Patient Safety Component – Surgical Site Infections (PSC - SSIs)

How to Analyze Custom Procedure and Events

NHSN Acute Care Analytics Team

Division of Healthcare Quality Promotion, CDC

Goals for Today

- After the completion of this training, the PS user will be able to:
  - Identify the reports available for data analysis of custom procedures and events
  - Perform analysis of procedure and SSI event data using the custom reports
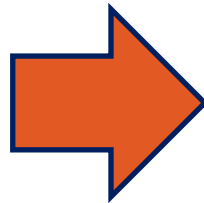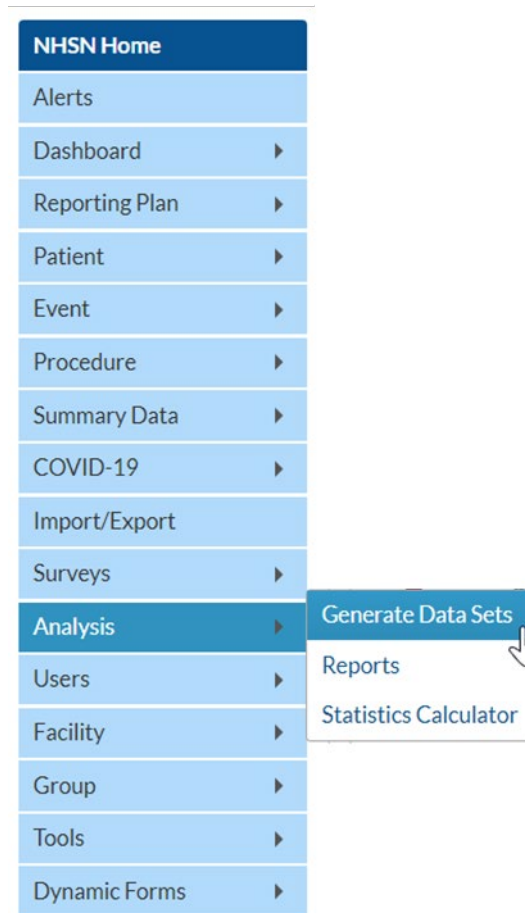 - Review the analysis output
  - Save custom analysis reports

This Quick Learn is part 2 of a series on creating and analyzing custom procedures and events in the NHSN application

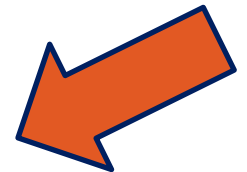# Custom Procedure, Events and Fields

- NHSN custom data tools are surveillance resources that allow a facility to tailor its data collections needs
  - Use of these tools is **optional**
  - Custom procedures and events are off-plan reporting
  - Not benchmarking available for custom created procedures
  - SIRS can not be calculated

Running Analysis Reports in PSC

- Before running any analysis reports for NHSN component, make sure your data set is current, and generate a new data set if needed.

- The guide for generating data sets can be found at – [Generate Datasets_PSC (cdc.gov)](#)

