



2015 NHSN Rebaseline Webinar: New and Upcoming!

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November 30, 2016

Objectives

- Preview of the new application interface
- New output options
- Putting the re-baseline into practice
- Annual surveys
- Upcoming events and planned documentation

NHSN HAS A NEW LOOK!!

Summary of New Measures:

- SIRs for critical access hospitals separate from acute care hospitals
- MBI SIRs
- VAE SIRs
 - Total VAE
 - IVAC Plus
- Pediatric SSI SIRs
- MRSA and CDI LabID SIRs for LTACHs and IRFs
- Standardized Utilization Ratios (SURs) for all device types

What Has Changed?

- Addition of new reports
- Separation of reports by facility type
- More user friendly (and intuitive)
- Visually different
 - Alerts
 - Data entry screen
 - Monthly reporting plans
 - Analysis reports/Analysis modify screen
- New variables

NHSN Patient Safety Component Home Page

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NHSN National Healthcare Safety Network

NHSN - National Healthcare Safety Network [apt-v-nhsn-test:8001]

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NHSN Home

- Alerts
- Reporting Plan ▶
- Patient ▶
- Event ▶
- Procedure ▶
- Summary Data ▶
- Import/Export
- Surveys ▶
- Analysis ▶
- Users ▶
- Facility ▶
- Group ▶
- Tools ▶
- Logout

NHSN Patient Safety Component Home Page

COMPLETE THESE ITEMS

Confer Rights
Not Accepted

ALERTS

84 Incomplete Events	227 Missing Events	56 Incomplete Summary Items	322 Missing Summary Items
29 Incomplete Procedures	142 Missing Procedures	5 Missing Procedure-Associated Events	1 Unusual Susceptibility Profile

Monthly Reporting Plans



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Add Monthly Reporting Plan

Mandatory fields marked with *

Facility ID *:

Month *:

Year *:

No NHSN Patient Safety Modules Followed this Month

Device-Associated Module

	Locations	CLABSI	VAP	CAUTI	CLIP
<input type="checkbox"/>	<input type="text" value="PEDSURG_CC - PEDSURG_CC"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="text" value="AMAU - ADULT MIXED ACUTY UNIT"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Procedure-Associated Module

	Procedures	SSI	Post-procedure PNEU
<input type="checkbox"/>	<input type="text" value="COLO - Colon surgery"/>	IN: <input checked="" type="checkbox"/> OUT: <input type="checkbox"/>	<input type="text" value="IN - Inpatient"/>
<input type="checkbox"/>	<input type="text" value="HYST - Abdominal hysterectomy"/>	IN: <input checked="" type="checkbox"/> OUT: <input type="checkbox"/>	<input type="text" value="IN - Inpatient"/>

Accessing Data Entry Screens



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Find Procedure

- Enter search criteria and click Find
- Fewer criteria will return a broader result set
- More criteria will return a narrower result set

- Add
- Find
- Incomplete

Procedure Information

Facility ID:

Procedure #:

NHSN Procedure Code:

ICD-9-CM Code:

Procedure Date: To:

Patient Information

Patient ID:

Last Name:

First Name:

Social Security #:

Secondary ID:

General Information

Completion Status:

Generating Datasets

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Generate Data Sets

Generate Patient Safety Analysis Data Sets

Datasets generated will include data for the 3 most recent full calendar years up until today's date for the Patient Safety Component. To include all years check the box below.

For all other components, datasets generated will include all years. Note that any analysis options you run will be limited to the time period shown on the date range bar.

Include all data reported to NHSN for this component within the parameters of rights conferred.

1/2013 11/2016

Generate New Last Generated: Nov 7 2016 1:36PM

Don't forget to check the check box to include all years of data!

Statistics Calculator



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NHSN Home

Alerts

Reporting Plan ▶

Patient ▶

Event ▶

Procedure ▶

Summary Data ▶

Import/Export

Surveys ▶

Analysis ▶

Users ▶

Facility ▶

Group ▶

Tools ▶

Logout



Statistics Calculator

- ▣ [Compare Two Proportions](#)
- ▣ [Compare Single SIR to 1](#)
- ▣ [Compare Two Standardized Infection Ratios](#)
- ▣ [Compare Two Incidence Density Rates](#)
- ▣ [Compare Single Proportion to a Benchmark](#)
- ▣ [Compare Single SIR to Nominal Value](#)

Generate Data Sets

Reports

Statistics Calculator



Analysis Reports



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National Healthcare Safety Network



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- Analysis ▶**
- Users ▶
- Facility ▶
- Group ▶
- Tools ▶
- Logout

Analysis Reports

Output Options are now called **Analysis Reports!**

Expand All **Collapse All**

- Device-Associated (DA) Module
- Procedure-Associated (PA) Module
- HAI Antimicrobial Resistance (DA+PA Modules)
- Antimicrobial Use and Resistance Module
- MDRO/CDI Module - LABID Event Reporting
- MDRO/CDI Module - Infection Surveillance
- MDRO/CDI Module - Process Measures
- MDRO/CDI Module - Outcome Measures
- CMS Reports
- TAP Reports
- Baseline Set 1
- Advanced
- My Custom Reports
- Published Reports

NEW Features:

- ✓ Quickly access your desired reports by searching key words, such as CLABSI SIR
- ✓ Expand all folders / Collapse all folders
- ✓ See the tree view of the report folders and sub folders



Analysis Reports

NHSN Home

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Analysis Reports

Expand All

Collapse All

Search

- Device-Associated (DA) Module
- Procedure-Associated (PA) Module
- HAI Antimicrobial Resistance (DA+PA Modules)
- Antimicrobial Use and Resistance Module
- MDRO/CDI Module - LABID Event Reporting
- MDRO/CDI Module - Infection Surveillance
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- MDRO/CDI Module - Outcome Measures
- CMS Reports
- TAP Reports
- Baseline Set 1**
- Advanced
- My Custom Reports
- Published Reports

