

Evaluating Entered Data for Completeness, Consistency and Accuracy

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NHSN Training Course
March 13, 2014

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!**

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:**
 - **<http://www.cdc.gov/nhsn/PS-Analysis-resources/reference-guides.html>**

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

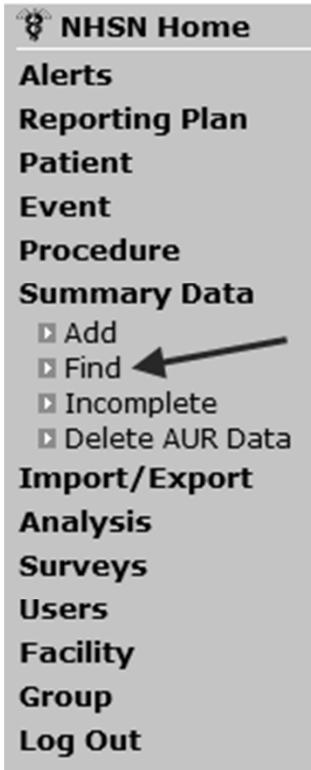
Where to Find Survey Data in NHSN Analysis Options

- ❑ **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**

The screenshot displays the 'Advanced' folder in the NHSN Analysis Options interface. An arrow points to the 'Advanced' folder name. Below it, a list of data categories is shown, with 'Facility-level Data' circled. Underneath, a list of survey line lists is displayed, each with a 'Run' and 'Modify' button.

Survey Line List	Run	Modify
Line Listing - Facility Enrollment Data	Run	Modify
Line Listing - Conferred Rights	Run	Modify
Line Listing - Hospital Survey (CDC 57.103, Rev.2)	Run	Modify
Line Listing - Hospital Survey (CDC 57.103, Rev.3)	Run	Modify
Line Listing - Dialysis Survey	Run	Modify
Line Listing - LTAC Facility Survey	Run	Modify
Line Listing - IRF Survey	Run	Modify

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

National Healthcare Safety Network Line Listing for All Summary Data

As of: January 24, 2014 at 9:46 AM

Date Range: PSSUMMARY summaryYM 2013M01 to 2013M03

summaryYM	summarytype	location	eventtype	numCdifAdm	numCdifPatDays	modifyDate	modifyUserID	noEventsLabID	imported
2013M01	MDRO	FACWIDEIN	CDIF	3497	14285	25FEB13:07:36	147	N	N
2013M02	MDRO	FACWIDEIN	CDIF	3581	14610	01APR13:11:16	5207	N	N
2013M03	MDRO	FACWIDEIN	CDIF	3513	14421	01APR13:11:16	5207	N	N

Sorted by orgID summaryYM

Data contained in this report were last generated on January 24, 2014 at 9:23 AM.

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

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

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'?**

National Healthcare Safety Network
 Frequency Table for All Ventilator-Associated Events
 As of: January 14, 2014 at 12:36 PM
 Date Range: All VA_EVENTS

Frequency Percent Row Pct Col Pct	Table of location by spcEvent					
	location	spcEvent				Total
		IVAC	POVAP	PRVAP	VAC	
	22ICU	0	0	1	1	2
		0.00	0.00	5.26	5.26	10.53
		0.00	0.00	50.00	50.00	
		0.00	0.00	33.33	14.29	
	ICU	2	6	1	4	13
		10.53	31.58	5.26	21.05	68.42
		15.38	46.15	7.69	30.77	
		66.67	100.00	33.33	57.14	
	ICU/CCU	1	0	0	0	1
		5.26	0.00	0.00	0.00	5.26
		100.00	0.00	0.00	0.00	
		33.33	0.00	0.00	0.00	
	Total	3	6	3	7	19
		15.79	31.58	15.79	36.84	100.00

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 summaryYQ 2013Q1 to 2013Q1

if (((ssiPlan = "Y")))

Org ID=10018

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

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*

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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 (((ssiPlan = "Y")))

Org ID=10018

Summary Yr/Qtr	Org ID	Procedure Code	Outpatient?	Procedure Count	All SSI Model Infection Count
2013Q1	10018	COLO	N	1	0
2013Q1	10018	HYST	N	1	0

