



Intro to NHSN Analysis

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2019 NHSN Annual Training

Monday March 25, 2019

Learning Objectives

- Understand the scope and structure of NHSN data entry and analysis functions
- Understand how to modify NHSN reports in the application
- Gain exposure to more customized analyses available in NHSN
- Describe and show how to use NHSN analysis to conduct data quality checks
- Identify specific analysis reports found in the NHSN Reports Advanced Folder

A Message About the Data

- All data in this presentation has been created in a testing 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.

Data Analysis Preparation

Data Entry Sources

- **Event**
 - All infection events: CLABSI, CAUTI, SSI, LABID, etc.
- **Procedure**
 - Place to add all procedures, with covariates. Used for SSI
- **Summary Data**
 - Summary data forms for Device-Associated and MDRO/CDI surveillance
- **Surveys**
 - Facility level data collected once a year for previous calendar year

NHSN Home
Alerts
Reporting Plan ▶
Patient ▶
Event ▶
Procedure ▶
Summary Data ▶
Import/Export
Surveys ▶
Analysis ▶
Users ▶
Facility ▶
Group ▶
Tools ▶
Logout

Accessing Data Entry Screens

3 Options: Add, Find, Incomplete

- Click 'Add' to enter data
- 'Find' is used to look for previously entered data forms.
- 'Incomplete' lists the forms that have been started, but all the required fields have not been completed.

Centers for Disease Control and Prevention
CDC 24/7: Saving Lives, Protecting People™

NHSN - National Healthcare Safety Network (apt-v-nhsn-test:8001)

NHSN Home

- Alerts
- Reporting Plan ▶
- Patient ▶
- Event ▶
- Procedure ▶**
 - Add
 - Find**
 - Incomplete
- Summary Data ▶
- Import/Export
- Surveys ▶
- Analysis ▶
- Users ▶
- Facility ▶
- Group ▶
- Tools ▶
- Logout

Find Procedure

- Enter search criteria and click Find
- Fewer criteria will return a broader result set
- More criteria will return a narrower result set

Procedure Information

Facility ID: ▼

Procedure #:

NHSN Procedure Code: ▼

ICD-9-CM Code:

Procedure Date: To:

Patient Information

Patient ID:

Last Name:

First Name:

Social Security #:

Secondary ID:

General Information

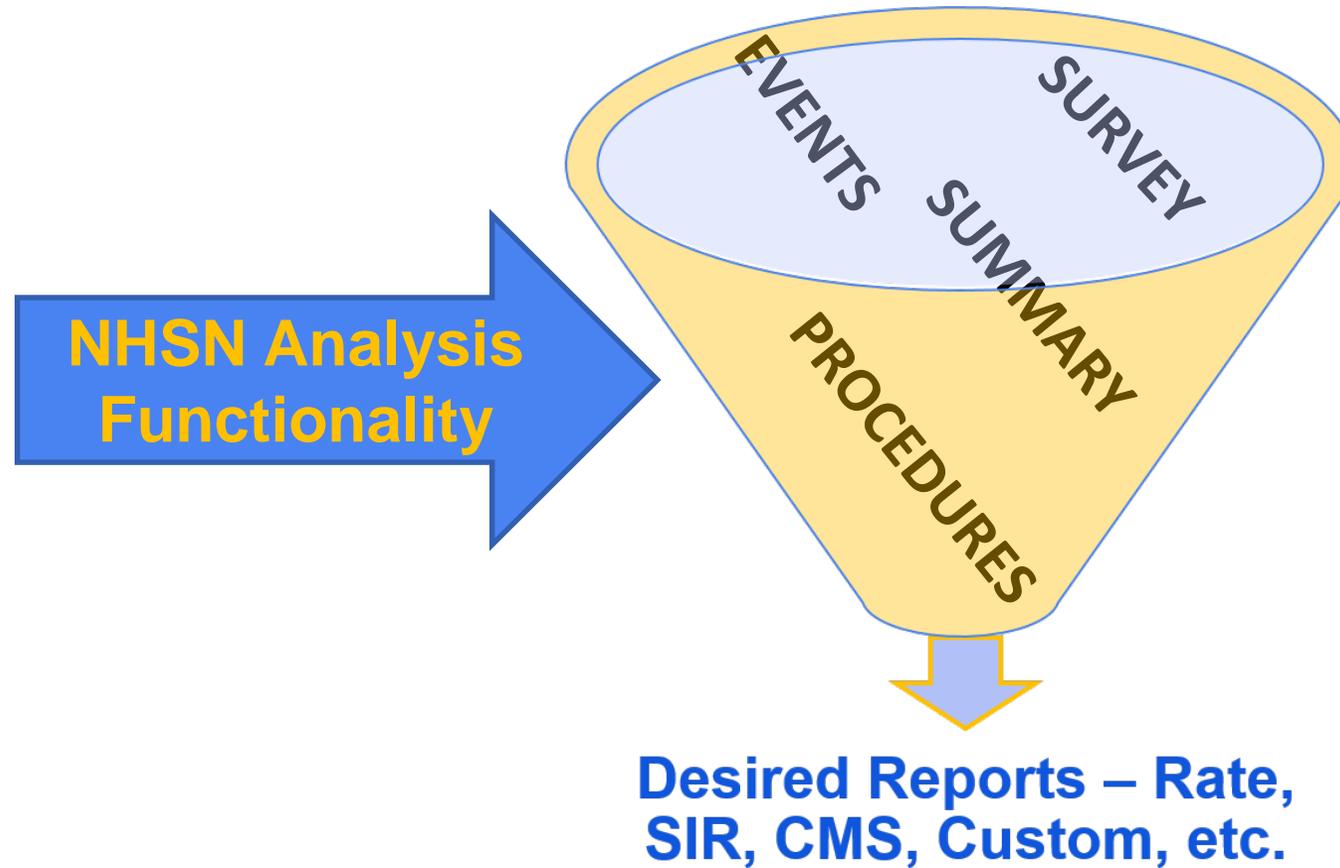
Completion Status: ▼

The 'Find' and 'Incomplete' options are very useful for investigating data quality issues.

Annual Surveys and Data Analysis

- Every year a new survey is entered into NHSN to reflect data from the prior calendar year
- SIRS will use the most recent annual survey on file for the current SIRs
 - Right now, majority should have completed a 2018 annual survey
 - Those values will be used to calculate 2018 and 2019 SIRs
- Under the new baseline, SIRS will be risk adjusted using the corresponding annual survey from that year
- If the annual survey from that year hasn't been completed, SIRs will be risk adjusted using the most recent available survey

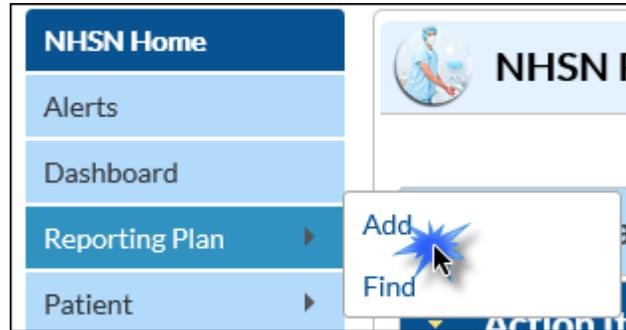
NHSN User Data Entry



Monthly Reporting Plans (MRPs)

- Used by all NHSN facilities to inform CDC which patient safety modules will be used in a given month
- Participating facilities must select the modules used, if any, the events, procedures, and/or locations that will be monitored in-plan
- MRP is the first in indicating what data will be submitted from NHSN to CMS as part of the Quality Reporting Program
- Only in-plan data are submitted to CMS in accordance with CMS's Quality Reporting Program

Adding Monthly Reporting Plan



Add a monthly reporting plan selecting “Add” from the left hand navigation bar.



Adding Monthly Reporting Plan

 **Add Monthly Reporting Plan**

Mandatory fields marked with *

Facility ID *: DHQP MEMORIAL HOSPITAL (ID 10018) ▼

Month *: February ▼

Year *: 2019 ▼

No NHSN Patient Safety Modules Followed this Month

Select **only** if you have no data to report for that month. New facility, or facilities under construction are most likely to select this option.



Adding Monthly Reporting Plan

Device-Associated Module

	Locations	CLABSI	VAE	CAUTI	CLIP	PedVAP
	<input type="text"/>	<input type="checkbox"/>				

Add Row Clear All Rows Copy from Previous Month

Procedure-Associated Module

	Procedures	SSI
	<input type="text"/>	IN: <input type="checkbox"/> OUT: <input type="checkbox"/>

Add Row Clear All Rows Copy from Previous Month

Antimicrobial Use and Resistance Module

	Locations	Antimicrobial Use	Antimicrobial Resistance
	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>

Add Row Clear All Rows Copy from Previous Month

Multi-Drug Resistant Organism Module

	Locations	
	<input type="text"/>	<input type="text"/>

MRPs organized by module. Select appropriate locations or procedures to follow for the month of reporting



Adding Monthly Reporting Plan: Example

Procedure-Associated Module

	Procedures	SSI
	KPRO - Knee prosthesis 	IN: <input checked="" type="checkbox"/> OUT: <input checked="" type="checkbox"/>

KPRO procedure selected for this facility to report all inpatient and outpatient procedures.