Locating reports based on 2015 baseline:

All folders displayed here, with the exception of the folder named Baseline Set 1, contain reports using the new 2015 baseline

Locating reports based on 'old' baseline:

Please find reports using the old baseline here in the Baseline Set 1, also called BS1 folder.
Reports are organized by HAI type

Analysis Reports-New Reports

Analysis Reports

Expand All Collapse All Search

- Device-Associated (DA) Module
 - Central Line-Associated BSI
 - Line Listing - All CLAB Events
 - Frequency Table - All CLAB Events
 - Bar Chart - All CLAB Events
 - Pie Chart - All CLAB Events
 - Rate Table - CLAB Data for ICU-Other
 - Run Chart - CLAB Data for ICU-Other
 - Rate Table - CLAB Data for NICU
 - Run Chart - CLAB Data for NICU
 - Rate Table - CLAB Data for SCA/ONC
 - Run Chart - CLAB Data for SCA/ONC
 - SIR SIR - Acute Care Hospital CLAB Data**
 - SIR SIR - Critical Access Hospitals CLAB Data**
 - SIR SIR - Long Term Acute Care CLAB Data**
 - SIR SIR - Inpatient Rehab Facilities CLAB Data**
 - Custom Reports
 - TEST: Line Listing - All CLAB Events

SIR reports by facility types

MDRO/CDI Module - LABID Event Reporting

- All LabID Events
- All MRSA LabID Events
 - Line Listing for All MRSA LabID Events
 - Frequency Table for All MRSA LabID Events
 - Bar Chart for All MRSA LabID Events
 - Pie Chart for All MRSA LabID Events
 - Rate Table - MRSA LabID Data
 - SIR SIR - ACH MRSA Blood FacwideIN LabID Data**
 - SIR SIR - CAH MRSA Blood FacwideIN LabID Data**
 - SIR SIR - IRF MRSA Blood LabID Data**
 - SIR SIR - LTAC MRSA Blood FacwideIN LabID Data**

SIR reports by facility types

Analysis Reports



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Analysis Reports

Expand All

Collapse All

Search

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 - Bar Chart - All CLAB Events
 - Pie Chart - All CLAB Events
 - Rate Table - CLAB Data for ICU-Other
 - Run Chart - CLAB Data for ICU-Other
 - Rate Table - CLAB Data for NICU
 - Run Chart - CLAB Data for NICU
 - Rate Table - CLAB Data for SCA/ONC
 - Run Chart - CLAB Data for SCA/ONC
 - SIR - Acute Care Hospital CLAB Data
 - Run Report
 - Modify Report
 - Export Data Set

Modifying Reports-SIR Reports

Modify "SIR - Acute Care Hospital CLAB Data"

Show descriptive variable names ([Print List](#)) Analysis Data Set: bs2_CLAB_RatesICU Type: SIR Data Set Generated On: 11/07/2016 13:36:00

Title/Format Time Period Filters Display Options

Title:

▶ Run Save... Export... Close

Modify "SIR - Acute Care Hospital CLAB Data"

Show descriptive variable names ([Print List](#)) Analysis Data Set: bs2_CLAB_RatesICU Type: SIR Data Set Generated On: 11/07/2016 13:36:00

Title/Format **Time Period** Filters Display Options

Time Period:

Date Variable	Beginning	Ending	
<input type="text" value=""/>	<input type="text" value=""/>	<input type="text" value=""/>	⌘ Clear Time Period

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

▶ Run Save... Export... Close

Modifying Reports-SIR Reports

Modify "SIR - Acute Care Hospital CLAB Data"

Show descriptive variable names (Print List) Analysis Data Set: bs2_CLAB_RatesICU Type: SIR Data Set Generated On: 11/07/2016 13:36:00

Title/Format Time Period Filters Display Options

Additional Filters:

AND OR

AND OR

locationType equal CC - CC

bsiPlan equal Yes

Modify "SIR - Acute Care Hospital CLAB Data"

Show descriptive variable names (Print List) Analysis Data Set: bs2_CLAB_RatesICU Type: SIR Data Set Generated On: 11/07/2016 13:36:00

Title/Format Time Period Filters Display Options

SIR Options:

Group by: Cumulative
summaryYH
summaryYM
summaryYQ
summaryYr

Get a cumulative SIR for your specified time period

Modifying Reports-Line Listing Reports

Modify "Line Listing - All SSI Events"

Show descriptive variable names ([Print List](#))

Analysis Data Set: SSI_Events

Type: Line Listing

Data Set Generated On: 10/03/2016 13:54:00

Title/Format

Time Period

Filters

Display Variables

Sort Variables

Display Options

Display Variables:

Available Variables:

acine
admDateYH
admDateYM
admDateYQ
admDateYr
admToDisDays
admToEvtDays
ageAtEvent
approach
approachDesc
asaDesc
birthWt
birthWtCode
birthWtCodeDesc
bidLoss

All >>

Selected >

< Selected

<< All

Selected Variables:

orgID
patID
dob
sex
admitDate
eventID
eventDate
eventType
spcEvent
procDate
procCode
procDurationHr
procDurationMin
anesthesia
asa

^ Up

v Down

Modifying Reports-Line Listing Reports

Modify "Line Listing - All SSI Events"

Show descriptive variable names (Print List) Analysis Data Set: SSI_Events Type: Line Listing Data Set Generated On: 11/07

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

Sort Variables:

Available Variables:

- disDateYr
- dob
- emergency
- ethnicity
- ethnicityDesc
- eventDate
- eventID**
- eventTypeDesc
- evtDateYH
- evtDateYM
- evtDateYQ
- evtDateYr
- evtToDisDays
- hpro

Selected Variables:

