



Washington State Department of
HEALTH

**Annual
Healthcare-Associated
Infections Report
2021**

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Executive Summary

Healthcare-associated infections (HAIs) are infections acquired by patients as they receive care in health care settings. These infections threaten patient safety and public health. The impact of HAIs is significant, contributing to increased length of hospitalization, financial burden, loss of trust in the healthcare system, and potential death.

The Washington State Department of Health (WA DOH) publishes an annual HAI report to provide data about the quality of hospital care in Washington, to monitor prevention progress, and to compare it to national averages and targets. This report covers HAIs that patients have acquired in acute care hospitals throughout Washington in 2021. It also includes a report of influenza vaccination coverage among healthcare personnel during the 2021-2022 influenza season, which runs from October to May. The HAI data in this report are mandated by the Centers for Medicare and Medicaid Services (CMS) and Washington Administrative Code (WAC).

COVID-19 Pandemic Impact on HAI Incidence

From 2015 to 2019, Washington hospitals reported a steady decline in rate of incidence for most HAIs. By 2019, Washington hospitals reported significantly lower HAI incidence than the national baseline. They were on track to meet elimination targets defined by the 2020 U.S. Department of Health and Human Services (HHS) standardized infection ratio (SIR) in the [National Action Plan to Prevent Healthcare-Associated Infections: Road Map to Elimination](#) (HAI Action Plan).

This changed in 2020. Incidence increased for most HAIs this year, corresponding with the start of the COVID-19 pandemic in Washington. Incidences reported in 2021 nearly approached rates not seen since 2015 for device-associated infections, such as catheter-associated urinary tract infections (CAUTI) and central line-associated bloodstream infections (CLABSI). This increase is likely due to increased and longer hospitalizations, high hospital staff turnover rates, shortages of medical supplies, and COVID disease severity nationwide. Despite the increase in incidence for most HAIs during the pandemic, Washington hospitals continued to have lower rates for all reportable HAIs than the 2015 national baselines. Figure 1 visualizes the downward trend of HAIs in Washington from 2015 to 2019, and subsequent increases in HAI incidence.



The SIRs were worse in 2021 compared to 2020 for:

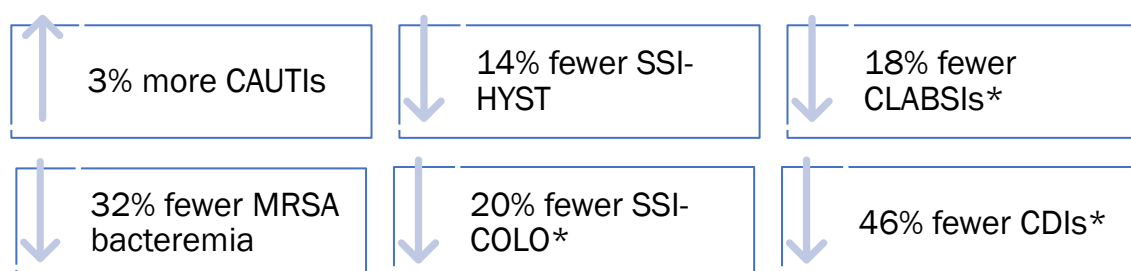
- CAUTI
- CLABSI
- Surgical Site Infection (SSI)
 - Colon surgery (COLO)
 - Abdominal hysterectomy (HYST)

The SIRs were better or the same in 2021 compared to 2020 for:

- *Clostridioides difficile* infection (CDI)
- Methicillin-resistant *Staphylococcus aureus* (MRSA) bacteremia

Overall, Washington state hospitals' infections rates were generally lower than predicted for most HAIs. No HAIs were statistically significantly higher than the national baseline. Please refer to the "Methods" section for more details on the standardized infection ratio (SIR) and the prediction model. In Washington, the statewide SIRs for CDI, CLABSI (facility-wide), MRSA bacteremia, and SSI-COLO were significantly lower than the national baseline. When CLABSI is broken down by facility location, only the non-critical care locations were significantly lower than the national baseline. See Table 1 for more details.

For each HAI in this report, Washington hospitals' performance as compared to the national baseline level are as follows:



* Denotes statistical significance defined by a p-value less than 0.05



The WA DOH Healthcare-associated Infection and Antimicrobial Resistance (HAI/AR) Program works closely with local health jurisdictions (LHJs) and Washington state hospitals to track HAIs. Tracking of HAIs is standardized nationwide using the Center for Disease Control and Prevention's (CDC) National Healthcare Safety Network (NHSN) surveillance system and standardized surveillance definitions, which allows the data to be used for epidemiological purposes. The HAI/AR Program utilizes NHSN to monitor HAI events over time to help inform trends and quality improvement activities, which is important for prevention of HAIs and risk reduction.



