NHSN Group Analysis with the focus on Participation Alerts and Define Rights Template

Webinar

July 31st 2019

2:30– 3:30 PM EST

Methods and Analytics Team

National Healthcare Safety Network (NHSN)

National Center for Emerging and Zoonotic Infections Diseases (NCEZID)

Division of Healthcare Quality Promotion (DHQP)

Centers for Disease Control and Prevention (CDC)

Disclosures:
The following speakers disclose no actual or potential conflict of interest in relation to this program/presentation.
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Objectives

- Demonstrate how to complete the Group's Define Rights Template

- Demonstrate how to use the Group's Membership Rights report

- Using case scenarios, describe how to generate, analyze, and interpret the Participation Alerts analysis reports

- Helpful tips on report selection for Acute Care Hospitals

NOTE: **All Data used in the presentation are fictitious and does not reflect a real facility's or Group's data. They are for demonstration and education purposes only.**

The Define Rights Template

Lea Jordan

The Group Function

- NHSN is a vehicle for sharing data between the Group and NHSN facilities

- Facilities can join Groups and provide access to data requested by Group within the NHSN application

- The core of the Group Function is the rights template

- Only users at the Group organization can see facility-level data; facilities cannot see each other's data

The Group Define Rights Template

- Once a Group is created, a Define Rights template is set up by the Group's Administrator and shared with Group member facilities

- The template specifies which data elements will be shared with Group

- Group members have limited ability to edit the template

- Group members accept the template of rights to complete data sharing with the Group

- Group can update the template as needed, and facilities must accept updated template to change data being shared with the Group

- Select the Group and Define Rights tab in NHSN navigation bar to create or update template of rights

Template Setup – General Tips

- Leave the "To" year box blank to ask facilities to share data without an end date

- Use the trash can icon to remove a row from the template

- Use the Add Row button to add additional rows to a section of the template

- Use the Clear All Rows button to remove all of the rows entered in a section of the template

The Group Define Rights Template

- General Section
  - Patient information options
  - Monthly reporting plan, data analysis and facility information are required

- Annual Surveys
  - Required for SIRs and SURs

The Group Define Rights Template- DA Events

The Group Define Rights Template- PA Events

The Group Define Rights Template : AUR Module

- Location Type = (ALL), Location = (ALL)
  - Includes all <u>individual</u> inpatient and outpatient locations
- Location Type = FACWIDE, Location = FacWIDEIn
  - Includes FacWIDEIn
  - Must be included to receive FacWIDEIn data from facilities

The Group Define Rights Template: MDRO/CDI Events

- Location Type = FACWIDE, Location = FacWIDEIn
  - Includes FacWIDEIn (facility wide reporting, as one single location)
  - Must be included to receive FacWIDEIn data from facilities
- Location Type = (ALL), Location = (ALL)
  - Includes all <u>individual</u> inpatient and outpatient locations

The Group Define Rights Template: MDRO/CDI Events

- When you select Location Type = FACWIDE, Location = FacWIDEIn, the following are added automatically
  - Emergency Department
    - Adult
    - Pediatric
  - 24-hour Observation Area

The Group Define Rights Template: MDRO/CDI Process and Outcome Measures

- Used for requesting hand hygiene, gown, gloves and active surveillance testing data
- Request data by location type and location
- Similar to MDRO/CDI Events section
  - The location type and location selected should mirror that on the MDRO/CDI Events section
- The rights for ED/OBS are automatically added

Saving and Sending the Template

- After completing template screen, click Save button at bottom of template screen

- Message indicating successful creation of template will be displayed for confirmation

- Template will immediately be sent to all of Group's member facilities for acceptance

Inviting Member Facilities

▪   After creating the rights template, the Group Administrator contacts potential member facilities by email with an invitation to join the Group.

▪   The invitation must include the Group's NHSN ID Number and Joining Password.

▪   The Administrator may wish to include with the invitation a summary or reasoning for the data elements on the rights template, and any helpful information regarding data use and security.

▪   The joining of groups and the conferring of rights is performed electively by administrative-level users within the facility. The Facility Administrator would log in to the facility and component, navigate to **Group > Join**, and enter the group's NHSN ID and joining password. The application will then present the user with the group's template for acceptance.

Rights Acceptance Report

- The Rights Acceptance Report can be used to track which facilities have joined a Group and whether they have accepted the Group's template of rights

- The Rights Acceptance Report will be reset each time the Group updates or saves its template of defined rights

NOTE: If you see a line of asterisks in place of a Facility Name, the specific facility has never conferred rights to your template. They have joined your group but have not conferred rights in the component you are logged into.

