Using the "SIR – Complex 30-Day SSI Data for Hospital IQR" Output Option

Updated August 2024

The NHSN Analysis Output Option, "SIR – Complex 30-Day SSI Data for Hospital IQR" was created to allow facilities to review those SSI 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:

a. These data will only be submitted for those facilities that are participating in the CMS IPPS Hospital IQR Program, as indicated by their CCN recorded in NHSN.

b. While facilities performing SSI surveillance for COLO and HYST must report to NHSN all types of SSIs identified from all COLO and HYST procedures performed, this report will only include the following SSI and procedure data beginning with procedures performed on or after January 1, 2012, per the CMS requirements:

    i. In-plan, inpatient COLO and HYST procedures in adult patients (i.e., ≥ 18 years of age at the time of the procedure)

    ii. Deep incisional primary and organ/space SSIs with an event date (i.e., identified) within 30 days of the operative procedure

c. **IMPORTANT!** Beginning with 2012 data, facilities must appropriately **Report No Events** for those procedures and months for which no SSIs were identified.

d. This output option represents SIRs for each hospital, not each CCN. If your hospital shares a CCN, the SIRs 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

e. The data in this report will represent data current as of the last time you generated datasets. Note that 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. For example, Q1 data will be frozen as of 7am UTC* (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. If you have specific questions about the data appearing on your APU dashboard, please contact your Quality Improvement Organization (QIO).

f. To learn more about the standardized infection ratio (SIR), including how it is calculated for SSI data, please see the SIR Newsletter at: https://www.cdc.gov/nhsn/pdfs/ps-analysis-resources/nhsn-sir-guide.pdf The information in this document should be used in conjunction with the document, **"Helpful Tips for SSI Reporting for the Centers for Medicare and Medicaid Services' Hospital Inpatient Quality Reporting Program (CMS Reporting Program)",** available at: http://www.cdc.gov/nhsn/PDFs/CMS/Helpful-Tips-for-SSI-Reporting.pdf

All NHSN timestamps are displayed in the UTC Time Standard. To convert UTC to Eastern Time:
- *Between second Sunday in March – first Sunday in November: subtract 4 hours from UTC to get Eastern Daylight Time (EDT).*
- *Between first Sunday in November – second Sunday in March: subtract 5 hours from UTC to get Eastern Standard Time (EST).*

Updated August 2024

Example of the "SIR – Complex 30-Day SSI 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). Click "SIR – Complex 30-Day SSI Data for CMS IPPS (2015 Baseline)" and select Run Report, as shown below:
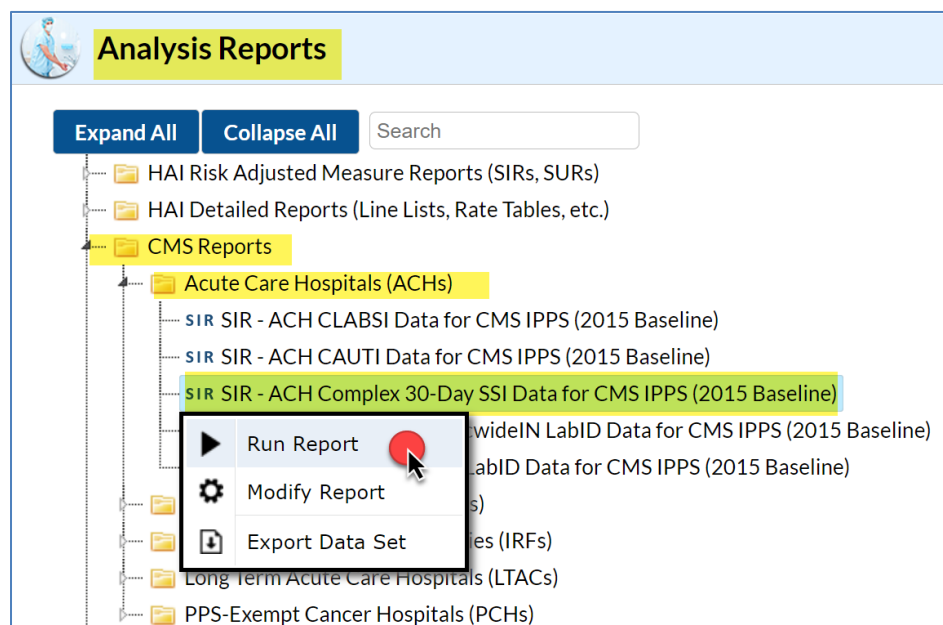
2. By default, the results will appear in an HTML window. If a second window does not pop-up, please be sure to check your pop-up blocker and allow pop-ups from *.cdc.gov.

    Within the output, there will be up to 2 different types of tables, each described below:

    i. SIR for Complex 30-Day SSI Data for Hospital IQR by Procedure (2015 Baseline) – By OrgID/ProcCode

        The first table represents 2 SIRs for your facility (one for COLO and one for HYST), per calendar-year quarter, as shown below. 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 Complex 30-Day SSI Data in Acute Care Hospitals for CMS IPPS by Procedure (2015 Baseline) – By OrgID/ProcCode
As of: November 17, 2023 at 3:58 AM
Date Range: All BS2_SIR_CMPX30DSSIPROC

orgid=15731 medType=U

orgid	ccn	proccode	procCount	summaryYQ	infCountComplex30d	numPredComplex30d	SIRComplex30d	SIRComplex30d_pval	SIRComplex30d95CI
15731	012521	COLO	462	2022Q1	1	11.216	0.089	0.000	0.004, 0.440
15731	012521	HYST	3	2022Q2	0	0.033	.	.	.

Using the above table, one can conclude the following:

a. This facility identified 1 SSI (infCountComplex30d) among 462 COLO procedures (procCount) during the 1st quarter of 2022 (2022Q1).
b. The number of SSIs expected (numPredComplex30d), based on national data, is 11.216.
c. The SIR for COLO procedures during this time period is 0.089, indicating that this facility observed approximately 91% fewer SSIs than expected.
d. Based on the p-value (SIRComplex30d_pval) and the 95% confidence interval (SIRComplex30d95CI), the SIR for COLO procedures in this facility is statistically different from 1, indicating that there were significantly fewer SSIs identified than were expected.

ii. Incomplete Procedures Not Included in SIR Table

The second table provides a count of the number of procedures and SSIs that were excluded from the SIRs above due to procedures meeting the universal exclusion criteria, or having data quality issues or meeting defined data outlier values.

3. What can be done if data meet a data quality issue, outlier value, missing, or if the number of infections or procedures is incorrect?
   i. Check that all procedure records for the operative procedure category have been entered for each month in the quarter.
   ii. If all procedures have been entered, double-check your monthly reporting plan for each month in the quarter. Check to make sure that each procedure category (COLO and HYST) is included in your monthly reporting plan for INPATIENT SSI surveillance.
   iii. If all procedures have been entered and no SSIs have been identified, make sure that you have checked "Report No Events" for SSIs for that month and procedure category on the 'Missing PA Events' tab of the Alerts screen.

Updated August 2024

iv.   To get a list of the procedure excluded from the SSI SIR and the reason for exclusion, run the Line Listing – Procedures Excluded from the SSI SIR (2015 Baseline) report located in the baseline specific SSI subfolder of the HAI Risk Adjusted Measure Reports (SIRS, SURs) folder. For instructions on how to generate and interpret the results from this report please see: Line List: Procedures Excluded from the SIRs (cdc.gov)

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:

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

Operational Guidance: http://www.cdc.gov/nhsn/PDFs/FINAL-ACH-SSI-Guidance.pdf

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

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