

**California Department of Public Health
Surgical Site Infection (SSI)
Quality Assurance/Quality Control Report**

Using NHSN Analysis to Review and Correct “Complex Events”

Complex A/R Events are SSIs that are deep incisional SSI or organ/space SSI identified during the same hospital admission when the procedure was done or upon readmission to the hospital. To verify the numbers of “Complex Events” included in your CDPH QA/QC report, you should run your own report using NHSN Analysis features. In this document, we will demonstrate how to locate and run a frequency table of events so that you can correct any errors.

SAMPLE: SSI QA/QC Report sent to a hospital by CDPH

PROCEDURE CODE	PROCEDURE DESCRIPTION	MONTHS IN PLAN	MONTHS REPORTED	COMPLEX EVENTS	COMPLETE PROCEDURES	EXCLUDED PROCEDURES	TOTAL PROCEDURES
FUSN	Spinal fusion	6	6	1	129	36	165
HPRO	Hip prosthesis	6	6	0	146	1	147
HYST	Abdominal hysterectomy	6	6	0	88	0	88
KPRO	Knee prosthesis	6	6	1	158	0	158
LAM	Laminectomy	6	6	0	108	0	108

Please note: the examples provided in this document contain screenshots from a fictitious facility with fictitious data.

For each Procedure category in your monthly Reporting Plan, if you have no Events (SSI) to report NHSN requires that you indicate that you had no Events. Here are actually two ways to locate your incomplete events. The first is when you first log onto NHSN. If you have incomplete or missing Procedure-associated events, they will be listed as an Alert in your Action Items.

NHSN Patient Safety Component Home Page

Use the Navigation bar on the left to access the features of the application.

Action items

You must complete these items.

Alerts

- You have [9](#) missing events
- You have [1](#) incomplete summary item
- You have [1](#) missing summary item
- You have [106](#) missing procedures
- You have [11](#) missing Procedure-associated events

By clicking on the “missing XX Procedure-associated events” hyperlink (in this example, the number 11), you come to a listing of the procedure categories you have in plan but have not entered any event data (SSI).

Incomplete/Missing List						
Incomplete Events	Missing Events	Incomplete Summary Data	Missing Summary Data	Incomplete Procedures	Missing Procedures	Missing Procedure-associated Events
						Print this report Display All
First Previous Next Last						Displaying 1 - 10 of 11
Month/Year	Procedures	SSI	Report No Events	Post-procedure PNEU	Report No Events	
03/2011	COLO - Colon surgery	IN - Inpatient	<input type="checkbox"/>		<input type="checkbox"/>	
04/2011	HPRO - Hip prosthesis	IN - Inpatient	<input type="checkbox"/>		<input type="checkbox"/>	
05/2011	HPRO - Hip prosthesis	IN - Inpatient	<input type="checkbox"/>		<input type="checkbox"/>	
08/2011	AAA - Abdominal aortic aneurysm repair	IN - Inpatient	<input type="checkbox"/>		<input type="checkbox"/>	
08/2011	CBGB/CBGC - Coronary artery bypass graft	IN - Inpatient	<input type="checkbox"/>		<input type="checkbox"/>	
09/2011	COLO - Colon surgery	IN - Inpatient	<input type="checkbox"/>		<input type="checkbox"/>	
09/2011	HPRO - Hip prosthesis	IN - Inpatient	<input type="checkbox"/>		<input type="checkbox"/>	
10/2011	COLO - Colon surgery	IN - Inpatient	<input type="checkbox"/>		<input type="checkbox"/>	
11/2011	COLO - Colon surgery	IN - Inpatient	<input type="checkbox"/>		<input type="checkbox"/>	

If you have no SSI Events associated with a Procedure for a given month, check the box “Report no events.” This action will remove the Alert from your NHSN home page.

As ‘a double check’ to verify that all your event records are complete and will be included in your hospital SSI SIR calculations, always perform the following analysis.

Always begin by generating a data set prior to using the Analysis features to ensure all data are current.

