HAI Dashboard Notes

There are currently 2 dashboards for reportable healthcare associated infections (HAIs):

- The **Device-Associated HAI Dashboard** contains information on **CAUTI** (catheter-associated urinary tract infection) and **CLABSI** (central line-associated bloodstream infection)
- The **CDI Dashboard** contains information on **CDI** *(Clostridioides difficile* infection)

Metrics and Reading This Report

Purpose and Data Considerations

The report dashboard looks at how hospitals in Washington State performed in HAI prevention by displaying how many HAIs they reported compared to how many were predicted for that year. It shows whether a hospital had more, fewer, or about the same number of infections compared to the national baseline, or the national experience.

Before reviewing this report please consider:

1. **The data within this report are preliminary.** Although efforts were made by hospitals and the Washington State HAI Program to ensure that the data were accurate and complete, the data are self-reported and have not been formally "double-checked," or validated. Until data validation is completed, numbers should be interpreted with caution. All data are subject to change.
2. **There may be differences between results published by the Washington State HAI Program and results published elsewhere** (e.g., CMS Hospital Compare website, WSHA dashboards). It might be due to using data from different time periods, facility types, patient populations, and/or different methods of analysis.
3. **These dashboards utilize Standardized Infection Ratio (SIR), the preferred summary measure to track HAIs.** The SIR model adjusts for differences between hospitals such as types of patients and procedures, hospital size, and affiliation with a medical school. While rates may be easier to understand than the SIR, they do not reflect differences in risk between populations. SIR More information on the SIR can be found on page 3.
4. **There may be differences in reporting practices among hospitals.** Hospitals with more infection prevention personnel and resources may be able to identify and report more infections compared to a hospital with fewer infection prevention resources.
5. **Numbers alone won't show how well a hospital is doing in preventing HAIs.** This report shows how hospitals performed during a single year and compares each hospital's performance to the national baseline. It is important not only to consider the SIR interpretation provided for each hospital, but to also look at the total number of patient or device days and the total number of infections identified during that time.

HAI-Specific Consderations

CDI

CDI Laboratory Identified (LabID) events rely on laboratory data. Patients did not have to be ill to have a positive result, and a positive result can be determined without requiring clinical information about the patient. This allows for a much easier means to track CDI.

Only LabID events that occurred more than 3 days after hospital admission are counted as hospital onset (HO) in this report.

CAUTI

CAUTI data are only included after 2020. CAUTI was made reportable in Washington in 2020. Prior to 2020 the Washington State Department of Health received aggregated state data, which isn't useable for this purpose of this dashboard.

National Healthcare Safety Network (NHSN)

NHSN is a free and secure web-based data management system developed and maintained by the Centers for Disease Control and Prevention (CDC). The data included in these dashboards are reported to the Centers for Medicare and Medicaid Services (CMS), CDC, and the Washington State Department of Health through the National Healthcare Safety Network (NHSN).

National Targets

Two national targets are included in the dashboards: 2015 National Baseline and the 2020 HHS HAI Target Goal.

2015 National Baseline

In 2015, CDC created new baselines of all the HAIs reported to NHSN for comparing data. HAI prevention progress is measured against NHSN infection data using models that account for differences in patient population's risk of developing an infection. When the SIR is below the National Baseline of 1, there were fewer infections than expected.

2020 HHS HAI Action Plan Target

The 2020 U.S. Department of Health and Human Services (HHS) SIR target for the National Action Plan to Prevent Health Care-Associated Infections: Road Map to Elimination (HAI Action Plan) provides target goals for each NHSN reportable condition. The target goals differ for each HAI. There are plans to update the HHS HAI Action Plan Targets in the future.

Timeline

The HAI dashboards display annual data reported to NHSN since the conditions became reportable in Washington. The data are downloaded from NHSN after it has been finalized for the last quarter of the reported year and sent to the Center for Medicare and Medicaid Services (CMS). Any changes made to the data after this date are not reflected in the dashboard. The month the data in the dashboard was last updated can be seen at the bottom of each dashboard.

Standardized Infection Ratio (SIR)

Explanation

The SIR is a summary measure used to track HAIs over time and can be calculated on multiple population levels, including unit, facility, state, and nation. The data adjusts for differences between healthcare facilities. In each time period, the SIR compares the number of infections reported to the number of infections that were predicted using data from the 2015 baseline, which varies for each infection type and each facility's individual risk. Lower SIRs indicate better performance. For more information on the SIR, please see A Guide to the SIR.

$$\text{SIR} = \frac{\textit{Number of observed infections}}{\textit{Number of predicted infections}}$$

Interpretation

Colors and symbols are used to help you quickly understand the statistical significance of the SIR. This is the "take home message" about the facility's performance for that HAI measure.

Table 1: SIR Interpretation Guide

SIR Value	Symbol	Table Text	Interpreation
<1.0	△	Better than predicted	There were **fewer infections** than predicted. *If a facility has a CAUTI SIR of 0.75, they experience 25% fewer events than expected.*
1.0	○	Same as expected	The SIR ratio is not significantly different than 1.0 meaning the **number of infections was close to or the same** as the number predicted
>1.0	▽	Worse than predicted	There were **more infections** than predicted. *If a facility has a CAUTI SIR of 1.5, they experienced 50% more events than predicted.*
N/A	×	No conclusion	There was not enough information to make a reliable comparison to the national experience.

Interpretation Notes

The "Same as expected" interpretation is used when the SIR is not statistically different from 1, which occurs when the confidence interval contains 1. Most facilities will have a "Same as expected" interpretation.

A SIR is not calculated when the number of predicted infections is less than 1.0. According to national baseline data, if the number of predicted infections is less than 1.0, the risk to patients is so low that not even one type of event (or infection) is predicted to occur in that group of patients.

Definition of Terms

Device-Associated HAIs: Healthcare associated infections related to the devices used in healthcare facilities, for example, catheters.

Device Days: A daily count of the number of patients in a patient care location with at least 1 device.

Patient Days: A daily count of the number of patients in a patient care location.

Standardized Infection Ratio (SIR): This measure divides the number of observed events by the number of predicted events. A value of 1 indicates that the facility observed the same number events as were predicted. Lower SIR values are better.

95% Confidence Interval (CI): There is a high degree of confidence (95%) that the true SIR lies within this range of values. If this range includes the value of 1, then the SIR is not statistically significant (i.e., the number of observed infections or events is not significantly different than the number predicted). A confidence interval cannot be calculated if the SIR is not calculated.

Acronyms

ACH	Acute Care Hospital
CAH	Critical Access Hospital
CAUTI	Catheter-associated urinary tract infection
CDC	Centers for Disease Control and Prevention
CDI	*Clostridioides* (formerly *Clostridium*) *difficile* infection
CI	Confidence Interval
CLABSI	Central-line associated bloodstream infections
CMS	Centers for Medicare and Medicaid Services
DOH	Department of Health
HAI	Healthcare Associated Infection
HHS	US Department of Health and Human Services
HO	Healthcare Facility Onset
LabID	Laboratory Identification
LTACH	Long-Term Acute Care Hospital
NHSN	National Healthcare Safety Network
SIR	Standardized Infection Ratio
WA	Washington State

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