NHSN Resources for Group Users

- NHSN Group Functions
  - https://www.cdc.gov/nhsn/group-users/index.html

- How to start a Group in NHSN
  - https://www.cdc.gov/nhsn/pdfs/groups-startup/CreateGroup-current.pdf

- How to join a Group in NHSN
  - https://www.cdc.gov/nhsn/pdfs/groups-startup/JoinGroup-current.pdf

NHSN User Resources

Guides for Group Functions

- Guide to Creating a Group in NHSN 2017 [PDF – 1 MB]
- Guide to Joining a Group in NHSN 2017 [PDF – 1 MB]
- Guide to Setting Up the Confer Rights Template – Patient Safety Component February 2015 [PDF – 1 MB]
- CDC Guidance Regarding Use of Data by NHSN Groups, April 2019 [PDF – 120 KB]

Group Administrator

- NHSN Group Administrator Guide [PDF – 926K]
- NHSN Rules of Behavior for Facility/Group Administrators [PDF – 678K]

NHSN Group Analysis

- **New!** NHSN Analysis: The Group's Experience – September 2017 [PDF – 9 MB]
- Using Plan Line List for QIO Group Users [PDF – 543K]
- Group User's Guide to the "Line Listing – Participation Alerts" Output Option [PDF – 372K]

FAQs

- About NHSN
- New NHSN agreement [PDF – 94K]
- ESRD Network Group FAQ, April 2019 [PDF – 118 KB]

Membership Rights Report

Rebecca Yvonne Konnor

Analysis: Dataset Generation

- Dataset generation is user specific

- A generated dataset includes most recent 3 years by default

- To include all years of data, check the box highlighted in yellow

- Facilities do not have to generate datasets in order for Groups to analyze data

- When verifying a facility's data at the Group's view, be aware that the facility's report outputs may be based on a different dataset generation date

- Dataset generation may take several minutes based on the size of the Group

Group Membership Rights Report

- The data collected on the Define Rights Template is gathered into the Membership Rights line listing report

- The report provides details on the following:
  - The data the Group has requested
  - The data that the facility chooses to share with the Group based on what is requested and the data that are not shared with Groups

- The report is useful in different situations and should be used as part of the Group's routine data analysis and ran frequently

- Some of the situations in which the report is used are:
  - Determining the number of facilities who have conferred rights to the Group
  - Assessing the level of participation by their facilities
  - Troubleshooting the exclusion of a facility's data from the Group's analysis reports

Group Membership Rights Report

- The Membership Rights report is located in the Group-level Data subfolder in the Advanced folder

- The report has No Date Variable. It includes all data included in the generated dataset
  - The report can be modified to limit the output to all or subset of data
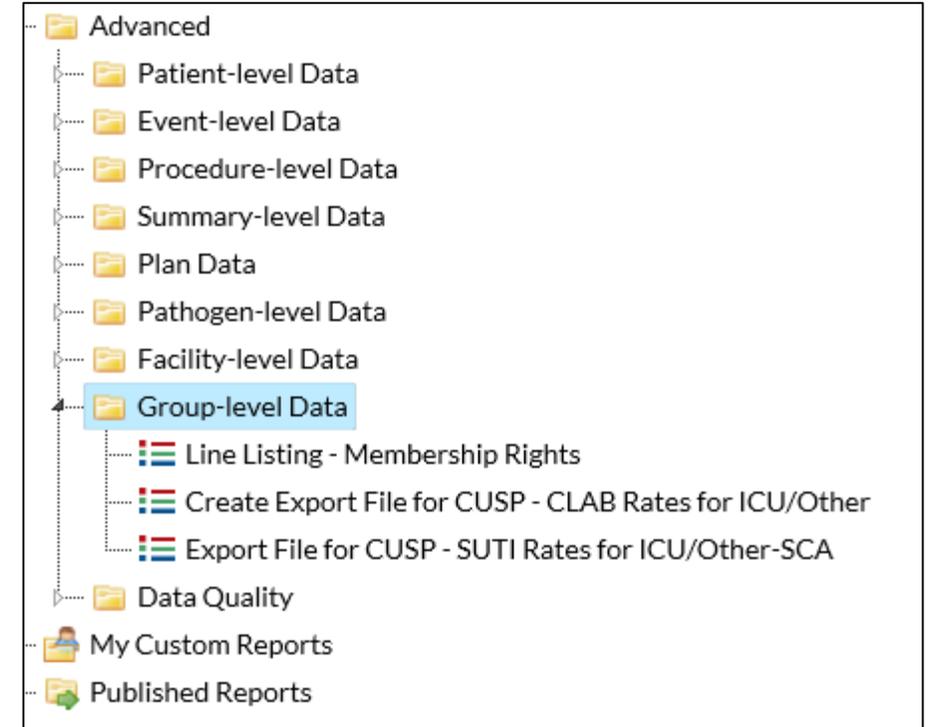
Please use the How to Modify a Report on how to modify reports:
https://www.cdc.gov/nhsn/pdfs/ps-analysis-resources/howtomodifyreport.pdf

