

# Analyzing HAI Data in NHSN Patient Safety Component's Group Function. How to Troubleshoot Frequently Asked Group Analysis Questions

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# Learner Objectives

By the end of this training, the learner will

- Briefly list Group resources available to educate, support and enhance the Group user's experience in NHSN
- Gain an understanding of a resolution checklist for Groups Analysis questions
- Become familiar with steps that are used to resolve some of the frequently asked NHSN Group Analysis questions

## Notes About The Scenarios and Data

- All data in this presentation has been **created in a test environment** and is for training purposes only. Information seen on images during this presentation **do not represent any actual data** submitted to NHSN by participating facilities

# NHSN User Resources

## Guides for Group Functions

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- [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 November 2019](#) [PDF - 1 MB]
- [CDC Guidance Regarding Use of Data by NHSN Groups, April 2019](#) [PDF - 120 KB]

## Group Administrator

2



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

## NHSN Group Analysis

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- [How to Generate Participation Alerts Data Set \(Group Users\)](#) [PDF - 400 KB]
- [How to develop and conduct analysis on subgroups of facilities using the Preferences function](#) [PDF - 300 KB]
- [How to access and use the Line Listing – Membership Rights report to determine the rights that each facility has conferred to a Group](#) [PDF - 250 KB]
- [NHSN Group Analysis: Focus on Participation Alerts Report and Defining Group Rights Template – November 2019](#) [PDF - 3 MB]
- [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]

- The [NHSN Group Users](#) page contains resources for each step of the Group process in NHSN. Guides are available for
  1. Setting up a Group in NHSN
  2. Agreeing to the rules of behavior for the Group Administrator
  3. Accessing and utilizing the Analysis function in NHSN

## Important NHSN Group Resources

- How to create and manage an NHSN Group:
  - Creating a Group in NHSN: <https://www.cdc.gov/nhsn/pdfs/groups-startup/CreateGroup-current.pdf>
  - Joining a Group in NHSN: <https://www.cdc.gov/nhsn/pdfs/groups-startup/JoinGroup-current.pdf>
  - Setting Up the Confer Rights Template- PSC: [https://www.cdc.gov/nhsn/pdfs/groups-startup/TemplateSetup\\_PS-current.pdf](https://www.cdc.gov/nhsn/pdfs/groups-startup/TemplateSetup_PS-current.pdf)
- How to complete Define Right Template (DRT): <https://www.cdc.gov/nhsn/pdfs/ps-analysis-resources/group-analysis-508.pdf>
- How to generate and interpret the Line Listing –Membership Rights Report: <https://www.cdc.gov/nhsn/pdfs/ps-analysis-resources/membership-rights-508.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>
- Please review the guides linked above for background knowledge necessary to understand and troubleshoot Group analysis questions

# **A Resolution Checklist for NHSN Groups**

## NHSN Group Analysis Function Checklist

- Check Rights Acceptance Report to confirm facility conferred status of the Define Rights Template (DRT)  
Note: If the Group updates their DRT, facilities must re-confer to the updated DRT. If the facility confers rights to the original DRT and NOT the updated one, the Group will continue to see the data shared from the original DRT
- Generate new datasets  
Dataset generation is a two-part process for NHSN Groups. The Reporting Data Sets are generated separately from Participation Alerts Data Sets. The Reporting Data Sets are used for all Analysis reports except the Line Listing- Participation Alerts and the Frequency Table- Participation Alerts reports. The Participation Alerts Dataset is optional unless the Group needs to generate either of the two Analysis reports that bears its name.  
Reporting Data Sets: <https://www.cdc.gov/nhsn/pdfs/ps-analysis-resources/generateddatasets-psc-508.pdf>  
Participation Alerts: <https://www.cdc.gov/nhsn/pdfs/ps-analysis-resources/participationalerts-dataset-508.pdf>
- Run the Membership Rights report to check access level  
Note: A facility may confer rights to a Group but still has the option to limit the amount of data shared with the Group. For example, a Group may include All location types for VAE on the DRT, however, the facility may limit the request to Ward locations for VAE, prior to conferring rights  
<https://www.cdc.gov/nhsn/pdfs/ps-analysis-resources/membership-rights-508.pdf>
- If the Group has access to in-plan data, the Plan Data Line List can be used to confirm if data requested are included on the monthly reporting plans  
It can also be used to confirm if data has been entered for a specified month/year  
[https://www.cdc.gov/nhsn/pdfs/pscmanual/3psc\\_monthlyreportingplancurrent.pdf](https://www.cdc.gov/nhsn/pdfs/pscmanual/3psc_monthlyreportingplancurrent.pdf)

