Understanding Your Surgical Site Infections (SSIs) Standardized Infection Ratio (SIR) Using the Patient Safety Component

Part Two

Troubleshooting Your SSI SIR

NHSN Acute Care Analytics Team
Surveillance Branch
Division of Healthcare Quality Promotion, CDC

2021 Mini-Learning Video Series

Learner Objectives

After viewing this Quick Learn, you will be able to

- Generate specific line listing analysis reports
- Identify which procedures are excluded from your SIR denominator and the reasons for exclusion
- Determine which events are excluded from your SIR numerator

Important Note

- Topics not covered in this Quick Learn
  - Introduction to the SSI SIR, the SSI SIR models and numerator inclusion criteria, the SIR denominator universal exclusion criteria and how to generate an SIR report
    - See Understanding Your SSI SIR Part One Quick Learn under training resources
  - SIR methodology (see the SSI protocol guide: https://www.cdc.gov/nhsn/pdfs/pscmanual/9pscssicurrent.pdf)
- In-depth explanation of the statistical SIR (see SIR Guide: https://www.cdc.gov/nhsn/pdfs/ps-analysis-resources/nhsn-sir-guide.pdf)

Demonstrating How to Troubleshoot Your SSI SIR

Troubleshooting SSI SIR

Troubleshooting the SSI SIR is an important step in understanding your SSI SIR.

Not all procedures are included in the SSI SIR, due to inclusion and exclusion criteria explained in part one of this series.

Next, Case Scenario

- Generate a report
- Interpret the generated report

Case Scenario

Facility

- 2019Q2
- 31 in-plan, in-patient COLOs
- 16 HYSTs
- Adults 18 years and older
- 1 in-plan, in-patient COLO event from the same time period

Complex 30-day SSI SIR Report

- Included:
  - 19 COLOs
  - 10 HYSTs
- Excluded:
  - 12 COLOs
  - 6 HYSTs

Next, Determine the reasons for the exclusion.

Troubleshooting Step 1:
Review of Generated SIR Report

Complex 30-Day SSI Data SIR Report

National Healthcare Safety Network

SIR for Complex 30-Day SSI Data for Hospital IQR by Procedure (2015 Baseline) - By OrgID/ProcCode

As of: April 27, 2021 at 1:00 PM

Date Range: BS2_SIR_CMPX30DSSIPROC summaryYQ 2019Q2 to 2019Q2

Facility Org ID=10000 Type of Affiliation=M

Facility OrgID	CMS Certification Number	Procedure Code	Procedure Count	SummaryYr/ Qtr	infCountComplex30d	numPredComplex30d	SIRComplex30d	SIRComplex30d_pval
10000	31C0001043	COLO	19	2019Q2	0	0.465	.	.
10000	31C0001043	HYST	10	2019Q2	0	0.07	.	.

National Healthcare Safety Network

Incomplete Procedures not Included in SIR

As of: April 27, 2021 at 1:00 PM

Date Range: BS2_SIR_CMPX30DSSIPROC summaryYQ 2019Q2 to 2019Q2

Facility Org ID=10000 Type of Affiliation=M

Facility OrgID	CMS Certification Number	Procedure Code	summaryYQ	procCount	infCountComplex30d
10000	31C0001043	COLO	2019Q2	12	1
10000	31C0001043	HYST	2019Q2	6	0

1. Includes in-plan, inpatient COLO and HYST procedures in patients >=18 years of age.
2. The SIR is only calculated if numPred is >= 1. Lower bound of 95% Confidence Interval only calculated if infC
3. The number of predicted events is calculated based on 2015 national aggregate data.
COLOs are risk adjusted for gender, age, ASA, BMI, diabetes, closure, and HOSP-ONC. HYSTs are risk adju
4. Includes SSIs with an event date within 30 days of the procedure date.
5. Excludes all Superficial Incisional SSIs and Deep Incisional Secondary (DIS) SSIs.
6. Excludes SSIs reported as 'present at time of surgery' (PATOS).
7. Includes procedures and associated SSIs that are reported with either primary or other than primary closure t
Source of aggregate data: 2015 NHSN SSI Data

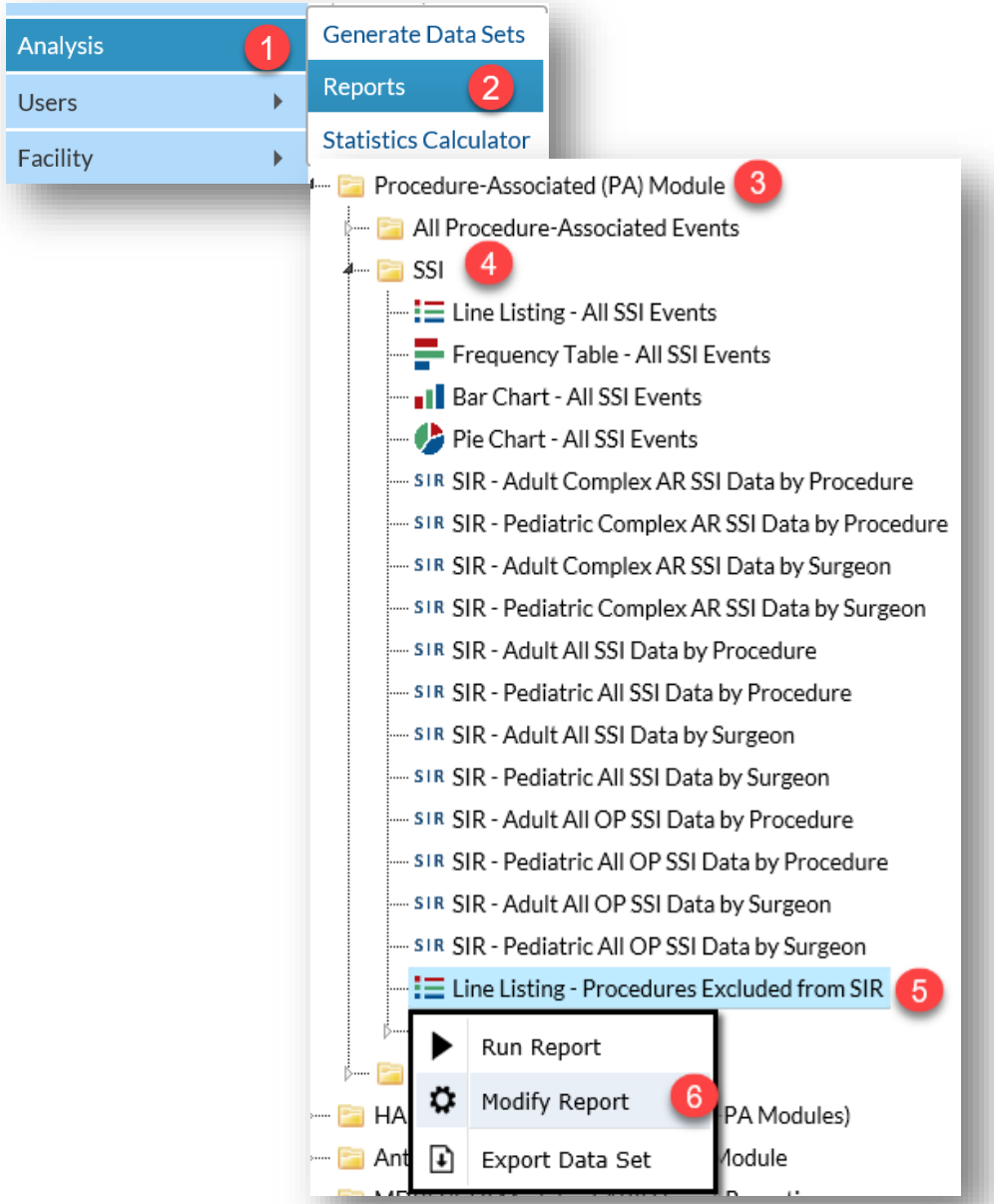
Data contained in this report were last generated on April 23, 2021 at 10:56 AM to include data beginning January 2018 through April 2021.