- eventType

Buttons: All, Selected, Selected, All, Up, Down, Undo

My Custom Reports



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NHSN Home

- Alerts
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- Users ▶
- Facility ▶
- Group ▶
- Tools ▶
- Logout



Analysis Reports

Expand All

Collapse All

Search

- Device-Associated (DA) Module
- Procedure-Associated (PA) Module
- HAI Antimicrobial Resistance (DA+PA Modules)
- Antimicrobial Use and Resistance Module
- MDRO/CDI Module - LABID Event Reporting
- MDRO/CDI Module - Infection Surveillance
- MDRO/CDI Module - Process Measures
- MDRO/CDI Module - Outcome Measures
- Baseline Set 1
- Advanced
- My Custom Reports**
- Create New Custom Report...
- My Report Sets
- REBECCA - bs1_SIR_AIISSIProc

- ▶ Run Report
- ⚙️ Modify Report
- ✖ Delete Report
- 📄 Export Data Set
- 📢 Publish Report
- ✏️ Rename Report

Creating Custom Reports

Analysis Data Set:

bs1_SIR_AISSIProc
bs1_SIR_AISSISurg
bs1_SIR_Cmpx30dSSIProcPCH
bs1_SIR_Complex30dSSIProc
bs1_SIR_Complex30dSSISurg
bs1_SIR_ComplexSSIProc
bs1_SIR_ComplexSSISurg
bs1_VAE_RatesICU_SCA
bs1_VAE_RatesLTAC_CMS
bs2_CAU_Rates_CMS
bs2_CAU_RatesCAH
bs2_CAU_RatesCAH_CMS
bs2_CAU_RatesICU_SCA
bs2_CAU_RatesIRF
bs2_CAU_RatesLTAC
bs2_CAU_RatesNICU
bs2_CAU_RatesONC
bs2_CAU_TAP
bs2_CAU_TAPIRF
bs2_CAU_TAPLTAC
bs2_CLAB_Rates_CMS
bs2_CLAB_RatesCAH
bs2_CLAB_RatesCAH_CMS
bs2_CLAB_RatesICU
bs2_CLAB_RatesIRF
bs2_CLAB_RatesLTAC
bs2_CLAB_RatesNICU
bs2_CLAB_RatesONC
bs2_CLAB_RatesSCA
bs2_CLAB_TAP

Type:

Bar Chart
TAP
Bar Chart Summary
Frequency Table Summary
Line Listing
Run Chart
Rate Table
Pie Chart Summary
Pie Chart
SIR
Frequency Table

New Report

Show descriptive variable names (Print List)

Analysis Data Set: bs2_CAU_RatesCAH

Type: Line Listing

Data Set Generated On: 11/09/2016 07:16:39

Title/Format

Time Period

Filters

Display Variables

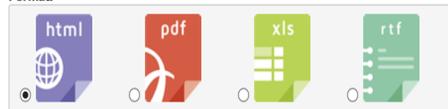
Sort Variables

Display Options

Title:

bs2_CAU_RatesCAH

Format:



Published Reports

- Published Reports
 - SIR - MONTHLY Complex 30-Day SSI Data for CMS IPPS
 - SSI Pathogen Issue
 - Antibiogram - SSI Pathogen Issue
 - SSI Events for CMS Output
 - Procedures for CMS output
 - SLJ Line Listing for All LabID Events
 - Line Listing - All Events steve
 - LA Feb 2013 Line Listing - All SSI Events
 - LA Feb 2013 SIR - All SSI Data by Procedure
 - HAI Freq Table test
 - sho3 - Line Listing for All Patients for defect 2321
 - Adult-TAR-3
 - Adult-TAR-4
 - Pediatric-TAR-3
 - Pediatric-TAR-4
 - SIR - Monthly CLAB Data for CMS IPPS
 - CR 536 Verification (CLABSI SIR for IPPS)
 - Line Listing - All CLAB Events
 - Line Listing - All CLAB Events DEMO
 - Line Listing - CLABSI in ICU locations

Additional Changes to NHSN Application, Coming Soon

Lindsey Weiner

Running Analysis Reports in NHSN

- New variables
 - Indicator variables for SSI events
 - Exclusion variables for procedures
- New names for existing variables
 - Denominator of the SIR: number of predicted events
 - Previously called numExp; now called “**numPred**”
 - Total patient days from the annual survey
 - Previously called numPatDays; now called “**numPatDaysSurv**”
 - Total admissions from the annual survey
 - Previously called numAdmits; now called “**numAdmitsSurv**”
- New naming convention for analysis datasets (exporting)
 - Datasets are prefixed with “bs1” or “bs2”
 - BS1: original baseline
 - BS2: new baseline

Modify Screen

- MDRO/CDI Module - LABID Event Reporting
 - All LabID Events
 - All MRSA LabID Events
 - All MSSA LabID Events
 - All C. difficile LabID Events
 - Line Listing for All CDIF LabID Events
 - Frequency Table for All CDIF LabID Events
 - Bar Chart for All CDIF LabID Events
 - Pie Chart for All CDIF LabID Events
 - Rate Tables for CDIF LabID Data
 - SIR SIR - ACH CDI FacwideIN LabID Data
 - SIR SIR - CAH CDI FacwideIN LabID Data

Modify "SIR - ACH CDI FacwideIN LabID Data"

Show descriptive variable names (Print List) **Analysis Data Set: bs2_LABID_RatesCDIF** Type: SIR