Group Membership Rights Report: Example Output

- One of the most important places to start from when reviewing facilities data at the Group level, is to confirm that they are sharing data with the Group.
  - Facilities use the N/A Check box to indicate whether they want to share data with the Group or not

- In this example:
  - Using the "N/A Checked" variable, limit the output presented on the Group Membership Rights report to the specific subset of facilities whose data will not show up on any of the analysis reports. I therefore set my N/A Checked? To Y

Group Membership Rights Report: Example Output

On the Display Variables Tab, I limit my output to the Selected Variables that are applicable to my search

Group Membership Rights Report: Example Output

- Based on the modifications applied to this report, here is the output generated:
- Though all the fields in the output are important to note, the highlighted fields provides high-level summary and conclusion for this example:
  - The **objectname** shows the HAI measure in question
  - The **conferred Status** field = "Accepted" shows that the facility 10546 has conferred rights to the Group 10297 overall because the facility has accepted the Define Rights

National Healthcare Safety Network

Line Listing - Group Rights

As of: July 5, 2019 at 1:29 PM

Date Range: All GROUPRIGHTS

parentOrgID	orgID	name	objectname	objectAction	objectModifier	naFlag	plans	monthFrom	yearFrom	monthTo	conferredStatus	naChecked
10297	10546	Rebmann LTAC Hospital	LabID Events	View		Y	BOTH	1	2015	.	Accepted	Y
10297	10546	Rebmann LTAC Hospital	MDRO Summary Data	View		Y	BOTH	1	2015	.	Accepted	Y

Data contained in this report were last generated on July 5, 2019 at 10:53 AM.

Group Membership Rights Report: Example Output

- However,
  - The **naChecked** field= "Y" indicates that the facility is choosing <u>not to share</u> their LABID data with Group 10297
  - This applies to both in plan and off plan data that were requested on the Define Rights Template
  - This also means, the Group will not see any LABID data regardless of the year of data

National Healthcare Safety Network

Line Listing - Group Rights

As of: July 5, 2019 at 1:29 PM

Date Range: All GROUPRIGHTS

parentOrgID	orgID	name	objectname	objectAction	objectModifier	naFlag	plans	monthFrom	yearFrom	monthTo	conferredStatus	naChecked
10297	10546	Rebmann LTAC Hospital	LabID Events	View		Y	BOTH	1	2015	.	Accepted	Y
10297	10546	Rebmann LTAC Hospital	MDRO Summary Data	View		Y	BOTH	1	2015	.	Accepted	Y

Data contained in this report were last generated on July 5, 2019 at 10:53 AM.

Group Membership Rights Report: Example Output

- Notes regarding the naFlag and naChecked variables
  - If conferredStatus = "Accepted" and naFlag is "Y" then the naChecked is "Y"
  - If conferredStatus = "Accepted" and naFlag is not "Y" then the naChecked is "N"
  - If conferredStatus = "Not Accepted" then the naChecked is "."

National Healthcare Safety Network

Line Listing - Group Rights

As of: July 5, 2019 at 1:29 PM

Date Range: All GROUPRIGHTS

parentOrgID	orgID	name	objectname	objectAction	objectModifier	naFlag	plans	monthFrom	yearFrom	monthTo	conferredStatus	naChecked
10297	10546	Rebmann LTAC Hospital	LabID Events	View		Y	BOTH	1	2015	.	Accepted	Y
10297	10546	Rebmann LTAC Hospital	MDRO Summary Data	View		Y	BOTH	1	2015	.	Accepted	Y

Data contained in this report were last generated on July 5, 2019 at 10:53 AM.

Group Membership Rights Report: Example Output

- Conclusions:
  - The facility can accept the Define Rights Template from a Group with 'conditions'.
  - The facility can limit the data they share (based on what is requested on the Define Rights Template) by checking the **naChecked** box located on their view of the Define Rights Template
  - Running this report is the way for the Group is confirm if the **naChecked** box has been checked
  - Groups may reach out to their facilities to mitigate the use of the **naChecked** box

National Healthcare Safety Network
Line Listing - Group Rights
As of: July 5, 2019 at 1:29 PM
Date Range: All GROUPRIGHTS

parentOrgID	orgID	name	objectname	objectAction	objectModifier	naFlag	plans	monthFrom	yearFrom	monthTo	conferredStatus	naChecked
10297	10546	Rebmann LTAC Hospital	LabID Events	View		Y	BOTH	1	2015	.	Accepted	Y
10297	10546	Rebmann LTAC Hospital	MDRO Summary Data	View		Y	BOTH	1	2015	.	Accepted	Y

Data contained in this report were last generated on July 5, 2019 at 10:53 AM.