Troubleshooting Step 2: Generate and Interpret Line Listing – Procedures Excluded from SIR

Line Listing- Procedures Excluded from SSI SIR

Access 'Line Listing –Procedures Excluded from SIR' analysis reports in NHSN

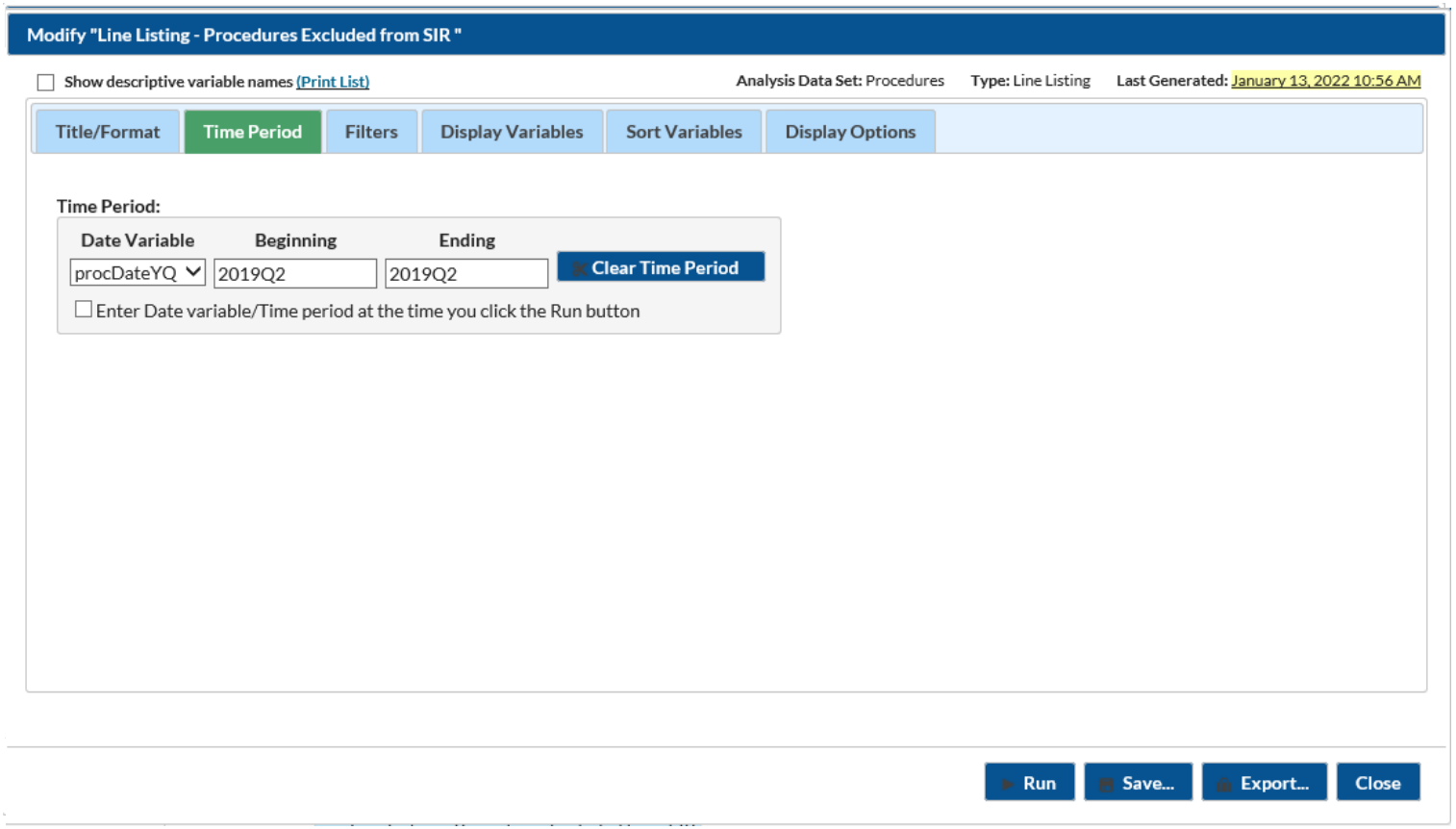
1. Select analysis on left-hand navigation bar
2. Select Reports
3. Click Procedure-associated Module folder
4. Click SSI subfolder
5. Click Line Listing – **Procedures Excluded from SIR**
6. Select Modify Report



Line Listing- Procedures Excluded from SSI SIR

Modify Report

1. Select **Time Period** tab and input 2019 Q2 as the begin and end dates
2. Apply Filters to the report to limit output to *proccode* in **COLO, HYST**
3. Click Display Variables tab to select variables.