Adding Monthly Reporting Plan: Example

Device-Associated Module

	Locations	CLABSI	VAE	CAUTI
	ICU - ICU <input type="text" value="ICU - ICU"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	<input type="text" value=""/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Add rows allows you to add more locations and/procedures to follow



Adding Monthly Reporting Plan: Example

Device-Associated Module

	Locations	CLABSI	VAE	CAUTI	CLIP	PedVAP	PedVAE
	NICU - LEVEL 3 NICU	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	ICU - ICU	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	3- WEST - PEDIATRIC CARD	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Add Row Clear All Rows **Copy from Previous Month**

Copy from Previous Month populates selections made on your previous month's reporting plan



True or False: You can add Inactive Locations to monthly reporting plans.

True

False

Answer

FALSE

Device-Associated Module					
	Locations	CLABSI	VAE	CAUTI	CLIP
	[INACTIVE] BURN - BURN 	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	2N - REHAB 	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

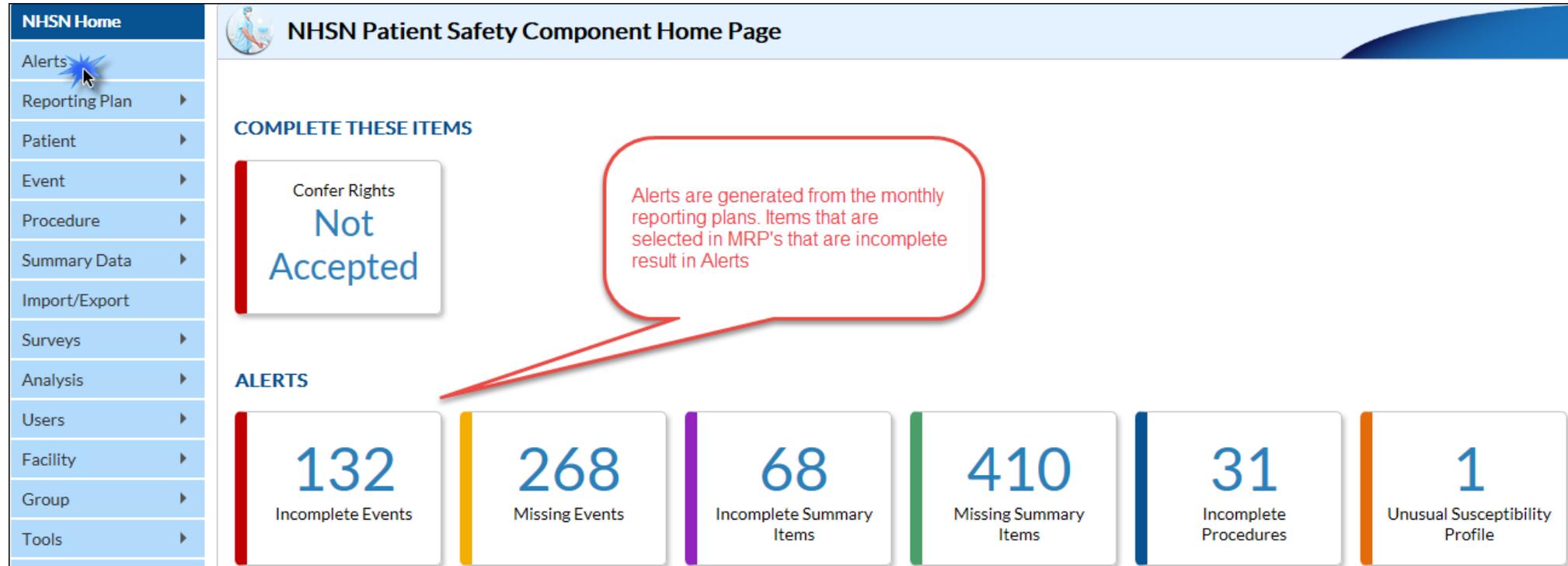
Add Row Clear All Rows Copy from Previous Month

Inactive locations can remain on existing reporting plans before they were inactivated, but they cannot be added once set to inactive. You will need to re-activate the location if you wish to add it to a new reporting



Alerts

- Alerts are automatic checks in NHSN that remind you of incomplete or missing in-plan data



- Before using the analysis function, make sure to clear all (relevant) alerts
- Found on the Home Page, or by clicking on the 'Alerts' tab on the sidebar

Alerts

- When an alert category is selected all incidents will be listed on a separate page for selection
- Each incident will need to be resolved in order for alert category to clear

Incomplete Events	Missing Events	Incomplete Summary Data	Missing Summary Data	Incomplete Procedures	Missing Procedures	Missing Procedure-associated Events	Unusual Susceptibility Profile
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The following are incomplete "In Plan" summary data records.

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Summary ID	Summary Data Type	Year	Month	Location Code
218	ICU	2005	September	MICU
260	ICU	2006	February	S-ICU
293	ICU	2006	March	S-ICU
4096	ICU	2013	February	INSURGCC
5576	ICU	2013	February	JOYREHAB
5902	ICU	2013	March	ICU
5903	ICU	2013	May	ICU
5904	ICU	2013	September	ICU
7964	ICU	2014	January	ICU-A
5779	ICU	2014	January	ICU/CCU

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View 1 - 10 of 68

View 1 - 10 of 68

All the alert categories from the previous page

Resolving Alerts

- Incomplete Summary Data Form
 - For DA and MDRO/CDI Events
- If there are no events for a given month, check the Report No Events box
- If not, alerts will appear if you have completed a summary form for a unit listed in your reporting plan but have not entered events.

Mandatory fields marked with *

Facility ID *: DHQP MEMORIAL HOSPITAL (ID 10018)

Location Code *: ICU - ICU

Month *: March

Year *: 2013

Total Patient Days *: 200

Central Line Days *: 50

Urinary Catheter Days *: 50

Ventilator Days *: 45

APRV Days *: 0

Report No Events

CLABSI:

CAUTI:

VAE:

PedVAP:

Final step: Generating Datasets

- After data entry is complete, the data must be first compiled into your user specific NHSN dataset
- After anything is changed in NHSN, generate datasets so that the change will be reflected in Analysis reports
- This is often the first thing we recommend when troubleshooting Analysis problems
 - NOTE: Unresolved alerts will prevent data from showing up in Rate and SIR reports, even if new datasets are generated

CDC Centers for Disease Control and Prevention
CDC 24/7: Saving Lives, Protecting People™

NHSN National Healthcare Safety Network

NHSN - National Healthcare Safety Network (apt-v-nhsn-test:8001)

REBECCA
DHQP MEMORIAL HOSPITAL

NHSN Home

- Alerts
- Reporting Plan ▶
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- Group ▶
- Tools ▶
- Logout

Generate Data Sets

Generate Patient Safety Analysis Data Sets

Datasets generated will include data for the 3 most recent full calendar years up until today's date for the Patient Safety Component. To include all years check the box below.

For all other components, datasets generated will include all years. Note that any analysis options you run will be limited to the time period shown on the date range bar.

Include all data reported to NHSN for this component within the parameters of rights conferred.

1/2013 11/2016

Generate New Last Generated: Nov 7 2016 1:36PM

Don't forget to check the check box to include all years of data!

Navigating Data Analysis Reports

NHSN Analysis Reports

- Click on 'Reports' under the Analysis tab to see all available reports in NHSN
- The highlighted reports on the right are the most commonly used and basic report types

Analysis Reports

Expand All **Collapse All** Search

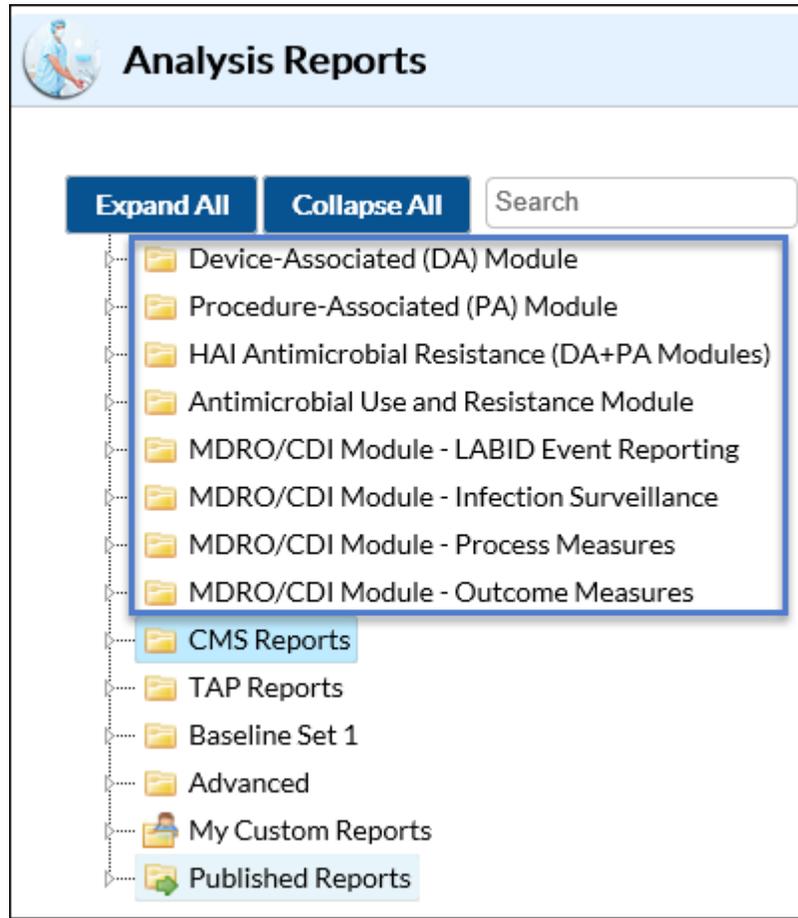
- Device-Associated (DA) Module
- Procedure-Associated (PA) Module
- HAI Antimicrobial Resistance (DA+PA Modules)
- Antimicrobial Use and Resistance Module
- MDRO/CDI Module - LABID Event Reporting
- MDRO/CDI Module - Infection Surveillance
- MDRO/CDI Module - Process Measures
- MDRO/CDI Module - Outcome Measures
- CMS Reports
- TAP Reports
- Baseline Set 1
- Advanced
- My Custom Reports
- Published Reports

