Evaluating Entered Data for Completeness, Consistency and Accuracy

Lindsey Weiner, MPH

NHSN Training Course
March 13, 2014

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

- Discuss the importance of data quality
- Explain how to review and edit data in NHSN
- Demonstrate use of basic NHSN Analysis Options to check quality of reported data
- Discuss reasons data may be excluded from SIRs
- Tips to verify data accuracy for CMS Quality Reporting Programs
The Importance of Data Quality

- Data entered into NHSN are used for national, aggregate analyses published in CDC annual reports
  - *May also be used by your state health department or your hospital’s corporation
- In order for risk adjustment to be applied correctly, data must be reported accurately and collected according to NHSN protocols. Includes:
  - Annual surveys
  - Denominator/Summary
  - Events
- Important to regularly check and confirm data accuracy
- Inaccurately reported data will result in incorrect SIRs posted to Hospital Compare!

*using the NHSN Group function. Contingent on accepting rights template.
NHSN Analysis Tools

- Analysis output options were created to allow facilities and groups to check the accuracy of reported data.

- Use CMS-specific output options to review data that will be submitted to CMS prior to quarterly deadlines.

- Quick Reference Guides on each analysis output:
Annual Surveys

- Completed at the beginning of every year
- Variables from the hospital survey are used for risk adjustment:
  - Total number of inpatient beds
  - Medical School Affiliation/Teaching status
  - Primary testing method for *C. difficile* (for 2013 data)
- If survey data are incorrect, your SIRs will not be properly adjusted
Review Annual Survey

- Make sure 2013 surveys are complete and accurate
- **Annual hospital survey can be reviewed/modified by following these steps:**
  1. Go to Surveys > Find.
  2. Select “Hospital Survey Data” as the Survey Type and “2013” as the Year.
  3. Click Find.
  4. Review the Survey; if changes are necessary, click Edit at the bottom of the screen.
  5. Make any appropriate changes and then click Save.

- **Annual hospital survey instructions can be found here:**
  [http://www.cdc.gov/nhsn/forms/instr/57_103-TOI.pdf](http://www.cdc.gov/nhsn/forms/instr/57_103-TOI.pdf)
Where to Find Survey Data in NHSN Analysis Options

- Survey line list found in the Advanced folder
- Hospital, LTAC, IRF, and Dialysis survey line lists are available
- Groups (e.g., QIOs, State Health Depts.)
- Use Rev. 3 for hospital survey
Summary Data

- Summary/denominator data can be reviewed and modified in the application
  - Summary Data > Find
  - Enter the applicable summary type, location code, month, and year of summary data of interest
  - Click Find
  - Once the correct summary data record appears, scroll to the bottom of the page and click Edit
Summary Data Line List

- Summary line list found in the Advanced folder
  - Advanced > Summary-level Data > CDC Defined Output > Line Listing- All Summary Data

- Includes denominator data entered for each month, location, and event type
  - Can include helpful variables such as modifyDate, imported, and noEvents
Review Events using the Line List

- Line lists can be run for each event type
- Allows for record-level review of each event saved
  - Check for data entry errors
- Most customizable type of output from NHSN
  - Add or remove variables to the line list
  - Sort by different variables