Line Listing- Procedures Excluded from SSI SIR

Modify Reports: Overview of Display Variables Tab

Modify "Line Listing - Procedures Excluded from SIR "

Show descriptive variable names (Print List)

Set: Procedures Type: Line Listing Last Generated: January 10, 2022 3:13 PM

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

Display Variables:

Available Variables:

ageAtProc
all_incomplete
anesthesia
approach
approachDesc
asa
asaDesc

All
Selected
Selected
All

Selected Variables:

procDate
dob
gender
procDurationHr
procDurationMin
exclMissingVarInd
exclMissingVarList
exclDurThresholdInd
exclAgeGT109Ind
exclOutpatientInd
exclGenderOth
exclInvalidJointRep
exclBMIThresholdI
exclude_ssi
excluded

Up
Down
Undo

Universal Exclusion Criteria variables are preceded by 'excl'. List of exclusion and description are available in the quick reference guide that details how to determine excluded procedures, linked on resources slide.

IMPORTANT NOTE: The variable, "excluded_ssi" is only used to determine excluded SSIs from the SSI SIR in the 2006-2008 baseline. The excluded_ssi is set to Y if the procedure closure is 'OTH' or the record is excluded for any of the exclusion criteria then exclude_ssi='Y'; else exclude_ssi='N';. This means procedure associated to the SSI is also excluded.

Run | Save... | Export... | Close

Line Listing- Procedures Excluded from SSI SIR

National Healthcare Safety Network
Line Listing for Procedures Excluded from SSI SIR (2015 Baseline)
As of: April 27, 2021 at 12:12 PM
Date Range: PROCEDURES procDateYQ 2019Q2 to 2019Q2

procID	procCode	bs2_allAdult Excl	bs2_allPed Excl	bs2_cmpxAdult Excl	bs2_cmpxPed Excl	bs2_c Excl	excl Missin gVarInd	excl Missin gVarList	excl DurThreshol dInd	excl AgeGT109 Ind	excl Outpatient Ind	excl PedInd cmpx30d	excl Sex Ind	excl Invalid J ointRepHe mi	excl BMI Thres holdInd	excluded
89858	COLO	1	1	1	1		N		Y	N	N	N	N	N	N	Y
89859	COLO	1	1	1	1		N		Y	N	N	N	N	N	N	Y
89890	COLO	1	1	1	1		N		Y	N	N	N	N	N	N	Y
89891	COLO	1	1	1	1		N		Y	N	N	N	N	N	N	Y
101292	COLO	1	1	1	1		N		Y	N	N	N	N	N	N	Y
101294	COLO	1	1	1	1		N		Y	N	N	N	N	N	N	Y
101295	COLO	1	1	1	1		N		N	N	N	N	N	N	N	Y
101296	COLO	1	1	1	1		N		N	N	N	N	N	N	N	Y
101297	COLO	1	1	1	1		N		N	N	Y	N	N	N	N	Y
101300	COLO	1	1	1	1		N		N	N	Y	N	N	N	N	Y
101305	COLO	1	1	1	1		N		N	N	Y	N	N	N	N	Y
101306	COLO	1	1	1	1		N		N	N	Y	N	N	N	N	Y
89833	HYST	1	1	1	1		N		N	N	Y	N	N	N	N	Y
89834	HYST	1	1	1	1		N		N	N	Y	N	N	N	N	Y
89837	HYST	1	1	1	1		N		N	N	N	N	Y	N	N	Y
89839	HYST	1	1	1	1		N		N	N	N	N	Y	N	N	Y
89842	HYST	1	1	1	1		N		N	N	N	N	Y	N	N	Y
89846	HYST	1	1	1	1		N		N	N	N	N	Y	N	Y	Y

The following footnotes apply to the 2015 Baseline only.
1. The "Line Listing for Procedures Excluded from SSI SIR (2015 Baseline)" report contains
2. Variables preceded by excl indicate the reason for exclusion. If excl criterion is set to Y, th
3. Please review the Quick Reference Guide on Procedure Exclusion Criteria (https://www.c
4. The variable indicating procedures excluded from the CMS IQR program SIR is bs2_compx30dExcl; it applies to COLO and HYST only.

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- If an ***excl*** variable is set to ***Y***, then the procedure is universally excluded from all SSI SIR for the reason(s) indicated
- If all the ***excl*** variables are set to *N* and the variable ***excluded*** is set to ***Y***, then the procedure is linked to a ***PATOS= Yes event***, resulting in the exclusion of the procedure (and event) from the SSI SIRs

Line Listing- Procedures Excluded from SSI SIR

National Healthcare Safety Network

Line Listing for Procedures Excluded from SSI SIR (2015 Baseline)

As of: April 27, 2021 at 12:12 PM

Date Range: PROCEDURES procDateYQ 2019Q2 to 2019Q2

procID	procCode	bs2_allAdultExcl	bs2_allPedExcl	bs2_cmpxAdultExcl	bs2_cmpxPedExcl	bs2_cmpx30dExcl	procDate	dob	Sex	exclMissingVarInd	exclMissingVarList	exclDurThresholdInd	exclAgeGT109Ind	exclOutpatientInd	exclPedIndcmpx30d	exclSexInd	exclInvalidJointRepHemi	exclBMIThresholdInd	excluded
89858	COLO	1	1	1	1	1	5/5/2019	9/11/1935	M	N		Y	N	N	N	N	N	N	Y
89859	COLO	1	1	1	1	1	5/7/2019	1/13/1937	M	N		Y	N	N	N	N	N	N	Y
89890	COLO	1	1	1	1	1	6/24/2019	9/3/1946	M	N		Y	N	N	N	N	N	N	Y
89891	COLO	1	1	1	1	1	6/28/2019	4/11/1947	F	N		Y	N	N	N	N	N	N	Y
101292	COLO	1	1	1	1	1	5/11/2019	3/2/1945	F	N		Y	N	N	N	N	N	N	Y
101294	COLO	1	1	1	1	1	6/9/2019	5/18/1948	F	N		Y	N	N	N	N	N	N	Y
101295	COLO	1	1	1	1	1	6/10/2019	12/25/1950	F	N		N	N	N	N	N	N	N	Y
101296	COLO	1	1	1	1	1	6/25/2019	7/13/1951	F	N		N	N	Y	N	N	N	N	Y
101297	COLO	1	1	1	1	1	5/6/2019	1/18/1954	M	N		N	N	Y	N	N	N	N	Y
101300	COLO	1	1	1	1	1	6/10/2019	2/7/1959	F	N		N	N	Y	N	N	N	N	Y
101305	COLO	1	1	1	1	1	6/21/2019	7/29/1972	M	N		N	N	Y	N	N	N	N	Y
101306	COLO	1	1	1	1	1	6/30/2019	8/19/1974	M	N		N	N	Y	N	N	N	N	Y
89833	HYST	1	1	1	1	1	4/2/2019	9/8/1976	F	N		N	N	N	N	Y	N	N	Y
89834	HYST	1	1	1	1	1	4/3/2019	8/19/1977	F	N		N	N	N	N	Y	N	N	Y
89837	HYST	1	1	1	1	1	4/6/2019	10/7/1981	F	N		N	N	N	N	Y	N	N	Y
89839	HYST	1	1	1	1	1	4/8/2019	9/21/1983	F	N		N	N	N	N	N	N	Y	Y
89842	HYST	1	1	1	1	1	4/11/2019	4/15/1985	F	N		N	N	N	N	N	N	Y	Y
89846	HYST	1	1	1	1	1	4/15/2019	10/4/1987	F	N		N	N	N	N	N	N	Y	Y

