Implementation Guide and Change Log
NHSN's 2022 HAI Rebaseline

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What is Rebaseline Implementation?

An Introduction to this Guide

The NHSN Team will be updating the national baseline used to calculate all healthcare-associated infection (HAI) standardized infection ratios (SIRs) and standardized utilization ratios (SURs) in the Patient Safety Component. This process of updating the national baseline, referred to as the "Rebaseline," involves the NHSN team analyzing national data and creating updated risk adjustment models, in a phased approach, to be used in the calculations of future SIR and SUR denominators.

> **Learn More!**
>
> 2022 HAI Rebaseline Homepage
> NHSN's Guide to the 2022 Baseline SIRs

The new baseline will represent data reported to NHSN for 2022. The 2022 HAI Rebaseline project involves multiple project stages, as outlined in the Rebaseline Progress Tracker. Once new risk adjustment models have been created by NHSN's Statistics Team, the Model Implementation stage translates those models into new SIR and SUR reports in the NHSN application for Facility and Group users. This Guide serves as a resource for the NHSN community and provides information about the status of Rebaseline Implementation, the new SIR and SUR reports available in NHSN, and the differences that users will find in the new reports compared to the existing (2015 baseline) SIR and SUR reports.

The NHSN Team remains committed to working with healthcare facilities and organizations to improve HAI prevention. Measuring progress under an updated national standard is important to understanding infection prevention efforts and standards in the current healthcare environment. The newly baselined data will continue to drive patient safety and the efforts to reduce HAI incidence. Additional details about the 2022 Rebaseline can be located here.

Availability of new SIR Reports (2022 Baseline) in the NHSN Application

As of November 2024

New SIR reports using the 2022 baseline are available in the NHSN application for the facilities and HAIs listed in the table below. For more information about the current status of the 2022 Rebaseline Implementation, and the additional SIR and SUR reports that will become available throughout this project, please review the Rebaseline Progress Tracker.

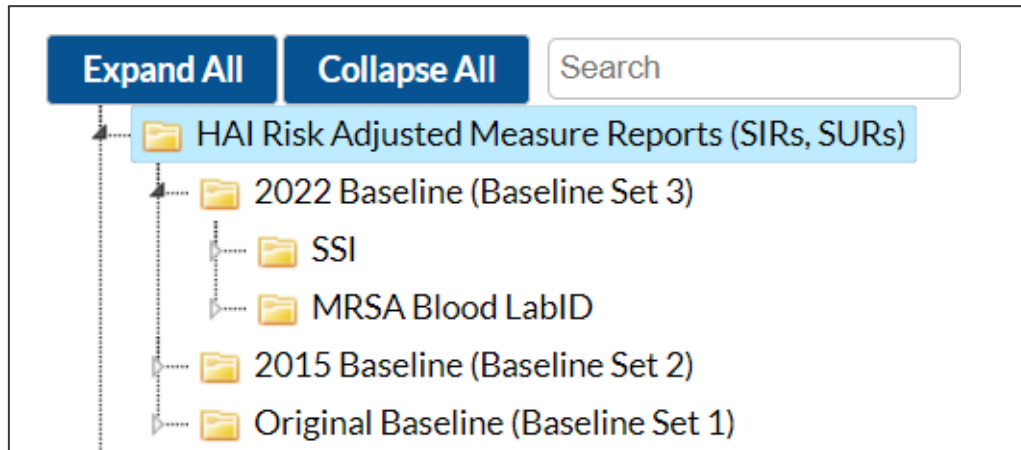| HAI Type*	Acute Care Hospitals (ACH)	Critical Access Hospitals (CAH)	Long-Term Acute Care Hospitals (LTACH)	Inpatient Rehabilitation Facilities (IRF)**
SSI (COLO and HYST; Complex 30-Day)	x	x		
MRSA Bacteremia LabID Event	x	x	x	x

 * To navigate to an HAI-specific change log, click on the HAI type.

**Includes IRF units located in a hospital. More information about the specific types of facilities included in SIRs can be found on page 6 of this document, or in NHSN's Guide to the 2022 Baseline SIRs.

Accessing 2022 Baseline SIRs within NHSN

As of 11/2024

This section highlights the organization of SIR reports within the Patient Safety (PS) Analysis treeview in NHSN. Before running an SIR report in NHSN, remember to generate new analysis datasets and clear all applicable Alerts from your NHSN home screen. More information about how to get started with NHSN analysis and the impact of outstanding Alerts can be found in General Tips and Tools for NHSN Analysis.