### National Healthcare Safety Network

**Line Listing for All Surgical Site Infection Events**

As of: January 14, 2014 at 12:30 PM

Date Range: SSI_EVENTS procDateYr After and Including 2013

<table>
<thead>
<tr>
<th>Patient ID</th>
<th>Date of Birth</th>
<th>Fac Admission Date</th>
<th>Event Date</th>
<th>Event Type</th>
<th>Specific Event</th>
<th>Procedure Date</th>
<th>Procedure Code</th>
<th>Duration of Procedure - hr</th>
<th>Duration of Procedure - min</th>
<th>Outpatient?</th>
</tr>
</thead>
<tbody>
<tr>
<td>72TEST</td>
<td>01/05/1960</td>
<td>01/06/2013</td>
<td>01/08/2013</td>
<td>SSI</td>
<td>DIP</td>
<td>01/06/2013</td>
<td>COLO</td>
<td>3</td>
<td>2</td>
<td>N</td>
</tr>
<tr>
<td>72TEST2</td>
<td>02/05/1960</td>
<td>02/07/2013</td>
<td>02/12/2013</td>
<td>SSI</td>
<td>DIP</td>
<td>02/09/2013</td>
<td>COLO</td>
<td>6</td>
<td>45</td>
<td>N</td>
</tr>
<tr>
<td>D2779</td>
<td>01/10/1975</td>
<td>02/01/2013</td>
<td>02/14/2013</td>
<td>SSI</td>
<td>DIP</td>
<td>02/01/2013</td>
<td>RFUSN</td>
<td>1</td>
<td>10</td>
<td>N</td>
</tr>
<tr>
<td>FEB2013</td>
<td>01/02/1995</td>
<td>02/02/2013</td>
<td>02/06/2013</td>
<td>SSI</td>
<td>DIP</td>
<td>02/02/2013</td>
<td>BRST</td>
<td>2</td>
<td>0</td>
<td>N</td>
</tr>
<tr>
<td>FEB2013</td>
<td>01/02/1995</td>
<td>02/02/2013</td>
<td>02/09/2013</td>
<td>SSI</td>
<td>SIP</td>
<td>02/02/2013</td>
<td>BRST</td>
<td>2</td>
<td>0</td>
<td>N</td>
</tr>
<tr>
<td>KB4729</td>
<td>09/27/1944</td>
<td>01/19/2013</td>
<td>01/29/2013</td>
<td>SSI</td>
<td>OREP</td>
<td>01/20/2013</td>
<td>KTP</td>
<td>5</td>
<td>0</td>
<td>N</td>
</tr>
<tr>
<td>MD09998</td>
<td>08/19/1947</td>
<td>01/01/2013</td>
<td>01/15/2013</td>
<td>SSI</td>
<td>DIP</td>
<td>01/01/2013</td>
<td>RFUSN</td>
<td>1</td>
<td>15</td>
<td>N</td>
</tr>
<tr>
<td>SLJ712_22</td>
<td>07/06/1923</td>
<td>01/26/2013</td>
<td>02/26/2013</td>
<td>SSI</td>
<td>DIP</td>
<td>01/29/2013</td>
<td>COLO</td>
<td>4</td>
<td>10</td>
<td>N</td>
</tr>
</tbody>
</table>
Review Events using the Frequency Table

- Allows you to obtain counts of records meeting certain criteria

- Can run a frequency table for each specific event type

- **Example:** How many VAE events are classified as ‘probable VAP’ in the ICU?

- **Example:** How many CDI LabID events are categorized as ‘Community-Onset’?
SURGICAL SITE INFECTION SIR
Evaluating your SSI SIR

- **Surgical Site Infections**
  - Ensure procedure and infection counts are accurate
    - Certain procedures are excluded from the SIR calculations (missing variables or outlier values)
    - SSI is excluded from the SIR if the corresponding procedure is excluded

---

**National Healthcare Safety Network**

**SIR for In-plan All SSI data by Procedure - By OrgID/ProcCode**

As of: January 16, 2014 at 12:27 PM
Date Range: SIR_ALLSSIPROC summary YQ 2013Q1 to 2013Q1
if (((ssiPlan = “Y” )))

Org ID=10018

<table>
<thead>
<tr>
<th>Org ID</th>
<th>Procedure Code</th>
<th>Summary Yr/Qtr</th>
<th>Procedure Count</th>
<th>All SSI Model Infection Count</th>
<th>All SSI Model Number Expected</th>
<th>All SSI Model SIR</th>
<th>All SSI Model SIR p-value</th>
<th>All SSI Model 95% Confidence Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>10018</td>
<td>COLO</td>
<td>2013Q1</td>
<td>114</td>
<td>6</td>
<td>7.217</td>
<td>0.831</td>
<td>0.4179</td>
<td>0.305, 1.810</td>
</tr>
<tr>
<td>10018</td>
<td>CSEC</td>
<td>2013Q1</td>
<td>73</td>
<td>2</td>
<td>1.075</td>
<td>1.860</td>
<td>0.2918</td>
<td>0.225, 6.721</td>
</tr>
<tr>
<td>10018</td>
<td>HYST</td>
<td>2013Q1</td>
<td>95</td>
<td>1</td>
<td>1.370</td>
<td>0.730</td>
<td>0.6022</td>
<td>0.018, 4.067</td>
</tr>
</tbody>
</table>
Excluded Procedures

- If notice discrepancy in procedure count, scroll to the bottom of the SSI SIR output
- Table included in the output shows number of excluded procedures
  - Note: This will only include those procedures that are excluded due to the exclusion criteria listed in 2010 NHSN Newsletter*