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):**
**[http://www.cdc.gov/nhsn/PDFs/Newsletters/NHSN_NL_OCT_2010
SE_final.pdf](http://www.cdc.gov/nhsn/PDFs/Newsletters/NHSN_NL_OCT_2010_SE_final.pdf)**

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**

Procedure-Associated Module

- All Procedure-Associated Events
- SSI
 - CDC Defined Output
 - Line Listing - All SSI Events
 - Frequency Table - All SSI Events
 - Bar Chart - All SSI Events
 - Pie Chart - All SSI Events
 - SIR - Complex AR SSI Data by Procedure
 - SIR - Complex AR SSI Data by Surgeon
 - SIR - In-plan Complex AR SSI data by Procedure
 - SIR - In-plan Complex AR SSI data by Surgeon
 - SIR - All SSI Data by Procedure
 - SIR - All SSI Data by Surgeon
 - SIR - In-plan All SSI Data by Procedure
 - SIR - In-plan All SSI data by Surgeon
 - Line Listing - Procedures Excluded from SSI SIR

Line List of Excluded Procedures

National Healthcare Safety Network

Line Listing for Procedures Excluded from SSI SIR

As of: January 16, 2014 at 12:50 PM

Date Range: PROCEDURES procDateYQ 2013Q1 to 2013Q1

patID	procDate	procCode	ageAtProc	procDurationHr	procDurationMin	anesthesia	asa	emergency	scope	swClass	trauma
9200427	02/07/2013	COLO	68	11	38	Y	2	N	N	CC	N
9300006	01/08/2013	HYST	50	8	24	Y	2	N	N	CC	N

- ❑ **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

Incomplete Events	Missing Events	Incomplete Summary Data	Missing Summary Data	Incomplete Procedures	Missing Procedures	Missing Procedure-associated Events	
Month/Year	Procedures		SSI		Report No Events		
04/2012	HYST - Abdominal hysterectomy		IN - Inpatient		<input type="checkbox"/>		
04/2012	KPRO - Knee prosthesis		IN - Inpatient		<input type="checkbox"/>		
12/2012	CBGB/CBGC - Coronary artery bypass graft		IN - Inpatient		<input type="checkbox"/>		
01/2014	KPRO - Knee prosthesis		IN - Inpatient		<input type="checkbox"/>		

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

All SSI SIR Model	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • Includes <u>only</u> SSIs identified on Admission/Readmission to facility where procedure was performed • Includes <u>only</u> inpatient procedures • Includes <u>only</u> Deep incisional primary & Organ/Space SSIs
Complex 30-day SSI model (used for CMS IPPS)	<ul style="list-style-type: none"> • 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

National Healthcare Safety Network Line Listing for All Surgical Site Infection Events

As of: August 28, 2012 at 1:48 PM

Date Range: SSI_EVENTS procDateYQ 2012Q2 to 2012Q2

Patient ID	Date of Birth	Gender	Event ID	Event Date	Event Type	Specific Event	Procedure Date	Procedure Code	Duration of Procedure - hr	Duration of Procedure - min	ASA Class	Days: Procedure to Event
525769	10/21/1940	F	35330	05/31/2012	SSI	SIP	05/11/2012	HTST	1	54	1	21

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

Advanced ←

Create New custom Option

- ❏ CMS Reports
- ❏ Patient-level Data
- ❏ Event-level Data
- ❏ Procedure-level Data
 - ❏ CDC Defined Output

Line Listing - All Proc

National Healthcare Safety Network Line Listing for All Procedures

As of: February 7, 2014 at 2:59 PM
Date Range: All PROCEDURES

Patient ID	Date of Birth	Gender	Procedure Date	Procedure Code	Age on Proc Date
1090777	02/13/2012	M	02/13/2012	COLO	0
00-01-235	00/17/2002	M	00/01/2012	COLO	9
01002	01/01/2000	F	01/03/2012	COLO	12
636499	01/01/2000	F	01/17/2012	COLO	12
0077005	09/12/2000	F	12/12/2012	COLO	12
22551	01/15/1990	F	02/02/2012	COLO	22

- 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!

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SIR for All Central Line-Associated BSI Data - By OrgID/CDC Location Code

As of: February 5, 2014 at 5:45 PM

Date Range: CLAB_RATESALL summaryYQ 2013Q4 to 2013Q4

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

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.

