility reported 3 months of MRSA blood LabID data (*months*).
o In those months for Q1, the facility reported 4 healthcare facility-onset (HO) MRSA blood LabID events (*MRSA_bldIncCount) among* 10,621 patient days (*numpatdays*). For more information about which events are counted in the numerator of the SIR, refer to the LabID SIR Troubleshooting document (see Additional Resources below).
o The number of predicted incident HO MRSA blood LabID events (*numPred*) was 1.003.
o The SIR was 3.988, p-value (*SIR_pval*) was 0.0229, and 95% confidence interval (*sir95ci*) was (1.267 – 9.619) for MRSA blood LabID events during this time period.
o Based on the p-value and the 95% confidence interval, the SIR for MRSA blood LabID events is statistically significantly different than the nominal value of 1 (i.e., the number of observed events is significantly different than the number predicted).

   NOTE: If the number of predicted events is less than 1, an SIR, p-value, and 95% confidence interval will not be calculated. However, assuming all other reporting requirements are met, the SIR data are considered "complete" and will still be submitted to CMS in order to comply with Quality Reporting Programs.

o Be sure to read the footnotes beneath the SIR report for important information about the SIR calculation.

CDC

b. SIR Risk Factors Example Report

"Risk Adjustment Factors for FacwideIN MRSA Bacteremia SIR"

The table below presents the SIR-associated risk factors used in the calculation of your facility's SIR for each calendar quarter. This information is provided to help facility's understand the SIR calculation and ensure accuracy of each risk adjustment variable. These data are **not** submitted to CMS.

National Healthcare Safety Network
Risk Adjustment Factors for FacwideIN MRSA Bacteremia SIR
As of: February 6, 2018 at 10:49 AM
Date Range: BS2_LABID_RATE SMRSA summaryYr After and Including 2015
if (((mrsaLabIDBldPlan = "Y")))

summaryYQ	MRSA_admPrevBldRate	MRSA_EDObsPrevRate	LOS	medType	facType	numICUBeds	numpatdays
2015Q1	0.337	0.046	18	G	HOSP-GEN	45	10621

The table above displays the values that are included in the calculation of your acute care hospital's MRSA Bacteremia LabID Event SIR.

Additional details regarding the SIR risk factors can be found here:
https://www.cdc.gov/nhsn/pdfs/ps-analysis-resources/nhsn-sir-guide.pdf.

4. What can be done if a quarter does not appear in the table or if the data are inaccurate?
   a. Check that the summary data for the FACWIDEIN location have been entered for each month in the quarter and double-check the accuracy of these data, which includes patient days and admissions.
   b. If summary data have been entered, double-check your monthly reporting plan for each month in the quarter. Check to make sure that MRSA LabID surveillance is included in your monthly reporting plan for the location FACWIDEIN.
   c. If summary data have been entered and no MRSA LabID events have been identified, be sure to check the 'Report No Events' box on the summary record or through the "Missing Events" alerts tab.
   d. If the number of events is less than you reported *and* you've confirmed that the summary data have been entered in-plan, double check the MRSA LabID events in NHSN using the MRSA LabID events line list.

REMEMBER: If you have made any changes to your data, regenerate your datasets in order to review your output options with the most up-to-date data in NHSN.

Additional Resources:

Troubleshooting MRSA and CDI LabID Event SIR:
https://www.cdc.gov/nhsn/pdfs/ps-analysis-resources/mrsacdi_tips.pdf

CMS Resources for NHSN Users:
http://www.cdc.gov/nhsn/cms/index.html

Operational Guidance for ACHs to report MRSA bacteremia LabID Event data:
https://www.cdc.gov/nhsn/pdfs/cms/FINAL-ACH-MRSA-Bacteremia-Guidance.pdf

Analysis Quick Reference Guides:
http://www.cdc.gov/nhsn/PS-Analysis-resources/reference-guides.html

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