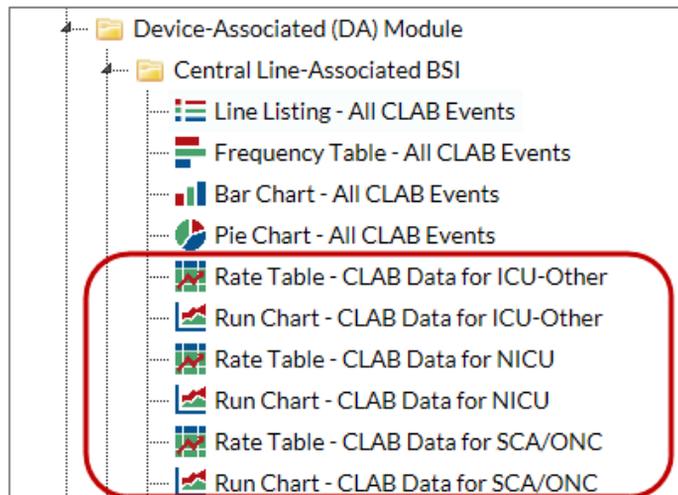
Title/Format	Time Period	Filters	Display Options
--------------	-------------	---------	-----------------

Title:



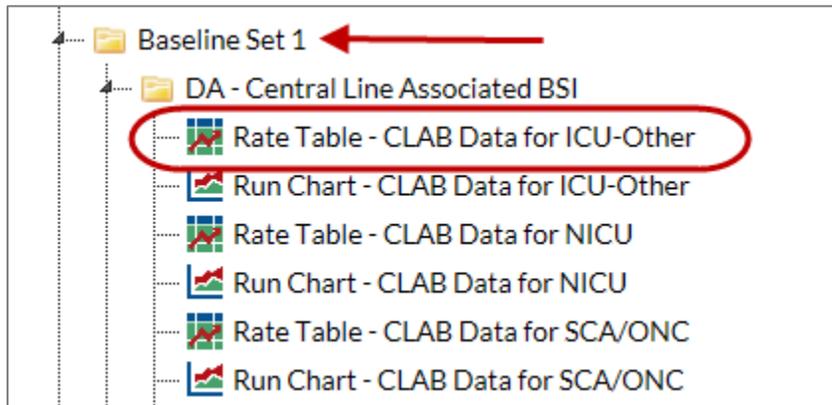
Pooled Means (National Benchmark Rates)

- 2014 is the last year NHSN will publish device-associated national pooled means
 - Infection rate and device utilization ratio (DUR)
 - Moving forward, benchmarks will be published annually as SIRs
- Typically, rate tables provided the facility's rate and DUR, with a comparison to national pooled means
- Pooled means will no longer appear in the default device-associated rate tables for 2015 data and forward



Rate Tables in “Baseline Set 1” Folder

- Review the comparison between your facility’s rates and the **2014** national pooled mean rates in the “Baseline Set 1” folder
 - 2015 + 2016 device-associated rates will be compared to **2014** national pooled mean



- Reminder: 2014 is the last pooled mean in the “Baseline Set 1” rate tables
- 2015 national pooled means will be available in the Rate Calculator

Rate Calculator

- *New* online tool launching next year, 2017
- Public website outside of the NHSN application
- User will enter risk factors as they apply to the facility/HAI of interest
 - e.g., bed size, medical school affiliation
- Calculator will produce a national pooled mean rate for the facility based on **2015 national data**
 - No annual updates
- All HAI types (including SSI, MRSA & *C.difficile* LabID, etc.)
- More information will be provided next year

Analyzing SIRs Under the Updated Baseline

Interpretation, Graphical Display, Communication

Generating SIRs in NHSN: *C.difficile* Example

- MDRO/CDI Module - LABID Event Reporting
 - All LabID Events
 - All MRSA LabID Events
 - All MSSA LabID Events
 - All *C. difficile* LabID Events
 - All VRE LabID Events
 - All CephR-Klebsiella LabID Events
 - All CRE LabID Events

National Healthcare Safety Network
SIR for CDI FacwideIN LabID in Acute Care Hospital (2015 baseline)
 As of: November 16, 2016 at 10:34 AM
 Date Range: All BS2_LABID_RATE\$CDIF

orgID	location	summaryYQ	months	CDIF_facIncHOCCount	numPred	numpatdays	SIR	SIR_pval	sir95ci
10401	FACWIDEIN	2016Q1	3	4	6.627	10621	0.604	0.3132	0.192, 1.456

- This report includes facility-wide inpatient data from acute care hospitals for 2015 and forward.
- The SIR is only calculated if number predicted (numPred) is >= 1. Lower bound of 95% Confidence Interval only calculated number of observed events > 0.
- The # of predicted events is calculated based on national 2015 NHSN data. It is adjusted for inpatient community-onset CDI prevalence rate, ED/OBS reporting, CDI test type, medical school teaching status, facility type, # beds, and # ICU beds.
- Events from rehabilitation wards and behavioral health/psych wards with a unique CCN are excluded. Information on how to determine which events are counted in the SIR can be found here: http://www.cdc.gov/nhsn/pdfs/ps-analysis-resources/mrsacdi_tips.pdf
- If any risk factor data are missing, the record is excluded from the SIR.

Source of aggregate data: 2015 NHSN CDI LabID Data
 Data contained in this report were last generated on November 15, 2016 at 5:01 PM.

- Facility-wide inpatient (FACWIDEIN) *C.difficile* SIR, 2016 Q1
- Baseline year(s) are indicated in the report title
- New footnotes!

