# Hospital Compare Data Verification

Hospitals will notice differences between the data shown in the December Hospital Compare Preview Report and the data generated from NHSN analysis reports. Analysis reports run in the NHSN application prior to the next NHSN update in December 2016 will still use the original baseline data and risk models[1-4]. However, data included in the December 2016 Quality Net Preview Reports will be calculated using the updated 2015 baseline and risk models. While hospitals will be unable to see the new SIRs within NHSN until December, they can still review the numerator (i.e., number of events) and contributing denominator (e.g., procedures) in NHSN by using the existing SIR, rate table, and line list analysis reports. Table 1 outlines the changes in each measure's numerator and contributing denominator, and provides links to helpful resources that guide a user on how to run each recommended companion report. Hospitals are also encouraged to run the related CMS-related reports in NHSN. Guidance for each CMS Report within NHSN can be found here: https://www.cdc.gov/nhsn/cms/index.html.

## SSI Example

For SSIs, the process of checking the data included in the numerator and denominator of your CMS SIR remains the same. However, there are changes to the data elements included in the numerator and denominator with the rebaseline. This document will list the steps recommended for checking your data included in your SSI CMS report.
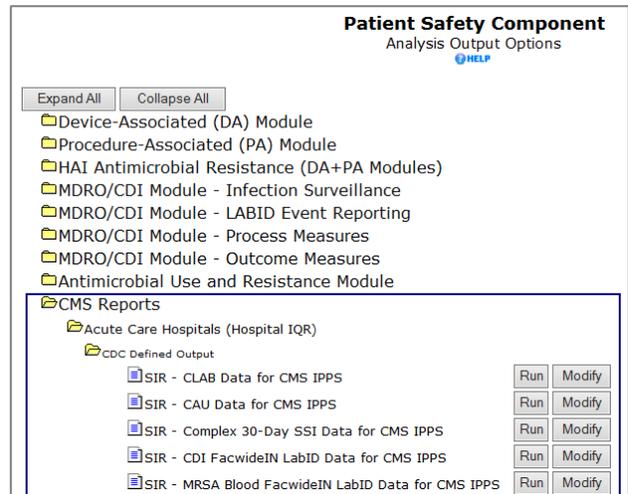
**Checking your Procedures (denominator)**

- Step 1: Run a line list of procedures limiting to COLO and HYST and the time period.

    - See the link below for a quick reference guide on how to run a procedure line list: http://www.cdc.gov/nhsn/pdfs/ps-analysis-resources/faq-procedure-line-list.pdf

    - On the modify screen, include all risk factors used in the risk adjustment of COLO and HYST Complex 30-day SSI SIR, in the "Selected Variables" list as shown here in the screen shot.
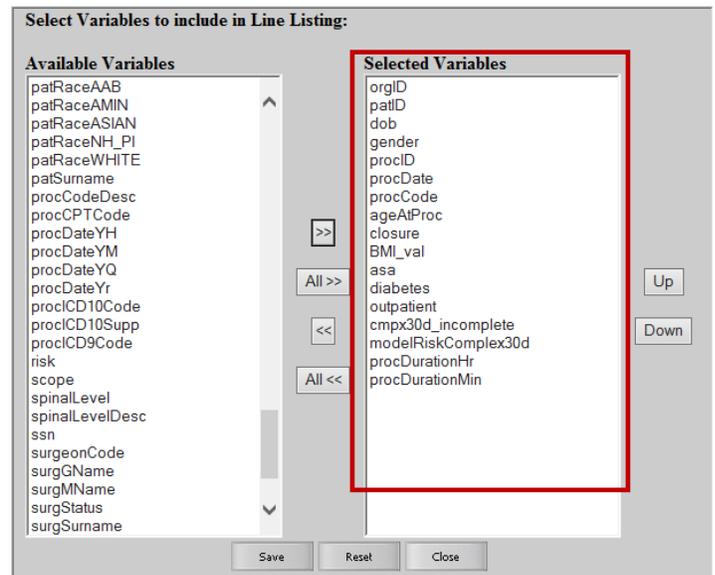
- Step 2: Review the procedure line list for the inclusion and exclusion criteria