Accessing PSC Analysis Reports in NHSN

- Each **Report** option will have a drop-down menu for selection of specific report types
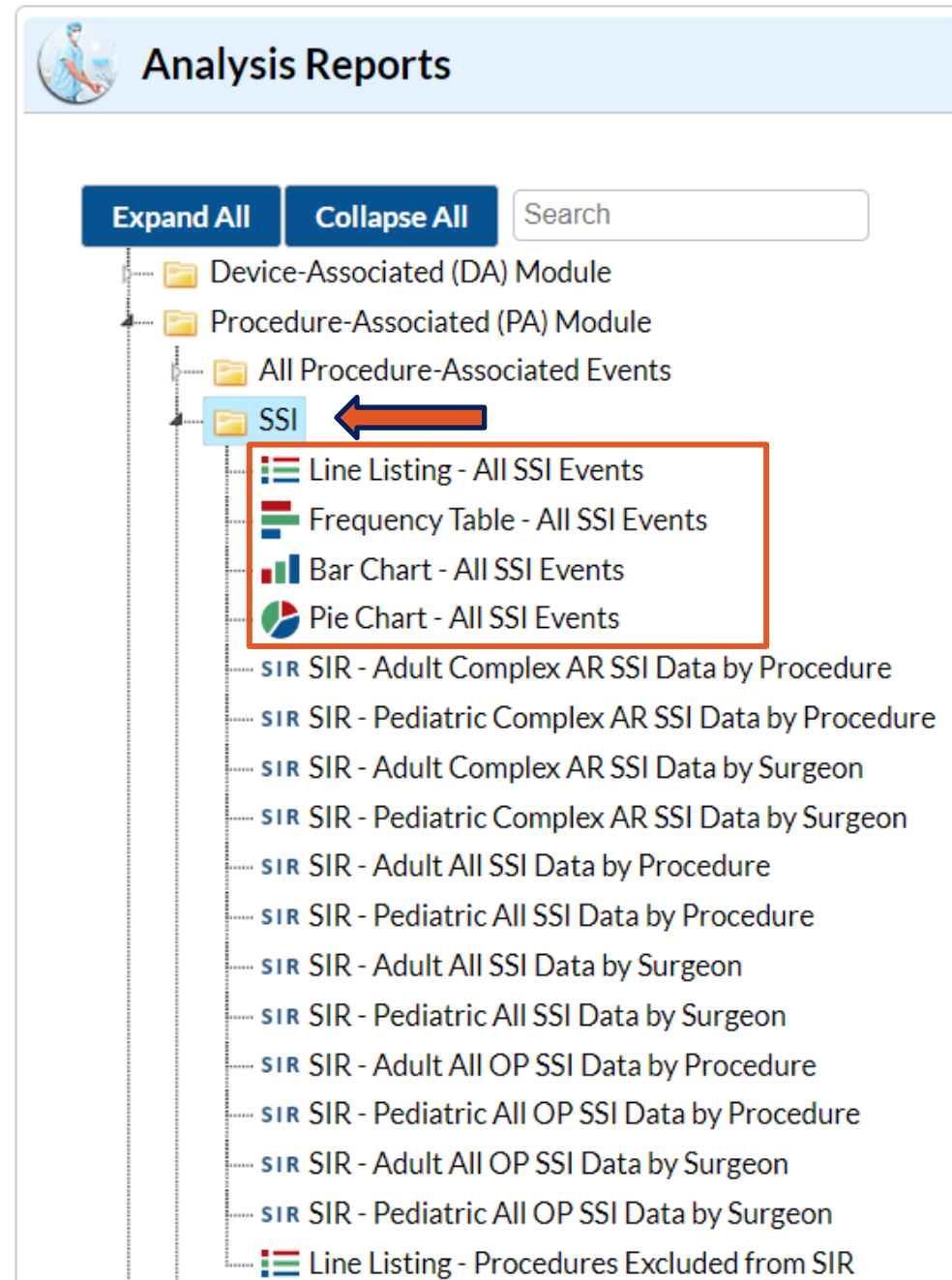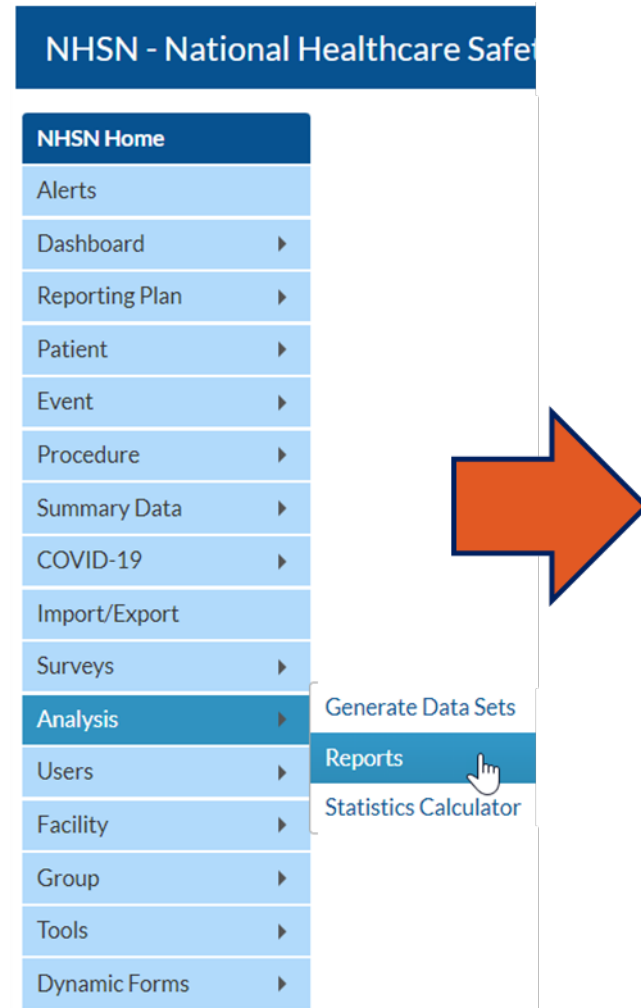
Additional Analysis Reports