NHSN Analysis Reports: Collapsed Folder

- Standard list of all report types.
 - Line List
 - Frequency Table
 - Bar/Pie Chart
 - Rate Table/Run Chart
 - SIR Report
- Clicking 'Run' will run a stock report using all CLABSI data for 2015 and forward
- Click Modify to create more specific reports

The screenshot displays the 'Analysis Reports' interface. At the top, there is a header with a user profile icon and the title 'Analysis Reports'. Below the header, there are two buttons: 'Expand All' and 'Collapse All', followed by a search input field. The main content area shows a hierarchical folder structure. The 'Device-Associated (DA) Module' folder is expanded, revealing the 'Central Line-Associated BSI' folder. This folder is also expanded, showing a list of report types: 'Line Listing - All CLAB Events', 'Frequency Table - All CLAB Events', 'Bar Chart - All CLAB Events', 'Pie Chart - All CLAB Events', 'Rate Table - CLAB Data for ICU-Other', 'Run Chart - CLAB Data for ICU-Other', 'Rate Table - CLAB Data for NICU', 'Run Chart - CLAB Data for NICU', 'Rate Table - CLAB Data for SCA/ONC', and 'Run Chart - CLAB Data for SCA/ONC'. The 'SIR SIR - Acute Care Hospital CLAB Data' report is highlighted. A context menu is open over this report, showing three options: 'Run Report' (with a play button icon), 'Modify Report' (with a gear icon), and 'Export Data Set' (with a download icon).

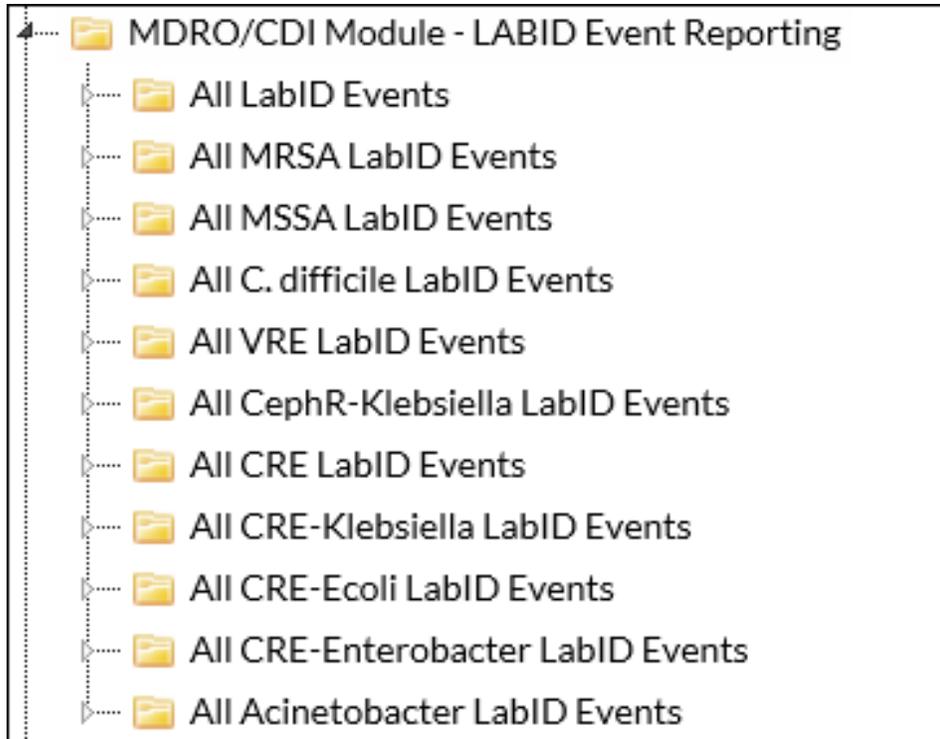
NHSN Analysis Reports: HAI Module Reports



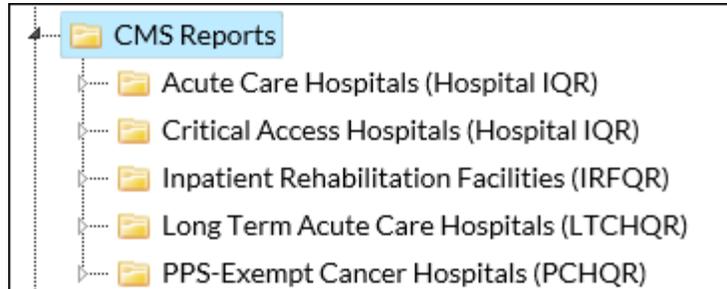
Folders to provide specific analysis options for reportable HAIs



NHSN Analysis Reports: Collapsed LabID Folder



NHSN Analysis Reports: CMS Reports

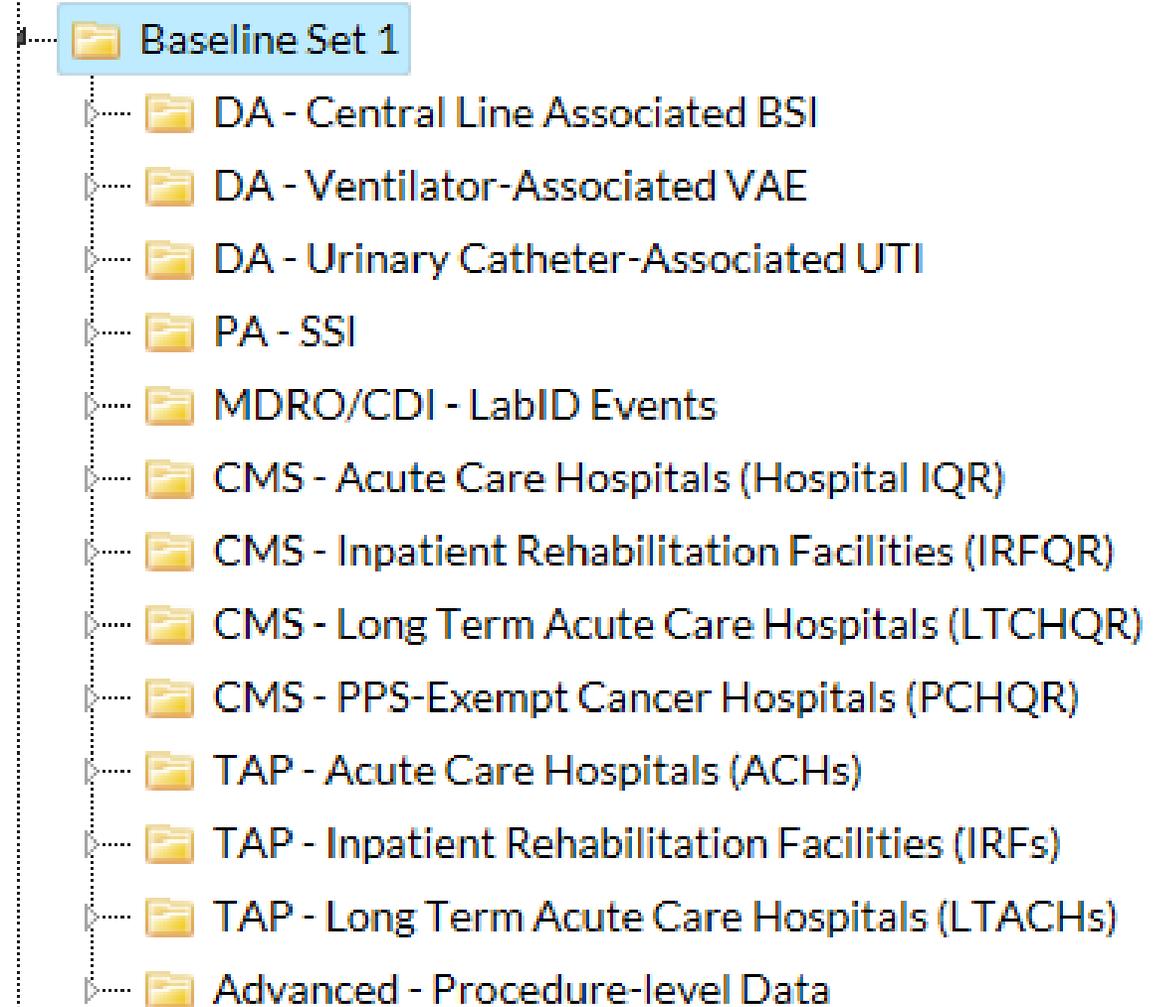


CMS Reports folder
provide default reports that
mirror CMS reporting
requirements