## NHSN Group Analysis Function Checklist Cont'd

- If data has been included on the MRP but is missing from the Analysis Datasets (after generating datasets), then run the Participation Alerts reports to check for unaddressed Alerts of Missing or Incomplete Data  
Unaddressed Alert results in the exclusion of the specific data from the Analysis Dataset. **Only the facility can address an Alert**  
Groups can view the list of Alert per each member facility: <https://www.cdc.gov/nhsn/pdfs/ps-analysis-resources/group-alerts.pdf>
- Running Analysis reports such as line listings and frequency tables will list or summarize Group level data or facility specific data for a specified time.  
These reports can also be used to describe the data that has been shared with the Group, data meeting exclusion criteria (per module), missing/incomplete data or data with potential data quality issue
- Running SIR or SUR report is impacted by (after the above list are fulfilled)
  1. Access to the facility's surveys (separate surveys for acute care hospitals (ACH), long-term acute care hospitals (LTACH), and inpatient rehab facilities (IRF))
    - a. Note: Some of the factors used in the risk adjustment of SIR/SUR denominator are located on the facility surveys
  2. SIR/SUR model inclusion and exclusion criteria
  3. CMS reportable data
    - a. See the Detailed Guides for Specific Analysis Options section of the Analysis Quick Reference Guide page for guides on how to generate and interpret analysis reports for CMS data

<https://www.cdc.gov/nhsn/pdfs/ps-analysis-resources/reference-guides.html>

Groups are also encouraged to use the program-specific monthly checklists for the CMS reporting programs to assist their member facilities where applicable

CMS Hospital IQR Program: <https://www.cdc.gov/nhsn/pdfs/cms/ach-monthly-checklist-cms-iqr.pdf>

CMS IRFQR Program: <https://www.cdc.gov/nhsn/pdfs/cms/irfs-freestand-monthly-checklist-cms-iqr.pdf>

CMS LTCHQR Program: <https://www.cdc.gov/nhsn/pdfs/cms/ltch-monthly-checklist-cms-iqr.pdf>



# Resolving Frequently-asked NHSN Group Analysis Questions

# Frequently Asked Group Analysis Questions

Each NHSN Group is unique by the way they define their rights template and their level of access to member facilities data. Group's level of access are summarized in and reflected in various Analysis reports.

Below are a few common questions regarding how the NHSN application serves as a platform for sharing data between Groups and their member facilities.

1. Why am I unable to view or analyze member facility's data?
2. Why is there a discrepancy in data between Group and facility?
3. Why is an Analysis report excluding data to which a Group has access?