The following footnotes apply to the 2015 Baseline only.

1. The "Line Listing for Procedures Excluded from SSI SIR (2015 Baseline)" report contains procedures excluded from one or more SIRs.
2. Variables preceded by excl indicate the reason for exclusion. If excl criterion is set to Y, then the procedure is excluded from the denominator of the related SIR.
3. Please review the Quick Reference Guide on Procedure Exclusion Criteria (https://www.cdc.gov/nhsn/pdfs/ps-analysis-resources/line-list-procedures-excluded-sir.pdf) for more information on how to determine which records are included in the SIRs.
4. The variable indicating procedures excluded from the CMS IQR program SIR is bs2_compx30dExcl; it applies to COLO and HYST only.

Data contained in this report were last generated on April 23, 2021 at 10:56 AM to include data beginning January 2018 through April 2021 .

- The highlighted COLO Procedures are excluded from the SSI SIR reports because the procedure duration meets the duration outliers of less than 5 minutes or greater than the IQR5
- The list of the IQR5 values, based on the 2015 national aggregate data, is in the SSI section of the SIR Guide

Line Listing- Procedures Excluded from SSI SIR

National Healthcare Safety Network
Line Listing for Procedures Excluded from SSI SIR (2015 Baseline)
As of: April 27, 2021 at 12:12 PM
Date Range: PROCEDURES procDateYQ 2019Q2 to 2019Q2

procID	procCode	bs2_allAdultExcl	bs2_allPedExcl	bs2_cmpxAdultExcl	bs2_cmpxPedExcl	bs2_cmpx30dExcl	procDate	dob	sex	exclMissingVarInd	exclMissingVarList	exclDurThresholdInd	exclAgeGT109Ind	exclOutpatientInd	exclPedIndcmpx30d	exclSexInd	exclInvalidJointRepHemi	exclBMIThresholdInd	excluded
89858	COLO	1	1	1	1	1	5/5/2019	9/11/1935	M	N		Y	N	N	N	N	N	N	Y
89859	COLO	1	1	1	1	1	5/7/2019	1/13/1937	M	N		Y	N	N	N	N	N	N	Y
89890	COLO	1	1	1	1	1	6/24/2019	9/3/1946	M	N		Y	N	N	N	N	N	N	Y
89891	COLO	1	1	1	1	1	6/28/2019	4/11/1947	F	N		Y	N	N	N	N	N	N	Y
101292	COLO	1	1	1	1	1	5/11/2019	3/2/1945	F	N		Y	N	N	N	N	N	N	Y
101294	COLO	1	1	1	1	1	6/9/2019	5/18/1948	F	N		Y	N	N	N	N	N	N	Y
101295	COLO	1	1	1	1	1	6/10/2019	12/25/1950	F	N		N	N	N	N	N	N	N	Y
101296	COLO	1	1	1	1	1	6/25/2019	7/13/1951	F	N		N	N	Y	N	N	N	N	Y
101297	COLO	1	1	1	1	1	5/6/2019	1/18/1954	M	N		N	N	Y	N	N	N	N	Y
101300	COLO	1	1	1	1	1	6/10/2019	2/7/1959	F	N		N	N	Y	N	N	N	N	Y
101305	COLO	1	1	1	1	1	6/21/2019	7/29/1972	M	N		N	N	Y	N	N	N	N	Y
101306	COLO	1	1	1	1	1	6/30/2019	8/19/1974	M	N		N	N	Y	N	N	N	N	Y
89833	HYST	1	1	1	1	1	4/2/2019	9/8/1976	F	N		N	N	N	N	Y	N	N	Y
89834	HYST	1	1	1	1	1	4/3/2019	8/19/1977	F	N		N	N	N	N	Y	N	N	Y
89837	HYST	1	1	1	1	1	4/6/2019	10/7/1981	F	N		N	N	N	N	Y	N	N	Y
89839	HYST	1	1	1	1	1	4/8/2019	9/21/1983	F	N		N	N	N	N	N	N	Y	Y
89842	HYST	1	1	1	1	1	4/11/2019	4/15/1985	F	N		N	N	N	N	N	N	Y	Y
89846	HYST	1	1	1	1	1	4/15/2019	10/4/1987	F	N		N	N	N	N	N	N	Y	Y

The following footnotes apply to the 2015 Baseline only.
1. The "Line Listing for Procedures Excluded from SSI SIR (2015 Baseline)" report contains procedures excluded from one or more SIRs.
2. Variables preceded by excl indicate the reason for exclusion. If excl criterion is set to Y, then the procedure is excluded from the denominator of the related SIR.
3. Please review the Quick Reference Guide on Procedure Exclusion Criteria (https://www.cdc.gov/nhsn/pdfs/ps-analysis-resources/line-list-procedures-excluded-sir.pdf) for more information on how to determine which records are included in the SIRs.
4. The variable indicating procedures excluded from the CMS IQR program SIR is bs2_compx30dExcl; it applies to COLO and HYST only.