  - Procedures included in the new SIR are

    - In-plan, inpatient procedures in adults 18 years and older

    - Procedures with either primary or other than primary closure techniques

  - Procedures excluded from the new SIR are

    - Procedures with gender = Other 'O'

    - Procedures with BMI <12 or >60

    - Procedures with resulting SSI event that has Present at time of surgery (PATOS) = Yes

    - Procedures with duration <5 minutes or >IQR5 (COLO: 697 minutes, HYST: 547 minutes)

    - Procedures missing any of the required factors

    - Age at time of procedure > 109 years

Below is an example output of the procedure line list report:

**National Healthcare Safety Network**
**Line Listing for All Procedures**
As of: October 18, 2016 at 9:19 AM
Date Range: PROCEDURES procDateYQ 2016Q2 to 2016Q2

| gender | procID | procDate | procCode | ageAtProc | closure | BMI_val | asa | diabetes | outpatient | cmpx30d_incomplete | modelRiskComplex30d | procDurationHr | procDurationMin |
|--------|--------|----------|----------|-----------|---------|---------|-----|----------|------------|---------------------|----------------------|-----------------|------------------|
| M | 24253538 | 05/11/2016 | COLO | 52 | PRI | 30.808477 | 3 | N | N | Y | . | 13 | 12 |
| F | 24253540 | 04/21/2016 | COLO | 43 | PRI | 27.361231 | 3 | N | N | N | 0.045 | 9 | 12 |
| F | 24253593 | 06/15/2016 | HYST | 40 | PRI | 26.490358 | 3 | N | N | Y | . | 9 | 11 |

Data presented in this table are fictitious.

In the example above, the COLO with procedure ID 24253538 and HYST with procedure ID 24253593 are excluded from the denominator. In both these instances, the procedures are excluded because of the long procedure durations. The COLO with procedure ID 24253538 is excluded because the procedure duration is 792 minutes, which is over the procedure cutoff point (IQR5) of 697 minutes. The HYST procedure here is also excluded because the procedure duration is 551 minutes, which is over the procedure cutoff point (IQR5) of 547 minutes.

**Checking your SSI Events (numerator)**

- Step 1: Run a line list of SSI events, limiting to COLO and HYST and the time period in question. Please see the screen shot below on how to access the SSI event line list.
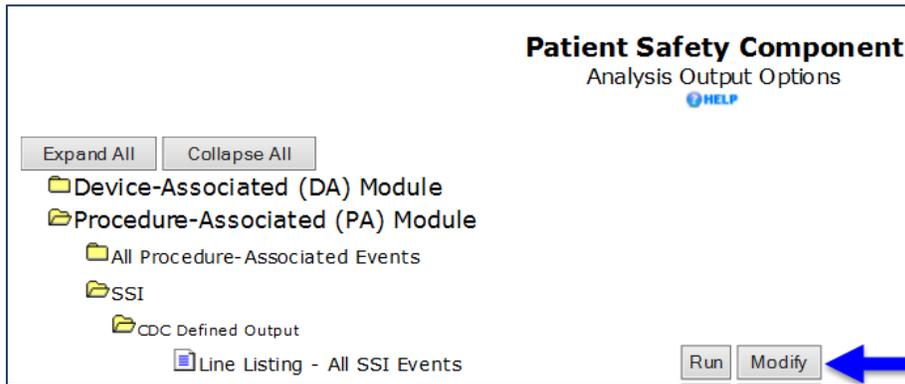