NHSN Resources for Group Users

Analysis resources that you should know

- NHSN Analysis Resources Page
  - https://www.cdc.gov/nhsn/ps-analysis-resources/index.html

- Analysis Quick Reference Guides
  - https://www.cdc.gov/nhsn/ps-analysis-resources/reference-guides.html

New! Keys to Success with NHSN Data
A quick reference guide for interpreting NHSN SIR calculations.

New! NHSN's Guide to the SUR (updated October 2018) [PDF – 1 MB]
A comprehensive guide to the NHSN's SUR, including significant factors used in the SUR calculations under the 2015 baseline.

New! NHSN's Guide to the SIR (updated March 2019) [PDF – 2 MB]
A comprehensive guide to NHSN's SIR, including risk factors used in the SIR calculations under the 2015 baseline.

New! How to Modify a Report [PDF – 375K]

Analysis Quick Reference Guides

General Tips

Troubleshooting Guides

Frequently Requested Output/Reports

Targeted Assessment Prevention (TAP) Strategy Reports

Antimicrobial Use and Resistance Module Reports

Output/Report Option Types

Tips for Customizing Your Output/Reports

Detailed Guides for Specific Analysis Options

NHSN Participation Alerts

Amanda Clemons

Overview of NHSN Participation Alerts

- NHSN Participation Alerts allow Groups to learn the types of data that are missing or incomplete for facilities in their Group

- Alerts appear for in plan data only

- Alerts identify data quality issues and serve as data reporting reminders for facilities in the Group

Facility-level Alerts

- NHSN alerts appear on the Action Items tab each time a facility logs in to NHSN

- Group Users cannot resolve alerts on behalf of facilities in their Group. Groups can identify active alerts through utilizing the Participation Alerts Reports.

NOTE: Action Items tabs will only display at the facility level.

NHSN Participation Alerts Reports

- NHSN Groups should use the Line Listing- Participation Alerts and Frequency Table – Participation Alerts reports to identify active alerts among facilities in their Group

- These reports are located in the Advanced Folder > Facility – level Data Folder

- The alert types described in the report are:
  - Conferred Rights Not Accepted
  - Missing Survey Data
  - Incomplete Events
  - Missing Procedures
  - Missing Events
  - Incomplete Summary Data
  - Missing Summary Data
  - Incomplete Procedures
  - Missing Procedures
  - Missing Procedure-associated Events
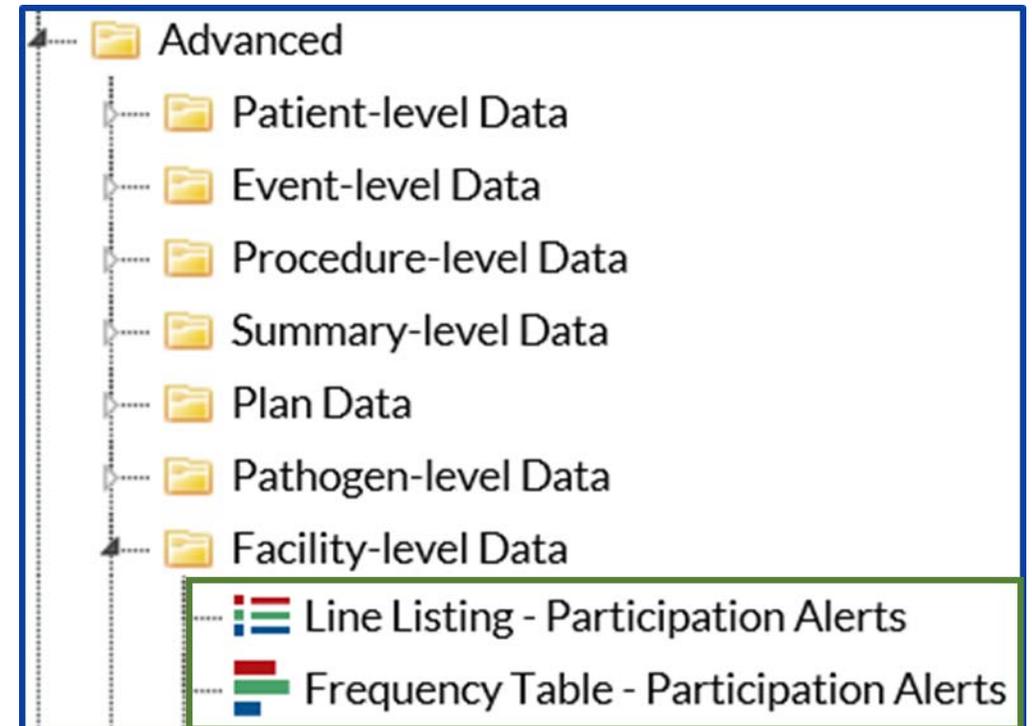
Line Listing Participation Alerts Report