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- The highlighted procedures are excluded from the inpatient SSI SIR reports because they are outpatient procedures
- These COLOs are included in the ***All-Adult OP SSI Data*** for outpatient procedures
- Since none of these highlighted procedures meet other universal exclusion criteria, they are included in the outpatient SSI SIR report

Line Listing- Procedures Excluded from SSI SIR

National Healthcare Safety Network
Line Listing for Procedures Excluded from SSI SIR (2015 Baseline)
As of: April 27, 2021 at 12:12 PM
Date Range: PROCEDURES procDateYQ 2019Q2 to 2019Q2

procID	procCode	bs2_allAdultExcl	bs2_allPedExcl	bs2_cmpxAdultExcl	bs2_cmpxPedExcl	bs2_cmpx30dExcl	procDate	dob	sex	exclMissingVarInd	exclMissingVarList	exclDurThresholdInd	exclAgeGT109Ind	exclOutpatientInd	exclPedIndcmpx30d	exclSexInd	exclInvalidJointRepHemi	exclBMIThresholdInd	excluded
89858	COLO	1	1	1	1	1	5/5/2019	9/11/1935	M	N		Y	N	N	N	N	N	N	Y
89859	COLO	1	1	1	1	1	5/7/2019	1/13/1937	M	N		Y	N	N	N	N	N	N	Y
89890	COLO	1	1	1	1	1	6/24/2019	9/3/1946	M	N		Y	N	N	N	N	N	N	Y
89891	COLO	1	1	1	1	1	6/28/2019	4/11/1947	F	N		Y	N	N	N	N	N	N	Y
101292	COLO	1	1	1	1	1	5/11/2019	3/2/1945	F	N		Y	N	N	N	N	N	N	Y
101294	COLO	1	1	1	1	1	6/9/2019	5/18/1948	F	N		Y	N	N	N	N	N	N	Y
101295	COLO	1	1	1	1	1	6/10/2019	12/25/1950	F	N		N	N	N	N	N	N	N	Y
101296	COLO	1	1	1	1	1	6/25/2019	7/13/1951	F	N		N	N	Y	N	N	N	N	Y
101297	COLO	1	1	1	1	1	5/6/2019	1/18/1954	M	N		N	N	Y	N	N	N	N	Y
101300	COLO	1	1	1	1	1	6/10/2019	2/7/1959	F	N		N	N	Y	N	N	N	N	Y
101305	COLO	1	1	1	1	1	6/21/2019	7/29/1972	M	N		N	N	Y	N	N	N	N	Y
101306	COLO	1	1	1	1	1	6/30/2019	8/19/1974	M	N		N	N	Y	N	N	N	N	Y
89833	HYST	1	1	1	1	1	4/2/2019	9/8/1976	F	N		N	N	N	N	Y	N	N	Y
89834	HYST	1	1	1	1	1	4/3/2019	8/19/1977	F	N		N	N	N	N	Y	N	N	Y
89837	HYST	1	1	1	1	1	4/6/2019	10/7/1981	F	N		N	N	N	N	Y	N	N	Y
89839	HYST	1	1	1	1	1	4/8/2019	9/21/1983	F	N		N	N	N	N	N	N	Y	Y
89842	HYST	1	1	1	1	1	4/11/2019	4/15/1985	F	N		N	N	N	N	N	N	Y	Y
89846	HYST	1	1	1	1	1	4/15/2019	10/4/1987	F	N		N	N	N	N	N	N	Y	Y

The following footnotes apply to the 2015 Baseline only.
1. The "Line Listing for Procedures Excluded from SSI SIR (2015 Baseline)" report contains procedures excluded from one or more SIRs.
2. Variables preceded by excl indicate the reason for exclusion. If excl criterion is set to Y, then the procedure is excluded from the denominator of the related SIR.
3. Please review the Quick Reference Guide on Procedure Exclusion Criteria (https://www.cdc.gov/nhsn/pdfs/ps-analysis-resources/line-list-procedures-excluded-sir.pdf) for more information on how to determine which records are included in the SIRs.
4. The variable indicating procedures excluded from the CMS IQR program SIR is bs2_compx30dExcl; it applies to COLO and HYST only.

Data contained in this report were last generated on April 23, 2021 at 10:56 AM to include data beginning January 2018 through April 2021 .

- The top 3 HYST procedures highlighted are excluded from the SSI SIR reports because the procedures were performed in patients with sex reported as other
- The bottom 3 HYST procedures highlighted in gold are excluded because the BMI values meets the BMI outliers of less than 12 kg/m^2 or greater than 60 kg/m^2 for adults

Line Listing- Procedures Excluded from SSI SIR

National Healthcare Safety Network
Line Listing for Procedures Excluded from SSI SIR (2015 Baseline)
As of: April 27, 2021 at 12:12 PM
Date Range: PROCEDURES procDateYQ 2019Q2 to 2019Q2

procID	procCode	bs2_allAdultExcl	bs2_allPedExcl	bs2_cmpxAdultExcl	bs2_cmpxPedExcl	bs2_cmpx30dExcl	procDate	dob	sex	exclMissingVarInd	exclMissingVarList	exclDurThresholdInd	exclAgeGT109Ind	exclOutpatientInd	exclPedIndcmpx30d	exclSexInd	exclInvalidJointRepHemi	exclBMIThresholdInd	excluded
89858	COLO	1	1	1	1	1	5/5/2019	9/11/1935	M	N		Y	N	N	N	N	N	N	Y
89859	COLO	1	1	1	1	1	5/7/2019	1/13/1937	M	N		Y	N	N	N	N	N	N	Y
89890	COLO	1	1	1	1	1	6/24/2019	9/3/1946	M	N		Y	N	N	N	N	N	N	Y
89891	COLO	1	1	1	1	1	6/28/2019	4/11/1947	F	N		Y	N	N	N	N	N	N	Y
101292	COLO	1	1	1	1	1	5/11/2019	3/2/1945	F	N		Y	N	N	N	N	N	N	Y
101294	COLO	1	1	1	1	1	6/9/2019	5/18/1948	F	N		Y	N	N	N	N	N	N	Y
101295	COLO	1	1	1	1	1	6/10/2019	12/25/1950	F	**N**		**N**	**N**	**N**	**N**	**N**	**N**	**N**	**Y**
101296	COLO	1	1	1	1	1	6/25/2019	7/13/1951	F	N		N	N	Y	N	N	N	N	Y
101297	COLO	1	1	1	1	1	5/6/2019	1/18/1954	M	N		N	N	Y	N	N	N	N	Y
101300	COLO	1	1	1	1	1	6/10/2019	2/7/1959	F	N		N	N	Y	N	N	N	N	Y
101305	COLO	1	1	1	1	1	6/21/2019	7/29/1972	M	N		N	N	Y	N	N	N	N	Y
101306	COLO	1	1	1	1	1	6/30/2019	8/19/1974	M	N		N	N	Y	N	N	N	N	Y
89833	HYST	1	1	1	1	1	4/2/2019	9/8/1976	F	N		N	N	N	N	Y	N	N	Y
89834	HYST	1	1	1	1	1	4/3/2019	8/19/1977	F	N		N	N	N	N	Y	N	N	Y
89837	HYST	1	1	1	1	1	4/6/2019	10/7/1981	F	N		N	N	N	N	Y	N	N	Y
89839	HYST	1	1	1	1	1	4/8/2019	9/21/1983	F	N		N	N	N	N	N	N	Y	Y
89842	HYST	1	1	1	1	1	4/11/2019	4/15/1985	F	N		N	N	N	N	N	N	Y	Y
89846	HYST	1	1	1	1	1	4/15/2019	10/4/1987	F	N		N	N	N	N	N	N	Y	Y