Figure 1. Healthcare-Associated Infections SIRs in Washington Hospitals, 2015-2021

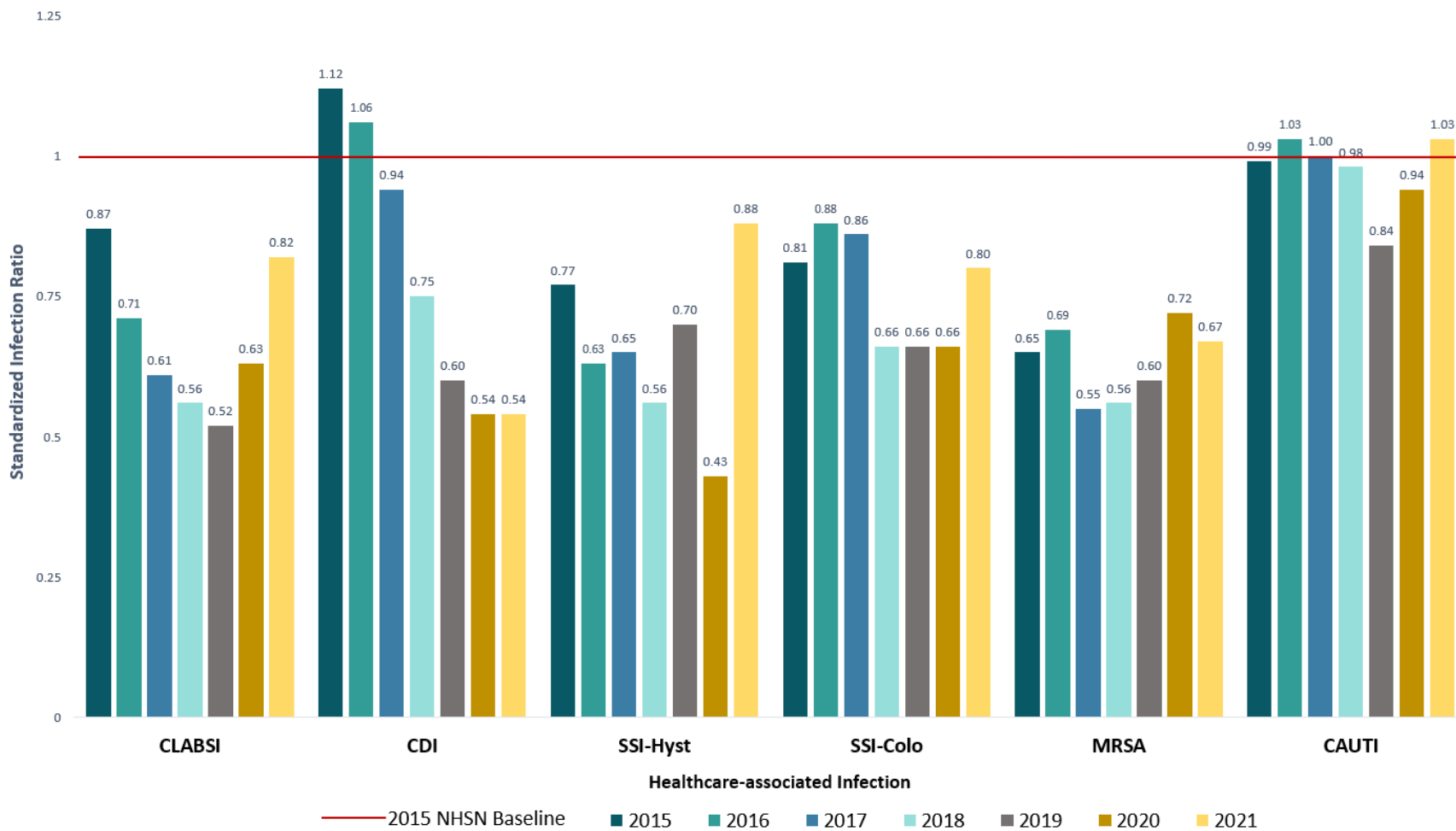


Figure 1 shows the state-wide SIR for each reportable HAI since the CDC updated the national baseline in 2015. Since 2015, there has been a general downtrend in HAI incidence, most notably for CLABSI, CDI, SSI-COLO, and CAUTI. In 2021 (bright gold bar), most HAIs increased, except for CDI and MRSA, likely due to pandemic related challenges. Only CAUTI surpassed the national baseline of SIR = 1, represented by the red line.