The screenshot above shows a portion of the NHSN PS Analysis treeview, from which all PS analysis reports can be accessed by NHSN users. All reports are organized into folders and sub-folders.

As of November 2024, the treeview includes the addition of a "2022 Baseline (Baseline Set 3)" sub-folder in the "HAI Risk Adjusted Measure Reports" parent folder[1]. The new sub-folder will contain the SIR reports that are currently available using the 2022 baseline; these reports are organized into distinct sub-folders for each HAI type. Users will notice individual folders for SSI and MRSA Blood LabID. For more information about the current status of the 2022 Rebaseline Implementation and the additional SIR reports that will become available throughout this project, please review the Rebaseline Progress Tracker.

The "2015 Baseline (Baseline Set 2)" subfolder contains the SIR and SUR reports that use the 2015 national baseline. For additional information on the 2015 baseline, please see the 2015 Rebaseline website, NHSN's Guide to the 2015 Baseline SIRs, and NHSN's Guide to the 2015 Baseline SURs.

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[1]Note that the NHSN Team refers to the 2022 baseline as "Baseline Set 3", since this is the third national baseline to be implemented for the SIRs. The 2015 baseline is also referred to as "Baseline Set 2".

Change Log: Eligibility for SIRs under the 2022 Baseline

The table below outlines changes in SIR eligibility rules between the 2015 baseline and 2022 baseline. For the facility and unit types listed below, the availability of SIRs under the 2022 baseline is different than availability of SIRs under the existing 2015 baseline. These changes in eligibility rules are a result of the types of data available, or not available, in NHSN's 2022 national baseline dataset. A full list of **all** inclusion and exclusion rules for the 2022 baseline SIRs can be found in NHSN's Guide to the 2022 Baseline SIRs.

Table 1. Facilities and Units Eligible for HAI SIRs, By Baseline Year

Facility/Unit Type	Eligible for these SIRs under the 2015 baseline	Will be eligible for these SIRs under the 2022 baseline, once available in NHSN
Inpatient Psychiatric Hospitals (HOSP-PSYCH)	CLABSI, CAUTI, SSI, MRSA bacteremia LabID, CDI LabID	None
Units designated as Inpatient Psychiatric Facilities (IPFs) located in another hospital, defined as: • CDC location code (locCDC): IN:ACUTE:WARD:BHV, IN:ACUTE:WARD:BHV_PED, IN:ACUTE:WARD:BHV_ADOL, IN:ACUTE:WARD:CD AND • Distinct CMS certification number (CCN) for the unit. The presence of a distinct CCN is noted as "cmsIPF" = Y.	CLABSI and CAUTI	None
Veteran's Affairs Hospitals (HOSP-VA)	CLABSI, CAUTI, SSI, MRSA bacteremia LabID, CDI LabID	CLABSI, CAUTI, SSI (COLO and HYST; Complex 30-Day)
Units designated as an Inpatient Rehabilitation Facility (IRF) located in select hospital types: Military Hospitals (HOSP-MIL), Oncology Hospitals (HOSP-ONC), VA (HOSP-VA), Women's Hospitals (HOSP-WOM), Women's and Children's Hospitals (HOSP-WOMCHILD), Pediatric LTAC Hospitals (HOSP-PEDLTAC)	CLABSI, CAUTI, MRSA bacteremia LabID, CDI LabID	CLABSI, MRSA bacteremia LabID, CDI LabID

Change Log: Functionality of SIR Reports Under the 2022 Baseline

The NHSN Team is excited to introduce new SIR analysis reports and new analysis datasets available in NHSN related to the 2022 HAI Rebaseline. This section contains information on how these reports and datasets differ from the previous (2015 baseline) reports, as well as changes that have occurred on other types of analysis reports, such as Rate Tables.

Separate tables exist below for each HAI type.

