

Health Care Associated Infections in Pennsylvania Critical Access Hospitals: 2024

WHAT ARE HEALTH CARE ASSOCIATED INFECTIONS (HAIs)?

[HAIs](#) are infections that patients get when receiving medical care in a health care facility. They can cause serious sickness and even death. Certain HAIs in Pennsylvania are required to be reported to the [National Healthcare Safety Network](#) (NHSN), which is managed by the Centers for Disease Control and Prevention (CDC). This fact sheet contains information from PA critical access hospitals (CAHs) for the following HAIs: catheter-associated urinary tract infections (CAUTI), central line-associated bloodstream infections (CLABSI), *Clostridioides difficile* infections (CDI), methicillin-resistant *Staphylococcus aureus* (MRSA) bloodstream infections, and surgical site infections (SSI) after colon surgery (COLO), hysterectomy (HYST), knee replacement (KPRO), or hip replacement (HPRO). NHSN does not calculate metrics for HAIs with less than 1.0 predicted infection in 2024; therefore, we excluded these HAIs from this fact sheet (MRSA, COLO SSI, HYST SSI, KPRO SSI, HPRO SSI, and CLABSI in 2023). No infections were reported from the excluded HAIs except for one reported KPRO SSI.

WHY LOOK AT THESE DATA?

The PA Department of Health (PA DOH) and the United States Department of Health and Human Services (US HHS) work with hospitals to eliminate HAIs. The US HHS made the [HAI National Action Plan](#) to guide HAI prevention efforts. This document shows the number of HAIs in PA in 2024, trends in HAIs since 2022, and comparisons with [national](#) and baseline data. PA DOH and hospitals use these data to track progress in reducing HAIs over time and inform prevention efforts.