Interpretation of SIRs under the New Baseline

$$\text{SIR} = \frac{\text{\# Observed Events}}{\text{\# Predicted Events}}$$

- # predicted events is calculated from a regression model, using variables found to be statistically significant predictors of the HAI in 2015 national data
- SIR under the new baseline is still compared to 1!
- **SIR > 1:**
 - more HAIs observed than predicted, based on 2015 national experience
- **SIR < 1:**
 - fewer HAIs observed than predicted, based on 2015 national experience
- The SIR is only calculated when # of predicted infections is ≥ 1
- The # observed HAIs is significantly different than # predicted HAIs if:
 - p-value ≤ 0.05
 - 95% confidence interval does *not* include the value of 1

Interpretation of SIRs under the New Baseline

National Healthcare Safety Network

SIR for CDI FacwideIN LabID in Acute Care Hospital (2015 baseline)

As of: November 16, 2016 at 10:34 AM

Date Range: All BS2_LABID_RATE\$CDIF

orgID	location	summaryYQ	months	CDIF_facIncHOCCount	numPred	numpatdays	SIR	SIR_pval	sir95ci
10401	FACWIDEIN	2016Q1	3	4	6.627	10621	0.604	0.3132	0.192, 1.456

- Complete data from all 3 months of the quarter are included
- Facility observed 4 hospital-onset *C.difficile* events
- Number of predicted events (numPred) = 6.627
- SIR = 0.604
 - Facility observed fewer CDI events than predicted, based on 2015 baseline
 - P-value and 95% confidence interval tell us the SIR is not statistically significant

Review of Available Time Periods for the SIR Calculation

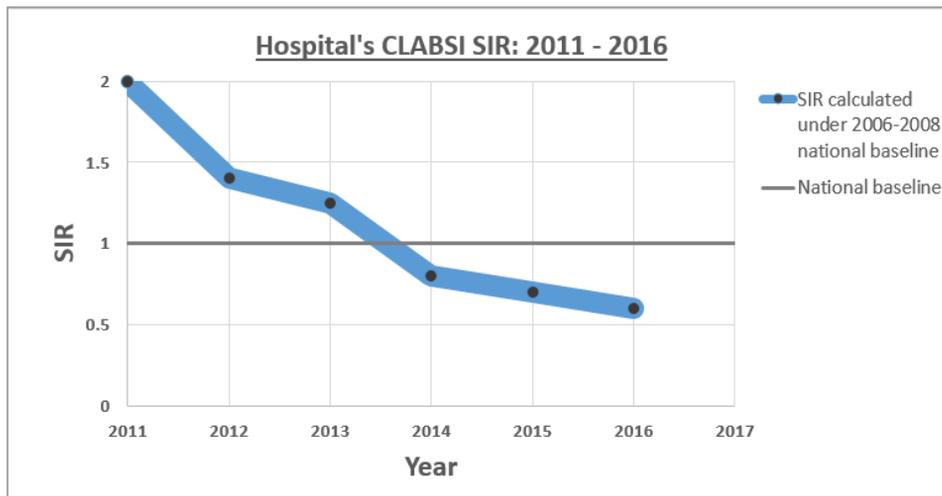


- SIRs under the [new](#) baseline can be calculated starting with 2015 data
- SIRs under the original baselines* can continue to be calculated through 2016 data
 - Will be used by CMS: Hospital Value-Based Purchasing (HVBP) program
 - Can be used by NHSN users when comparing to prior years of data
- Starting with 2017 data, SIRs will only be calculated in NHSN under new risk models

*Original Baselines: CLABSI, SSI: 2008; CAUTI: 2009; MRSA, CDI: 2011

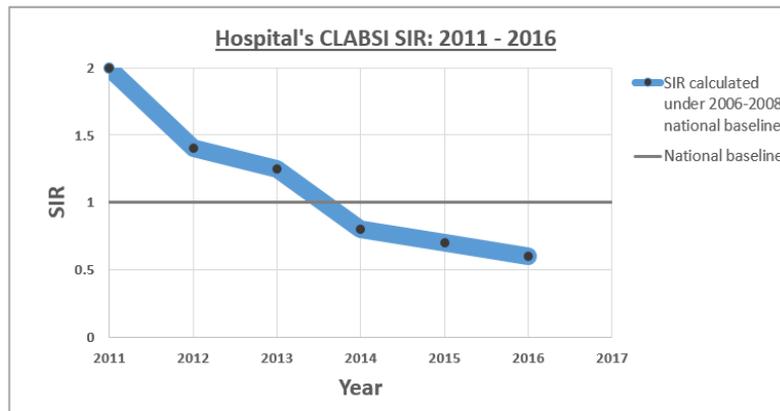
Example: Review SIRs Under Original Baseline Through 2016

- Our example hospital has been tracking their CLABSI SIRs since 2011
 - Recently implemented a new CLABSI prevention measure in 2015
 - Any visible changes in the CLABSI SIR between 2015 and 2016?



Best Practices for Graphical Display of SIR

- SIRs have been labeled with the corresponding baseline
- Continuous SIR display stops at 2016; 2017 data must use the new baseline
- For descriptive purposes only
 - No statistical analyses were performed



Transition Period: Which SIRs Do We Use?



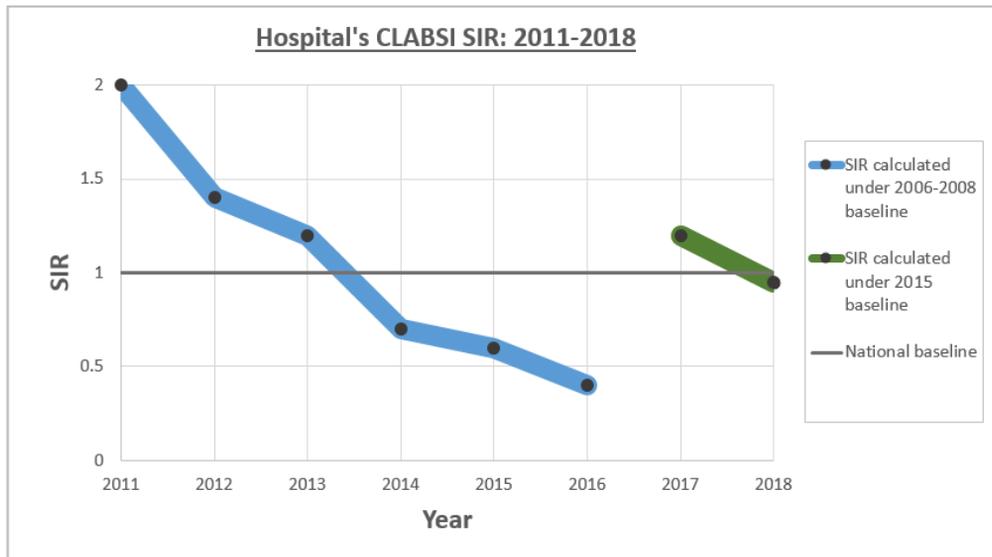
- If needed, continue reviewing SIRs under original baseline through 2016
 - Show effectiveness of prevention activities
 - Progress over time from the original baseline population
 - Review data that will be used in HVBP
- Begin reviewing SIRs under the new baseline from 2015 and forward
 - New starting place for measuring HAIs
 - Hospital Compare will display 2015 SIRs under the new baseline
 - 2015 SIRs under the new baseline will be used in future HVBP
- CDC will start using the new baseline with 2015 data
 - HAI Progress Report
 - National and state 2015 SIRs will use the updated risk models