On the modify page, include all risk factors used in the risk adjustment of COLO and HYST Complex 30-day SSI SIR, in the "Selected Variables" list as shown here in the screen shot
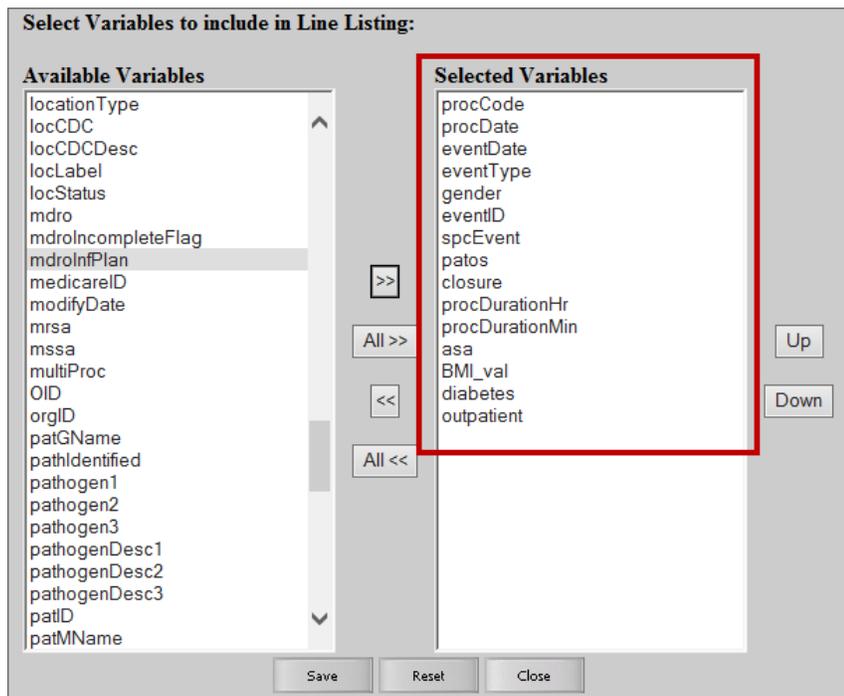
- Step 2: Review the SSI event line list for inclusion/exclusion criteria

    - SSI events included in the new SIR are

        o Deep incisional primary and organ/space SSIs

        o SSIs identified within 30 days of the procedure date

        o SSI regardless of detection (e.g., readmission, post discharge surveillance, etc.)

    - SSI events excluded from the new SIR are

        o PATOS = YES

**National Healthcare Safety Network**
**Line Listing for All Surgical Site Infection Events**
As of: October 18, 2016 at 11:53 AM
Date Range: SSI_EVENTS procDateYQ 2016Q2 to 2016Q2

| procCode | procDate | eventDate | eventType | gender | eventID | spcEvent | patos | closure | procDurationHr | procDurationMin | asa | BMI_val | diabetes | outpatient |
|----------|----------|-----------|-----------|--------|---------|----------|-------|---------|----------------|-----------------|-----|---------|----------|------------|
| COLO | 05/11/2016 | 05/31/2016 | SSI | M | 24253614 | DIP | N | PRI | 13 | 12 | 3 | 30.808477 | N | N |

Data presented in this table are fictitious. **NOTE: If a procedure is excluded from the denominator, the resulting SSI is excluded from the numerator.**

The SSI event in our example resulted from the procedure with ID 24253538. This event is excluded from the numerator because the procedure is excluded from the denominator.

## Other HAI Types

For all HAIs, the number of predicted events shown in NHSN will not match the number of predicted events shown on the December Preview Report. **Table 1** describes additional changes under the new baseline that impact the SIR numerators and/or contributing denominators for each HAI. We encourage facilities to use the additional recommended reports and resources available within NHSN to determine changes in their numerator and contributing denominator.