Source of aggregate data: NHSN Report, Am J Infect Control 2009;37:783-805

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**

- 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

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CLABSI Data - Months with Missing or 0 Device Days

As of: February 5, 2014 at 5:45 PM

Date Range: CLAB_RATESALL summaryYQ 2013Q4 to 2013Q4

orgID	location	locationType	birthwgtcode	su
10401	NICU	NICU	A	
10401	NICU	NICU	B	
10401	NICU	NICU	C	
10401	NICU	NICU	D	
10401	NICU	NICU	E	

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CLABSI Data Not Included in SIR

As of: February 25, 2014 at 3:27 PM

Date Range: CLAB_RATESALL summaryYQ 2013Q4 to 2013Q4

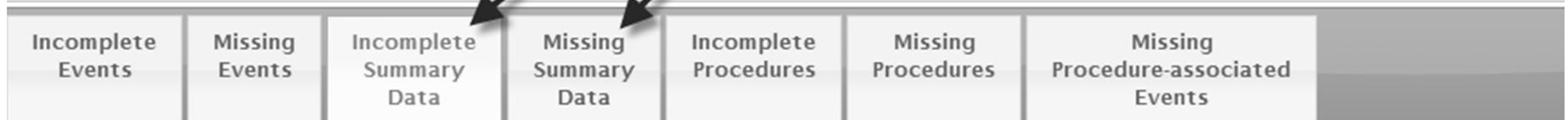
orgID=10401 CCN=N/A

orgID	locationType	loccdc	location	infcount	numCLDays
10401	WARD_ONC	IN:ACUTE:WARD:ONC_LEUK	LEUK	0	117
10401	WARD_ONC	IN:ACUTE:WARD:ONC_LEUK	LEUK	1	32
10401	WARD	IN:ACUTE:WARD:TEL	TELE	0	147
10401	WARD	IN:ACUTE:WARD:TEL	TELE	2	296
10401	WARD	IN:ACUTE:WARD:TEL	TELE	1	103

Months with Incomplete or Missing Denominators

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

Incomplete/Missing List



Incomplete Events	Missing Events	Incomplete Summary Data	Missing Summary Data	Incomplete Procedures	Missing Procedures	Missing Procedure-associated Events	
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The image shows a horizontal navigation bar with eight tabs. The first seven tabs are labeled: 'Incomplete Events', 'Missing Events', 'Incomplete Summary Data', 'Missing Summary Data', 'Incomplete Procedures', 'Missing Procedures', and 'Missing Procedure-associated Events'. The eighth tab is a solid grey rectangle. Two black arrows point from above to the 'Incomplete Summary Data' and 'Missing Summary Data' tabs.

- ❑ **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_RATESMRSA summaryYr 2012 to 2012

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

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_RATESCDIF summaryYQ 2013Q1 to 2013Q2

orgID	location	summaryYQ	months	CDIF_facIncHOCcount	numExpCDI	numpatdays	SIR	SIR_pval	sir95ci
10401	FACWIDEIN	2013Q1	3	1	2.672	3270	0.374	0.3230	0.019, 1.846
10401	FACWIDEIN	2013Q2	3	-	-	-	-	-	-

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.

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CDI Quarters with Outlier Prevalence Rate

As of: February 18, 2014 at 12:14 PM

Date Range: LABID_RATESCDIF summaryYQ 2013Q1 to 2013Q2

orgID	location	summaryYQ	cdif_admprevcocount	numAdms	CDI_COprevRate
10401	FACWIDEIN	2013Q2	5	226	2.212

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

National Healthcare Safety Network Line Listing - All MRSA LabID Events

As of: January 17, 2014 at 4:01 PM
Date Range: All LABID_EVENTS



orgID	patID	eventID	spcOrgType	location	outpatient	prevPos	onset	admitDate	locationAdmitDate	specimenSource	specimenDate
10018	000095	316957	MRSA	OR 3WEST	N	N	HO	07/02/2012	07/02/2012	BLDSPC	07/07/2012
10018	000099	316961	MRSA	2 MSICU	N	N	HO	08/11/2012	08/12/2012	BLDSPC	08/19/2012
10018	000100	316962	MRSA	ORT	N	N	HO	08/09/2012	08/09/2012	BLDSPC	08/14/2012
10018	000101	316963	MRSA	72N	N	N	HO	09/15/2012	09/15/2012	BLDSPC	09/20/2012
10018	000103	316964	MRSA	71ICU	N	N	CO	07/10/2012	07/10/2012	BLDSPC	07/11/2012
10018	000104	316965	MRSA	MICU	N	N	CO	08/03/2012	08/03/2012	BLDSPC	08/05/2012