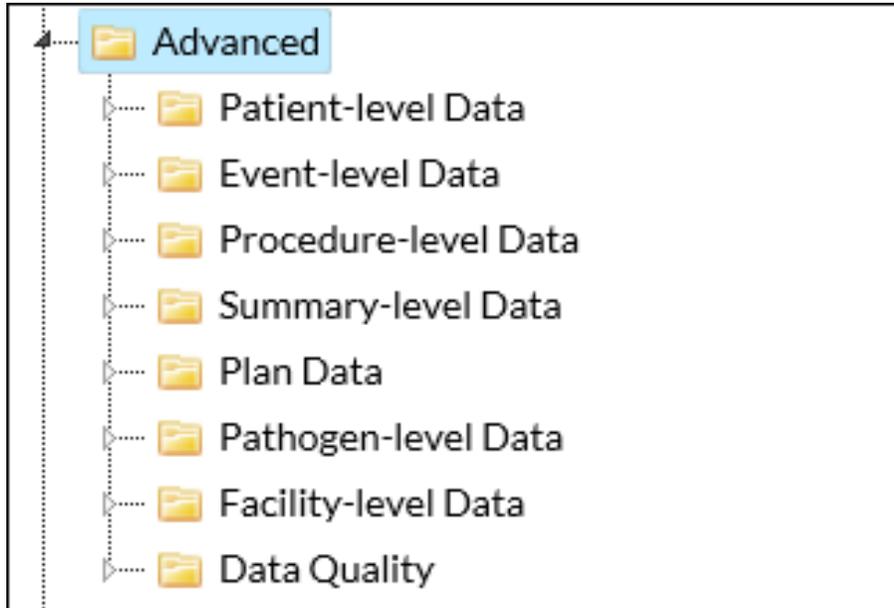


Baseline Set 1 Reports

- Contains archived reports with the Baseline Set 1 data
- Can only be run for 2016 data and before
- Data after 2016 must be run using 2015 Rebaseline Analysis Reports



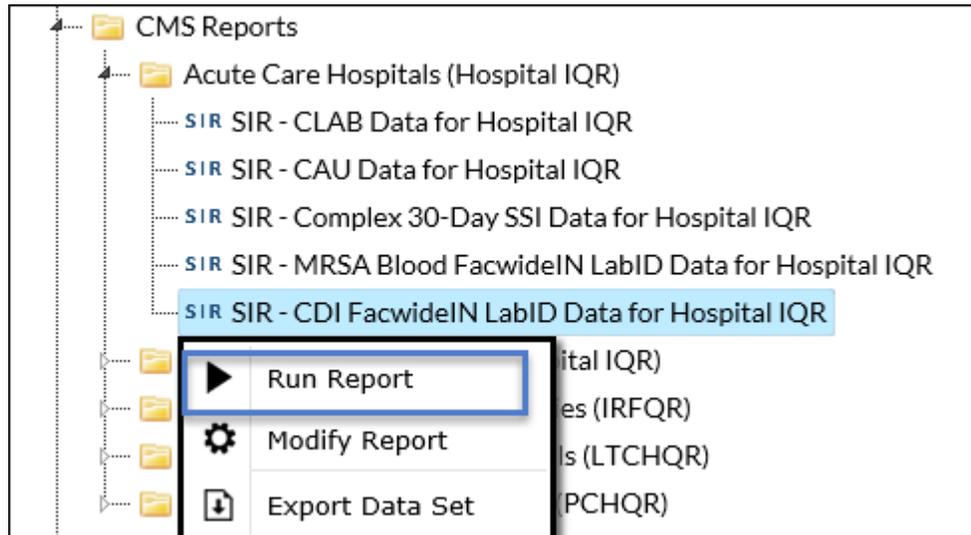
NHSN Analysis Reports: Advanced Folder



Advanced Folder include several reports that can be modified more to analyze specific data for your facility



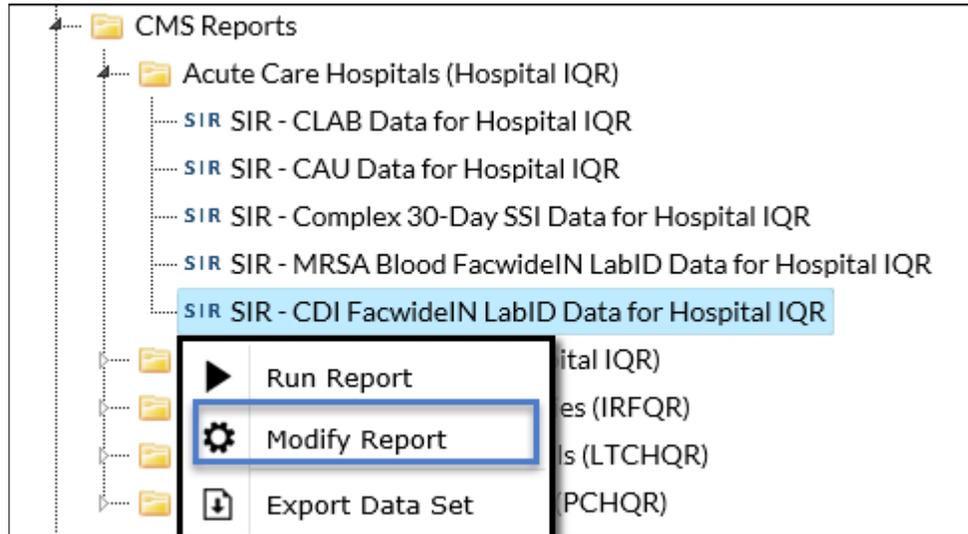
NHSN Analysis Reports: Run a Report



“Run Report” will provide output for all available data for this HAI with default variables displayed



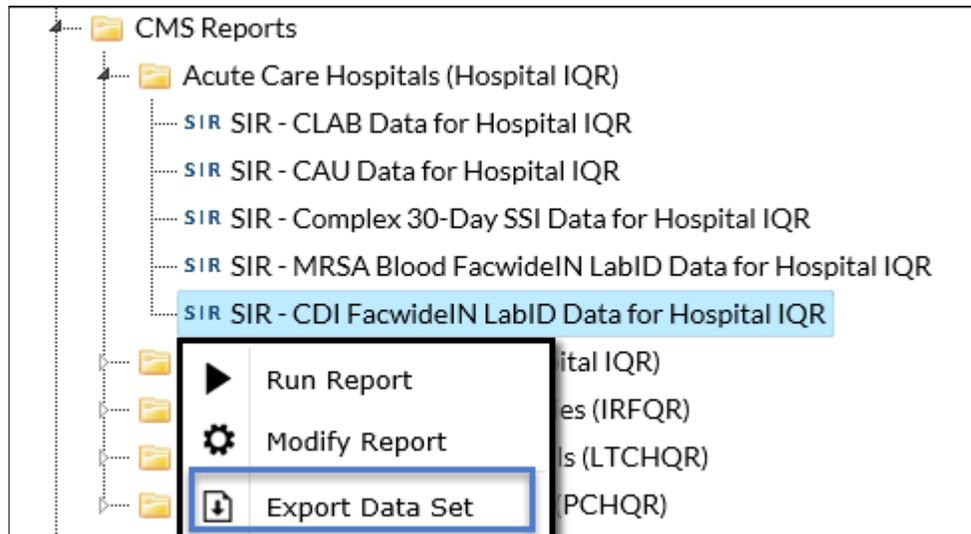
NHSN Analysis Reports: Modify Report



“Modify Report” will allow you to set specific time frame, select variables, and sort data you’re interested in looking at



NHSN Analysis Reports: Export Data



“Export Data Set” allows you to transfer your data to several different file types (.xls, .txt, .sas7bdat, etc.)