Line Listing Participation Alerts Report is a NHSN resource that Groups can use to obtain a detailed line listing of active alerts for facilities in their Group

How to Modify a Report, https://www.cdc.gov/nhsn/pdfs/ps-analysis-resources/howtomodifyreport.pdf

Missing Procedure – associated Events Alert

National Healthcare Safety Network
Line Listing - Participation Alerts
As of: July 19, 2019 at 4:45 PM
Date Range: All PARTICIPATIONALERT

alertType=Missing Procedure-associated Events

orgID	CCN	module	planYM	location	locCDC	eventTypePath	procCode	setting	alertMessage	alertType
10000	31C0001043	PA	2019M04			SSI	COLO	Inpatient	Missing Procedure-associated Events	Missing Procedure-associated Events
10000	31C0001043	PA	2019M04			SSI	HYST	Inpatient	Missing Procedure-associated Events	Missing Procedure-associated Events
10000	31C0001043	PA	2019M04			SSI	HYST	Outpatient	Missing Procedure-associated Events	Missing Procedure-associated Events
10000	31C0001043	PA	2019M04			SSI	KPRO	Inpatient	Missing Procedure-associated Events	Missing Procedure-associated Events
10000	31C0001043	PA	2019M05			SSI	HYST	Inpatient	Missing Procedure-associated Events	Missing Procedure-associated Events
10000	31C0001043	PA	2019M05			SSI	KPRO	Inpatient	Missing Procedure-associated Events	Missing Procedure-associated Events

Sorted by orgID module planYM location locCDC eventTypePath summaryDataType procCode setting surveyYr surveyType groupID
Data contained in this report were last generated on July 12, 2019 at 1:54 PM.
If you are a group user or a facility user with limited rights, alerts may indicate limited rights as opposed to missing data.

- Missing Procedure – associated Events table from the Line Listing Participation Alerts report

- This table describes the months in which in-plan procedures were reported and no in-plan procedure-associated events or SSIs were reported.

Incomplete Events Alert

National Healthcare Safety Network
Line Listing - Participation Alerts
As of: July 30, 2019 at 1:09 PM
Date Range: All PARTICIPATIONALERT

alertType=Incomplete Events

orgID	CCN	module	planYM	location	locCDC	eventTypePath	summaryDataType	procCode	setting	surveyYr	surveyType	groupID	alertMessage	alertType
10000	31C0001043		2015M02	BURN ICU 2	IN:ACUTE:CC:B	VAE			Inpatient	.		.	Incomplete Events	Incomplete Events
15331	999999		2018M12	NICU	IN:ACUTE:CC:NURS	BSI			Inpatient	.		.	Incomplete Events	Incomplete Events

Sorted by orgID module planYM location locCDC eventTypePath summaryDataType procCode setting surveyYr surveyType groupID
Data contained in this report were last generated on July 26, 2019 at 3:58 PM.
If you are a group user or a facility user with limited rights, alerts may indicate limited rights as opposed to missing data.

- Incomplete Events Alert table from the Line Listing Participation Alerts report
- This table describes missing device associated or MRDO/CDI events.

Frequency Table Participation Alerts Report

- Frequency Table Participation Alerts Report describes frequency by alert type
- This report is helpful when reviewing the number of active alerts by type or facility in the group

Frequency Table Participation Alerts Report

- In this test group there were 915 unresolved alerts

- Each of the test facilities in the group are represented by their OrgID and on a row in the table

- Summary of number active alerts by facility is located in the " Total" column

National Healthcare Safety Network
Frequency Table for Participation Alerts
As of: July 26, 2019 at 5:07 PM
Date Range: All PARTICIPATIONALERT

Frequency	Table of orgID by alertType									
	alertType									
orgID	Conferred Rights Not Accepted	Incomplete Events	Incomplete Procedures	Incomplete Summary Data	Missing Events	Missing Procedure-associated Events	Missing Procedures	Missing Summary Data	Missing Survey Data	Total
10000	1	1	1	24	40	7	11	456	0	541
10012	1	0	0	1	3	6	7	43	1	62
15331	1	1	4	18	8	14	20	240	0	306
17776	1	0	0	2	0	0	0	0	1	4
19836	0	0	0	0	0	1	0	0	1	2
Total	4	2	5	45	51	28	38	739	3	915

Data contained in this report were last generated on July 26, 2019 at 3:58 PM.
If you are a group user or a facility user with limited rights, alerts may indicate limited rights as opposed to missing data.