SIR Display

- The following slides will show examples and recommendations for how to display and interpret SIRs during this transition period, calculated under either baseline.
- Basic principles of SIR display during transition:
 - Understand which time periods are available for each baseline
 - If displaying SIRs over time in a continuous line, the SIRs from all time periods must be calculated under the *same* baseline
 - SIRs under the new baseline cannot be directly compared to SIRs from the original baseline
 - When presenting or discussing your hospital's SIRs, be sure to clearly label the baseline time period used
- There are MANY more ways to display SIR data!

Incorporate New Baseline

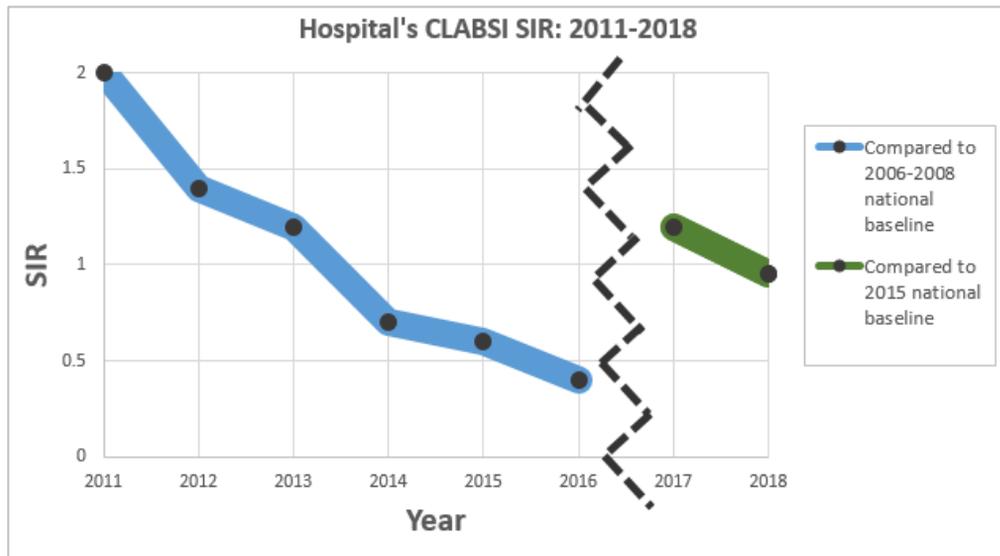
- Our example hospital has been tracking their CLABSI SIRs since 2011
- IP would like to continue monitoring SIRs on a single graph beyond 2016
 - Must incorporate new baseline!



Note: SIR = 1 always represents the national baseline

Incorporate New Baseline

- SIRs under new baseline cannot be compared to SIRs from original baseline!
- Acceptable to show SIRs under both baselines in a single figure, given:
 - Line graph is *not* connecting points between different baselines
 - Each baseline is clearly labeled



Alternative Example: Transition at 2015



- When presenting SIRs under new baseline for the first time, consider showing SIRs under the old baseline for context & as an indication of past progress

Talking Points: Discussing SIRs During Transition Period



- 2011 – 2014 SIRs under original baseline
- 2014 SIR = 0.50
- Interpretation: In 2014, our facility saw 50% fewer CLABSIs than predicted, compared to the **2006-2008** national experience
- 2015 SIR under new baseline-transition year
- 2015 SIR = 1.20
- Interpretation: In 2015, our facility saw 20% more CLABSIs than predicted, based on the **2015** national experience

Assessing Changes in HAI Experience Over Time

- SIRs under the original baseline **cannot** be directly compared to any SIRs calculated under the new baseline
 - Different risk adjustment, different baseline population
- When comparing SIRs from two time periods, both SIRs must have been calculated under the *same* baseline
 - 2014 vs. 2015 SIRs: original baseline
 - 2015 vs. 2016 SIRs: use *either* the new baseline or original baseline for both SIRs in the comparison
 - 2016 vs. 2017 SIRs: new baseline

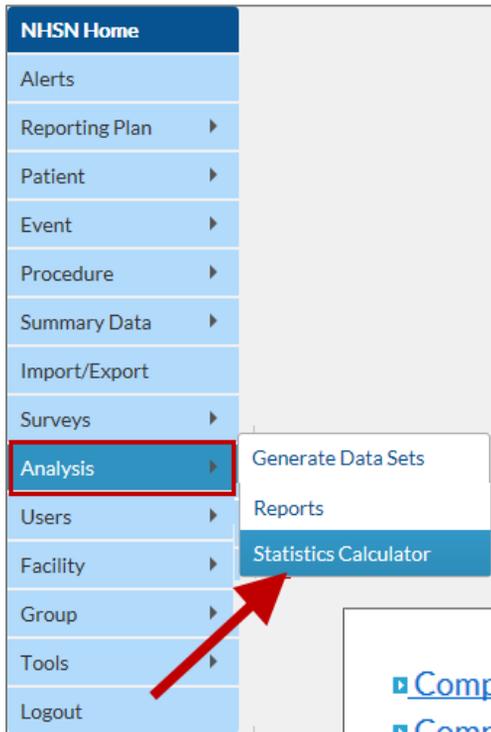


- Perform statistical comparison of 2 SIRs directly in NHSN

Example

- Our hospital has been participating in a prevention collaborative for MRSA bacteremia
- IP would like to determine whether there was a significant change in MRSA bacteremia in 2016 compared to 2015
- SIRs calculated under either baseline could be used for this comparison. IP decided to use the 2015 national baseline:
 - 2015 MRSA bacteremia SIR = 1.216
 - 2016 MRSA bacteremia SIR = 0.771