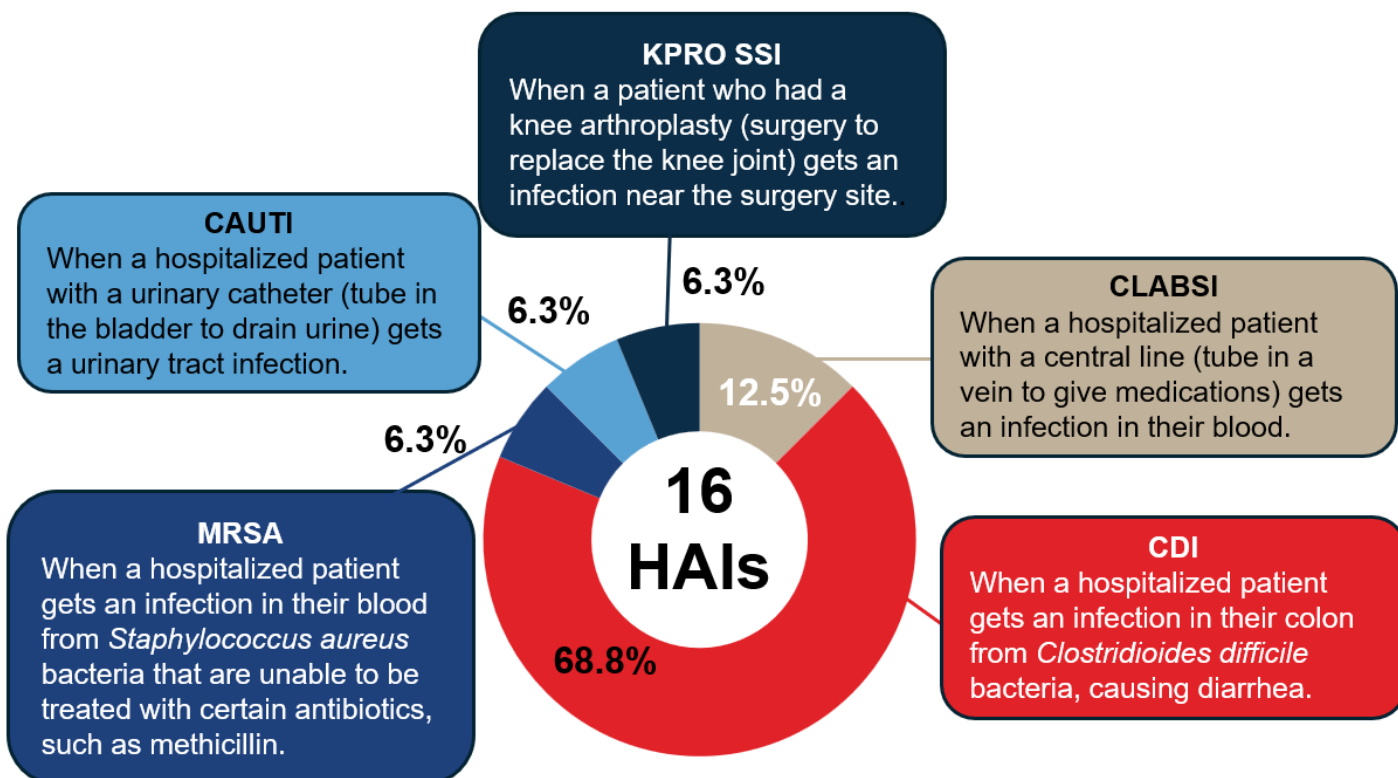


Figure 1: Number and percentage of HAIs in adults reported to NHSN in 2024 from 16 PA CAHs.

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HOW WAS THIS ANALYSIS DONE?

NHSN collected HAI data submitted by hospitals during the year. To see if hospitals had more or fewer HAIs than anticipated, NHSN developed a calculation for the predicted number of infections for a certain hospital based on facility and location factors using 2015 national data. The actual number of reported HAIs was compared to the predicted number of HAIs to develop the Standardized Infection Ratio (SIR). We compared PA SIR values to baseline and national values and looked at changes over time. For more details on methods and limitations, please see the [2023 HAI annual report](#).

HOW TO INTERPRET THE SIR AND STANDARDIZED UTILIZATION RATIO (SUR)

$$\text{SIR} = \frac{\text{Number of Observed HAIs}}{\text{Number of Predicted HAIs}}$$

$$\text{SUR} = \frac{\text{Number of Observed Device Days}}{\text{Number of Predicted Device Days}}$$

If the **SIR is greater than 1.0**, then **more** HAIs were observed than predicted. If the **SIR is less than 1.0**, then **fewer** HAIs were observed than predicted. If the **SIR equals the baseline value of 1.0**, then the **same** number of HAIs were observed as predicted. SUR values have a similar interpretation but apply to device use (i.e., urinary catheters and central lines) instead of HAIs.

WHAT DO THE DATA SHOW?

Table 1: Summary of PA CAH progress in reducing HAIs in 2024 compared to baseline, prior year, and national values.

HAI or Device Type	Less Than or Equal to Baseline SIR of 1.0	Less Than or Equal to 2023 PA SIR	Less Than or Equal to 2024 National SIR	Symbol	Key
CAUTI SIR	✓	✓	✓	✓	SIR or SUR is at or below the SIR or SUR goal
Urinary Catheter SUR	✗	✓	✗	✗	SIR or SUR is higher than the SIR or SUR goal
CLABSI SIR	✗	✗	✗	✗	SIR or SUR is higher than the SIR or SUR goal
Central Line SUR	✗	✗	✗	✗	SIR or SUR is higher than the SIR or SUR goal
CDI SIR	✓	✗	✗	✗	SIR or SUR is higher than the SIR or SUR goal

More data are available in the appendix and on the [HAI Dashboard](#)

