

2022 HAI Rebaseline Talking Points: Infection Prevention Staff & Hospital Leadership

Note: While the talking points below focus on the SIR, the concepts apply to the SUR as well.

Bottom Line: The 2022 healthcare-associated infection (HAI) Rebaseline will update the national baseline year from 2015 to 2022 for calculations of the standardized infection ratio (SIR) and standardized utilization ratio (SUR). This update will allow hospitals to compare their incidence of HAIs to more recent national data (i.e., data reported to NHSN for 2022). This document can assist hospital infection prevention staff by providing talking points to share with hospital leadership about why NHSN has updated SIR and SUR calculations using 2022 data, and how to interpret the updated metrics.



i Explaining the 2022 Rebaseline to Hospital Leadership

Currently, NHSN used data reported from 2015 as the baseline year for SIR calculations. Since that time, there have been updates to surveillance definitions, diagnostic testing & practices, HAI prevention practices, science, technology, and hospital operations that make it useful for CDC to update the national baseline year; this process of updating the national baseline is conveniently referred to as the Rebaseline.

- » NHSN has updated the national baseline data used to calculate the SIR denominator (number of predicted infections).
- » This new baseline is derived from national HAI rate data reported to NHSN for the year 2022.
- » In more detail, the national baseline comprises HAI data from a single year, which is used to develop risk adjustment models. These models are crucial for calculating the SIR denominator. Essentially, the 2022 NHSN data were used to re-fit the statistical models in NHSN, providing a refreshed and updated baseline for predicting the number of HAIs that might occur in a given facility.

The Rebaseline will ensure that the risk adjustment models are better able to capture relevant changes since 2015 and will allow hospitals to compare their incidence of HAIs to more recent national data.

The NHSN application has built-in analysis reports that calculate SIRs for each facility. The NHSN application will continue to provide reports that calculate SIRs under the 2015 baseline. In addition, new reports are available that calculate SIRs under the 2022 baseline.

No timeline has been established for the adoption of the 2022 baseline SIRs into the Centers for Medicare and Medicaid Services (CMS) programs.

i Explaining your Facility's SIR under the 2022 Baseline to Hospital Leadership

- The SIR under the 2022 baseline is a risk adjusted summary measure that compares each hospital to the 2022 national experience. This measure allows a facility to measure their progress over time, starting in 2022, by comparing pair-wise consecutive SIRs for each year.
- The 2022 HAI Rebaseline means that data reported to NHSN from 2022 will serve as the new baseline to measure HAI prevention progress at the patient care location, facility, facility group, state, and national levels.
- The year 2022 was selected as the year for the new baseline because: (a) national-level analyses show that HAI incidence has returned, or is close to returning, to the pre COVID-19 pandemic state; and (b) compared to the 2015 baseline and existing risk models, updated 2022 risk models using national data will better reflect more current policy, practice, and surveillance protocols.

i How Should SIRs Under the 2022 Baseline be Interpreted?

- The numerator of the SIR, number of observed HAIs, has not changed between the 2015 and 2022 baseline.
- The denominator of the SIR, number of predicted HAIs, should be interpreted as the number of HAIs predicted to occur in a facility, based on the national incidence of HAIs in 2022.
 - » The number of predicted events is calculated by the appropriate SIR regression model and reflects the pattern of exposure and relevant risk factors in that facility.
- The number of predicted HAIs is risk adjusted using factors found to be statistically significant predictors of HAI incidence in the national 2022 data. More information is available in [NHSN's Guide to the 2022 Baseline SIRs](#).

Presenting the Standard Infection Ratio (SIR)!

$$SIR = \frac{\text{Observed (O) HAIs}}{\text{Predicted (P) HAIs}}$$

- Below is some sample language that infection prevention staff may use when interpreting or presenting the 2022 baseline SIRs:
 - » Under the new 2022 baseline, our SIR for <insert HAI Type> for <insert time period> is _____.
 - If our facility's SIR is over 1.0, it means our facility had more HAI events than what was predicted to occur in our facility, given the national HAI incidence levels in 2022. For example, a hospital SIR of 1.10 represents a 10% increase in HAIs compared to what would be predicted for our hospital based on 2022 data.
 - If our facility's SIR is less than 1.0, it means our facility had fewer HAI events than what was predicted to occur in our facility, given the national HAI incidence levels in 2022. For example, a hospital SIR of 0.90 represents a 10% decrease in HAIs compared to what would be predicted for our hospital based on 2022 data.
- P-values are provided in NHSN's SIR reports and can be used to determine if the number of HAIs reported by a facility is statistically different than the national baseline. If the p-value is greater than 0.05, it means the facility's HAI incidence is not statistically different than the national estimate for 2022.

i Explaining How your Facility's SIR Changed or Why it is Different from the 2015 Baseline

- The image below provides information about the years of data that can be analyzed in the NHSN application under each national baseline. The blue squares represent HAI data entered into NHSN by participating healthcare facilities, and the arrows represent the options for calculating SIRs and SURs.
- Based on CDC NHSN guidance, SIRs from difference baseline years should not be compared to each other because they are calculated using different risk adjustments and different populations (2015 vs. 2022).
- SIRs from the 2022 baseline should not be compared to SIRs from the 2015 baseline.
 - » SIRs under two different baselines should not be displayed together, visually, in a single graph or plot.
 - » SIRs under either baseline should be analyzed and assessed independently of one another.
- SIR values using the 2022 baseline may be higher than SIRs using the 2015 baseline because the SIRs have been recalibrated based on 2022 national HAI incidence, which for many HAIs, is lower than the incidence from 2015. More information about this can be found on the Rebaseline education [webpage](#), in the training webinar titled: "[How Will My SIRs Change? Understanding the Impact of the 2022 HAI Rebaseline.](#)"

