## CMIT ID

00460-01-C-PCHQR

## Title

Central Line-Associated Bloodstream Infection (CLABSI) Standardized Infection Ratio

## Steward Organization Group

Centers for Disease Control and Prevention

## Committee

MSR Recommendation Group

## Current Program Use

Prospective Payment System (PPS)-Exempt Cancer Hospital Quality Reporting

## CMS Program History

- Finalized for inclusion in the PPS-Exempt Cancer Hospital Quality Reporting (PCHQR) Program in 2011.
- Implemented in the PCHQR Program in 2013.
- Also active in the Long-Term Care Hospital Quality Reporting Program.

## Description

Annual risk-adjusted standardized infection ratio (SIR) of central line-associated bloodstream infections (CLABSI) among adults and children hospitalized as inpatients at acute care hospitals, critical access hospitals, oncology hospitals, and long-term acute care hospitals. SIR is reported annually and is calculated by dividing the number of observed CLABSIs by the number of predicted CLABSIs.

## Numerator

Number of annually observed central line-associated bloodstream infections (CLABSI) in hospital inpatients.

## Numerator Exceptions

N/A

## Numerator Exclusions

N/A

## Denominator

Number of annually predicted central-line associated bloodstream infections (CLABSI) in hospital inpatients.

## Denominator Exceptions

N/A

## Denominator Exclusions

The following devices are not considered central lines and are excluded:

- Arterial catheters unless in the pulmonary artery, aorta or umbilical artery
- Arteriovenous fistula
- Arteriovenous graft
- Extracorporeal life support (ECMO)
- Hemodialysis reliable outflow (HERO) dialysis catheter
- Intra-aortic balloon pump (IABP) devices
- Peripheral IV or Midlines
- Ventricular Assist Device (VAD)

CLABSI events reported to NHSN as mucosal barrier injury laboratory-confirmed bloodstream infections (MBI-LCBIs) are excluded.

## Cascade of Meaningful Measures Priority

Safety

## Level of Analysis

Facility

## Care Setting

Hospital: Inpatient Acute Care Facility, Hospital: Long-Term Care, PPS-Exempt Cancer Hospital

## CBE Endorsement History

**Endorsement History:**

- Initial endorsement, 2012.
- Measure retained endorsement in 2025 through maintenance cycle as new measure ID CBE #0139.

**Link to Endorsement Measure Record:** Catheter-Associated Urinary Tract Infection (CAUTI) Standardized Infection Ratio | Partnership for Quality Measurement

## CBE Endorsement Status

Endorsed

## About this Analysis (Measure Score by PY)

**Impact Summary**: By evaluating outcomes such as health care-associated infections across different inpatient care settings and reporting on these results at the facility, hospital, or agency level, this measure helps fulfill Prospective Payment System-Exempt Cancer Hospital Quality Reporting (PCHQR) Program goals by providing actionable quality-of-care information that empowers consumers and drives hospitals and clinicians to improve infection-prevention practices for Medicare beneficiaries.

Overall, the limited number of PPS-exempt cancer hospitals participating and reporting in this program makes it difficult to analyze overall performance trends. As shown in Table 1, if all entities performed at 2024's average score, about 60 fewer negative outcomes could occur. This translates to about five patients per entity and means that improving performance on this measure could help ensure that fewer patients contract CLABSI, potentially leading to better health outcomes.

For this measure, Battelle reviewed the following publicly available datasets available at Hospitals data archive | Provider Data Catalog:

- Hospitals_02_2026.zip (which contains data from April 2024-March 2025 and is referred to as year 2024 in this assessment)
- Hospitals_02_2025.zip (which contains data from April 2023-March 2024 and is referred to as year 2023 in this assessment)
- Hospitals_01_2024.zip (which contains data from April 2022-March 2023 and is referred to as year 2022 in this assessment)
- Hospitals_01_2023.zip (which contains data from April 2021-March 2022 and is referred to as year 2021 in this assessment)

Battelle analyzed all values for "PCH_4" not marked as "Not Available" from the corresponding PCH_HEALTHCARE_ASSOCIATED_INFECTIONS_HOSPITAL.csv file.

**About Figure 1:** Figure 1 is a boxplot that shows how scores have changed based on the most recent 4 years of data available. For each year, the boxplot displays a box with lines and dots to help visualize the range and distribution of scores. The dots represent the points where the lowest 5% and highest 5% of scores fall, and the line connecting them shows where 90% of the scores are located. The box itself covers the middle half of the scores, from the 25th to the 75th percentile. Inside the box, a horizontal line marks the median score, which is the middle value, while a "+" sign shows the average score. This type of graph makes overall trends in scores over time as well as the consistency and spread of the results easier to understand.