Data Quality Reports

- NHSN Participation Alerts monitor and identify data quality issues

- NHSN has Data Quality reports that can be run on a routine basis

- Data quality reports are located in the Advanced Folder > Data Quality Folder

- It is recommended to run the Data Quality reports monthly to identify and help facilities resolve data quality issues

- Each report is specifically designed to address a specific data quality issue

- If the message "No datasets found" is received in the output and there are no modifications to the report, then no observations require action
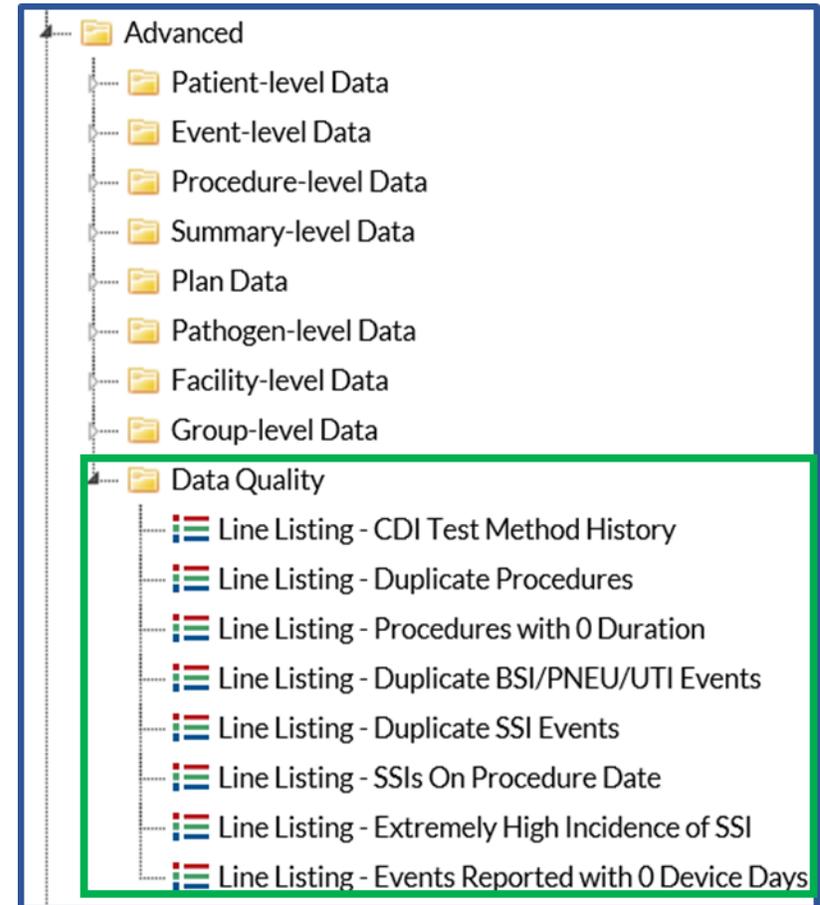
NHSN Data Quality Output Options, https://www.cdc.gov/nhsn/pdfs/pscmanual/Instructions_DQ.pdf

Participation Alerts Educational Resources

- NHSN Alerts-Patient Safety Component:

  https://www.cdc.gov/nhsn/pdfs/gen-support/NHSN-Alerts.pdf

- Group User's Guide to the "Line Listing – Participation Alerts"
  Report Option:

https://www.cdc.gov/nhsn/pdfs/ps-analysis-resources/group-alerts.pdf

Helpful Tips

Selecting Analysis Reports: Acute Care Hospitals

Rebecca Konnor

Helpful Tips-Device Associated Models

The CLABSI, CAUTI, and VAE data in the reports indicated by the blue outline in the screen shot are inclusive of data reported from all eligible locations within hospitals.