---

**National Healthcare Safety Network**

**Incomplete and Custom Procedures not Included in SIR**

As of: January 16, 2014 at 12:27 PM

Date Range: SIR_ALLSSIPROC summaryYQ 2013Q1 to 2013Q1
if (ttiPlan = "Y")

Org ID=10018

<table>
<thead>
<tr>
<th>Summary Yr/Qtr</th>
<th>Org ID</th>
<th>Procedure Code</th>
<th>Outpatient?</th>
<th>Procedure Count</th>
<th>All SSI Model Infection Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013Q1</td>
<td>10018</td>
<td>COLO</td>
<td>N</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>2013Q1</td>
<td>10018</td>
<td>HYST</td>
<td>N</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>
Why Were my Procedures Excluded?

- These exclusion criteria were developed to alert you to potential data quality-related issues

- Some possible reasons for exclusion:
  - Missing risk factor variable (procedure-specific)
  - Procedure duration < 5 minutes or > IQR5
  - Patient age > 109
  - Procedure date on or before patient’s DOB

- Should be rare, therefore list of excluded procedures should be short

- Complete list of exclusion criteria can be found here (see Appendix C):
Run a Line List of Excluded Procedures

- Run the “Line Listing - Procedures Excluded from SSI SIR” to look at specific variables of interest and to investigate reason for exclusion

- Limit the line list to the procedure code(s) and time period of interest

- Add important variables based on the procedure category
In our example, 1 COLO and 1 HYST procedure were excluded from the 2013 Q1 SIR

Line list shows procedure durations were above the determined cut-off points for both procedure categories

- COLO: 668 minutes (11 hrs, 8 mins)  
- HYST: 479 minutes (7 hrs, 59 mins)

If data entry error:
- Edit the procedure records and click Save
- Re-generate datasets

If not a data entry error, procedures will still be excluded from the SIR
- Note: these records should still be reported to NHSN
Other Ways to Troubleshoot SSI SIR

- Make sure you have generated datasets after any data entry or import

- Resolve all outstanding “Alerts” on your home screen
  - Example: If you had no SSI events for procedures performed during month, you must check the No Events box for that procedure month
  - Until you check this box, this month’s procedure and SSI data will be excluded from the SIR

### Incomplete/Missing List

<table>
<thead>
<tr>
<th>Month/Year</th>
<th>Procedures</th>
<th>SSI</th>
<th>Report No Events</th>
</tr>
</thead>
<tbody>
<tr>
<td>04/2012</td>
<td>HYST - Abdominal hysterectomy</td>
<td>IN - Inpatient</td>
<td></td>
</tr>
<tr>
<td>04/2012</td>
<td>KPRO - Knee prosthesis</td>
<td>IN - Inpatient</td>
<td></td>
</tr>
<tr>
<td>12/2012</td>
<td>CBGB/CBGC - Coronary artery bypass graft</td>
<td>IN - Inpatient</td>
<td></td>
</tr>
<tr>
<td>01/2014</td>
<td>KPRO - Knee prosthesis</td>
<td>IN - Inpatient</td>
<td></td>
</tr>
</tbody>
</table>

First | Previous | Next | Last
Other Ways to Troubleshoot SSI SIR

- **Which SIR output are you using?**
- **Different models will include different procedures and/or SSIs**

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
</tr>
</thead>
</table>
| All SSI SIR Model            | - Includes Superficial, Deep & Organ/Space  
- Superficial & Deep incisional SSIs limited to primary only  
- Includes SSIs identified on admission, readmission & via post-discharge surveillance |
| Complex A/R SSI Model        | - Includes only SSIs identified on Admission/Readmission to facility where procedure was performed  
- Includes only inpatient procedures  
- Includes only Deep incisional primary & Organ/Space SSIs |
| Complex 30-day SSI model     | - Includes only in-plan, inpatient COLO and HYST procedures in adult patients (i.e., ≥ 18 years of age)  
- Includes only deep incisional primary and organ/space SSIs with an event date within 30 days of the procedure  
- Uses only age and ASA to determine risk |
Excluded Events from SIR

- If SSI event count is less than you’re expecting, keep in mind which model you are using
- Run an SSI line list to determine reason for any excluded events
  - Example: Complex A/R and Complex 30-day models will NOT include superficial infections
Other Procedures Not Included in the SIR

- Read footnotes below the SIR table for additional reasons that procedures may be excluded
- Run a procedure line list to determine cause of exclusion
  - Example: Complex 30-day model only includes procedures performed on adult patients ≥ 18 yrs old
  - Example: Closure type = ‘Other’ for 2014 procedures

Hint: Make sure to manually add ‘ageAtproc’ variable to the line list
CLABSI and CAUTI SIR
CLABSI SIR

- Look at all variables in the SIR output carefully
- If central line days or infection count is lower than you expect, look at the location-specific SIR table
- SIR may not include all of your locations!