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HAI TRENDS OVER TIME

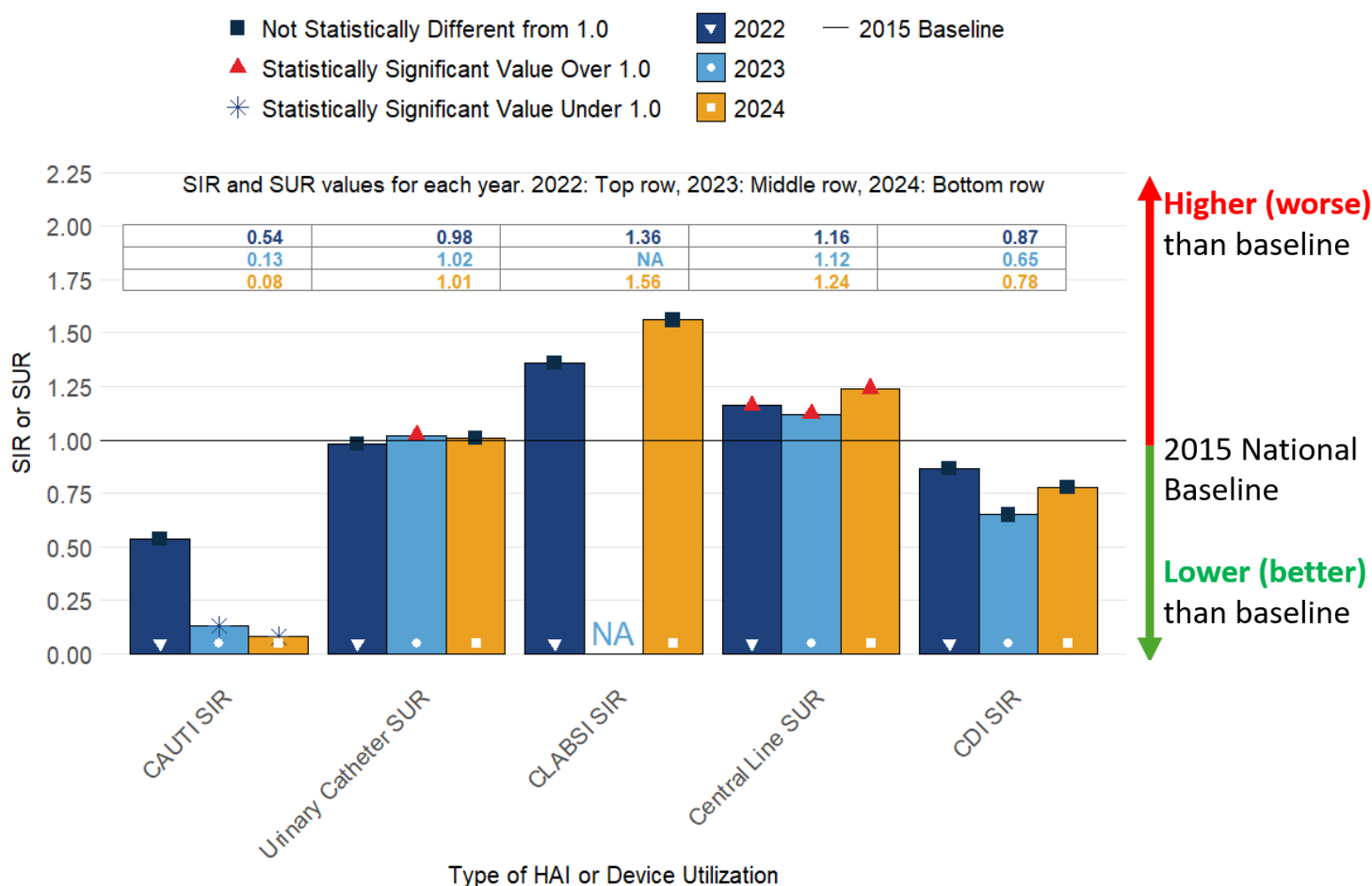


Figure 2: Trends in PA CAH SIR and SUR values from HAIs and devices (2022-2024). As noted on page 1, SIR values cannot be calculated for CLABSI in 2023.

What does this mean?

The 2024 CDI SIR value is **higher** than in 2023.

The 2024 CAUTI SIR value is **lower** than in 2023.

The 2024 urinary catheter SUR value is **lower** than in 2023. The 2024 central line SUR value is **higher** than in 2023.

Differences in the 2023 and 2024 SUR values reached statistical significance for urinary catheters and central lines.

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HAIs IN PA COMPARED TO NATIONAL VALUES