Modifying Analysis Reports : CLABSI SIR Report

- Show Descriptive Variable Names
- Analysis Data Set Source
- Type of Report
- When Data Set was Generated

Modify "SIR - Acute Care Hospital CLAB Data"

Show descriptive variable names (Print List)

Analysis Data Set: bs2_CLAB_RatesICU Type: SIR Data Set Generated On: 02/23/2017 12:20:00

Title/Format

Time Period

Filters

Display Options

Title:

SIR for Central Line-Associated BSI Data for Acute Care Hospitals (2015 baseline)

Modifying Analysis Reports : Change Title

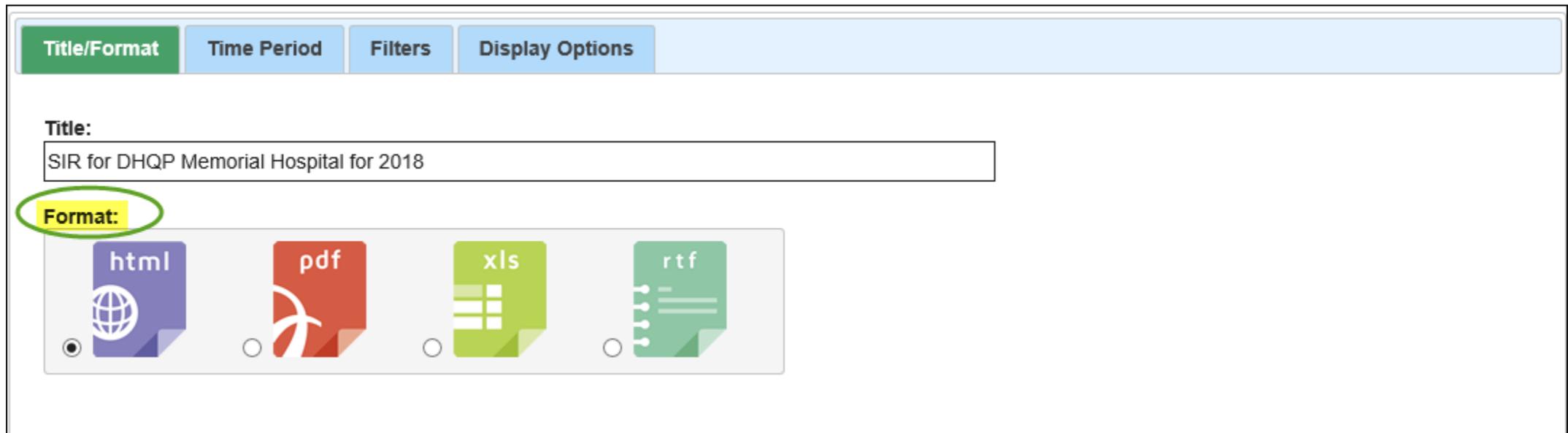
Title/Format	Time Period	Filters	Display Options	
Title: SIR for DHQP Memorial Hospital for 2018				

If you want to save a customized report, consider re-naming the title



Modifying Analysis Reports : Select Format

- Title/Format
 - You may choose the format in which the report is displayed, such as HTML , Excel, or PDF.
 - Default is HTML



The screenshot displays a user interface for configuring a report. At the top, there are four tabs: 'Title/Format' (highlighted in green), 'Time Period', 'Filters', and 'Display Options'. Below the tabs, there is a 'Title:' label followed by a text input field containing 'SIR for DHQP Memorial Hospital for 2018'. Below the title field, there is a 'Format:' label, which is circled in green. Underneath the 'Format:' label, there are four format options, each with a radio button and a corresponding icon: 'html' (purple icon with a globe), 'pdf' (red icon with a document), 'xls' (green icon with a spreadsheet), and 'rtf' (green icon with a document). The 'html' option is selected, as indicated by the filled radio button.

Modifying Analysis Reports: Time Period

- Allows for selection of a specific time period for your report
- Select a date variable from the “Date Variable” drop down menu and specify the beginning and ending date for the desired time period
- If the “Ending” date is left blank, the results will include all data from the beginning time period and forward

Modify “SIR – Acute Care Hospital CLAB Data”

Show descriptive variable names ([Print List](#))

Analysis Data Set: bs2_CLAB_RatesICU Type: SIR Data Set Generated On: 02/23/2017 12:20:00

Title/Format

Time Period

Filters

Display Options

Time Period:

Date Variable

Beginning

Ending



⌘ Clear Time Period

Enter Date variable/Time period at the time you click the Run button

Modifying Analysis Reports: Time Period

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

Time Period:

Date Variable	Beginning	Ending	
summaryYr ▾	2018	2018 x	Clear Time Period

Enter Date variable/Time period at the time you click the Run button

For this example, we are looking only at 2018 data at the annual level.



Modifying Analysis Reports : Filters

- Each addition of “group” and “rule” will allow you to specify values. After selecting a variable to filter, click in the empty box with the drop down arrow to select the operator (e.g., “equal”) then specify desired values of that variable that should be included in the report.

The screenshot displays the 'Modify SIR - Acute Care Hospital CLAB Data' interface. At the top, a blue header bar contains the title. Below it, a navigation bar includes tabs for 'Title/Format', 'Time Period', 'Filters' (which is active), and 'Display Options'. To the right of the navigation bar, the text 'Analysis Data Set: bs2_CLAB_RatesICU Type: SIR Data Set Generated On: 02/23/2017 12:20:00' is visible. Below the navigation bar, there are 'Additional Filters:' buttons for 'Show' and 'Clear'. The main area contains a filter rule structure with 'AND OR' buttons. A dropdown menu is open, showing a list of operators: 'equal', 'not equal', 'in', 'not in', 'less', 'less or equal', 'greater', 'greater or equal', and 'between'. On the right side of the filter rule area, there are 'Add group', 'Add rule', and 'Delete' buttons. Two red arrows point from the 'Add group' and 'Add rule' buttons towards the right.

Modifying Analysis Reports : Filters

- Add Group vs. Add Rule
 - Group = Will generate a table with a select number of rules (conditions) set.
 - Rules = Conditions that will restrict what type of data is populated within a group (table)
- Our SIR table will be populated with data only from locations that have the variable *locationType* equal to “CC”.
 - locationType equal to “CC” includes **only** all active critical care locations mapped to your facility during 2018 (1 Group, 1 Rule) .

The screenshot displays a software interface for configuring filters. At the top, there are four tabs: 'Title/Format', 'Time Period', 'Filters' (which is highlighted in green), and 'Display Options'. Below the tabs, there is a section for 'Additional Filters' with 'Show' and 'Clear' buttons. The main area shows a filter tree structure. The root level has 'AND' and 'OR' options and an 'Add group' button. A single rule is added, with 'AND' and 'OR' options and an 'Add rule' button. The rule itself consists of a dropdown menu showing 'locationType', followed by an 'equal' operator dropdown, and a text input field containing 'CC - CC'. A 'Delete' button is located to the right of the rule.

Modifying Analysis Reports : Display Options

- “Display Options” tab allows you to view your report organized by a specific criteria
- Allows for the option to calculate and display results by time period – e.g., by month, year, quarter, or half year
 - Group By applicable to rates, SIRs, and SAARs

Modify “SIR - Acute Care Hospital CLAB Data”

Show descriptive variable names ([Print List](#))

Analysis Data Set: bs2_CLAB_RatesICU Type: SIR Data Set Generated On: 02/23/2017 12:20:00

Title/Format

Time Period

Filters

Display Options

SIR Options:

Group by: Cumulative

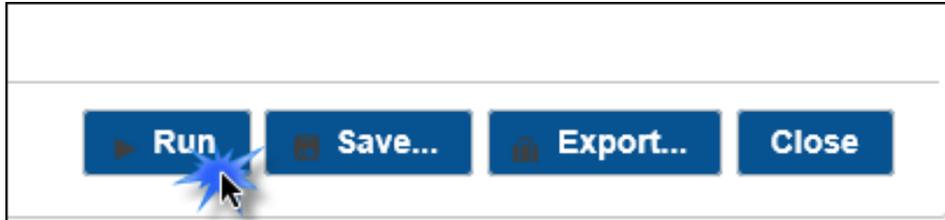
summaryYH

summaryYM

summaryYQ

summaryYr

Modifying Analysis Reports: Run Report



To generate the report you modified, select "Run"



Modifying Analysis Report: Interpreting Output

- Modified report by our set conditions:
 - Time Period = summaryYr 2018
 - Display Options = locationType="CC"

National Healthcare Safety Network
SIR fo rDHQP Memorial Hospital for 2018 - By OrgID

As of: March 6, 2019 at 10:06 AM
Date Range: BS2_CLAB_RATESALL summaryYr 2018 to 2018
if (((locationType = "CC")

orgID=10018 medType=G

orgID	ccn	summaryYr	infCount	numPred	numclays	SIR	SIR_pval	sir95ci
10018	12345	2018	1	2.671	3025	0.374	0.3232	0.019, 1.847

The fields highlighted in the table indicate that NHSN completed the calculation.



Modifying Analysis Report: Interpreting Output

Modify "SIR - Acute Care Hospital CLAB Data"

Show descriptive variable names ([Print List](#))

National Healthcare Safety Network
SIR for DHQP Memorial Hospital For 2018 - By OrgID
As of: March 6, 2019 at 12:18 PM
Date Range: BS2_CLAB_RATE\$ALL summaryYr 2018 to 2018
if (((locationType = "CC") AND (CCN = "12345")))

Facility Org ID=10018 Type of Affiliation=G

Facility Org ID	CMS Certification Number	Summary Yr	Events	Number Predicted	Central Line Days	SIR	SIR p-value	95% Confidence Interval
10018	12345	2018	1	2.671	3025	0.374	0.3232	0.019, 1.847

This is what your report looks like when you show descriptive variable names.