- Additional reports can allow you to create line listings, frequency tables, and graphs based on report type

- You can also create custom reports to save as a template for future use

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
- Baseline Set 2
- Advanced
  - Patient-level Data
  - Event-level Data
  - Procedure-level Data
  - Summary-level Data
  - Plan Data
  - Pathogen-level Data
  - Facility-level Data
  - Vendor Information
  - Data Quality
  - Historical COVID-19 Module Reports
  - Custom Reports
- My Custom Reports
- Published Reports

Scenario No.1

- The health department has reported in increase in the incidence of Bladder cancer in the most recent cancer report for the state. Facility A wants to see how many Radical Cystectomy (RC) procedures the hospital performed since monitoring of the procedure started.

- How can you find this information?
  - Create a custom report using the procedures data set
  - All the report types will help you answer this question
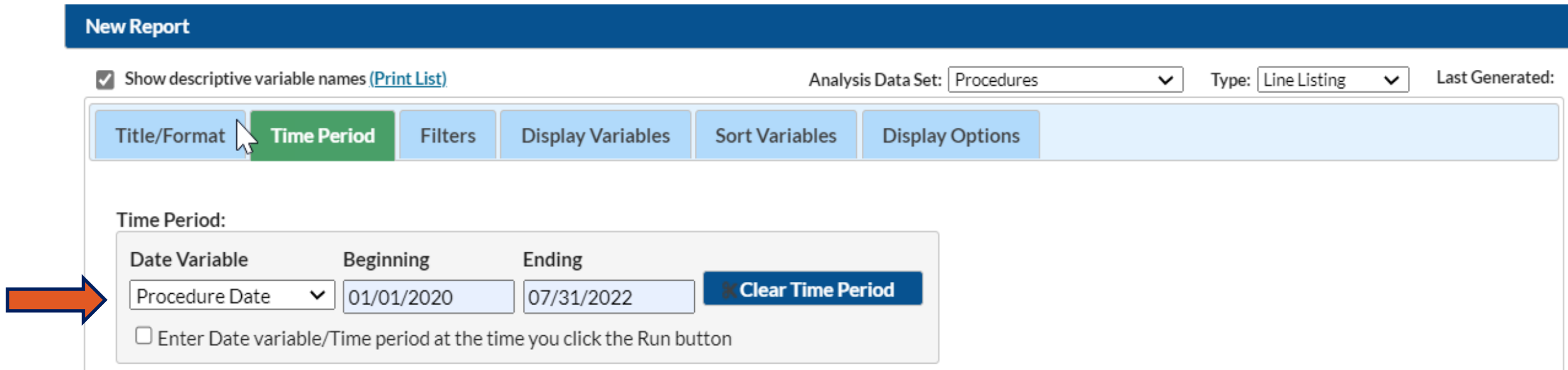
How to modify a Report: How to Modify a Report (cdc.gov)

Example No. 1 – Modify the Report Time Period

- Time period July 2020 through July 2022 (two years of data)

- Date variable: Search by procedure date because *procedure carries the risk of infection*

Example No. 1 – Add a Procedure Code Filter

- The NHSN application allows the user to filter on one or more variables to with in the analysis data set.