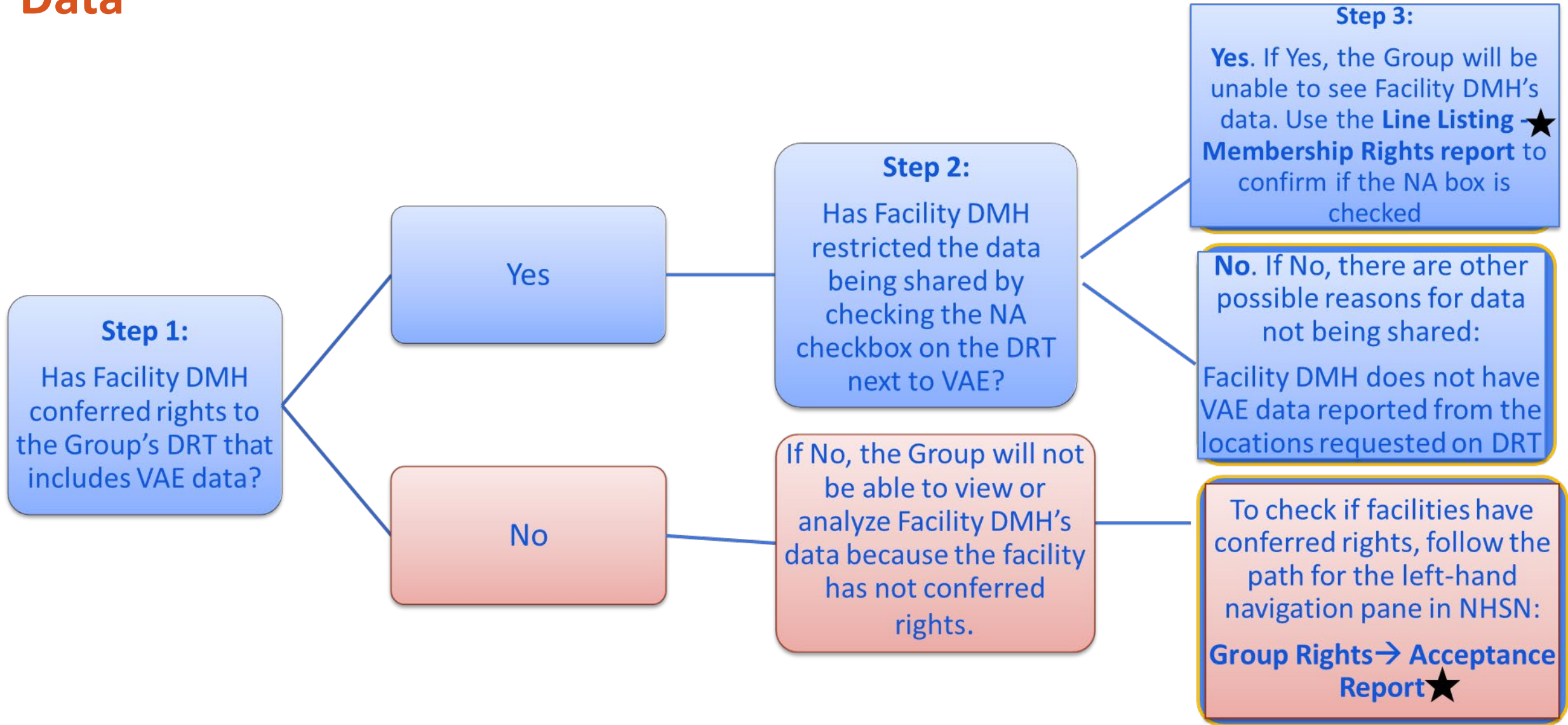
**Troubleshooting steps for  
Question 1: Unable to view or analyze  
member facility's data**

# Question 1. Unable to View or Analyze Member Facility's Data

## The Scenario

- An NHSN Group user, Adam E of **Group A**, is unable to view or analyze VAE data for their facility member, DHQP Memorial Hospital (**DMH**)
- Adam E believes their Group member **DMH** has joined **Group A** by conferring rights to the Define Rights Template
- Adam E has generated a recent analysis dataset
- What are the troubleshooting steps to resolve this question?

# Question 1. Unable to View or Analyze Member Facility DMH VAE Data



# Question 1. Unable to View or Analyze Member Facility DMH VAE Data

The screenshot shows the NHSN Home navigation menu. The 'Group' menu item is highlighted with a red circle containing the number '1'. A dropdown menu is open for 'Group', and the 'Rights Acceptance Report' option is highlighted with a red circle containing the number '2'.