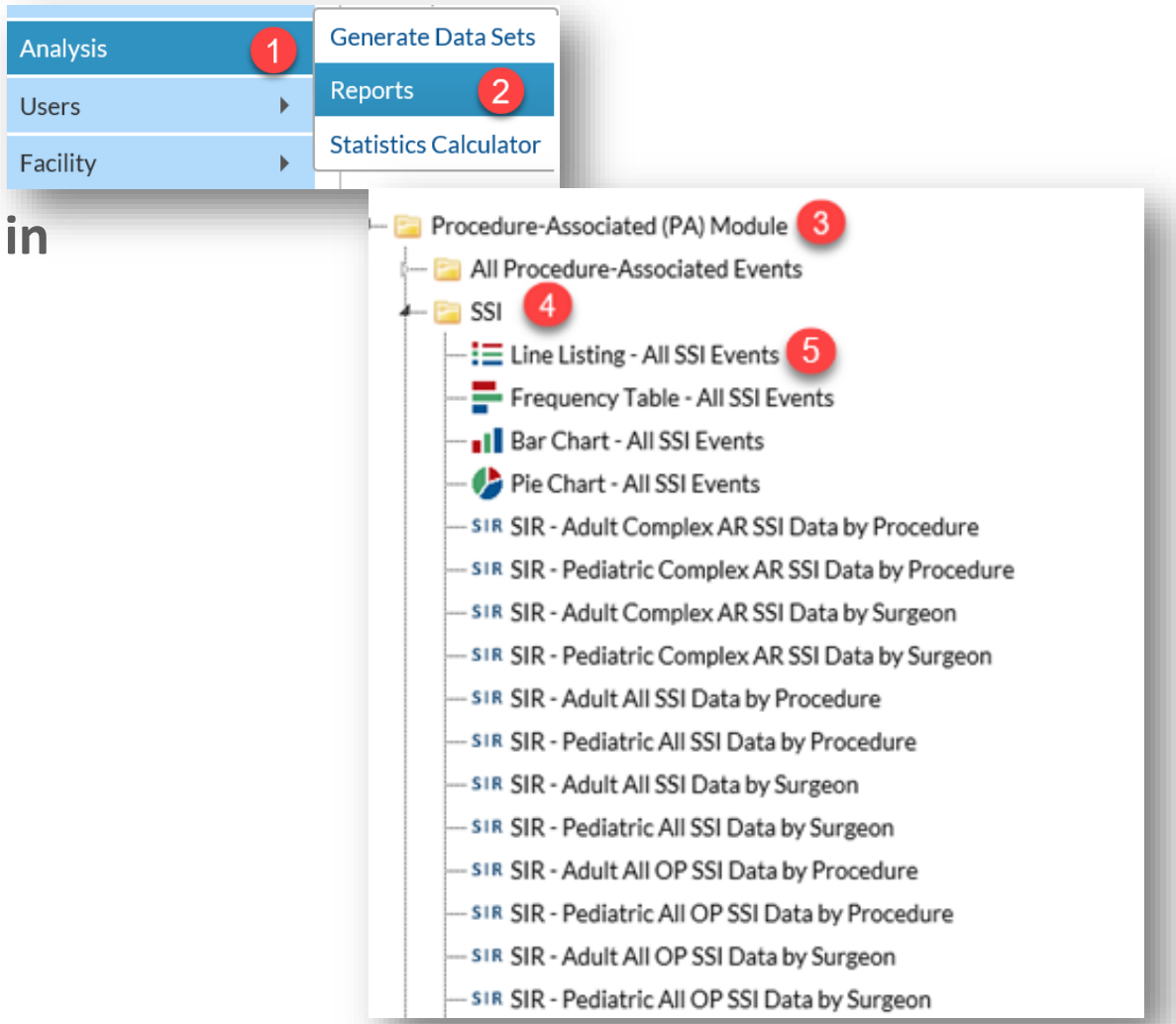
The following footnotes apply to the 2015 Baseline only.
1. The "Line Listing for Procedures Excluded from SSI SIR (2015 Baseline)" report contains procedures excluded from one or more SIRs.
2. Variables preceded by excl indicate the reason for exclusion. If excl criterion is set to Y, then the procedure is excluded from the denominator of the related SIR.
3. Please review the Quick Reference Guide on Procedure Exclusion Criteria (https://www.cdc.gov/nhsn/pdfs/ps-analysis-resources/line-list-procedures-excluded-sir.pdf) for more information on how to determine which records are included in the SIRs.
4. The variable indicating procedures excluded from the CMS IQR program SIR is bs2_compx30dExcl; it applies to COLO and HYST only.

Data contained in this report were last generated on April 23, 2021 at 10:56 AM to include data beginning January 2018 through April 2021 .