- For this example, the procedure data set is filtered for "CYST" procedures only.

Example No. 1 - Line Listing Report Output

- Provides a list of all CYST procedures
  - Several variables can be added to the report based on user preference

National Healthcare Safety Network
Procedures
As of: August 29, 2022 at 12:01 PM
Date Range: PROCEDURES procDate 01/01/2020 to 07/31/2022

Procedure Code=CYST

Facility Org ID	Patient ID	Procedure Date	Procedure Code	Procedure Code Description	Sex	Age on Proc Date
10018	MD-11000	02/24/2021	CYST	CYST	M	65
10018	MD-15000	07/05/2020	CYST	CYST	M	74
10018	MD-23000	05/16/2021	CYST	CYST	M	72
10018	MD-25000	10/11/2020	CYST	CYST	M	64
10018	MD-2000	11/02/2020	CYST	CYST	M	66
10018	MD-3000	07/21/2022	CYST	CYST	M	67
10018	MD-5000	12/18/2021	CYST	CYST	M	64
10018	MD-6000	09/12/2020	CYST	CYST	M	50
10018	MD-16000	06/17/2022	CYST	CYST	M	76
10018	MD-21000	07/08/2020	CYST	CYST	M	70
10018	MD-9000	02/15/2022	CYST	CYST	M	61
10018	MD-10000	11/14/2021	CYST	CYST	M	81
10018	MD-12000	10/29/2020	CYST	CYST	M	51
10018	MD-13000	03/28/2022	CYST	CYST	M	67
10018	MD-18000	08/02/2021	CYST	CYST	M	74

Example No. 1 – Frequency Table

- Provides a summary of the CYST procedures based on user input
  - This provides the number of CYST procedures preformed in each year (2020 – 2022)

National Healthcare Safety Network
Procedures
As of: August 29, 2022 at 12:13 PM
Date Range: PROCEDURES procDateYr 2020 to 2022
if (((procCode = "CYST")))

Sex =F

Frequency	Table of procDateYr by procCode		
		procCode	
	procDateYr	CYST	Total
	2020	3	3
	2021	16	16
	2022	6	6
	Total	25	25

Sex =M

Frequency	Table of procDateYr by procCode		
		procCode	
	procDateYr	CYST	Total
	2020	6	6
	2021	9	9
	2022	6	6
	Total	21	21

Quick Reference Guide on Frequency Tables - https://www.cdc.gov/nhsn/pdfs/ps-analysis-resources/frequencytables.pdf 11

Example No. 1 – Bar Chart

- Provides a graphic summary of the CYST procedures based on user input
  - This provides a bar chart summary of male and female CYST procedures by quarter (2020 – 2022)

