# What is the 2023 Dialysis BSI Rebaseline and Why is it Important?

Bloodstream Infections in NHSN and Baselines. In the US, dialysis facilities count the number of bloodstream infections (BSI) that occur in their patients and report them into the National Healthcare Safety Network (NHSN), a cloud-based, electronic reporting system. Data reported into NHSN provide the numbers and rates of BSI that are used to track and compare dialysis care quality across facilities and over time. To make comparisons and track performance over time, a baseline, or starting point, is needed to serve as a standard against which to compare. NHSN data are utilized as our source of national data to establish a baseline, generate standardized metrics (i.e., the Standardized Infection Ratio or SIR), and make comparisons among facilities. Up till now, 2014 data were used as the baseline.

Considering Facility Differences. NHSN data help track infection prevention progress, identify areas of concern, mitigate risks, and ultimately eliminate dialysis BSI and other HAI. However, to ensure fair comparisons among facilities that differ in patient populations and characteristics (e.g., size and location), facility characteristics must be considered. So along with BSI counts, NHSN collects key information about patients and facilities, like patient access type, and number of stations and hospital affiliation of facilities. Adjusting for these characteristics improves accuracy in measuring BSI rates.

What is the Standardized Infection Ratio? While BSI rates provide detailed information that can be meaningful in infection prevention efforts, they don't account for differences in patient populations and facility characteristics. Therefore, a measure called the Standardized Infection Ratio (SIR) was developed to adjust for these differences, put facilities on a level playing field, and ensure fair comparisons between different facilities over time. The SIR also provides a single number that summarizes data across multiple strata like access type, making it easier to use for evaluation purposes. These advantages make the SIR a valuable tool for tracking infection prevention progress over time. The SIR compares the number of infections observed in a facility to the number of infections predicted, based on national BSI rates in the baseline data.

Updating the SIR Calculation. To continue improving our understanding of BSI prevention that was gained from the original 2014 baseline, and to include new insight based on changes in healthcare over time, we need an updated SIR metric. The process of updating the metric is referred to as the rebaseline.

## What is a Rebaseline?

A rebaseline is the process of updating national incidence data to be included in a risk adjustment model. This model allows efficient estimation of predicted events, used to calculate the BSI SIR. The original SIR was calculated using BSI rates from 2014 as a baseline for comparisons. The "rebaselined" SIR uses 2023 BSI rates as the baseline, and utilizes a risk-adjusted statistical model that includes access-type, facility size (i.e., number of stations), and location (free-standing, hospital-based, hospital-affiliated).

## Why is it important to perform a Rebaseline?

As a nation, we are getting better at HAI surveillance and prevention, and generating a new SIR, based on more current data, is a way to incorporate changes in detection and prevention practices, and establish an updated national standard to continually improve BSI prevention. The rebaselined SIR allows NHSN to leverage progress in BSI detection and prevention that is critical to further improve patient safety.

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