LabID Event Frequency Table: *C. difficile*

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

National Healthcare Safety Network
 Frequency Table - All CDIF LabID Events
 As of: January 24, 2014 at 10:24 AM

Frequency Row Pct	Table of cdiAssay by onset			
	cdiAssay	onset		
	CO	CO-HCFA	HO	
Incident	9	1	59	69
	13.04	1.45	85.51	
Recurrent	1	0	9	10
	10.00	0.00	90.00	
Total	10	1	68	79

Data contained in this report were last generated on January 24, 2014 at 9:58 AM.

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**

Advanced

Create New custom Option

CMS Reports

CDC Defined Output

SIR - CLAB Data for CMS IPPS

Run Modify

SIR - CAUTI Data for CMS IPPS

Run Modify

SIR - Complex 30-Day SSI Data for CMS IPPS

Run Modify

SIR - CDI FacwideIN LabID Data for CMS IPPS

Run Modify

➔ SIR - MRSA Blood FacwideIN LabID Data for CMS IPPS

Run Modify

SIR Output for CMS IPPS

National Healthcare Safety Network SIR - MRSA Blood FacwideIN LabID Data

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

Date Range: All LABID_RATESMRSA

orgID	location	summaryYQ	months	MRSA_bldIncCount	numExpMRSA	numpatdays	SIR	SIR_pval	sir95ci
10401	FACWIDEIN	2013Q1	3	2	0.221	4455	.	.	
10401	FACWIDEIN	2013Q2	3	4	1.434	7450	2.789	0.0733	0.886, 6.728
10401	FACWIDEIN	2013Q3	3	3	1.162	6418	2.582	0.1429	0.657, 7.028

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.

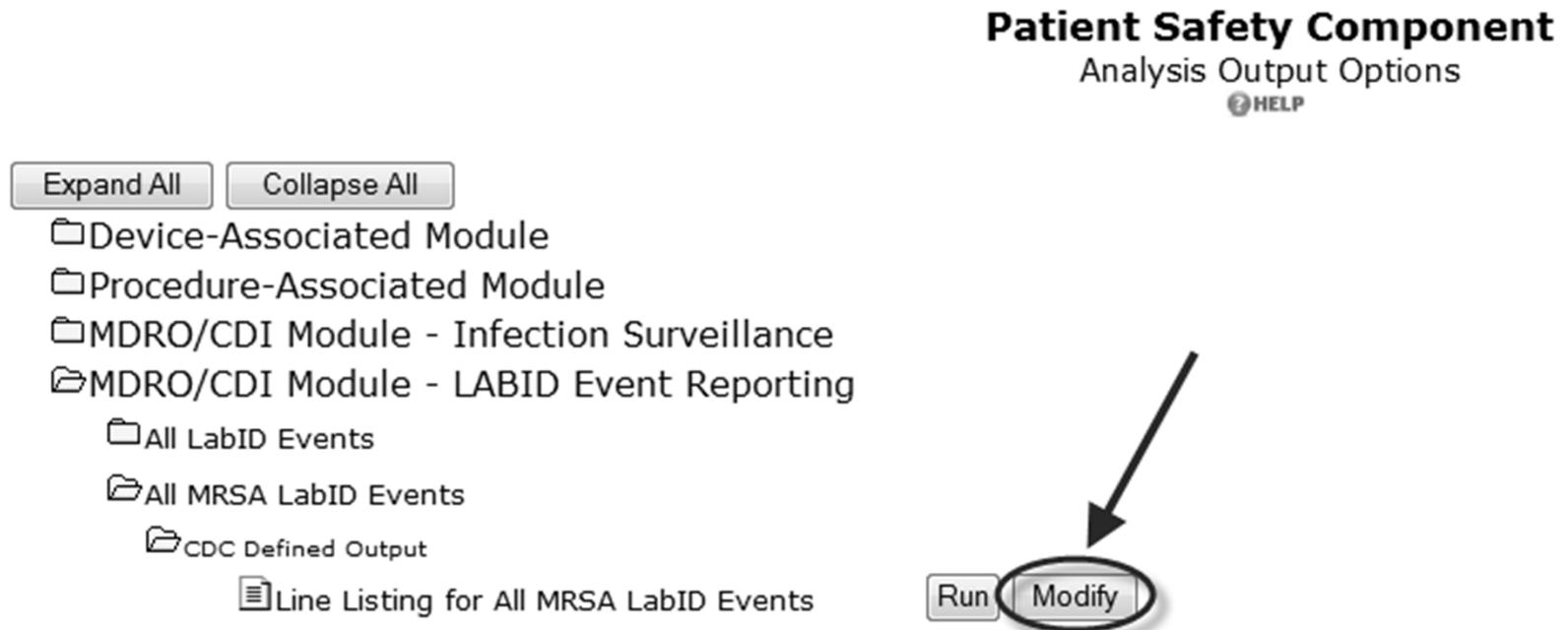
- ✓ **3 months of data**
- ✓ **Total patient days are accurate**
- **I know I entered 6 hospital-onset MRSA Bacteremia events in Q3...why are only 3 being counted??**

