

2022 HAI Rebaseline Excerpt from the September 2023 NHSN Newsletter:

The NHSN Team has begun the Rebaseline process using 2022 national data as previously announced in the June 2023 NHSN newsletter <https://www.cdc.gov/nhsn/pdfs/rebaseline/22-Rebaseline-June-Newsletter-Final.pdf>. We are continuing the modeling work to create over 250 updated risk models for the various healthcare-associated infections (HAI), devices, and facility types in the Patient Safety Component.

Over the past few months, the Statistics and Analytics Teams have encountered data quality (DQ) issues during this process and are simultaneously working to resolve the same while continuing the modeling work. Facility outreach is being performed related to certain types of DQ issues; the NHSN team greatly appreciates your prompt attention and resolution of any DQ issue. Examples of the DQ issues identified by the Rebaseline team that are impacting progress on modeling work include:

- The total number of patient days and admissions, on the annual facility survey, that result in an unusually high average length of stay
- The number of beds equals the number ICU beds on the annual facility survey
- Facilities that reported zero ICU beds on the annual facility survey, but also reported HAI data for an ICU location
- Annual survey data that are significantly different from previous year's survey data

Future updates will be shared through various communication portals including newsletter articles, email blasts and webinars. The Rebaseline website will also continue to be updated with training materials and resources as they become available. Questions can be submitted to the NHSN helpdesk with subject line 2022 HAI Rebaseline.

Note: All current SIRs and SURs available in NHSN, under the existing 2015 national baseline, will remain in NHSN for use.

Helpful links:

Charting the Course: 2022 NHSN HAI Rebaseline <https://www.cdc.gov/nhsn/2022rebaseline/index.html> Excerpt from the June 2023 NHSN Newsletter announcing the 2022 HAI Rebaseline: <https://www.cdc.gov/nhsn/pdfs/rebaseline/22-Rebaseline-June-Newsletter-Final.pdf>

Rebaseline FAQs: <https://www.cdc.gov/nhsn/2015rebaseline/index.html#faqs>

Understanding the SIR and SUR

As the NHSN Patient Safety Team prepares for an updated national baseline to be used for future standardized infection ratios (SIRs) and standardized utilization ratios (SURs), we would like to offer the following guidance and resources to any NHSN user who may not be familiar with these metrics.

What is the SIR?

The Standardized Infection Ratio, or SIR, is the primary summary measure used by the National Healthcare Safety

2022 HAI Rebaseline Excerpt from the September 2023 NHSN Newsletter:

Network (NHSN) to track healthcare-associated infections (HAIs) at a national, state, or local level over time. The method of calculating an SIR is like the method used to calculate the Standardized Mortality Ratio (SMR), a summary statistic widely used in public health to analyze mortality data. The SIR compares the actual number of HAIs reported to the number that would be predicted, given the standard population (i.e., NHSN baseline). An SIR greater than 1.0 indicates that more HAIs were observed than predicted; conversely, an SIR less than 1.0 indicates that fewer HAIs were observed than predicted.

The SIR is calculated by dividing the number of observed infections by the number of predicted infections.

$$SIR = \frac{\textit{Observed (O) Infections}}{\textit{Predicted (P) Infections}}$$

You can read more about the SIR [here](#).

What is the SUR?

The Standardized Utilization Ratio, or SUR, is the primary summary measure used by the National Healthcare Safety Network (NHSN) to track device utilization at the national, state, or facility level, and is available for central line, urinary catheter, and ventilator use. The method of calculating a SUR is like the method used to calculate the SIR. The SUR compares the actual number of device days reported to what would be predicted, given the standard population (specifically, the NHSN baseline). A SUR greater than 1.0 indicates that more device days were observed than predicted; conversely, a SUR less than 1.0 indicates that fewer device days were observed than predicted.

The SUR is calculated by dividing the number of observed device days by the number of predicted device days.

$$SUR = \frac{\textit{Observed (O) Device Days}}{\textit{Predicted (P) Device Days}}$$

You can read more about the SUR [here](#).

How does NHSN calculate the number of predicted infections and predicted device days?

The denominators of the SIR and SUR are calculated using multivariable regression models generated from the nationally aggregated data during the baseline year. Currently, NHSN uses the 2015 national baseline data to calculate SIRs and SURs. You can learn more about the regression models used for SIR and SUR denominators in the “Analyzing HAI Data”, “LabID Analysis and Reporting Refresher”, “Analyzing SSI Data”, and “Analyzing Device-associated SURs” trainings found [here](#).

What else do I need to know about the SIRs and SURs?

The SIR and SUR provide a comparison of a facility or group’s HAI data to the national data from a baseline time period, adjusted for several facility characteristics and other factors that were found to be significant predictors of HAIs and device use. These metrics can be used to measure progress in HAI prevention from a single point in time.

2022 HAI Rebaseline Excerpt from the [September 2023 NHSN Newsletter](#):

You can learn more about the use of SIR and SUR in the “Analyzing HAI Data”, “LabID Analysis and Reporting Refresher”, “Analyzing SSI Data”, and “Analyzing Device-associated SURs” trainings found [here](#). More details about specific inclusion and exclusion rules for these metrics, and the variables included in the regression models, is available in the [SIR](#) and [SUR](#) Guides.

How do I run SIR and SUR reports in the NHSN application?

There are several quick reference guides [available here](#) to help you understand, modify, and interpret your data using NHSN. [General Tips and Tools](#) for NHSN Analysis, and guidance for [Generating Data Sets](#), are helpful documents for any new user looking to get started with NHSN analysis.