Procedure ID **101295**, highlighted, is excluded from the SSI SIR, although all the ***excl*** variables are set to ***N***. This is because this procedure is linked to a ***PATOS= Yes event***

Troubleshooting Step 3: Generate and Interpret Line Listing – All SSI Events

Line Listing- All SSI Event



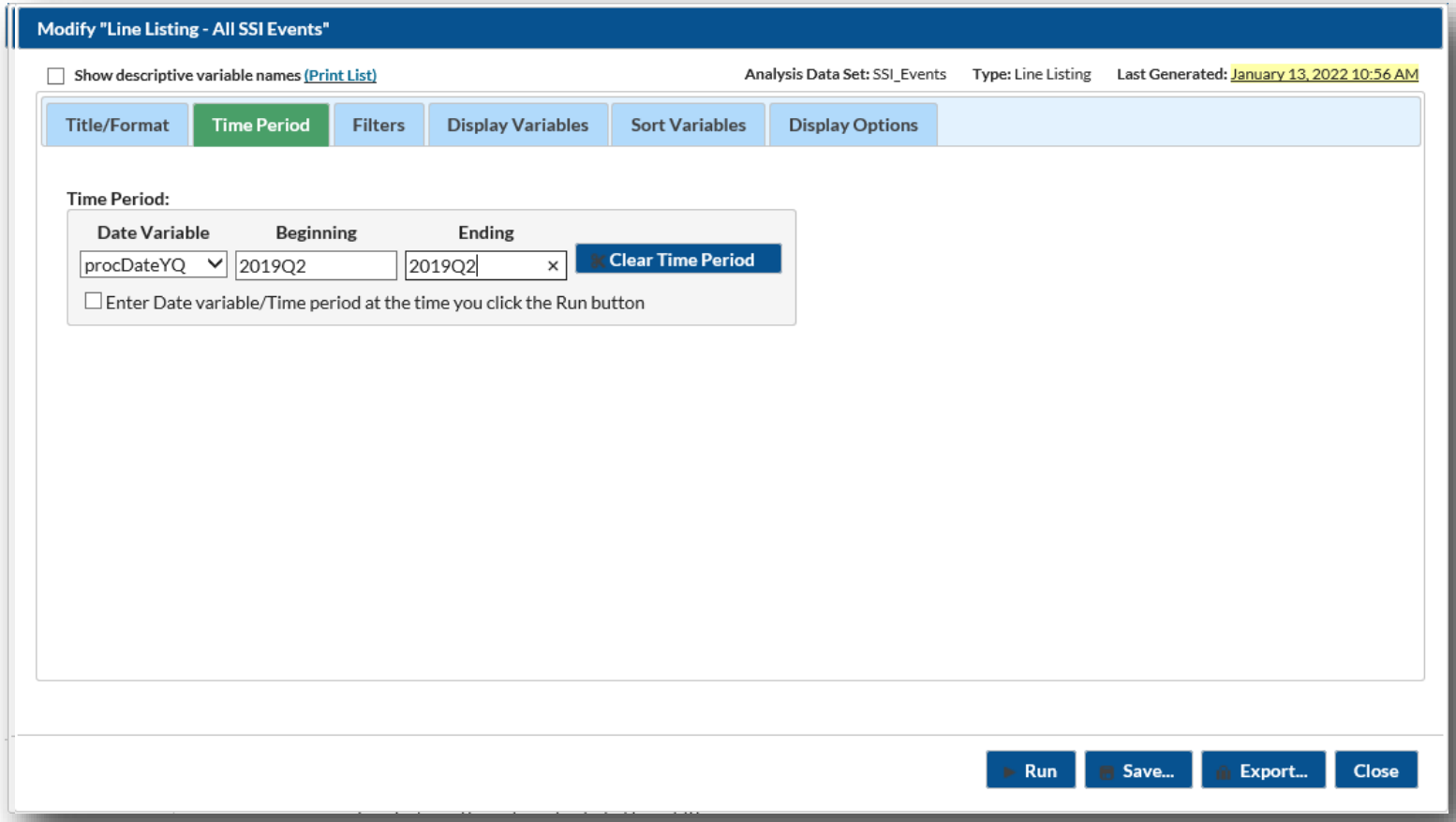
Access 'Line Listing –All SSI Events' analysis reports in NHSN

1. Select Analysis on left-hand navigation bar
2. Select Reports
3. Click Procedure-associated Module folder
4. Click SSI subfolder
5. Click Line Listing – All SSI Events
6. Select Modify Report