Table 1. Washington HAI Standardized Infection Ratios (SIRs), 2021

		Number of Infections				
HAI	Location	Observed	Predicted	Device Days/ Patient Days/ Number of Procedures	Standardized Infection Ratio (SIR)	95% Confidence Interval (CI)
CAUTI	<i>Facility-Wide</i>	417	405.58	354,314	1.03	0.93, 1.13
	<i>Critical Care</i>	250	234.28	176,972	1.07	0.94, 1.21
	<i>Non-Critical Care</i>	167	171.30	177,342	0.98	0.84, 1.13
CLABSI	<i>Facility-Wide</i>	323	392.91	395,865	0.82	0.74, 0.92
	<i>Critical Care</i>	213	193.10	176,808	1.10	0.96, 1.26
	<i>Non-Critical Care</i>	84	175.08	200,733	0.48	0.39, 0.59
	<i>Neonatal Critical Care</i>	26	24.73	18,324	1.05	0.70, 1.52
CDI	<i>Facility-Wide</i>	759	1414.08	2,711,469	0.54	0.50, 0.58
MRSA	<i>Facility-Wide</i>	131	194.01	2,927,328	0.68	0.56, 0.80
SSI - COLO	<i>Facility-Wide</i>	137	172.07	6,364	0.80	0.67, 0.94
SSI - HYST	<i>Facility-Wide</i>	34	39.43	4,775	0.86	0.61, 1.19

Green highlight indicates SIR is significantly LOWER than the national baseline (SIR<1).

Red highlight indicates SIR is significantly HIGHER than the national baseline (SIR>1).



Introduction

Background

Each day, about 1 in 31 hospital patients will develop at least one HAI¹. An HAI is an infection that develops in a patient during, or soon after, they receive healthcare services or visit a health care setting. These settings can include hospitals, clinics, doctor's offices, surgery centers, dialysis centers, nursing homes, or home-care visits. HAIs are caused by bacteria, fungi, viruses, and other common pathogens that enter the body through susceptible body sites such as an open wound or an invasive medical device, such as a catheter. These infections can cause serious illness and death, but many are preventable.

Infection prevention teams in health care settings perform robust surveillance for HAIs and work continuously to prevent HAIs. The role of public health is to inform consumers and stakeholders of HAI surveillance data and metrics while collaborating with facilities to ensure systematic and reliable HAI surveillance.

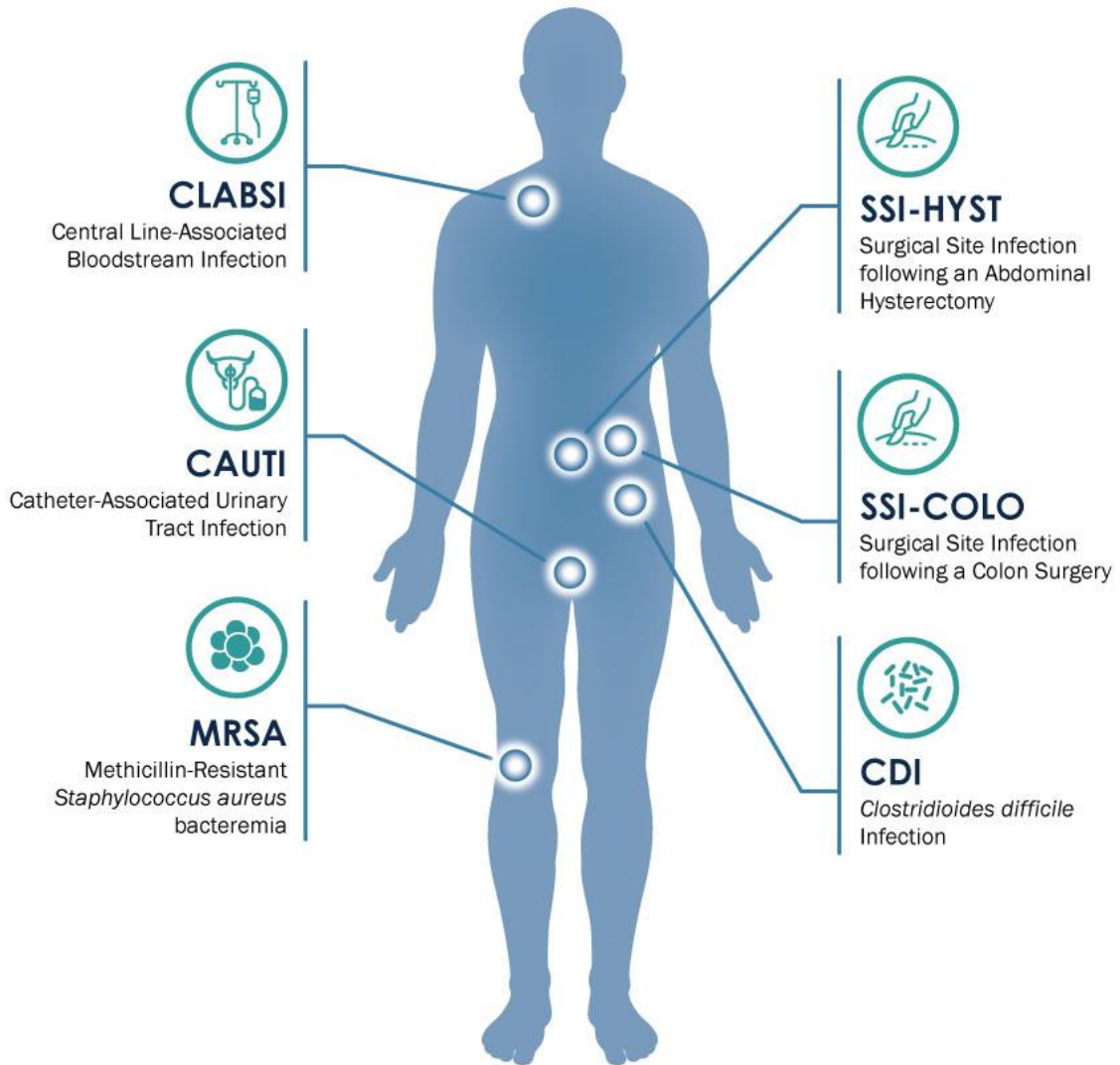
This report focuses on acute care hospitals (ACH), which are hospitals that provide short-term, inpatient medical and surgical services for many different conditions and illnesses. ACHs with fewer than 25 beds in rural areas may be federally designated as critical access hospitals (CAH). CAHs are not included in this report because the CMS reporting requirements differ for these facilities.