NHSN Statistics Calculator



- ▣ [Compare Two Proportions](#)
- ▣ [Compare Single SIR to 1](#)
- ▣ [Compare Two Standardized Infection Ratios](#)
- ▣ [Compare Two Incidence Density Rates](#)
- ▣ [Compare Single Proportion to a Benchmark](#)
- ▣ [Compare Single SIR to Nominal Value](#)

NHSN Statistics Calculator

	Data Source #1	Data Source #2
Group Labels:	2015 SIR - new baseline	2016 SIR - new baseline
Number observed:	9	6
Number predicted:	7.401	7.779
Standardized Infection Ratio:	1.216	0.771

Title: MRSA Bacteremia SIRs: 2015 vs. 2016

Calculate Back

Example- 2015 vs. 2016 SIR

- 2015 SIR: $9 \text{ observed} / 7.401 \text{ predicted infections} = 1.216$
- 2016 SIR: $6 \text{ observed} / 7.779 \text{ predicted infections} = 0.771$
- Optional fields: Group Labels, Title

NHSN Statistics Calculator

National Healthcare Safety Network MRSA Bacteremia SIRs: 2015 vs. 2016		
As of: November 16, 2016 at 10:18 AM		
	2015 SIR - new baseline	2016 SIR - new baseline
Observed	9	6
Predicted	7.401	7.779
SIR	1.216	0.771
Relative ratio of SIRs (data column 2 / data column 1): $0.771/1.216 = 0.634$ (63.4%)		
Two-tailed p-value: 0.3995		
95% Conf. Interval: 0.21, 1.803		

Interpretation: Is the 2016 SIR different from the 2015 SIR?

- P-value = 0.3995
- 95% confidence interval = (0.2 , 1.8)
- Because the p-value is greater than 0.05, and the confidence interval crosses 1, we conclude that the 2016 SIR is **not** significantly different from 2015 SIR

NHSN Annual Facility Surveys

Scott Decker

2016 Patient Safety Annual Survey

- 2016 Annual Survey for ACH's, LTACH's, IRF's and ASC's will be available at the beginning of the 2017 calendar year
- Complete survey on the NHSN application after the 8.6 release on January 7th, 2017
 - Please do not complete the survey until the release of NHSN 8.6
- Survey deadline: March 1, 2017
- CMS Certified IRF units within Hospitals have to complete additional supplemental survey

 **Add Annual Survey**

Mandatory fields marked with *

Facility ID: *

Survey Type: *

Survey Year: *

Survey FAQ's/Reminders

- Medical school affiliation can include medical and/or nursing students for Undergraduate level
- Use data that was collected during the 2016 calendar year
 - Must wait until 2016 has passed in order to capture all data for the full calendar year
 - If changes to your facility were made during a calendar year and impact survey responses, use information that was in place for the majority of the year
- CDI Test Type– Question on survey, but not used for risk adjustment. NHSN uses quarterly summary reports (march, June, September, December) for this question
- Print a copy of the survey to review with hospital personnel that may answer certain questions before completing in NHSN
- Full list of survey FAQ's: http://www.cdc.gov/nhsn/pdfs/faqs/psc/faqs_annual-surveys.pdf

Review Survey in NHSN

- Use NHSN analysis options to check if 2016 survey is completed
 - Can also compare recent survey to ones completed in the past

The screenshot displays the NHSN software interface. On the left, a file tree shows the following structure:

- Advanced
 - Patient-level Data
 - Event-level Data
 - Procedure-level Data
 - Summary-level Data
 - Plan Data
 - Pathogen-level Data
 - Facility-level Data
 - Line Listing - Facility Enrollment Data
 - Line Listing - Conferred Rights
 - Line Listing - Hospital Survey (2002-2009)
 - Line Listing - Hospital Survey (2010-2013)
 - Line Listing - Hospital Survey (2014)
 - Line Listing - Hospital Survey (2015 and later)

A blue arrow points to the 'Line Listing - Hospital Survey (2015 and later)' item, with the text '2016 Survey Found Here' next to it. A context menu is open over this item, showing the following options:

- Run Report
- Modify Report
- Export Data Set

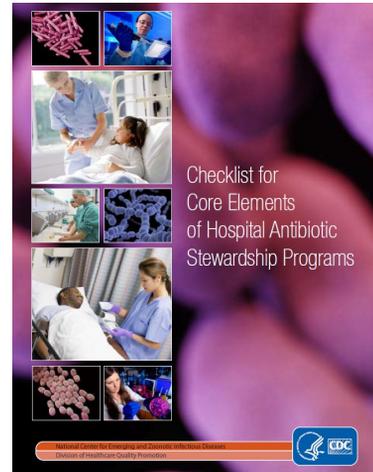
Below the file tree, the following text is visible:

reference to Stewardship Co...
 015 and forward)
National Healthcare Safety Network
Line Listing - Hospital Survey (2015 and later)
 As of: November 17, 2016 at 1:54 PM
 Date Range: All HOSP SURVEYV5

orgID	surveyYear	name	facOwnerDesc	numICP	totHrSurv	totHrOth	medAff	medTypeDesc	numBeds	numICUBeds
10018	2015	DHQP MEMORIAL HOSPITAL	GOV - Government	32.00	60	65	Y	M - Major	501	101
10018	2016	DHQP MEMORIAL HOSPITAL	P - For Profit	6.00	23	12	N		7	3