<table>
<thead>
<tr>
<th>orgid</th>
<th>loccdc</th>
<th>summaryYQ</th>
<th>infCount</th>
<th>numExp</th>
<th>numCLDays</th>
<th>SIR</th>
<th>SIR_pval</th>
<th>SIR95CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>10401</td>
<td>IN:ACUTE:CC:M</td>
<td>2013Q4</td>
<td>1</td>
<td>1.292</td>
<td>680</td>
<td>0.774</td>
<td>0.9044</td>
<td>0.039, 3.817</td>
</tr>
<tr>
<td>10401</td>
<td>IN:ACUTE:CC:NURS</td>
<td>2013Q4</td>
<td>2</td>
<td>0.498</td>
<td>201</td>
<td>.</td>
<td>.</td>
<td>.</td>
</tr>
<tr>
<td>10401</td>
<td>IN:ACUTE:WARD:M</td>
<td>2013Q4</td>
<td>0</td>
<td>0.308</td>
<td>205</td>
<td>.</td>
<td>.</td>
<td>.</td>
</tr>
<tr>
<td>10401</td>
<td>IN:ACUTE:WARD:ONC_HONC</td>
<td>2013Q4</td>
<td>1</td>
<td>1.004</td>
<td>512</td>
<td>0.996</td>
<td>1.0000</td>
<td>0.050, 4.914</td>
</tr>
</tbody>
</table>

If infCount in this table is less than you reported, aggregate data are not available to calculate numExp. Lower bound of 95% Confidence Interval only calculated if infCount > 0. SIR values only calculated if numExp >= 1. SIR excludes those months and locations where device days are missing.


Data contained in this report were last generated on February 5, 2014 at 5:42 PM.
Excluded Locations from the CLABSI/CAUTI SIR

- SIRs can only be generated for locations that had enough data to be included in the CLABSI and CAUTI baseline analyses*
  - CLABSI: 2006-2008
  - CAUTI: 2009

- Certain locations will always be excluded from the SIRs, under current baselines, including:
  - Telemetry Wards, Mixed Acuity locations, Acute Stoke Ward, Burn Ward, certain Oncology wards, etc.
  - Look at Rate Tables for these locations to track HAI incidence

- We expect to include more locations when we re-baseline the SIRs

*Baseline data can be found here: http://www.cdc.gov/nhsn/dataStat.html
Separate tables in the CLABSI SIR output will show the data from excluded locations, as well as any months with 0 or missing device days

- Months with incomplete denominator data are excluded from the SIR
- If a location has 0 device days for all 3 months of the quarter, it will not appear in the location-specific SIR tables
Months with Incomplete or Missing Denominators

- Missing/Incomplete denominator months can be found on the Incomplete summary data screen (in-plan data only)

- Months with missing or incomplete denominator: edit and re-save these summary records
  - This list will only show those months when at least 1 event has been entered

- Re-generate datasets
MRSA Bacteremia and CDI LabID Event SIR
LabID Event SIR

- Look at all variables in the SIR output
  - 3 months of data for each quarter
  - Number of patient days
  - Number of events

### National Healthcare Safety Network
**SIR - MRSA Blood FacwideIn LabID Data**
As of: January 24, 2014 at 10:04 AM
Date Range: LABID_RATE SMRSA summary Yr 2012 to 2012