Modifying Analysis Report: Interpreting Output

- There were 1 events identified for 2018 from these locations
- SIR is the number of observed CLABSIs(Events) divided by the number of predicted CLABSIs
 - (1 event/2.671 Number predicted = SIR of 0.374)
- This signifies that during this time period, our facility identified less CLABSI events than predicted
- SIR will only be calculated if the number of predicted infections is ≥ 1

National Healthcare Safety Network
SIR for DHQP Memorial Hospital For 2018 - By OrgID
As of: March 6, 2019 at 12:18 PM
Date Range: BS2_CLAB_RATESALL summaryYr 2018 to 2018
if (((locationType = "CC") AND (CCN = "12345")))

Facility Org ID=10018 Type of Affiliation=G

Facility Org ID	CMS Certification Number	Summary Yr	Events	Number Predicted	Central Line Days	SIR	SIR p-value	95% Confidence Interval
10018	12345	2018	1	2.671	3025	0.374	0.3232	0.019, 1.847

Interpreting your SIR Report : SIR p-value

- SIR p-value is a statistical measure that tells you if the observed number of infections is significantly different from what was predicted
- P-value less than 0.05 indicates that the number of observed CLABSIs is [statistically] significantly different (higher or lower) from the number predicted
- In this example, the p-value for the 2018 SIR is greater than 0.05 and thus there is no significant difference between the number of infections observed and the number of infections predicted

National Healthcare Safety Network
SIR for DHQP Memorial Hospital For 2018 - By OrgID
As of: March 6, 2019 at 12:18 PM
Date Range: BS2_CLAB_RATESALL summaryYr 2018 to 2018
if (((locationType = "CC") AND (CCN = "12345")))

Facility Org ID=10018 Type of Affiliation=G

Facility Org ID	CMS Certification Number	Summary Yr	Events	Number Predicted	Central Line Days	SIR	SIR p-value	95% Confidence Interval
10018	12345	2018	1	2.671	3025	0.374	0.3232	0.019, 1.847

Interpreting your SIR Report : SIR Confidence Interval

- The 95% Confidence interval is a range of values in which the true SIR is thought to lie
- If the confidence interval includes the value of 1 (as in this example), then the SIR is not significant (the number of observed infections is not significantly different from the number predicted, using the same convenient cut point).
- If the confidence interval includes the value of 1, then the SIR is not significant
 - i.e., if the lower bound is ≤ 1 and the upper bound is ≥ 1 , then the SIR is not significant.

National Healthcare Safety Network
SIR for DHQP Memorial Hospital For 2018 - By OrgID
As of: March 6, 2019 at 12:18 PM
Date Range: BS2_CLAB_RATESALL summaryYr 2018 to 2018
if (((locationType = "CC") AND (CCN = "12345")))

Facility Org ID=10018 Type of Affiliation=G

Facility Org ID	CMS Certification Number	Summary Yr	Events	Number Predicted	Central Line Days	SIR	SIR p-value	95% Confidence Interval
10018	12345	2018	1	2.671	3025	0.374	0.3232	0.019, 1.847

What interval of time is NOT available for the Date Variable selection when you modify a CMS report?

Summary
Year **A**

Summary
Week **B**

Summary
Month **C**

Summary
Half Year **D**

Answer

B.

Title/Format	Time Period	Filters	Display Options
Time Period:			
Date Variable	Beginning	Ending	Clear Time Period
summaryYH summaryYM summaryYQ summaryYr	<input type="text"/>	<input type="text"/>	
riable/Time period at the time you click the Run button			

You can modify data by time periods of Year, Half, Quarter, or Month



Modifying Analysis Report: Saving Your Report



To save a modified report, select "Save"



Modifying Analysis Report: Saving Your Report

Specify a name for your Analysis Report:

Analysis Report Name:

Overwrite existing Custom Analysis Report (Save)

Create a new Custom Analysis Report based on this one (Save as)

Enter a name that best describes the report for you and/or staff



Modifying Analysis Report: Saving Your Report

Expand All Collapse All Search

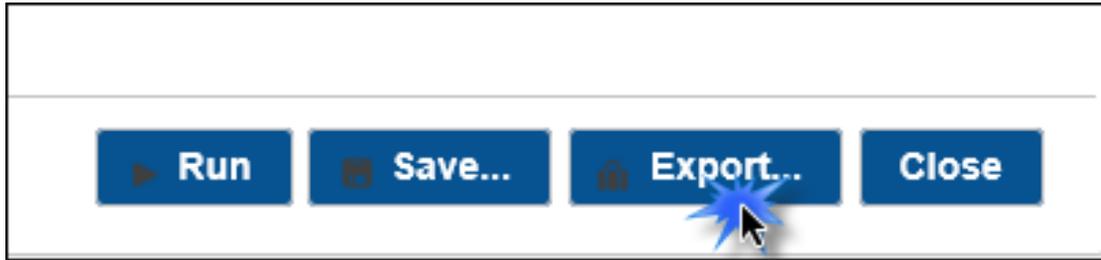
- Device-Associated (DA) Module
 - Central Line-Associated BSI
 - Line Listing - All CLAB Events
 - Frequency Table - All CLAB Events
 - Bar Chart - All CLAB Events
 - Pie Chart - All CLAB Events
 - Rate Table - CLAB Data for ICU-Other
 - Run Chart - CLAB Data for ICU-Other
 - Rate Table - CLAB Data for NICU
 - Run Chart - CLAB Data for NICU
 - Rate Table - CLAB Data for SCA/ONC
 - Run Chart - CLAB Data for SCA/ONC
 - SIR SIR - Acute Care Hospital CLAB Data
 - SUR SUR - Acute Care Hospital Central Line Device Use
 - SIR SIR - Critical Access Hospitals CLAB Data
 - SUR SUR - Critical Access Hospitals Central Line Device Use
 - SIR SIR - Long Term Acute Care CLAB Data
 - SUR SUR - Long Term Acute Care Central Line Device Use
 - SIR SIR - Inpatient Rehab Facilities CLAB Data
 - SUR SUR - Inpatient Rehab Facilities Central Line Device Use
 - Custom Reports
 - SCOTT - SIR - ICU 2018 DHQP Memorial Hospital

Run Report
Modify Report
Delete Report
Export Data Set
Publish Report
Rename Report

Custom report will be saved at the bottom of the folder in which you found the initial report.



Modifying Analysis Report: Exporting Your Report

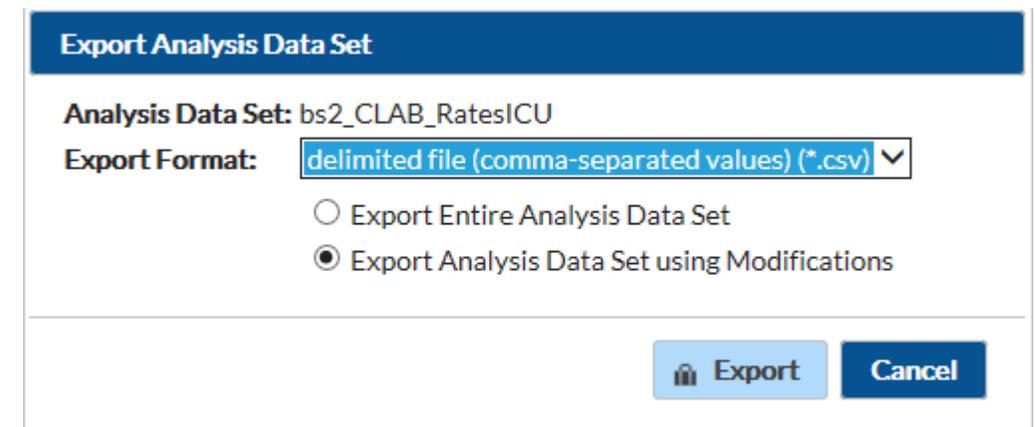
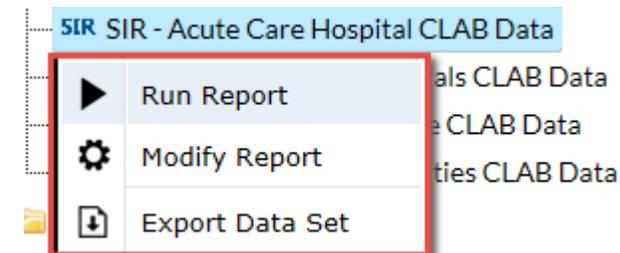


To export a modified report to a .Xls, .sas, .CSV and many more file types, select "Export"

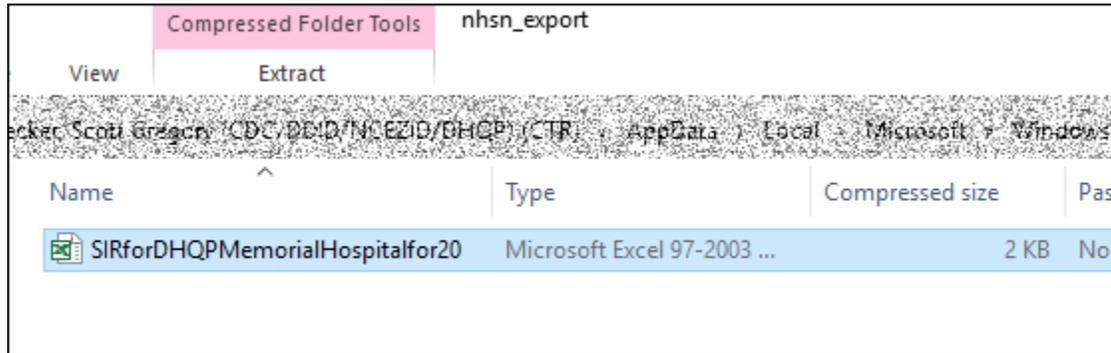


Modifying Analysis Report: Exporting Datasets

- Export Analysis Data Set
 - Appears when you select your report type
 - Exports the entire dataset from which the resulting report is generated
- Export Output Data Set
 - Appears at the bottom of the Modify Screen
 - Two options:
 - Exports only data used in generating the report, for the specified time period and including selection criteria
 - Exports Analysis Data Set



Modifying Analysis Report: Exporting Datasets



A	B	C	D	E	F	G	H	I	J	K	L	M
orgID	facType	medType	state	summary	ccn	infCount	numPred	numcldays	SIR_pval	SIR	sir95ci	log
10018	HOSP-GEN	G	GA	1/1/2018	12345	1	2.67073	3025	0.3232	0.374	0.019, 1.847	
10018	HOSP-GEN	G	GA	1/1/2018	12345	1	2.67073	3025	0.3232	0.374	0.019, 1.847	

Example of exporting to an excel .Xls file



NHSN Analysis for Data Quality

Data Quality – What can impact my SIRs and Rates?