Core Elements of Antibiotic Stewardship Line List

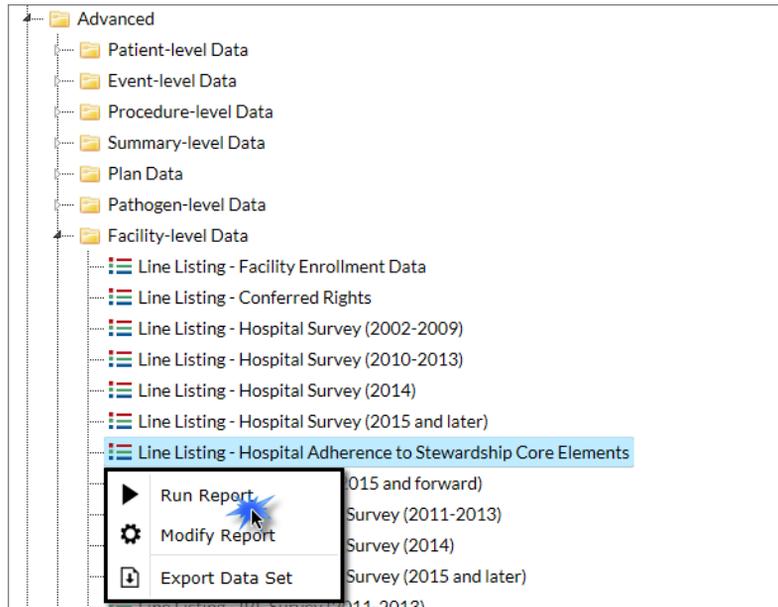
- New Output option using the PS Hospital Annual Survey responses
- Questions 23-33 on the Hospital Survey align with the 7 Core Elements of Hospital Antibiotic Stewardship Programs
 - Leadership
 - Accountability
 - Drug Expertise
 - Action
 - Tracking
 - Reporting
 - Education



More information about hospital antibiotic stewardship programs:
<http://www.cdc.gov/getsmart/healthcare/implementation/core-elements.html>

Core Elements Line List- New Report Option

- Located in the Advanced folder in NHSN where other survey data reports are found
- Only available for 2015 Surveys and later
- Select “Run Report” to obtain line list



Core Elements Line List

- Responses from questions 23-33 on survey will generate either a Yes ('Y') or No ('N') on the line list for each of the 7 elements
- Total number of 'Y' responses will be summed for the 'coreElementsMet' variable

National Healthcare Safety Network

Line Listing - Hospital Adherence to Seven Core Elements of Hospital Antibiotic Stewardship Program

As of: November 18, 2016 at 2:42 PM

Date Range: All ABX STEWARDSHIP

orgID	surveyYear	Leadership_CE	Accountability_CE	DrugExpertise_CE	Action_CE	Tracking_CE	Reporting_CE	Education_CE	coreElementsMet
10018	2015	Y	Y	Y	Y	Y	Y	N	6
10018	2016	N	N	N	Y	N	Y	N	2

- The above table indicates that in 2015 6 out of 7 core elements were achieved in 2015, but only 2 out of 7 in 2016
- Resource guide for this output will be made available prior to new release

Upcoming Change with Survey Data

- NHSN currently uses the most recent PS Annual Survey for all risk adjustment calculations:

Quarterly SIR Report	Survey Used
2015Q1 CLABSI	2015 PS Annual Survey
2014 Q4 CLABSI	2015 PS Annual Survey

- Upcoming release will align the year of data with the corresponding survey year:

Quarterly SIR Report	Survey Used
2015Q1 CLABSI	2015 PS Annual Survey
2014 Q4 CLABSI	2014 PS Annual Survey

- Where survey is missing for a particular year, most recent survey in NHSN will be used for risk adjustments

Quick Data Quality Reminder!

- Entry or deletion of events
- Changes to numbers of patient days, device days, admissions
- Removal or addition to monthly reporting plans
- Change in admission date, previous discharge date on LABID events
- Changes to relevant factors in the annual survey (e.g., medical school affiliation, facility bedsize)
- Resolution of “Report No Events” alerts

All can have a potential impact on your facilities SIR!

Places to Look for Data Quality Issues

- Monthly reporting plans
 - “Are all my “Active” locations here?”
 - “Have I selected all my appropriate procedures?”
 - “Have I selected the appropriate lab specimens to collect for LABID data?”
- Annual Survey
 - “Did I update the number of beds from the previous survey year?”
 - “Has our hospitals medical school affiliation changed?”
- Using NHSN Analysis
 - “Did I generate new datasets?”
 - “Did I enter new events after I ran my analysis?”

Upcoming events and planned documentation

Upcoming Events/ Links to Other Training Materials

- **2017 NHSN Training:** March 20-24, 2017 at Centers for Disease Control and Prevention, Atlanta, GA
 - Entire week of presentations will live streamed on the web
 - Information about registration will be forthcoming via email
- **NHSN Rebaseline Website**
 - Updated information about what to expect with the upcoming rebaseline (FAQ documents, training videos, timelines, and definitions)
 - <http://www.cdc.gov/nhsn/2015rebaseline/index.html>
- **NHSN Rebaseline Webinar, Part 1**
 - <http://streaming.cdc.gov/vod.php?id=6c0af6b3c0105fd24878aafe5065005920161101143220038>
- **Analysis Resource Documents and Guidelines:** Being updated at present and are either available now or will be by the time of release

Thank You!
NHSN@cdc.gov

QUESTIONS?