<table>
<thead>
<tr>
<th>Org ID</th>
<th>Location</th>
<th>Summary Yr/Qtr</th>
<th>Months</th>
<th>MRSA Blood Incident LabID Count</th>
<th>MRSA Blood Incident LabID Number Expected</th>
<th>Patient Days</th>
<th>SIR</th>
<th>SIR p-value</th>
<th>95% Confidence Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>10018</td>
<td>FACWIDEIN</td>
<td>2012Q1</td>
<td>3</td>
<td>3</td>
<td>3.318</td>
<td>44496</td>
<td>0.904</td>
<td>0.5764</td>
<td>0.186, 2.642</td>
</tr>
<tr>
<td>10018</td>
<td>FACWIDEIN</td>
<td>2012Q2</td>
<td>3</td>
<td>3</td>
<td>3.432</td>
<td>46983</td>
<td>0.874</td>
<td>0.5514</td>
<td>0.180, 2.555</td>
</tr>
<tr>
<td>10018</td>
<td>FACWIDEIN</td>
<td>2012Q3</td>
<td>3</td>
<td>4</td>
<td>3.462</td>
<td>45596</td>
<td>1.155</td>
<td>0.4551</td>
<td>0.315, 2.958</td>
</tr>
<tr>
<td>10018</td>
<td>FACWIDEIN</td>
<td>2012Q4</td>
<td>2</td>
<td>3</td>
<td>2.190</td>
<td>29637</td>
<td>1.370</td>
<td>0.3746</td>
<td>0.282, 4.003</td>
</tr>
</tbody>
</table>

Includes only inpatient facility-wide (FACWIDEIN) data relevant to MRSA Blood LabID reporting. The number expected and SIRs are not calculated when Group By = summaryYM. Lower bound of 95% Confidence Interval only calculated if infCount > 0. SIR values only calculated if numExp >= 1.
Outlier Prevalence Rate

- Number of predicted infections and the SIR (and statistics) cannot be calculated if community-onset prevalence rate* is above pre-determined threshold
  - MRSA Bacteremia: 0.88
  - C. difficile: 1.78

- If all other reporting requirements are met per CMS guidelines, these data are still considered “complete” and will be sent to CMS

* Community–onset prevalence rate = (# community-onset LabID events / number admissions) * 100
C. difficile Outlier Prevalence Rate

National Healthcare Safety Network
SIR - CDI FacwideIN LabID Data
As of: February 18, 2014 at 12:14 PM
Date Range: LABID_RATE/SCDIF summaryYQ 2013Q1 to 2013Q2

<table>
<thead>
<tr>
<th>orgID</th>
<th>location</th>
<th>summaryYQ</th>
<th>months</th>
<th>CDIF_facIncHCount</th>
<th>numExpCDI</th>
<th>numpatdays</th>
<th>SIR</th>
<th>SIR_pval</th>
<th>sir95ci</th>
</tr>
</thead>
<tbody>
<tr>
<td>10401</td>
<td>FACWIDEIN</td>
<td>2013Q1</td>
<td>3</td>
<td>1</td>
<td>2.672</td>
<td>3270</td>
<td>0.374</td>
<td>0.3230</td>
<td>0.019, 1.846</td>
</tr>
<tr>
<td>10401</td>
<td>FACWIDEIN</td>
<td>2013Q2</td>
<td>3</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Includes only inpatient facility-wide (FACWIDEIN) data relevant to CDI LabID reporting. The number expected and SIRs are not calculated when Group By = summaryYM. Lower bound of 95% Confidence Interval only calculated if infCount > 0. SIR values only calculated if numExp >= 1. If a quarter’s prevalence rate is >1.78, the number expected will not be calculated for that quarter.
SIR excludes those months where CDIF patient days and/or admissions are missing, required survey-level data are missing, or verification of ‘report no events’ has not been completed when 0 events have been reported.

National Healthcare Safety Network
CDI Quarters with Outlier Prevalence Rate
As of: February 18, 2014 at 12:14 PM
Date Range: LABID_RATE/SCDIF summaryYQ 2013Q1 to 2013Q2

<table>
<thead>
<tr>
<th>orgID</th>
<th>location</th>
<th>summaryYQ</th>
<th>cdif_admprevccount</th>
<th>numAdms</th>
<th>CDI_COprevRate</th>
</tr>
</thead>
<tbody>
<tr>
<td>10401</td>
<td>FACWIDEIN</td>
<td>2013Q2</td>
<td>5</td>
<td>226</td>
<td>2.212</td>
</tr>
</tbody>
</table>

If a quarter’s prevalence rate is >1.78, the number expected will not be calculated for that quarter.