- NHSN Home
- Dashboard
- Reporting Plan
- Event
- Procedure
- Summary Data
- COVID-19
- Surveys
- Analysis
- Users
- Group** (1)
- Tools
- Logout

- Find Facility
- Edit Group Info
- Joining Password
- Evict Members
- Send Email
- Define Rights
- Rights Acceptance Report** (2)

- Using the path described in the screenshot, Groups can quickly confirm whether their member facilities have accepted their Define Rights Template or not.
- A “Not Accepted” status means, facilities are not sharing data with the Group

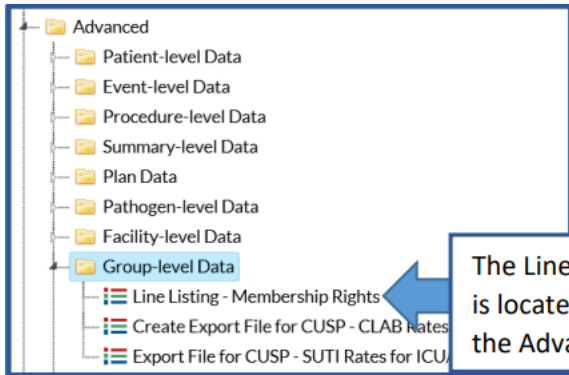
The screenshot shows a table with the following data:

Facility name	Facility ID	Accepted Date	Defined Date	Status
<u>DHQP MEMORIAL HOSPITAL</u>	10018	Mar 18 2020 2:14PM	Mar 20 2020 9:04AM	Not Accepted
[Blurred]	[Blurred]	[Blurred]	[Blurred]	[Blurred]
[Blurred]	[Blurred]	[Blurred]	[Blurred]	[Blurred]

A red circle with the number '3' is positioned above the table header. The table also includes pagination information: Page 1 of 3, 10 items per page, and View 1 - 10 of 30.

The data used in the examples in this presentation are fictitious. They are for illustration and education purposes only.

# Question 1. Unable to View or Analyze Member Facility DMH VAE Data



The Line Listing - Membership Rights report is located in the Group-level Data folder in the Advanced Folder.

**National Healthcare Safety Network**  
**Line Listing - Group Rights**  
 As of: July 28, 2020 at 2:43 PM  
 Date Range: All GROUPRIGHTS

Group Org ID	Facility Org ID	Facility Name	Data Name	Data Right	Plan	From Month	From Year	To Month	To Year	N/A Checked?
21928	10000	DHQP Memorial Hospital		Analyze						Y
21928	10000	DHQP Memorial Hospital	Patient without identifying data	View						Y
21928	10000	DHQP Memorial Hospital	Plan	View						Y
21928	10000	DHQP Memorial Hospital	FacInfo	View						Y
21928	10000	DHQP Memorial Hospital	Facility Survey Data	View	(ALL)		2015			Y
21928	10000	DHQP Memorial Hospital	LTAC Survey Data	View	(ALL)		2015			Y
21928	10000	DHQP Memorial Hospital	Ventilator assoc Events	View	IN	1	2016			Y

The Data Right column describes the type of access the Group has to the data.

The Data Name column describes the datasets that facilities have conferred rights to the Group.

The N/A Checked column describes the data where facilities have indicated that data rights were not applicable. A "Y" in a row in this column indicates that the data were not shared and a Group does not have access to these data.