- These data are also stratified by location type (critical care units, neonatal critical care units, and inpatient wards as appropriate
- Used in the National and State HAI Data Report
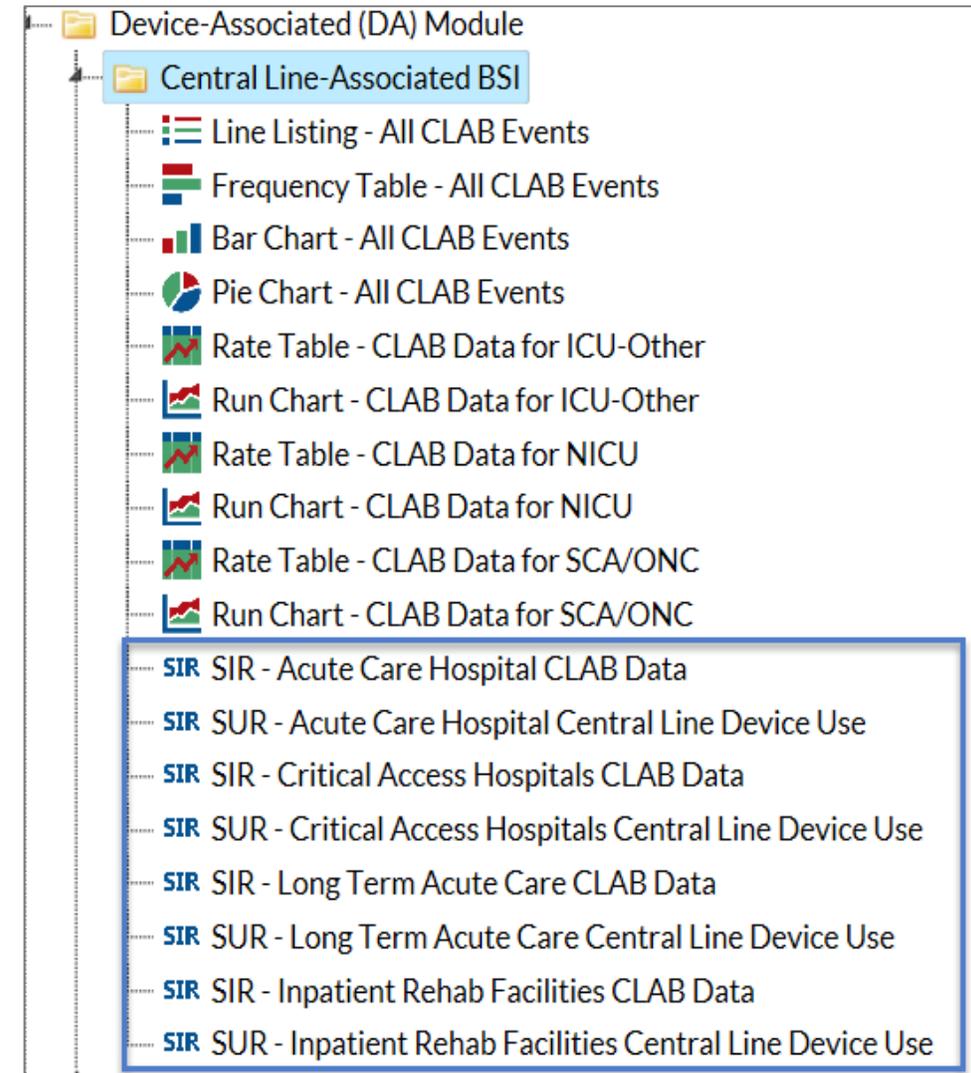
Helpful Tips-Device Associated Models

- The CMS reports include a subset of the locations included in the 'general' reports (that are inplan)
  - They include only the CMS reportable locations
    - All ICU locations
    - Medical Ward - IN:ACUTE: WARD:M
    - Medical/Surgical Ward - IN:ACUTE: WARD:MS
    - Surgical Ward - IN:ACUTE: WARD:S
    - Pediatric Medical Ward - IN:ACUTE: WARD:M_PED
    - Pediatric Medical/Surgical Ward - IN:ACUTE: WARD:MS_PED
    - Pediatric Surgical Ward - IN:ACUTE: WARD:S_PED
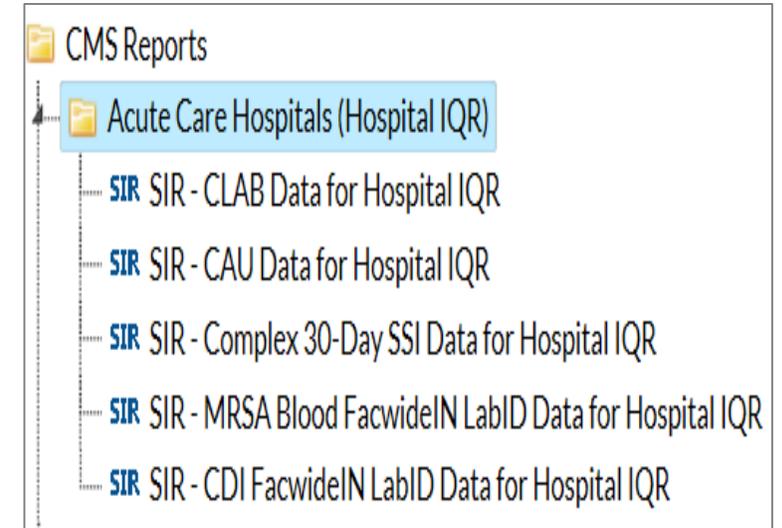
Helpful Tips-Surgical Site Infections