- Check accuracy of # admissions and # community-onset events
Reminder: Which Events are Counted in the LabID Event SIR Numerator (i.e., # observed)

- **MRSA Bacteremia:** Only hospital-onset (HO) events from blood specimens are included in the numerator of the SIR
- **C. difficile:** Only hospital-onset (HO) *incident* events are included in the numerator of the SIR
- *Note:* If a patient has a second LabID event from the same organism within 14 days of the first, the second event is not counted in the SIR! (regardless of location)
- Run a line list and/or frequency table to review events
LabID Event Line List: MRSA Bacteremia

- Make sure line list is sorted by patient ID and specimen date to easily see which patients had more than one MRSA Bacteremia
- Look at “Onset” variable
LabID Event Frequency Table: *C. difficile*

- Modify frequency table to select ‘cdiAssay’ and ‘onset’ variables as the row and column variables

<table>
<thead>
<tr>
<th>cdiAssay</th>
<th>CO</th>
<th>CO-HCFA</th>
<th>HO</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Incident</td>
<td>9</td>
<td>1</td>
<td>59</td>
<td>69</td>
</tr>
<tr>
<td></td>
<td>13.04</td>
<td>1.45</td>
<td>85.51</td>
<td></td>
</tr>
<tr>
<td>Recurrent</td>
<td>1</td>
<td>0</td>
<td>9</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>10.00</td>
<td>0.00</td>
<td>90.00</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>10</td>
<td>1</td>
<td>68</td>
<td>79</td>
</tr>
</tbody>
</table>
Example: Investigating MRSA Bacteremia SIR for CMS Quality Reporting, 2013 Q3

- In preparation for the Q3 deadline, we would like to ensure that the data sent to CMS are complete and accurate

**Steps to Complete:**
- CCN is accurately listed in NHSN
- Entered all MRSA events and summary data
- MRSA Bacteremia reporting for ‘FacWideIN’ is listed in all 3 monthly reporting plans for the quarter
- Cleared all ‘Alerts’ from the home screen
- Generated datasets
Run Specialized Report for CMS IPPS

- Run the MRSA Blood SIR for CMS IPPS report, found in the Advanced folder, to see exactly which data will be sent to CMS.
SIR Output for CMS IPPS

3 months of data

Total patient days are accurate

I know I entered 6 hospital-onset MRSA Bacteremia events in Q3…why are only 3 being counted??

---

### National Healthcare Safety Network

**SIR - MRSA Blood FacwideIN LabID Data**

As of: February 18, 2014 at 1:19 PM

Date Range: All LABID_RATESMRSA

<table>
<thead>
<tr>
<th>orgID</th>
<th>location</th>
<th>summaryYQ</th>
<th>months</th>
<th>MRSA_bldIncCount</th>
<th>numExpMRSA</th>
<th>numpatdays</th>
<th>SIR</th>
<th>SIR_pval</th>
<th>sir95ci</th>
</tr>
</thead>
<tbody>
<tr>
<td>10401</td>
<td>FACWIDEIN</td>
<td>2013Q1</td>
<td>3</td>
<td>2</td>
<td>0.221</td>
<td>4455</td>
<td>.</td>
<td>.</td>
<td>.</td>
</tr>
<tr>
<td>10401</td>
<td>FACWIDEIN</td>
<td>2013Q2</td>
<td>3</td>
<td>4</td>
<td>1.434</td>
<td>7450</td>
<td>2.789</td>
<td>0.0733</td>
<td>0.886, 6.728</td>
</tr>
<tr>
<td>10401</td>
<td>FACWIDEIN</td>
<td>2013Q3</td>
<td>3</td>
<td>3</td>
<td>1.162</td>
<td>6418</td>
<td>2.582</td>
<td>0.1429</td>
<td>0.657, 7.028</td>
</tr>
</tbody>
</table>

Includes only inpatient facility-wide (FACWIDEIN) data relevant to MRSA Blood LabID reporting.
The number expected and SIRs are not calculated when Group By = summaryYM.
Lower bound of 95% Confidence Interval only calculated if infCount > 0. SIR values only calculated if numExp >= 1.
If a quarter’s prevalence rate is >0.88, the number expected will not be calculated for that quarter.
SIR excludes those months where patient days and/or admissions are missing, required survey-level data are missing, or verification of ‘report no events’ has not been completed when 0 events have been reported.