- The Line Listing – Membership Rights report details the list of data being shared with the Group
- In our example, we modified the report to view details about facility DMH
- The report output indicates the Facility DMH checked the N/A Check box indicating that data is not being shared with the Group

**Troubleshooting steps for  
Question 2: Why Is There A Discrepancy In  
Data Between Group and Facility?**



# Question 2. Why Is There A Discrepancy In Data Between Group and Facility?

## The Scenario

- Facility DMH shares In-plan KPRO procedures and surgical site infections data with the Group as defined on the DRT
- After running the same SIR report as the member facility, the Group identifies a discrepancy; the facility has more data than the Group for the same procedure category, the same time period and patient population
- Both Group and member facility applied the same modifications for the SIR report
- Let's review the troubleshooting steps to resolve this question

# Question 2. Why Is There A Discrepancy In Data Between Group and Facility?

## Group Data: “Adult All Outpatient (OP) SSI Data by Procedure” SIR report for KPRO

- Only modification to the report is the Time Period set to 2021Q1-2021Q3
  - same dataset generation date/time
- On the report output, Group gets
  - No records found

## Facility Data: “Adult All Outpatient (OP) SSI Data by Procedure” SIR report for KPRO

- Only modification to the report is the Time Period set to 2021Q1-2021Q3
  - same dataset generation date/time
- On the report output, facility gets
  - 50 KPROs
  - 2 observed infections
  - 3.560 predicted infections
  - SIR of 0.562

## Question 2. Why Is There A Discrepancy In Data Between Group and Facility?

What we know:

- The facility and the Group have the same dataset following all addressed Alerts
- Both generated the report using the same modifications
- The inclusion and exclusion criteria for the SIR report and model are the same
- Since the facility shows data and the Group does not, we can assume there is limit to the data being shared with the Group

# Important Note

- When there is a discrepancy in data between Groups and member facilities, it is often due to one of the following
  - The Group has limited or no access to the facility's data even though the facility is conferred
  - The Group user generating the analysis report has older datasets that may not be capturing the most up-to-date facility data
- If a facility has unaddressed Alerts of missing or incomplete data, data will be excluded from both facility and Group's analysis reports

# Question 2. Troubleshooting Steps For Resolving Discrepant Data

- Check either of the DRT or run the Line Listing-Membership Rights report
  - Group requested and has access to In-plan data only performed in In-Patient setting
  - However, the Group generated a report for Out-Patient procedures, to which they have no access
  - Therefore, the SIR report will show **No Records Found**

Infections and other Events (Not specific to MDRO/CDI)  
Includes Applicable Denominators and "No Events" Indicators

Define Rights Template

Plan	Month	Year	Month	Event
In	January	2015	To	BSI - Bloodstream Infection (CLA)
(All)			To	PedVAE - Pediatric Ventilator-Associated Event
Both	January	2015	To	VAE - Ventilator-Associated Event
In	January	2015	To	SSI - Surgical Site Infection
				Setting: <input checked="" type="checkbox"/> IN <input type="checkbox"/> OUT

Procedure: KPRO - Knee prosthesis

Add Row Clear All Rows

National Healthcare Safety Network  
Line Listing -Group Rights  
As of: February 24, 2022 at 4:50 PM

Line Listing-Membership Report

parentOrgID	orgID	objectname	naChecked	objectAction	procCode	setting	plans	monthFrom	yearFrom	monthTo	yearTo
21928	10000	SSI	N	View	KPRO	IN	IN	January	2015		
21928	10000	Procedure	N	View	HPRO	IN	IN	January	2015		
21928	10000	SSI	N	View	COLO	IN	IN	January	2015		

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**Troubleshooting steps for**

**Question 3: Why Is An Analysis Report  
Excluding Data To Which A Group Has Access?**

# Question 3. Why Is An Analysis Report Excluding Data To Which A Group Has Access?

## The Scenario

- Group A has member facilities that are inpatient rehabilitation facility (IRF) as well as general acute care hospitals (ACH)
  - Some of the IRFs are free-standing and some are units in the ACHs
- A Group user generates the "SIR-IRF CDI LabID Data" and notices that the data for the IRF units in their ACHs are being excluded from the SIR report
- The Group user notes that the DRT is set up to include **Location Type = FACWIDE** and **Location = FacWIDEIn**, with the correct **Event Type** selected
- The Group confirms facilities with the IRF units are fully conferred and sharing all data necessary to generate an SIR report
- Let's review the troubleshooting steps to resolve this question