Line Listing- All SSI Event

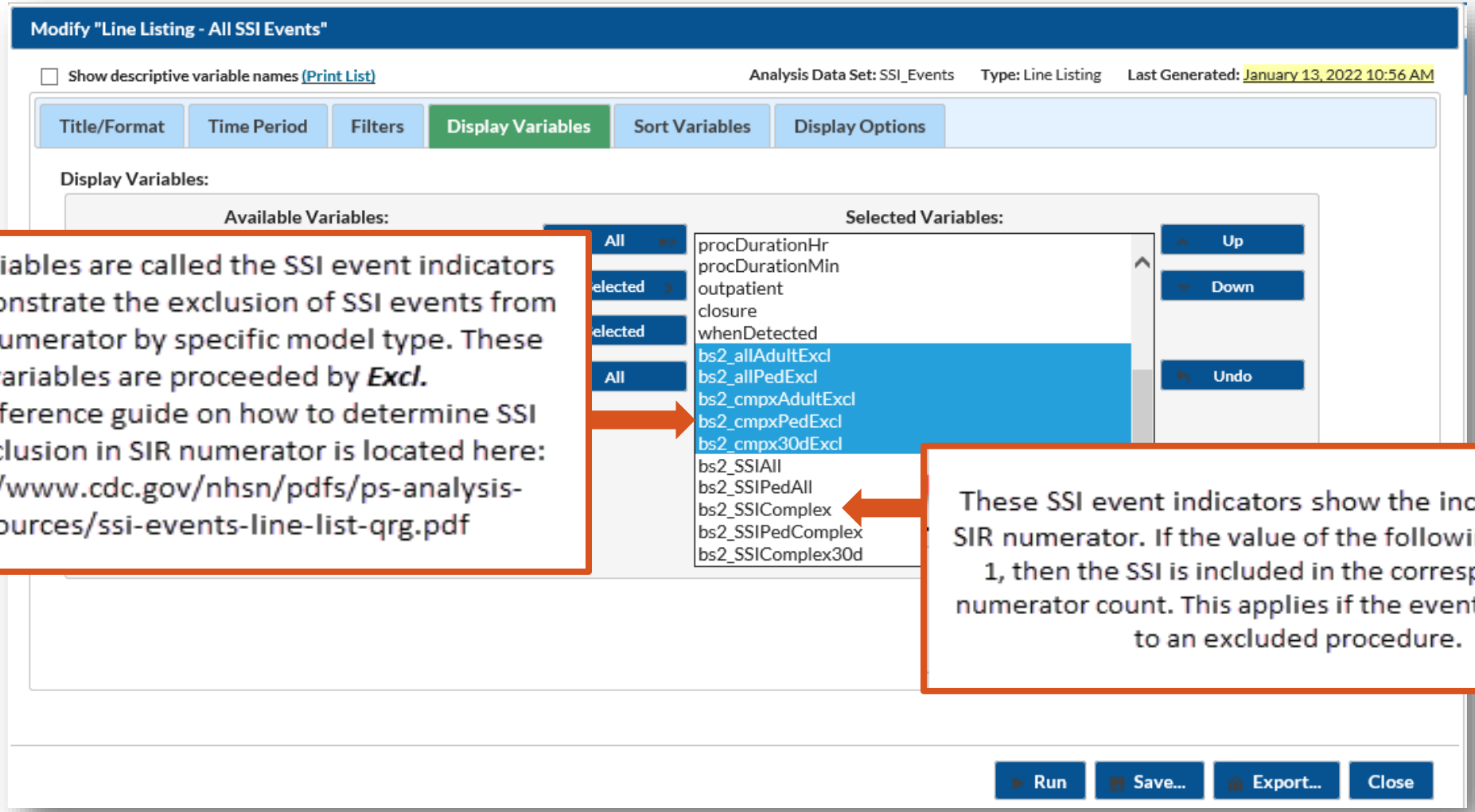
Modify Report

1. Select Time Period tab and input 2019 Q2 as the begin and end dates
2. Apply a Filter to the report to limit output to *proccode* in **COLO, HYST**
3. Click Display Variables tab to select variables.



Line Listing- All SSI Event

Modify Reports: Overview of Display Variables Tab



These variables are called the SSI event indicators that demonstrate the exclusion of SSI events from the SIR numerator by specific model type. These variables are proceeded by ***Excl.***
Quick reference guide on how to determine SSI event inclusion in SIR numerator is located here: https://www.cdc.gov/nhsn/pdfs/ps-analysis-resources/ssi-events-line-list-qrg.pdf

These SSI event indicators show the inclusion in the SIR numerator. If the value of the following variables = 1, then the SSI is included in the corresponding SIR numerator count. This applies if the event is not linked to an excluded procedure.

Line Listing- All SSI Events

National Healthcare Safety Network
Line Listing for All Surgical Site Infection Events
As of: September 13, 2021 at 1:40 PM
Date Range: SSI_EVENTS procDateYQ 2019Q2 to 2019Q2

patID	eventType	spcEvent	procDate	procCode	dob	ageAtProc	sex	outpatient	closure	whenDetected	bs2_allAdultExcl	bs2_allPedExcl	bs2_cmpxAdultExcl	bs2_cmpxPedExcl	bs2_cmpx30dExcl	bs2_SSIAll	bs2_SSIpedAll	bs2_SSIComplex	bs2_SSIPedComplex	bs2_SSIComplex30d	patos
1001	SSI	IAB	6/10/2019	COLO	12/25/1950	68	F	N	PRI		1	1	1	1	1	0	0	0	0	0	Y

1. Please review the Quick Reference Guide related to the new SSI Indicator Variables (https://www.cdc.gov/nhsn/pdfs/ps-analysis-resources/ssi-events-line-list-qrg.pdf) for more information on determining which SSIs are included in the SIRs.

Data contained in this report were last generated on April 23, 2021 at 11:13 AM to include data beginning January 2019 through April 2021 .

- Procedure ID 101295, highlighted in blue, is excluded from the SSI SIR, although all the ***excl*** variables are set to ***N***. This is because this procedure is linked to a ***PATOS= Yes event***
- The SSI event indicators highlighted in yellow are used to determine the SSI event inclusion criteria for SIR reports by model
  - If the SSI event indicator is set to 0, the SSI event is excluded from the SIR report
  - Details of the SSI event indicators are expressed in the quick reference guide linked below
    - [Determining which SSIs are Included in the SSI SIRs (cdc.gov)]

Summary of Findings

- Universal exclusion criteria are applied to all procedures prior to calculating the SSI SIR
  - A universally excluded procedure is excluded from all the SSI SIR reports
- The universal exclusion criteria are often due to potential data quality issues or data outliers determined to result in outlier SIRs, which may not be reflective of the facility's true performance
- Use NHSN Line Listing Analysis Reports to identify universally excluded procedures

Resources

- SIR Guide
  - https://www.cdc.gov/nhsn/pdfs/ps-analysis-resources/nhsn-sir-guide.pdf
- How to Modify a Report
  - https://www.cdc.gov/nhsn/pdfs/ps-analysis-resources/howtomodifyreport.pdf
- 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 "SIR – Complex 30-Day SSI Data for Hospital IQR" Output Option
  - https://www.cdc.gov/nhsn/pdfs/cms/ssi/cms-ipps-ssi-sir.pdf

Additional Resources

- SSI SIR Troubleshooting Guides
  - https://www.cdc.gov/nhsn/PS-Analysis-resources/reference-guides.html
- Determining which SSIs are Included in the SSI SIRs
  - https://www.cdc.gov/nhsn/pdfs/ps-analysis-resources/ssi-events-line-list-qrg.pdf
- Line List: Procedures Excluded from the SIRs (2015 Baseline)
  - https://www.cdc.gov/nhsn/pdfs/ps-analysis-resources/line-list-procedures-excluded-sir.pdf

Additional Resources

- Reporting Height and Weight for Procedures in NHSN
  - https://www.cdc.gov/nhsn/pdfs/ps-analysis-resources/Reporting-Height-and-Weight-for-Procedures-508.pdf
- How do I create a line list of procedures?
  - https://www.cdc.gov/nhsn/pdfs/ps-analysis-resources/faq-procedure-line-list.pdf
- Using the Statistics Calculator
  - https://www.cdc.gov/nhsn/pdfs/ps-analysis-resources/StatsCalc.pdf

Thank You

For any questions, contact the NHSN Helpdesk at nhsn@cdc.gov

For more information, contact CDC
1-800-CDC-INFO (232-4636)
TTY: 1-888-232-6348 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.