- Entry, edit, or deletion of events
- Changes to numbers of patient days, device days, admissions
- Removal or addition to monthly reporting plans
- Change in admission date, previous discharge date on LABID events
- Changes to relevant factors in the annual survey (e.g., medical school affiliation, facility bedsize)
- Resolution of “Report No Events” alerts

Data Quality – Places to look

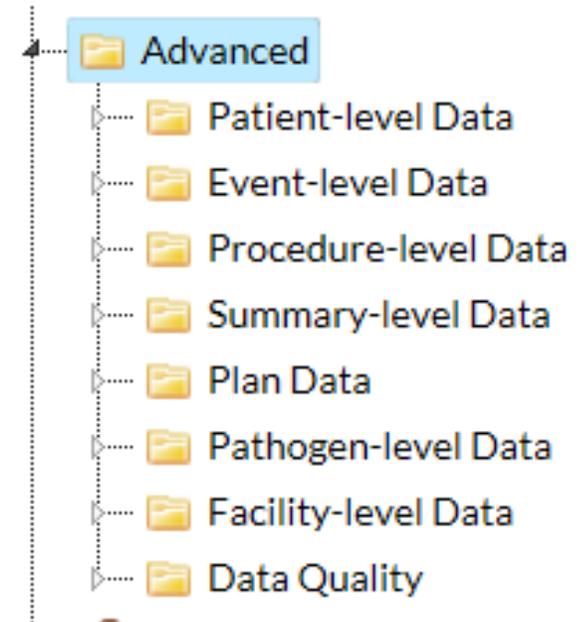
- Monthly reporting plans
 - Are the monthly reporting plans complete?
 - Are “Active” locations applicable to NHSN surveillance listed?
 - Are all appropriate procedures selected?
 - Are the appropriate lab specimens selected to collect for LABID data?
- Annual Survey
 - Are the number of beds updated from the previous survey year?
 - Has the hospitals medical school affiliation changed?
- Alerts
 - Have the alerts been resolved for the required analysis months?
- Using NHSN Analysis
 - Are new datasets generated?
 - Were new events entered after I ran my analysis?

Advanced Folder

- Many customizable options to create and save reports
- The “How to View, Create, and Modify Dates in NHSN” document provides suggested variables to use
 - <https://www.cdc.gov/nhsn/pdfs/analysis/how2view-create-modify-dates-in-nhsn.pdf>
- Can help inform if some data is a data quality issue or accurate

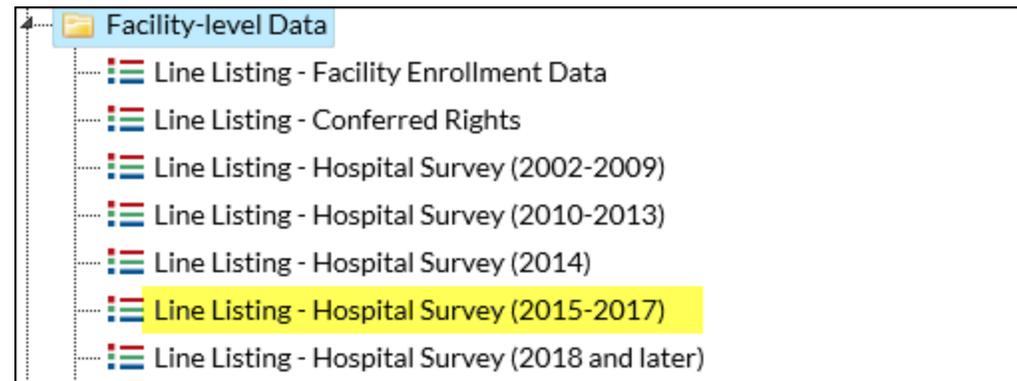
NHSN Advanced Folder

- A tool to assist users with data quality efforts
- Allows users to create custom reports at various levels to check their data
 - Event Data
 - Procedure Data
 - Summary Data
 - Monthly Plan Data
 - Facility Data
 - Data Quality



Analyzing the Annual Survey

- Analysis of the annual survey in NHSN datasets are a good tool for routine data quality checks
- Survey responses found on these reports can be easily compared to across multiple survey years
- The report can accessed within NHSN Reports > Advanced Folder > Facility Level Data



Analyzing the Annual Survey (cont.)

- Select “Modify” if you’d like to edit the survey line list
- Select “Modify” to select specific survey questions/variables to be displayed
- Please view the resource guide “How to Modify a Line List” for more instruction on how to save and export your reports

Modify "Line Listing - Hospital Survey (2015 and later)"

Show descriptive variable names (Print List) Analysis Data Set: HospSurveyV5 Type: Line Listing Data Set Generated On: 02/05/2018 13:18:00

Title/Format Time Period Filters **Display Variables** Sort Variables Display Options

Variables that will be included in the output

Display Variables:

Available Variables:

- mrsaScreenOthSfy
- mrsaScreenPat
- noAutoTestingCAND
- numEpiFTE
- numOtherBeds
- OID
- paComment
- paPrimary
- paPrimaryDesc
- paSecondary
- paSecondaryDesc
- recMDROStatusEst
- recMDROStatusEstDesc
- saComment
- saPrimary

Selected Variables:

- orgID
- surveyYear
- name
- facOwnerDesc
- medAff
- medTypeDesc
- numBeds
- numICUBeds
- numAdmits
- numPatDays
- numICP
- totHrSurv
- totHrOth

Highlight any desired variables and move them to the right box "Selected Variables" to be included in the output

▶ Run Save... Export... Close

Analyzing the Annual Survey (cont.)

- Output will be ordered by survey year and will include all completed surveys
- Information found on the report can help explain potential data quality issues found in other analysis (e.g. Medical School Affiliation Change)

National Healthcare Safety Network

Line Listing - Hospital Survey (2015 and later)

As of: February 5, 2018 at 1:49 PM

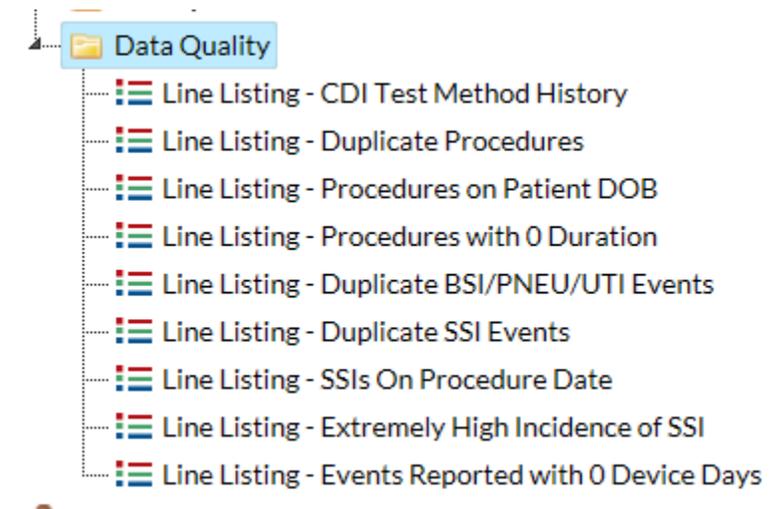
Date Range: All HOSPSURVEYV5

orgID	surveyYear	name	facOwnerDesc	medAff	medTypeDesc	numBeds	numICUBeds	numAdmits	numPatDays	numICP	totHrSurv	totHrOth
10376	2015	Inter-Community Mem Hospital	GOV - Government	Y	M - Major	120	20	2000	30000	1.00	20	20
10376	2016	Inter-Community Mem Hospital	NP - Not for profit, including church	Y	U - Undergraduate	25	5	700	2700	1.00	10	10
10376	2017	Inter-Community Mem Hospital	NP - Not for profit, including church	N		25	20	700	2700	1.00	10	40

- Surveys can always be edited and saved in NHSN if a correction needs to be made

Advanced Folder – Data Quality Folder

- Line lists:
 - CDI Test Method History
 - Duplicate Procedures
 - Procedures on Patient DOB
 - Procedures with 0 Duration
 - Duplicate BSI/PNEU/UTI Events
 - Duplicate SSI Events
 - SSIs on Procedure Date
 - Extremely High Incidence of SSI
 - Events Reports with 0 Device Days



Using Advanced Folder: Scenario

- Scenario: You want to confirm that COLO and HYST Inpatient and Outpatient Procedures were selected for 2018 Q1 data on your monthly reporting plans.

Using Advanced Folder: Scenario

There are two ways
you can check this.