All SSI SIR Data Report	Complex Admission/Readmission SSI SIR Data Report	Complex 30-day SSI SIR Data Report
• All Inclusive SSI SIR report. Includes all procedure categories • Includes inpatient procedures ONLY	• Subset of All SSI SIR report with focus on complex SSIs detected upon admission and readmission to the same facility at which procedure was performed. • Includes all procedure categories • Includes inpatient procedures ONLY	• Subset of the All SSI SIR report with focus on complex SSIs, regardless of detection method in COLO and HYST procedures • In-plan, inpatient COLO and HYST procedures in adults 18 years and older
• Often used by facilities to estimate overall SSI burden within their facility over time	• Used by CDC for the annual National and State HAI Data Report-due to the inclusion criteria, reporting bias of SSI events is limited	• For CMS reporting and verification

Helpful Tips-MDRO LabID

- CMS and non CMS SIR reports function similarly
  - Difference is that CMS SIR reports include in-plan data only
  - Used in the National and State HAI Data Report
- SIR analyzed at FacWIDEIn
- SIR Generated quarterly or higher
  - If you generate monthly SIR for a completed quarter, the numPred, SIR, P-value, and 95% CI will Not be calculated
- ED/OBS Events excluded from the numerator of the SIR

Adjust "Group by" to Summary<u>YM</u>?
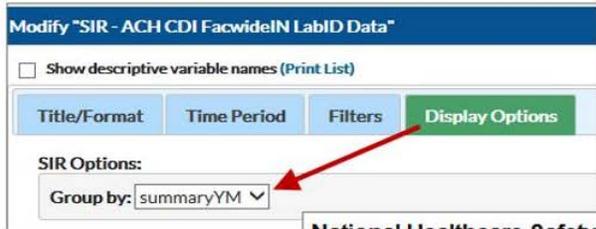
Modify "SIR - ACH CDI FacwideIN LabID Data"

☐ Show descriptive variable names (Print List)

| Title/Format | Time Period | Filters | **Display Options** |

SIR Options:

Group by: summaryYM ▾

- **Not** calculated on a monthly level:
  - numPred
  - SIR
  - P-value
  - 95% Confidence Interval

National Healthcare Safety Network
SIR for CDI FacwideIN LabID in Acute Care Hospital (2015 baseline)
As of: February 16, 2017 at 2:18 PM
Date Range: BS2_LABID_RATESCDIF summaryYQ 2016Q1 to 2016Q1

orgID	location	summaryYM	CDIF_facIncHOCount	numPred	numpatdays	SIR	SIR_pval	sir95ci
10401	FACWIDEIN	2016M01	1	.	1520	.	.	.
10401	FACWIDEIN	2016M02	0	.	1400	.	.	.
10401	FACWIDEIN	2016M03	1	.	1300	.	.	.

Helpful Tips-Annual Reports Using HAI Data

- National and State HAI Data Report (formally called HAI Progress Report)
  - https://www.cdc.gov/hai/surveillance/progress-report/index.html
- Antibiotic Resistance Patient Safety Atlas
  - https://www.cdc.gov/hai/surveillance/ar-patient-safety-atlas.html
- Antimicrobial-Resistant Pathogens Associated with HAIs Report to NHSN, 2011-2014: https://www.cdc.gov/nhsn/pdfs/datastat/2014-AR-data-summary-nhsn.pdf
- National Healthcare Personnel Influenza Vaccination Summary Data Tables by Facility Types
  - https://www.cdc.gov/nhsn/datastat/index.html
- Summary of Device-associated (DA) Module
  - https://www.cdc.gov/nhsn/datastat/index.html

Helpful Tips-How to Troubleshoot SIRs

- Troubleshooting CLABSI and CAUTI SIR

  - https://www.cdc.gov/nhsn/pdfs/ps-analysis-resources/clabsicauti_sirtroubleshooting.pdf

- Troubleshooting CDI and LabID Event SIR

  - https://www.cdc.gov/nhsn/pdfs/ps-analysis-resources/mrsacdi_tips.pdf

- Troubleshooting SSI SIR

  - https://www.youtube.com/watch?v=2zKqpSrZVAU&feature=youtu.be

  - https://www.cdc.gov/nhsn/pdfs/ps-analysis-resources/line-list-procedures-excluded-sir.pdf

  - https://www.cdc.gov/nhsn/pdfs/ps-analysis-resources/ssi-events-line-list-qrg.pdf

Thank you!

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