Source of aggregate data: 2010-2011 NHSN MRSA Blood LabID Data
Data contained in this report were last generated on February 18, 2014 at 1:18 PM.
Run the MRSA LabID Event Line List

- Limit line list to 2013 Q3 events
- Add specimen date as one of the “sort by” variables

How to modify a line list: http://www.cdc.gov/nhsn/PS-Analysis-resources/PDF/LineLists.pdf
### MRSA LabID Event Line List

#### National Healthcare Safety Network
##### Line Listing - All MRSA LabID Events

As of: February 18, 2014 at 1:30 PM  
Date Range: LABID_EVENTS specDateYQ 2013Q3 to 2013Q3

<table>
<thead>
<tr>
<th>Patient ID</th>
<th>Event ID</th>
<th>Specific Organism</th>
<th>Location</th>
<th>Onset</th>
<th>Fac Admission Date</th>
<th>Specimen Source</th>
<th>Date Specimen Collected</th>
</tr>
</thead>
<tbody>
<tr>
<td>1595</td>
<td>39219</td>
<td>MRSA</td>
<td>BURN</td>
<td>HO</td>
<td>06/18/2013</td>
<td>BLDSPC</td>
<td>07/02/2013</td>
</tr>
<tr>
<td>1595</td>
<td>39220</td>
<td>MRSA</td>
<td>MED</td>
<td>HO</td>
<td>06/18/2013</td>
<td>BLDSPC</td>
<td>07/04/2013</td>
</tr>
<tr>
<td>4461</td>
<td>39964</td>
<td>MRSA</td>
<td>2N</td>
<td>CO</td>
<td>07/19/2013</td>
<td>BLDSPC</td>
<td>07/20/2013</td>
</tr>
<tr>
<td>4461</td>
<td>43000</td>
<td>MRSA</td>
<td>ICU</td>
<td>HO</td>
<td>07/19/2013</td>
<td>BLDSPC</td>
<td>07/27/2013</td>
</tr>
<tr>
<td>7414</td>
<td>39233</td>
<td>MRSA</td>
<td>ICU</td>
<td>HO</td>
<td>06/24/2013</td>
<td>BLDSPC</td>
<td>07/01/2013</td>
</tr>
<tr>
<td>7414</td>
<td>39234</td>
<td>MRSA</td>
<td>MED</td>
<td>HO</td>
<td>06/24/2013</td>
<td>BLDSPC</td>
<td>07/05/2013</td>
</tr>
<tr>
<td>7414</td>
<td>39235</td>
<td>MRSA</td>
<td>4W</td>
<td>HO</td>
<td>08/02/2013</td>
<td>BLDSPC</td>
<td>08/14/2013</td>
</tr>
</tbody>
</table>

- 7 MRSA bacteremia events, 6 identified as hospital-onset
- 3 patients!
3 hospital-onset events are excluded from the SIR
- Same patient had previous positive MRSA bacteremia entered in NHSN in the prior 14 days

<table>
<thead>
<tr>
<th>Patient ID</th>
<th>Event ID</th>
<th>Specific Organism</th>
<th>Location</th>
<th>Onset</th>
<th>Fac Admission Date</th>
<th>Specimen Source</th>
<th>Date Specimen Collected</th>
</tr>
</thead>
<tbody>
<tr>
<td>1595</td>
<td>39219</td>
<td>MRSA</td>
<td>BURN</td>
<td>HO</td>
<td>06/18/2013</td>
<td>BLDSPC</td>
<td>07/02/2013</td>
</tr>
<tr>
<td>1596</td>
<td>39220</td>
<td>MRSA</td>
<td>MED</td>
<td>HO</td>
<td>06/18/2013</td>
<td>BLDSPC</td>
<td>07/04/2013</td>
</tr>
<tr>
<td>4461</td>
<td>39964</td>
<td>MRSA</td>
<td>2N</td>
<td>CO</td>
<td>07/19/2013</td>
<td>BLDSPC</td>
<td>07/20/2013</td>
</tr>
<tr>
<td>4461</td>
<td>43000</td>
<td>MRSA</td>
<td>ICU</td>
<td>HO</td>
<td>07/19/2013</td>
<td>BLDSPC</td>
<td>07/27/2013</td>
</tr>
<tr>
<td>7414</td>
<td>39233</td>
<td>MRSA</td>
<td>ICU</td>
<td>HO</td>
<td>06/24/2013</td>
<td>BLDSPC</td>
<td>07/01/2013</td>
</tr>
<tr>
<td>7414</td>
<td>39234</td>
<td>MRSA</td>
<td>MED</td>
<td>HO</td>
<td>06/24/2013</td>
<td>BLDSPC</td>
<td>07/05/2013</td>
</tr>
<tr>
<td>7414</td>
<td>39235</td>
<td>MRSA</td>
<td>4W</td>
<td>HO</td>
<td>08/02/2013</td>
<td>BLDSPC</td>
<td>08/14/2013</td>
</tr>
</tbody>
</table>
New SIR Troubleshooting Guides!

