

Using the “SIR – CAUTI Data for CMS IPPS” Output Option

The NHSN Analysis Output Option, “SIR – CAUTI Data for CMS IPPS” was created in order to allow facilities to review those CAUTI 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:

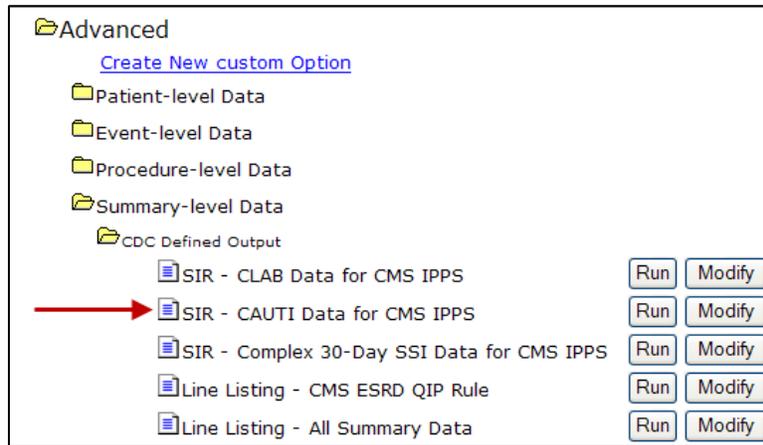
- a. These data will only be submitted for those facilities that are participating in the CMS IPPS Hospital IQR Program, as indicated by their CCN recorded in NHSN.
- b. This report will only include **in-plan CAUTI data for each adult and pediatric ICU beginning with 2012 data**. Other locations/earlier years for which you may have reported CAUTI data will not be included in this output.
- c. **IMPORTANT!** Beginning with 2012 data, facilities must appropriately **Report No Events** for those locations and months for which no events of each type under surveillance were identified.
- d. This output option represents an SIR 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/library.html#group>.
- 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 (e.g., Q1 data will be frozen as of 1am 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 QIO or the QIOSC at hrpqiosc@iaqio.sdps.org.
- f. To learn more about the standardized infection ratio (SIR), including how it is calculated for device-associated data, please see the SIR Newsletter at: http://www.cdc.gov/nhsn/PDFs/Newsletters/NHSN_NL_OCT_2010SE_final.pdf.
- g. The information in this document should be used in conjunction with the document, **“Helpful Tips for CAUTI Reporting for the Centers for Medicare and Medicaid Services’ Hospital Inpatient Quality Reporting Program (CMS Reporting Program)”**, available at: <http://www.cdc.gov/nhsn/library.html#psc>



Example of the “SIR – CAUTI Data for CMS IPPS”: 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 > Output Options, navigate through the following folders: Advanced > Summary-level Data > CDC-Defined Output. Click “Run” next to “SIR – CAUTI Data for CMS IPPS”, 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 4 tables, each described below:

- i. SIR CAUTI Data for CMS IPPS – **By OrgID**

The first table represents an overall, single SIR for your facility, 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 CAUTI Data for CMS IPPS - By OrgID
 As of: April 2, 2012 at 1:40 PM
 Date Range: CAU_RATE\$ICU_SCA summaryYr After and Including 2012
 if (((utiPlan = "Y") AND (locationType IN ("CC"))))

orgid=10018

orgid	summaryYQ	infCount	numExp	numucathdays	SIR	SIR_pval	SIR95CI
10018	2012Q1	2	5.573	2538	0.359	0.0840	0.043, 1.296

If infCount in this table is less than you reported, aggregate data are not available to calculate numExp.
 Lower bound of 95% Confidence Interval only calculated if infCount > 0. SIR values only calculated if numExp >= 1.
 SIR excludes those months and locations where device days are missing.
 Source of aggregate data: NHSN Report, Am J Infect Control 2011;39:349-367
 Data contained in this report were last generated on April 2, 2012 at 1:38 PM.

Using the above table, one can conclude the following:

- a. This facility identified 2 CAUTIs (infCount) among 2538 urinary catheter days (numucathDays) during the 1st quarter of 2012 (2012Q1).
 - b. The number of CAUTIs expected (numExp), based on national data, was 5.573.
 - c. The overall SIR for this facility during this time period is 0.359, indicating that this facility observed approximately 66% fewer infections than expected.
 - d. Based on the p-value (SIR_pval) and the 95% confidence interval (SIR95CI), the SIR for this facility is not statistically different from 1, indicating that there were not significantly fewer infections identified than were expected.
- ii. **SIR CAUTI Data for CMS IPPS – By OrgID/Location Type**

The second table provides an SIR for each quarter and location type (e.g., ICU). “ICU-OTHER” in this table will represent all adult and pediatric ICUs with reported in-plan CAUTI data during each time period.