# Question 3. Why Is An Analysis Report Excluding Data To Which A Group Has Access?

MDRO/CDI Events, Process and Outcome Measures  
Includes Applicable Denominators and "No Events" Indicators

Plan: Both | Month: January | Year: 2015 | To: | Location Type: FACWIDE | Location: FacWIDEIn | Other Location Requirements: |

Specific Organism Type:

- ACINE - MDR-Acinetobacter
- CDIF - C. difficile
- CEPHRKLEB - CephR-Klebsiella
- CRE - CRE (CRE-Ecoli, CRE-Enterobacter, CRE-Klebsiella)
- MRSA - MRSA
- MSSA - MSSA
- VRE - VRE

Event Type: LABID - Laboratory-identified MDRO or CDI Event

AST Process & Outcome Measures

Process Measures	Organism	ASTAdm	AST D/T	AST Incidence	AST Prevalence
<input type="checkbox"/> Hand Hygiene	<input type="checkbox"/> MRSA	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Gown and Gloves	<input type="checkbox"/> VRE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

FACWIDEIN for 2015 and forward will also include ED and Observation locations

- Based on the scenario described above, the initial step is to review and confirm what is on the DRT for IRF CDI data



Note: On the DRT, **Location Type = FACWIDE** and **Location = FacWIDEIn**

includes the free standing IRFs not the IRF units in ACHs

- A separate row for IRF units within ACH is required to include data in SIR report



# Question 3. Why Is An Analysis Report Excluding Data To Which A Group Has Access?

- The screenshot below describes how to include the separate row on the DRT for IRF unit data
- The **Location Type = All** and the **Location = Rehabilitation Ward (within Hospital)**

To include IRF units (in ACH) data in MDRO SIR, add additional row as described below to the FACWIDE, FacWIDEIn row described in previous slide

Plan: Both | Month: January | Year: 2015 | To: | Location Type: (ALL) | Location: Rehabilitation Ward (within Hospital) | Other Location Requirements:

Specific Organism Type:

- ACINE - MDR-Acinetobacter
- CDIF - C. difficile
- CEPHRKLEB - CephR-Klebsiella
- CRE - CRE (CRE-Ecoli, CRE-Enterobacter, CRE-Klebsiella)
- MRSA - MRSA
- MSSA - MSSA
- VRE - VRE

Event Type: LABID - Laboratory-identified MDRO or CDI Event

AST Process & Outcome Measures

Process Measures	Organism	ASTAdm	AST D/T	AST Incidence	AST Prevalence
<input type="checkbox"/> Hand Hygiene	<input type="checkbox"/> MRSA	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Gown and Gloves	<input type="checkbox"/> VRE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

# Take Home

- The NHSN Group Users webpage is a helpful resource for NHSN Group users; information are available for set-up through analyzing data to turn into information
- Understanding how data is shared using the NHSN Group function enhances the Analysis experience for Group users

# Resources

- **SIR Guide**

- <https://www.cdc.gov/nhsn/pdfs/ps-analysis-resources/nhsn-sir-guide.pdf>

- **How to modify report**

- <https://www.cdc.gov/nhsn/pdfs/ps-analysis-resources/howtomodifyreport.pdf>

- **Troubleshooting Guides**

- <https://www.cdc.gov/nhsn/PS-Analysis-resources/reference-guides.html>

- **How to run the SIR report: Standardized Infection Ratio (SIR) Table *Surgical Site Infections***

- <https://www.cdc.gov/nhsn/pdfs/ps-analysis-resources/sirtablesssi.pdf>

- **Using the Statistics Calculator**

- <https://www.cdc.gov/nhsn/pdfs/ps-analysis-resources/StatsCalc.pdf>

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Thank you!

For more information, contact CDC  
1-800-CDC-INFO (232-4636)  
TTY: 1-888-232-6348 [www.cdc.gov](http://www.cdc.gov)

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