Quick Reference Guide for Bar Charts - https://www.cdc.gov/nhsn/pdfs/ps-analysis-resources/BarCharts.pdf
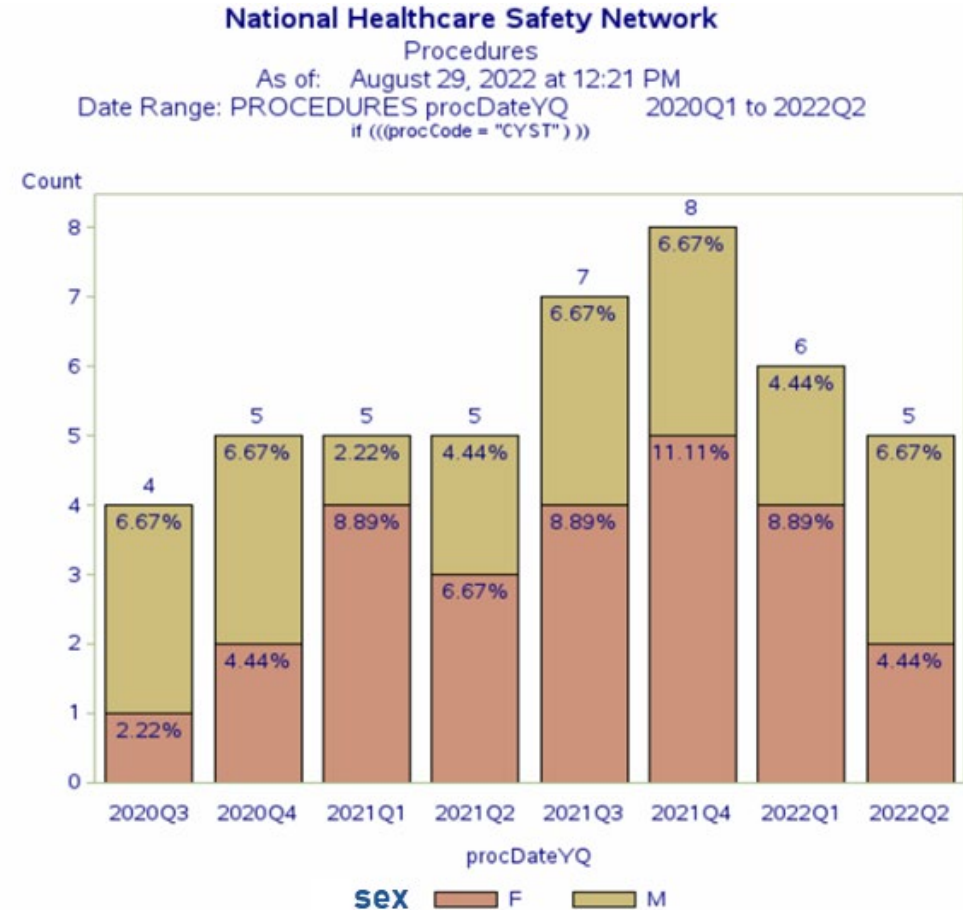
Saving a Custom Report

Every report can be customized and saved for future use by clicking on the Save button

Scenario No.2

- After reviewing your data for CYST procedures, you want to know how many has an SSI event linked to the procedure.

- How can you find this information?
  - Create a custom report using the SSI_Events data set
  - All the report types can help you answer this question

How to modify a Report: How to Modify a Report (cdc.gov)

Example No. 2 - Line Listing Report Output

- Provides a list of all patients that had a CYST procedure linked with an SSI event
  - Several variables can be added to the report based on user preference

National Healthcare Safety Network

SSI_Events

As of: August 29, 2022 at 1:18 PM
Date Range: SSI_EVENTS procDateYr 2020 to 2022
if (((procCode = "CYST")))

Procedure Code=CYST

Patient ID	sex	Event ID	Procedure Code	Procedure Year	Procedure Date	Event Date	Days: Procedure to Event	Event Type	Abscess?	Pain or tenderness?
MD-12000	M	111555	CYST	2020	10/29/2020	11/15/2020	18	SSI	Y	Y
MD-24000	M	111556	CYST	2021	07/09/2021	08/01/2021	24	SSI	Y	Y
MD-5000	M	111554	CYST	2021	12/18/2021	01/04/2022	18	SSI	Y	Y
MD-40000	F	111557	CYST	2022	01/28/2022	02/11/2022	15	SSI	Y	Y
MD-50000	F	111558	CYST	2022	06/21/2022	07/05/2022	15	SSI	Y	Y

In Summary

- Reports such as line listings, frequency tables and graphical charts can be used to analyze patterns in the data

- Analysis reports to provide insight into trends for prevention initiatives

Thank you for viewing this 2022 NHSN Quick Learn presentation!

- Please submit any questions about the content of the presentation to NHSN@cdc.gov

  Additional NHSN training resources:
  https://www.cdc.gov/nhsn/training/

  Training Questions – NHSNTrain@cdc.gov