## Table 1. Changes to the SIR Numerators and Contributing Denominators in the 2015 Baseline

| HAI Type | Changes to the SIR numerators calculated under 2015 baseline | Changes to the contributing denominator of SIRs calculated under 2015 baseline | Additional Resources |
|---|---|---|---|
| **Central Line-Associated Bloodstream Infection (CLABSI)** | 1. Exclude MBI-LCBIs.<br><br>2. Events from additional ICUs will be included *(note: some ICUs were not included in the original baseline data, but will be included in SIRs calculated under the 2015 baseline).* | Central line days from additional ICUs will be included. | **MBI-LCBIs Guide:** http://www.cdc.gov/nhsn/pdfs/ps-analysis-resources/mbianalysis.pdf<br><br>**Summary Data Line List:** http://www.cdc.gov/nhsn/pdfs/ps-analysis-resources/summarylinelist.pdf |
| **Catheter-Associated Urinary Tract Infection (CAUTI)** | Events from additional ICUs will be included. | Urinary catheter days from additional ICUs will be included. | **Summary Data Line List:** http://www.cdc.gov/nhsn/pdfs/ps-analysis-resources/summarylinelist.pdf |
| **Facility-Wide Inpatient (FacWideIN)** *Clostridium difficile* **LabID Event** | No changes to the events counted in the numerator of the SIR. | No changes to the patient days included in the SIR. | **Troubleshooting the MRSA & CDI LabID Event SIRs:** http://www.cdc.gov/nhsn/pdfs/ps-analysis-resources/mrsacdi_tips.pdf |
| **Facility-Wide Inpatient (FacWideIN) MRSA Blood Specimen LabID Event** | No changes to the events counted in the numerator of the SIR. | No changes to the patient days included in the SIR. | **Troubleshooting the MRSA & CDI LabID Event SIRs:** http://www.cdc.gov/nhsn/pdfs/ps-analysis-resources/mrsacdi_tips.pdf |

| HAI Type | Changes to the SIR numerators calculated under 2015 baseline | Changes to the contributing denominator of SIRs calculated under 2015 baseline | Additional Resources |
|---|---|---|---|
| **Surgical Site Infection (SSI): Colon Surgery (COLO) and Abdominal Hysterectomy (HYST)**<br><br>**Complex 30-day Model** | Exclude SSIs where PATOS = YES. | In addition to the procedure exclusion criteria in effect before the 2015 baseline, procedures meeting the following new criteria will be excluded from the Complex 30 days SIRs:<br> ○ BMI: If BMI>60 or BMI<12.<br> ○ Gender: If gender is missing or gender is "O".<br><br>If an SSI is identified as PATOS (PATOS=Yes), then the associated procedure is excluded.<br><br>Additional procedures, regardless of the closure technique reported, will be included.<br><br>**More information on the procedure exclusion criteria can be found here:**<br>https://www.youtube.com/watch?v=2zKqpSrZVAU&feature=youtu.be<br><br>http://www.cdc.gov/nhsn/pdfs/ps-analysis-resources/ssi-sir_tips.pdf | **Line List of Procedures:**<br>http://www.cdc.gov/nhsn/pdfs/ps-analysis-resources/faq-procedure-line-list.pdf<br><br>**Analyzing Procedure Closure Technique:**<br>http://www.cdc.gov/nhsn/pdfs/ps-analysis-resources/proceduresclosuretechnique.pdf |

References to original baseline data and risk models:
[1]*CLABSI: http://www.cdc.gov/nhsn/PDFs/dataStat/2009NHSNReport.pdf*
[2]*CAUTI: http://www.cdc.gov/nhsn/PDFs/NHSNReport_DataSummaryfor2009.pdf*
[3]*SSI: http://www.cdc.gov/nhsn/PDFs/pscManual/SSI_ModelPaper.pdf*
[4]*MRSA Bacteremia and C.difficile LabID Event: http://www.cdc.gov/nhsn/PDFs/mrsa-cdi/RiskAdjustment-MRSA-CDI.pdf*

National Center for Emerging and Zoonotic Infectious Diseases
Division of Healthcare Quality Promotion