Run the MRSA LabID Event Line List

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

Patient Safety Component
Analysis Output Options
[? HELP](#)

- Device-Associated Module
- Procedure-Associated Module
- MDRO/CDI Module - Infection Surveillance
- MDRO/CDI Module - LABID Event Reporting
 - All LabID Events
 - All MRSA LabID Events
 - CDC Defined Output
 - Line Listing for All MRSA LabID Events



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

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

- ❑ **7 MRSA bacteremia events, 6 identified as hospital-onset**
- ❑ **3 patients!**

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

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

- **3 hospital-onset events are excluded from the SIR**
 - Same patient had previous positive MRSA bacteremia entered in NHSN in the prior 14 days

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>**

* 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

Facility Information HELP

Facility ID : 10401

ALIA ID: N/A

CMS Certification Number (CCN): 000000

VA Station Code: N/A

Object Identifier: 2.111.111.111.34754

- ❑ **IRF units within a hospital: Review location information screen to ensure correct CCN**

CDC Location Description*: Rehabilitation Ward

Is this location a CMS IRF unit within a hospital?*: Y - Yes ▾

If Yes, specify the IRF CCN (will have an R or T in the 3rd position)*: 99T999

Status*: Active ▾

Bed Size*: 10



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**
 - Guidance on 'alerts' can be found on page 6 of the NHSN Newsletter: <http://www.cdc.gov/nhsn/PDFs/Newsletters/Oct-2013.pdf>

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

Advanced

[Create New custom Option](#)

CMS Reports

CDC Defined Output

SIR - CLAB Data for CMS IPPS	Run	Modify
SIR - CAUTI Data for CMS IPPS	Run	Modify
SIR - Complex 30-Day SSI Data for CMS IPPS	Run	Modify
SIR - CDI FacwideIN LabID Data for CMS IPPS	Run	Modify
SIR - MRSA Blood FacwideIN LabID Data for CMS IPPS	Run	Modify
Line Listing - CMS ESRD QIP Rule	Run	Modify
Rate Table - CLAB Data for CMS LTCH PPS	Run	Modify
Rate Table - CAUTI Data for CMS LTCH PPS	Run	Modify
Rate Table - CAUTI Data for CMS IRF PPS	Run	Modify
Rate Table - CLAB Data for CMS PPS-Exempt Cancer...more	Run	Modify
Rate Table - CAUTI Data for CMS PPS-Exempt Cance...more	Run	Modify

Sample Output for LTAC

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

National Healthcare Safety Network

Rate Table for Catheter-Associated UTI Data for CMS Long Term Care Hospital PPS

As of: April 19, 2013 at 1:18 PM

Date Range: CAU_RATESLTAC

orgID=17776

loccdc	summaryYQ	months	caucount	numucathdays	CAURate	rate95ci
IN:ACUTE:CC:LTAC	2012Q4	3	1	605	1.653	0.083, 8.152
IN:ACUTE:WARD:LTAC	2012Q4	3	0	400	0.000	0.000, 7.489
IN:ACUTE:WARD:LTAC_PED	2012Q4	2	0	440	0.000	0.000, 6.808

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:**
<http://www.cdc.gov/nhsn/PS-Analysis-resources/PDF/ExportData.pdf>

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.

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