- Available in your printed resource manual and will be posted on the NHSN Analysis webpage
- Provides guidance on common problems you may experience with your DA, SSI, and LabID Event SIRs
- One-page documents to review when your SIR is not what you expect:
  - Missing numerator counts
  - Missing denominator counts
  - Missing locations
  - SIR not calculated
Rates For Inpatient Rehab Facilities (IRFs) and Long-term Acute Care Facilities (LTACs)
Preparing CAUTI Rates for CMS Quality Reporting: IRFs and LTACs

- Location-specific CAUTI rates will be sent to CMS for IRF and LTAC Quality Reporting Programs

- Checklists and helpful guides are available: [http://www.cdc.gov/nhsn/cms/index.html](http://www.cdc.gov/nhsn/cms/index.html)

* CLABSI rates will also be sent to CMS for LTAC facilities participating in CMS Quality Reporting
Step 1. Check CMS Certification Number (CCN)

- Free-standing IRFs and LTACs: Review facility info screen and ensure correct CCN
  - From the left navigation bar: click Facility > Facility Info

- IRF units within a hospital: Review location information screen to ensure correct CCN
Step 2. Monthly Reporting Plans

- Review reporting plans for all 3 months in the quarter
- Proper locations should be listed, with “CAUTI” box checked
Step 3. Investigate ‘Alerts’ on home screen

- Incomplete or missing summary data
- If no events were reported for a given month, the ‘No events’ box must be checked
Step 4. Generate Datasets and Run Analysis Output

- After all data have been entered, generate datasets
- Specific output options for IRF and LTAC Quality Reporting found in the Advanced folder
Sample Output for LTAC

- A single table is shown in the analysis output
- CAUTI rate for each location and each quarter

<table>
<thead>
<tr>
<th>loccdc</th>
<th>summaryYQ</th>
<th>months</th>
<th>caucount</th>
<th>numucathdays</th>
<th>CAURate</th>
<th>rate95ci</th>
</tr>
</thead>
<tbody>
<tr>
<td>IN:ACUTE:CC:LTAC</td>
<td>2012Q4</td>
<td>3</td>
<td>1</td>
<td>605</td>
<td>1.653</td>
<td>0.083, 8.152</td>
</tr>
<tr>
<td>IN:ACUTE:WARD:LTAC</td>
<td>2012Q4</td>
<td>3</td>
<td>0</td>
<td>400</td>
<td>0.000</td>
<td>0.000, 7.489</td>
</tr>
<tr>
<td>IN:ACUTE:WARD:LTAC_PED</td>
<td>2012Q4</td>
<td>2</td>
<td>0</td>
<td>440</td>
<td>0.000</td>
<td>0.000, 6.808</td>
</tr>
</tbody>
</table>

Source of aggregate data: Not available
Data contained in this report were last generated on April 19, 2013 at 11:59 AM.
If Number of Infections is Too Low:

- There should be no ‘alerts’ on the home screen
- Run a line list of CAUTI events to review specific details
- For CAUTI events: Urinary Catheter must = “INPLACE” or “REMOVE”
  - Events in which urinary catheter = “NEITHER” are not considered CAUTIs and will not be included in the CAUTI rates
  - If needed, edit the event record and re-generate datasets
If Number of Device Days is Too Low:

- There should be no ‘alerts’ on the home screen
- Review summary data in the application, or run a summary data line list
  - Edit summary data if necessary and re-generate datasets
- Ensure data have been entered for all locations and for each month of the quarter
All Facilities: Helpful Hints for CMS Quality Reporting

- Run CMS Reports in NHSN Analysis before each quarterly deadline to view data that will be sent to CMS
  - SAVE/PRINT THESE REPORTS for future reference!!!
  - Any changes or updates made to your data after the quarterly deadlines will never be sent to CMS and will not be reflected on CMS preview reports
  - However, changes to your data will be reflected in the CMS Reports within NHSN Analysis Options

- Give yourself enough time to enter and review data before the quarterly deadlines
Reminder: Data can be Exported

- You can export your NHSN datasets to view/analyze on your own
  - Several formats available, including: Excel, CSV, Access, SAS

- Quick Reference Guide on exporting data:
Thank you!

nhsn@cdc.gov

For more information please contact Centers for Disease Control and Prevention

1600 Clifton Road NE, Atlanta, GA 30333
Telephone, 1-800-CDC-INFO (232-4636)/TTY: 1-888-232-6348
E-mail: cdcinfo@cdc.gov Web: 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.