1. In the NHSN Portal, on the left blue navigation bar, click Analysis → Output Options → Procedure-Associated Module → SSI → CDC-Defined Output → Frequency Table – All SSI Events → Modify

Alerts

Reporting Plan

Patient

Event

Procedure

Summary Data

Import/Export

1 Analysis

2 [Generate Data Sets](#)

2 [Output Options](#)

[Statistics Calculator](#)

Surveys

Users

Facility

Group

Log Out

Patient Safety Component

Analysis Output Options

Expand All
Collapse All

- 3 Device-Associated Module
- 3 Procedure-Associated Module
 - All Procedure-Associated Events
 - 4 SSI
 - 5 CDC Defined Output
 - 6 Line Listing - All SSI Events Run Modify
 - 6 Frequency Table - All SSI Events Run Modify 7
 - Bar Chart - All SSI Events Run Modify
 - Pie Chart - All SSI Events Run Modify
 - SIR - Complex AR SSI Data by Procedure Run Modify
 - SIR - Complex AR SSI Data by Surgeon Run Modify
 - SIR - In-plan Complex AR SSI data by Procedure Run Modify
 - SIR - In-plan Complex AR SSI data by Surgeon Run Modify
 - SIR - All SSI Data by Procedure Run Modify

Click in Order:

1. Analysis
2. Output Options
3. Procedure-Associated Module
4. SSI
5. CDC Defined Output
6. Frequency Table – All SSI Events
7. Modify

2. After clicking “Modify”,
 - Give your Output a name if you wish.
 - Select output format. “HTML” format is the default and looks the nicest. However, select “CSV” format if you plan to export your analysis to an Excel spreadsheet.
 - Check the box Use Variable Labels for ease of reading column headers.
 - Choose your time period
 - Date Variable: procDateYM
 - Beginning: 01/2012
 - Ending: 06/2012

Frequency Table

Analysis Data Set: SSI_Events Export Analysis Data Set

Modify Attributes of the Output:

Last Modified On: **09/17/2012**

Output Type: **Frequency Table**

Output Name:

Output Title:

Select output format:

Output Format:

Use Variable Labels

Select a time period or Leave Blank for Cumulative Time Period:

Date Variable	Beginning	Ending	
<input type="text" value="procDateYM"/>	<input type="text" value="01/2012"/>	<input type="text" value="06/2012"/>	Clear Time Period

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

- Select a Date Variable. Since we are referencing a short time period, months (procDateYM) would be best.
- Use 01/2012 and 06/2012 for your beginning and ending dates

3. Scroll down to "Specify Other Selection Criteria"
 - Column 1: Select "outpatient", chose "= N" as a modifier
 - Column 2: Select "spcEvent", chose ~IN, and DIS,SIP, and SIS

Specify Other Selection Criteria:

[Show Criteria](#) [Column +](#) [Row +](#) [Clear Criteria](#)

outpatient	spcEvent	
= N	NOTIN (DIS, SIP, SIS)	

[Add Column+/-](#)

<u>Variable</u>	<u>Operator</u>	<u>Value(s)</u>
spcEvent	~in	DIS - Deep Incisional Secondary
		SIP - Superficial Incisional Primary
		SIS - Superficial Incisional Secondary

4. Scroll down to “Other Options”
 - Change ‘Row’ to ‘procCode’
 - Change ‘Column’ to ‘procDateYr’
5. Select “Run”

Other Options: [Print Variable Reference List](#)

Selected Variables to include in output:

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Row: Column: Page by:

Frequency Table Options:

- Table percent - Display cell frequency divided by table total
- Missing - Include observations with missing values
- Print the table in list form

Two-Way Table Options:

- Row Percent - Display cell frequency divided by row total
- Column Percent - Display cell frequency divided by column total
- Expected - Expected cell frequencies
- Chi-square - Test for independence

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Run Save As Reset Back Export Output Data Set

Per CA statute, required procedure categories listed in All Facilities Letter (AFL) 11-32 performed in your hospital *must be included in your NHSN monthly reporting plans*. For all AFL 11-32 designated procedure categories, per SB 1058, CDPH is only required to publicly report deep incisional and organ/space surgical site infections. In NHSN, “Complex A/R” analysis options include “*only inpatient procedures and Deep Incisional Primary and Organ/Space SSIs that were identified during admission (A) or readmission to your facility (R).*”

An example of the NHSN Analysis results (output) is shown below.

**National Healthcare Safety Network
Frequency Table for All Surgical Site Infection Events
Date Range: SSI_EVENTS procDateYM 2012M01 to 2012M06**

Frequency	Table of procCode by procDateYr		
	procCode	procDateYr	
		2012	Total
	FUSN	1	1
	KPRO	1	1
	Total	2	2

- Now, compare the NHSN report to the number of complex Events shown on your CDPH QA/QC report.

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FINAL NOTES:

CDPH requires reporting of surgical procedure data and SSIs “in plan.”

The bottom of your QA/QC report has the date the data were downloaded from NHSN. If you have modified your data (i.e. added or deleted SSI Events) since this date, your NHSN report could be different than the QA/QC report.

DO NOT CITE OR DISTRIBUTE: These tables contain DRAFT data which are not yet substantiated. On September 17, 2012 these data were downloaded from NHSN. If you have any data related questions, please feel free to email HAI_DATA@cdph.ca.gov.