Table 2. Changes in the SIR Report Functionality, all HAI types

Topic	Behavior in current (2015 baseline) SIR reports	Behavior in new (2022 baseline) SIR reports	Affected Reports
Time period restriction	SIRs can be generated in NHSN on 2015 data and forward	SIRs are available for 2022 and forward	• All SIR reports
Stratification of results in SIR reports for Acute Care Hospitals (ACHs)	By default, separate tables are shown in the output for each value of a facility's medical school affiliation	Results are not stratified by medical school affiliation by default. Users can use the Modify Screen to filter the results to a certain value of medical school affiliation.	• All ACH and CAH SIR reports
Percentile distributions	SIR reports include facility-specific SIR percentile distributions (SIR_pctl) based on the national data	SIR percentile distributions have been removed, temporarily, until national SIR data are published under the 2022 baseline	• All SIR reports
Names of SIR reports and Analysis Datasets	• Analytic Dataset (ADS) names will end in "_bs2" • SIR report names will end in "(2015 Baseline)"	• Analytic Dataset (ADS) names will end in "_bs3" • SIR report names will end in "(2022 Baseline)"	• All SIR reports
Footnotes	Footnotes exist in most reports to highlight helpful information	Similar footnotes exist; however, the order and specific content of the footnotes in these	• All SIR reports

Topic	Behavior in current (2015 baseline) SIR reports	Behavior in new (2022 baseline) SIR reports	Affected Reports
	about inclusion criteria and calculations.	reports will differ from the existing (2015 baseline) SIR reports.	
Variables included in Analysis Datasets (ADS)	Variables in the "bs2" ADS have not changed.	The "bs3" ADS contain variables necessary for risk adjustment calculations under the 2022 risk adjustment models; any non-applicable variables that exist in the bs2 ADS were not included in the bs3 ADS.	• All ADS used for 2022 baseline SIR reports

Table 3. Changes in SSI Complex 30-Day Analysis Reports

Topic	Behavior in current (2015 baseline) SIR reports or non-SIR reports	Behavior in new (2022 baseline) SIR reports or non-SIR reports	Affected Reports
Analysis Treeview Menu	Complex 30-day SSI SIR report is located in the "CMS Reports" folder.	Complex 30-day SSI SIR report is temporarily located in the "HAI Risk Adjusted Measure Reports" > "2022 Baseline (Baseline Set 3)" folder pathway. Once CMS incorporates the 2022 baselined SIRs into their programs, this report will move to the "CMS Reports" folder in the treeview.	• SIR- Complex 30-Day SSI Data (2022 Baseline)
Universal Exclusion Criteria applied to Procedures prior to SIR denominator calculation: IQR5 values	The IQR5 procedure duration cut-off values, which is five times the interquartile range, were determined using the 2015 national aggregate data and are applicable to the 2015 baseline SIR reports. Procedures with a duration greater than the IQR5 are excluded from the SIR.	The new IQR5 procedure duration cut-off values, which is five times the interquartile range, were determined using the 2022 national aggregate data and are applicable to the 2022 baseline SIR reports. Procedures with a duration greater than the IQR5 are excluded from the SIR.	• SIR- Complex 30-Day SSI Data (2022 Baseline) *Note: A line list of procedures meeting the universal exclusion criteria can be generated using the applicable Line Listing (Procedures Excluded from the SSI SIR) found in the bs2 and bs3 folders within the HAI Risk Adjusted Measures Reports parent folder of the treeview.*
Body mass index (BMI) rounding	The BMI used for the model risk (procedure risk) calculation is performed in the analysis	The BMI value is rounded to a very high precision (1E-12), removing extremely small decimal	• SIR- Complex 30-Day SSI Data (2022 Baseline)

	dataset (ADS) level with a SAS calculation. There is no rounding applied to the calculated BMI value prior to calculating the model risk values.	differences prior to calculating the model risk.	
Indicator variables that determine the following. • Inclusion of SSI events in SIR numerator • Exclusion of procedure from model specific SIR report • SIR model specific procedure risk	ADSs includes indicator variables for each of the bulleted item. • Bs2_ SSIComplex30d • Bs2_cmpx30dExcl • Bs2_modelRiskComplex30d *Note: variables are prefixed with "bs2", which refers to Baseline Set 2, or the 2015 baseline.*	ADSs includes indicator variables for each of the bulleted item. • Bs3_ SSIComplex30d • Bs3_cmpx30dExcl • Bs3_modelRiskComplex30d *Note: variables are prefixed with "bs3", which refers to Baseline Set 3, or the 2022 baseline.*	• SIR- Complex 30-Day SSI Data (2022 Baseline)
The table of excluded data	The title of the table of excluded data is "Incomplete Procedures not Included in SIR".	The title of the table of excluded data is "Procedures Excluded from SIR Due to Data Quality Items or Outlier Values".	• SIR- Complex 30-Day SSI Data (2022 Baseline)
All Procedures Line List *Note: This report is located at: Supplemental Reports ➔Procedure-level Data ➔ Line Listing - All Procedures*	Includes list of all procedure-level data and model specific variables for baseline set 1 and baseline set 2.	New variables have been added to the existing line list. The report now includes model specific variables for baseline set 1, baseline set 2, and baseline set 3 (bs3). For bs3, the following variables have been added to the Line Listing report: • bs3_modelRiskComplex30d • bs3_cmpx30dExcl • bs3_SSIComplex30d *Note: At this time, baseline set 3 variables in*	• Line Listing – All Procedures

		the procedures ADS are limited to the Complex 30-day SSI SIR model.	