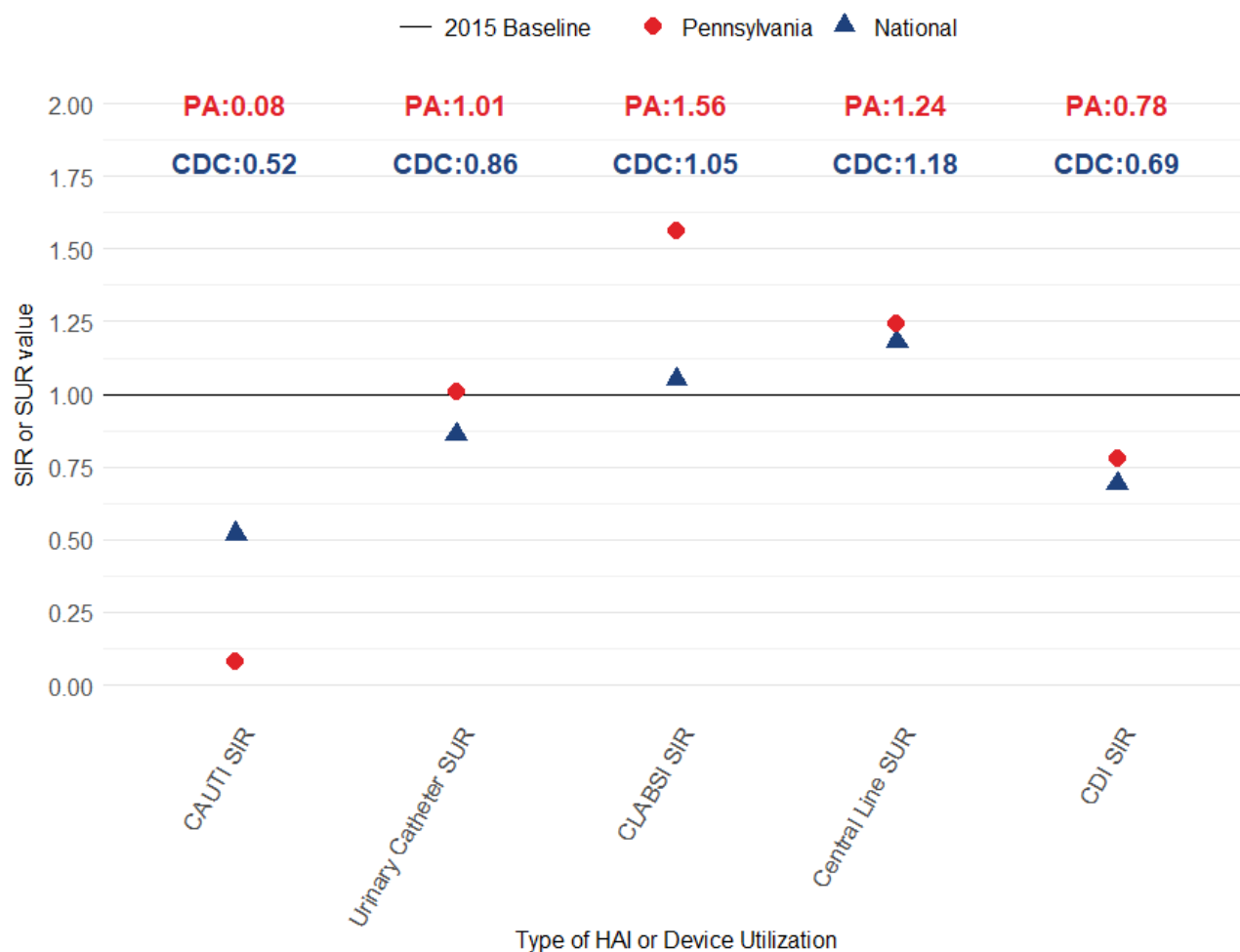


Figure 3: 2024 PA CAH SIR and SUR values from HAIs and devices compared to national values.

What does this mean?

2024 PA CLABSI and CDI SIR values are **higher** than national SIR values.

The 2024 PA CAUTI SIR value is **lower** than the national SIR value.

2024 PA urinary catheter and central line SUR values are **higher** than national SUR values.

Differences in PA and national SIR/SUR values reached statistical significance for CAUTI, urinary catheter use, and central line use.



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Overall, PA continues to reduce HAIs.

CAUTI and CDI had **fewer** infections reported in 2024 than were predicted.

Of the 3 HAIs evaluated, 1 had a **lower** SIR value than the prior year and 1 had a lower SIR value than the national value.

CAHs should focus on reducing CLABSIs because the SIR was higher than the baseline.

2024 SIR/SUR values from CAUTI and central line use were statistically significantly different from the baseline values.

Questions

This report was made by the Division of Healthcare Associated Infection Prevention within the Bureau of Epidemiology. If you have any questions, please email us at RA-DHHAI@pa.gov

Important Note About These Data:

These data from the Pennsylvania Department of Health are provisional. That means it is still being reviewed and could change. It is shared now to help people make timely decisions. Be careful when using this information to make important decisions. It has not been fully reviewed or approved yet. The Department of Health and the Commonwealth of Pennsylvania are not responsible for any problems caused by how these data are used — either with or without permission. Any conclusions or analyses made using these data are your own. If you have questions about these data or how to use them, please contact RA-DHHAI@pa.gov. Questions related to use of provisional data can be directed to the Office of Health Informatics governance team at [DH, Data Modernization Initiative](#).