National Healthcare Safety Network
SIR for CAUTI Data for CMS IPPS - By OrgID/Location Type
 As of: April 2, 2012 at 1:40 PM
 Date Range: CAU_RATE_SICU_SCA summaryYr After and Including 2012
 if (((utiPlan = "Y") AND (locationType IN ("CC"))))

orgid=10018

orgid	locationtype	summaryYQ	infCount	numExp	numcathdays	SIR	SIR_pval	SIR95CI
10018	ICU-OTHER	2012Q1	2	5.573	2538	0.359	0.0840	0.043, 1.296

If infCount in this table is less than you reported, aggregate data are not available to calculate numExp.
 Lower bound of 95% Confidence Interval only calculated if infCount > 0. SIR values only calculated if numExp >= 1.
 SIR excludes those months and locations where device days are missing.
 Source of aggregate data: NHSN Report, Am J Infect Control 2011;39:349-367
 Data contained in this report were last generated on April 2, 2012 at 1:36 PM.

The data in this table can be interpreted similar to the first SIR table, described above. Note that this table will allow you to see the how many CAUTIs and device days were reported in each location type, as defined by CDC.

iii. SIR for CAUTI Data for CMS IPPS – **By OrgID/CDC Location Code**

The third table provides an SIR for each quarter and CDC location (e.g., adult medical ICU, pediatric medical/surgical ICU). Note that if your facility reports data for more than one location of the same CDC type (for example, 2 medical ICUs), these locations will be grouped into one SIR in this table.

National Healthcare Safety Network
SIR for CAUTI Data for CMS IPPS - By OrgID/CDC Location Code
 As of: April 2, 2012 at 1:40 PM
 Date Range: CAU_RATE_SICU_SCA summaryYr After and Including 2012
 if (((utiPlan = "Y") AND (locationType IN ("CC"))))

orgid=10018

orgid	loccdc	summaryYQ	infCount	numExp	numcathdays	SIR	SIR_pval	SIR95CI
10018	IN:ACUTE:CC:C	2012Q1	2	1.760	880	1.136	0.5252	0.138, 4.105
10018	IN:ACUTE:CC:M	2012Q1	0	3.813	1658	0.000	0.0221	, 0.967

If infCount in this table is less than you reported, aggregate data are not available to calculate numExp.
 Lower bound of 95% Confidence Interval only calculated if infCount > 0. SIR values only calculated if numExp >= 1.
 SIR excludes those months and locations where device days are missing.
 Source of aggregate data: NHSN Report, Am J Infect Control 2011;39:349-367
 Data contained in this report were last generated on April 2, 2012 at 1:36 PM.

iv. SIR for CAUTI Data for CMS IPPS – **By OrgID/Location**

The fourth table provides an SIR for each quarter and individual location within your facility. This is also the only table that will allow you to see how many months of data are included in each location’s quarterly SIR.

For example, looking at the MICU location below, we can see that the “months” column shows a value of 3, indicating that 3 months of data have contributed to the quarterly SIR for this location (as one would expect). If less than 3 months contribute to a quarterly SIR, than this will indicate that the SIRs in this output option are incomplete and additional data checking is needed.

National Healthcare Safety Network
SIR for CAUTI Data for CMS IPPS - By OrgID/Location
 As of: April 2, 2012 at 1:40 PM
 Date Range: CAU_RATE SICU_SCA summaryYr After and Including 2012
 if (((utiPlan = "Y") AND (locationType IN ("CC"))))

orgid=10018

orgid	location	summaryYQ	months	infcount	numExp	numcathdays	SIR	SIR_pval	SIR95CI
10018	5G	2012Q1	3	2	1.760	880	1.136	0.5252	0.138, 4.105
10018	MICU	2012Q1	3	0	3.813	1658	0.000	0.0221	, 0.967

If infCount in this table is less than you reported, aggregate data are not available to calculate numExp.
 Lower bound of 95% Confidence Interval only calculated if infCount > 0. SIR values only calculated if numExp >= 1.
 SIR excludes those months and locations where device days are missing.
 Source of aggregate data: NHSN Report, Am J Infect Control 2011;39:349-367
 Data contained in this report were last generated on April 2, 2012 at 1:36 PM.

3. What can be done if data are incomplete or if the number of infections or urinary catheter days is incorrect?
 - i. Check that the summary data for this location have been entered for each month in the quarter. This includes urinary catheter days and patient days.
 - ii. If summary data have been entered, double-check your monthly reporting plan for each month in the quarter. Check to make sure that each location is included in your monthly reporting plan, with the CAUTI box checked.
 - iii. If summary data have been entered and no CAUTIs have been identified, be sure to check the ‘Report No Events’ box on the summary record, next to the Urinary Catheter days count.
 - iv. If the number of infections is less than you reported *and* you’ve confirmed that the summary data have been entered in-plan, double check the UTI events in NHSN: if urinary catheter is entered as “NEITHER”, the event is *not* considered a CAUTI and will

not appear in this report. Note that you can edit the event with the correct information, if necessary.

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.