Table 4. Changes in MRSA Bacteremia LabID Analysis Reports

Topic	Behavior in current (2015 baseline) SIR Reports or non-SIR Reports	Behavior in new (2022 baseline) SIR Reports or non-SIR Reports	Affected Reports
New analysis dataset for the Rate Table report	The Rate Table report currently uses the 2015 baseline (bs2) analysis dataset: bs2_LabID_RatesMRSA	The rate table report will now use the 2022 baseline (bs3) analysis dataset: bs3_LabID_RatesMRSA *Note: There is no change to any calculations in this report.*	• Rate Table – All MRSA LabID Data
New order and display of default variables in the Line Listing report	The Line Listing report currently displays several variables by default, such as the "prevPos" variable.	The Line Listing report will now display ageAtSpec and facToSpecDays variables by default. The prevPos variable has been removed from the default display but can still be added to the report using modifications.	• Line Listing for All MRSA LabID Events
Exclusion table and how the report appears when a risk factor is missing	2015 baseline MRSA bacteremia SIR reports do not display an exclusion table.	2022 baseline MRSA bacteremia SIR reports will display an exclusion table, when applicable. The number of predicted events will not be calculated when any risk factor is missing. Months with missing risk factor(s) will be displayed in the	• All MRSA Blood LabID SIR reports

Topic	Behavior in current (2015 baseline) SIR Reports or non-SIR Reports	Behavior in new (2022 baseline) SIR Reports or non-SIR Reports	Affected Reports
		"Months Excluded from SIR Due to Missing Risk Factors" table at the bottom of the report. If there is no risk factor missing, then this table will not display.	
When the inpatient community-onset prevalence rate is missing or cannot be calculated for the calendar quarter (i.e., number of admissions for a quarter is zero)	In the 2015 baseline MRSA bacteremia SIR report for acute care hospitals (ACH), the number of predicted events is calculated using the referent group for the inpatient community-onset prevalence rate parameter. Refer to page 37 in NHSN's Guide to the 2015 Baseline SIR.	In the 2022 baseline MRSA bacteremia SIR reports, if the inpatient community-onset prevalence rate is missing or cannot be calculated for the calendar quarter, then the number of predicted events will not be calculated. This will be treated as a missing risk factor and months will be displayed in the "Months Excluded from SIR Due to Missing Risk Factors" table.	• SIR - ACH MRSA Blood FacWideIN LabID Data (2022 Baseline) • SIR - CAH MRSA Blood FacWideIN LabID Data (2022 Baseline)
Monthly SIRs for Acute Care Hospitals (ACHs) and Critical Access Hospitals (CAHs)	ACHs: The number of predicted events, and the MRSA bacteremia SIRs, should not be calculated on a monthly-level under the 2015 baseline. CAHs: Monthly-level SIRs are available for CAHs under the 2015 baseline SIR reports because the 2015 CAH model is intercept-only.	ACHs and CAHs: In the 2022 baseline MRSA bacteremia SIR reports, the number of predicted events, and the MRSA bacteremia SIRs, can be calculated on a monthly-level after the applicable calendar quarter is over. The number of predicted events requires quarterly-level inpatient and outpatient prevalence	• SIR - ACH MRSA Blood FacWideIN LabID Data (2022 Baseline) • SIR - CAH MRSA Blood FacWideIN LabID Data (2022 Baseline)

Topic	Behavior in current (2015 baseline) SIR Reports or non-SIR Reports	Behavior in new (2022 baseline) SIR Reports or non-SIR Reports	Affected Reports
		rates for risk adjustment.	
SIR numerator variable for the Inpatient Rehabilitation Facility (IRF) SIR	Numerator displayed in SIR Report as MRSA_bldIncCount	HOSP-REHAB (i.e., Freestanding IRFs): the numerator variable is MRSA_bldIncCount IRF Units: the numerator variable is MRSA_IRFbldIncCount *Note: The algorithm for the numerator has not changed. Only the variable name has changed.*	• SIR – IRF MRSA Blood LabID Data (2022 Baseline)