Using Advanced Folder: Scenario

March	2018	10018
February	2018	10018
January	2018	10018

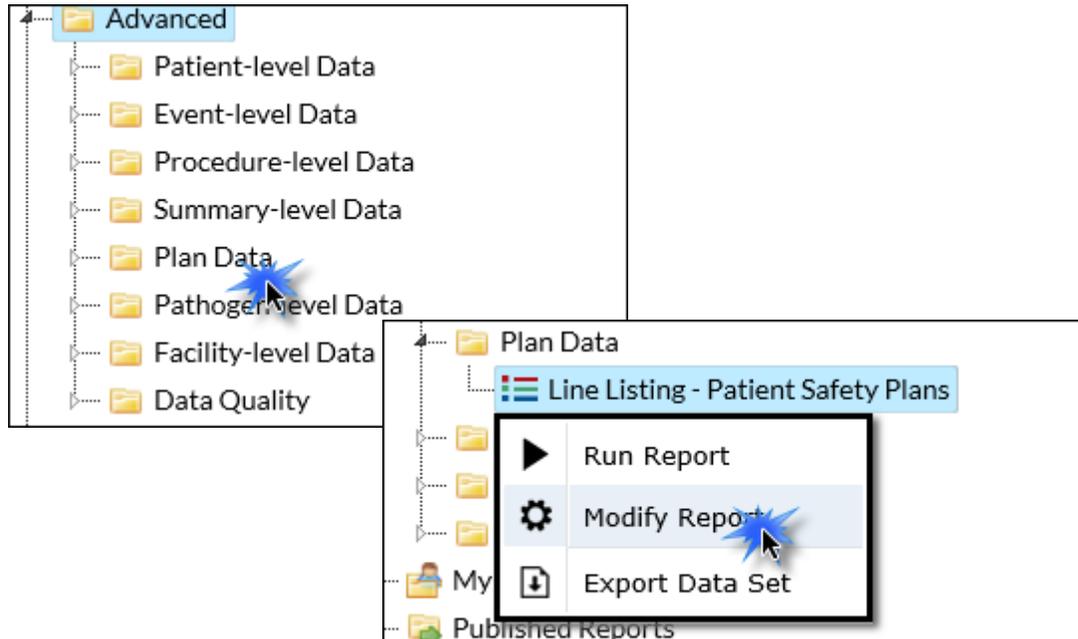
Page 1 of 1 View 1 - 12 of 12

Add **Back**

1. Review each monthly reporting plan.



Using Advanced Folder: Scenario



2. Use the Advanced Folder to run a Patient Safety Plan line list



Using Advanced Folder: Scenario

Title/Format	Time Period	Filters	Display Variables	Sort Variables	Display Options
T					
Create Date	Beginning	Ending			
Last Modified					
Plan YM	01/2018	03/2018	<input type="button" value="Clear Time Period"/>		
<input type="checkbox"/> Enter Date variable/Time period at the time you click the Run button					

2. Use the Advanced Folder to run a Patient Safety Plan line list



Using Advanced Folder: Scenario

Title/Format **Time Period** **Filters** **Display Variables** **Sort Variables** **Display Options**

Additional Filters:

AND OR

AND OR

Procedure Code

2. Use the Advanced Folder to run a Patient Safety Plan line list



Using Advanced Folder: Scenario

Advanced Folder Configuration Interface

Navigation tabs: Title/Format, Time Period, Filters, **Display Variables**, Sort Variables, Display Options

Display Variables:

Available Variables:		Selected Variables:
0 CLIP Events Reported	All	Report Plan ID
AR Option Plan?	Selected	Facility Org ID
AST Eligible~MRSA	Selected	Plan YM
AST Eligible~MSSA	Selected	Procedure Code
AST Eligible~VRE	All	Procedure Code Description
AST Timing~MRSA		Setting
AST Timing~MSSA		SSI Plan?
AST Timing~VRE		Create Date
AU Option Plan?		User ID for Data Entry
CAU Plan?		Last Modified
CDC Location		Modify User ID
CLAB Plan?		
CLIP In-Plan		
CMS Certification Number		
DA Seq		

2. Use the Advanced Folder to run a Patient Safety Plan line list



Using Advanced Folder: Scenario

Report Plan ID	Facility Org ID	Plan YM	Procedure Code	Procedure Code Description	Setting	SSI Plan?	Create Date	User ID for Data Entry	Last Modified	Modify User ID
5212	10018	2018M01	COLO	COLO - Colon surgery	IN	Y	26JUN17:14:04	1797	11MAR19:14:28	8240
5212	10018	2018M01	HYST	HYST - Abdominal hysterectomy	IN	Y	26JUN17:14:04	1797	11MAR19:14:28	8240
5212	10018	2018M01	HYST	HYST - Abdominal hysterectomy	OUT	Y	26JUN17:14:04	1797	11MAR19:14:28	8240
5448	10018	2018M02	COLO	COLO - Colon surgery	IN	Y	01MAR18:11:31	2534	06MAR19:09:36	8240
5448	10018	2018M02	COLO	COLO - Colon surgery	OUT	Y	01MAR18:11:31	2534	06MAR19:09:36	8240
5448	10018	2018M02	HYST	HYST - Abdominal hysterectomy	IN	Y	01MAR18:11:31	2534	06MAR19:09:36	8240
5448	10018	2018M02	HYST	HYST - Abdominal hysterectomy	OUT	Y	01MAR18:11:31	2534	06MAR19:09:36	8240

Missing COLO
procedure for OUT
in January



Using Advanced Folder: Scenario

Report Plan ID	Facility Org ID	Plan YM	Procedure Code	Procedure Code Description	Setting	SSI Plan?	Create Date	User ID for Data Entry	Last Modified	Modify User ID
5212	10018	2018M01	COLO	COLO - Colon surgery	IN	Y	26JUN17:14:04	1797	11MAR19:14:28	8240
5212	10018	2018M01	HYST	HYST - Abdominal hysterectomy	IN	Y	26JUN17:14:04	1797	11MAR19:14:28	8240
5212	10018	2018M01	HYST	HYST - Abdominal hysterectomy	OUT	Y	26JUN17:14:04	1797	11MAR19:14:28	8240
5448	10018	2018M02	COLO	COLO - Colon surgery	IN	Y	01MAR18:11:31	2534	06MAR19:09:36	8240
5448	10018	2018M02	COLO	COLO - Colon surgery	OUT	Y	01MAR18:11:31	2534	06MAR19:09:36	8240
5448	10018	2018M02	HYST	HYST - Abdominal hysterectomy	IN	Y	01MAR18:11:31	2534	06MAR19:09:36	8240
5448	10018	2018M02	HYST	HYST - Abdominal hysterectomy	OUT	Y	01MAR18:11:31	2534	06MAR19:09:36	8240

Only two months
worth of data in this
table



Using Advanced Folder: Scenario

Report Plan ID	Facility Org ID	Plan YM	Procedure Code	Procedure Code Description	Setting	SSI Plan?	Create Date	User ID for Data Entry	Last Modified	Modify User ID
5212	10018	2018M01	COLO	COLO - Colon surgery	IN	Y	26JUN17:14:04	1797	11MAR19:14:28	8240
5212	10018	2018M01	HYST	HYST - Abdominal hysterectomy	IN	Y	26JUN17:14:04	1797	11MAR19:14:28	8240
5212	10018	2018M01	HYST	HYST - Abdominal hysterectomy	OUT	Y	26JUN17:14:04	1797	11MAR19:14:28	8240
5448	10018	2018M02	COLO	COLO - Colon surgery	IN	Y	01MAR18:11:31	2534	06MAR19:09:36	8240
5448	10018	2018M02	COLO	COLO - Colon surgery	OUT	Y	01MAR18:11:31	2534	06MAR19:09:36	8240
5448	10018	2018M02	HYST	HYST - Abdominal hysterectomy	IN	Y	01MAR18:11:31	2534	06MAR19:09:36	8240
5448	10018	2018M02	HYST	HYST - Abdominal hysterectomy	OUT	Y	01MAR18:11:31	2534	06MAR19:09:36	8240

Comparing the Create Date and Last Modified variable can help identify if the plan was changed



Data Quality with NHSN

- Use the NHSN guide to the SIR to identify important factors in your facility's data that can impact SIRs
- Work with staff to develop a list of routine checks that you can perform on a monthly, quarterly, and/or annual basis
- Modify and save NHSN reports to help expedite and organize your processes

Additional Resources

- Data Entry and Analysis Training
<http://www.cdc.gov/nhsn/training/analysis/index.html>
- NHSN SIR Guide
<https://www.cdc.gov/nhsn/pdfs/ps-analysis-resources/nhsn-sir-guide.pdf>
- 2015 Rebaseline Page
<https://www.cdc.gov/nhsn/2015rebaseline/index.html>
- How to View Create & Modify Dates within NHSN
<http://www.cdc.gov/nhsn/pdfs/analysis/how2view-create-modify-dates-in-nhsn.pdf>
- How to Modify a Report
<https://www.cdc.gov/nhsn/pdfs/ps-analysis-resources/howtomodifyreport.pdf>
- How to Run Analysis on Custom Fields
<https://www.cdc.gov/nhsn/pdfs/ps-analysis-resources/customfields.pdf>