## Figure 1 (Measure Score by PY)

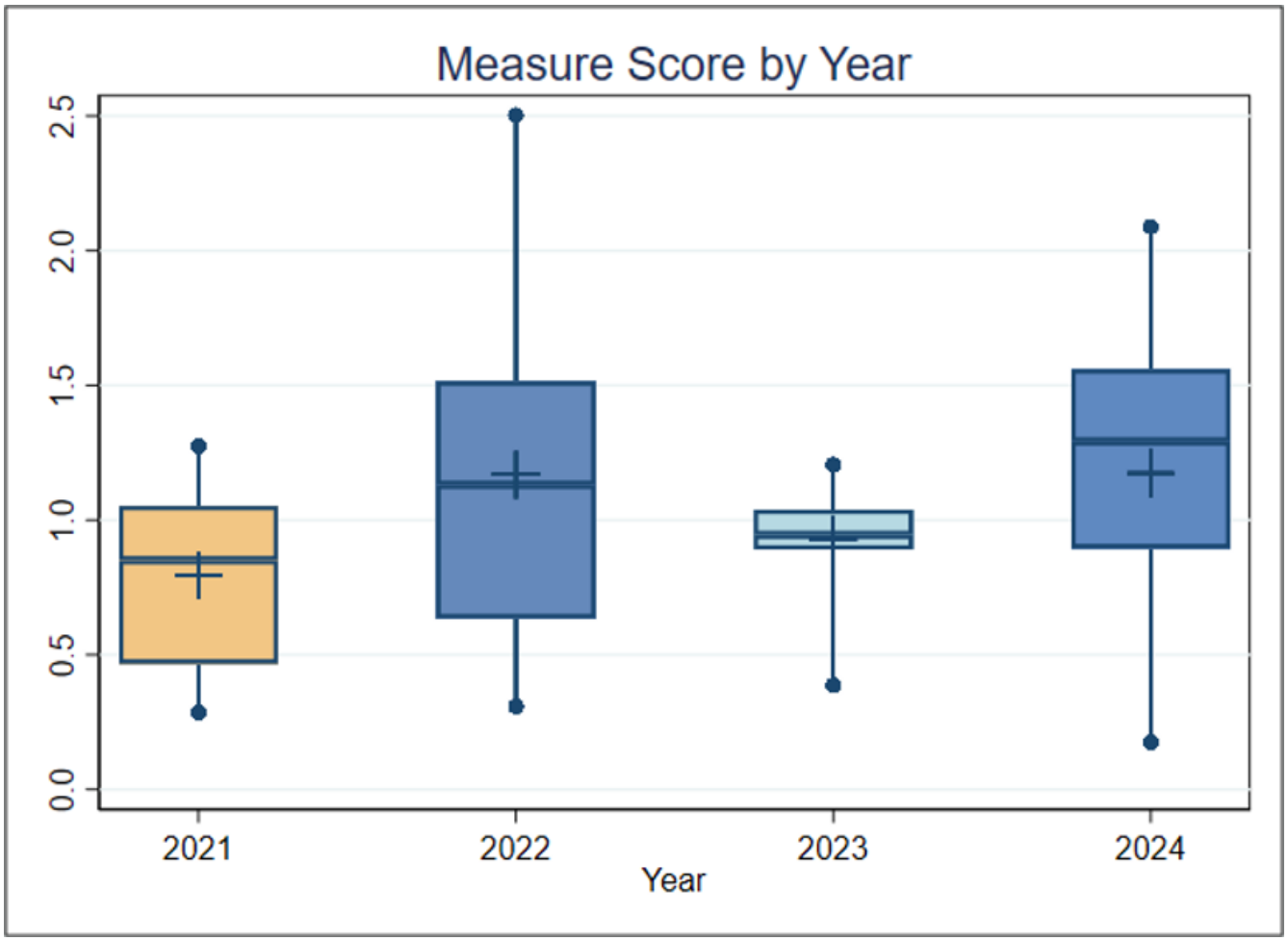


Figure 1. Boxplot of Measure Score by Year

## Interpretation (Measure Score by PY)

**Figure 1 Interpretation:** There are only 11 entities per year, so any apparent trend may just as likely be attributed to random error, indicating little discernible change across the 4 years. Overall, the limited number of PPS-exempt cancer hospitals participating and reporting in this program makes it difficult to analyze overall performance trends. For this measure, a lower score indicates better quality of care.

## About this Analysis (Score Distro)

**About Table 1:** Table 1 illustrates the distribution of scores (standardized infection ratio [SIR]), raw rates, and the number of patients represented within each group. It is important to note that the groups (referred to as deciles, each comprising 10% of the organizations) with the lowest or highest scores may contain more or fewer patients than other groups. For example, if the lowest-scoring decile includes only 5% of the total patient population, then smaller entity size may be associated with lower performance scores.

## Interpretation (Score Distro)

**Table 1 Interpretation:** To estimate the number of negative outcomes (CLABSI), the number of patients is multiplied by the average raw rate for each decile. In 2024, the total estimated number of negative outcomes across all deciles is about 450. If the average performance of Decile 3 (0.112%) is considered a plausible, achievable rate, and the entities in Deciles 4 through 10 improved to reach that rate, about 60 fewer negative outcomes could occur. This translates to about five patients per entity and means that improving performance on this measure could help ensure that fewer patients contract CLABSI, potentially leading to better health outcomes.

## Table 1 (Score Distro)

Table 1. Importance in the Most Recent Year of Data Available (Decile by Measure Score, 2024)

| | Overall | Decile 1 | Decile 2 | Decile 3 | Decile 4 | Decile 5 | Decile 6 | Decile 7 | Decile 8 | Decile 9 | Decile 10 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Average SIR (Standard Deviation)** | 1.174 (0.601) | 0.245 | 0.977 | 0.896 | 0.937 | 1.292 | 1.375 | 1.559 | 1.330 | 2.089 | 1.973 |
| **Average Raw Rate (Standard Deviation)** | 0.127 (0.070) | 0.025 | 0.089 | 0.112 | 0.116 | 0.126 | 0.138 | 0.142 | 0.149 | 0.231 | 0.247 |
| **Entities** | 11 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| **Patients** | 476,883 | 156,339 | 12,403 | 56,402 | 91,284 | 58,517 | 33,215 | 7,032 | 49,567 | 6,058 | 6,066 |

## Importance Criterion Definition

The Meaningfulness criterion will be evaluated as part of the full Preliminary Assessment available in September.

## Criterion Definition

This criterion will be evaluated as part of the full Preliminary Assessment available in September.

## Criterion Definition

This criterion will be evaluated as part of the full Preliminary Assessment available in September.