Hospitals are required to track and self-report five types of HAIs:

- Catheter-associated urinary tract infection (CAUTI)
- Central-line associated bloodstream infections (CLABSI)
- Hospital-onset *Clostridioides difficile* infections (CDI)
- Hospital-onset methicillin-resistant *Staphylococcus aureus* (MRSA) bacteremia
- Surgical site infections (SSI) related to colon surgeries (COLO) and abdominal hysterectomies (HYST)



Figure 2. Five Reportable HAIs Shown Along the Human Body by Body Site Location



This report summarizes HAI data reported to the Centers for Medicare and Medicaid Services (CMS), Centers for Disease Control and Prevention (CDC), and the Washington State Department of Health (WA DOH) through the National Healthcare Safety Network (NHSN). NHSN is a free and secure web-based data management system developed and maintained by the CDC. The CDC and WA DOH provide support to hospital surveillance staff on the appropriate use of the system and guidance to track infections using a standardized methodology. For more information about NHSN, please visit: www.cdc.gov/nhsn.

The data for this report was downloaded from NHSN in March 2023. Changes made to the data after this date are not reflected in this report. Due to the global pandemic beginning in 2020, COVID-19 quickly became the highest priority at the WA DOH. Unfortunately, this led to a delay in standard work, including producing annual reports.

Report Audience

The WA DOH Healthcare-Associated Infections/Antibiotic Resistance (HAI/AR) Program Epidemiology team produces this report for consumers, healthcare providers, public health officials, and Washington policy makers. Data should drive consumer advocacy, healthcare choice, healthcare facility prevention strategies, awareness of the burden of HAIs within the community, and legislative support for HAI prevention and surveillance.

Reporting Requirements

CMS Required Reporting

CMS requires facility-wide infection reporting from ACHs through the following programs:

- CMS Hospital Inpatient Quality Reporting (IQR) Program authorized by 42 U.S.C. 1395ww (b)(3)(B)(viii)
- CMS PPS-Exempt Cancer Hospital Quality Reporting (PCHQR) Program authorized by 42 U.S.C. 1395cc(k)

Washington CAHs report data to NHSN according to the following program:



- CMS Additional Member Beneficiary Quality Improvement Project (MBQIP) Measures authorized by 42.U.S.C 1395i-4

More information about MBQIP measures can be found in the [Washington State Department of Health MBQIP Desk Manual](#).

Detailed information on NHSN reportable events and their reporting deadlines can be found in the [CMS Reporting Requirements and Deadlines](#) document.

Purpose of WAC 246-440-100

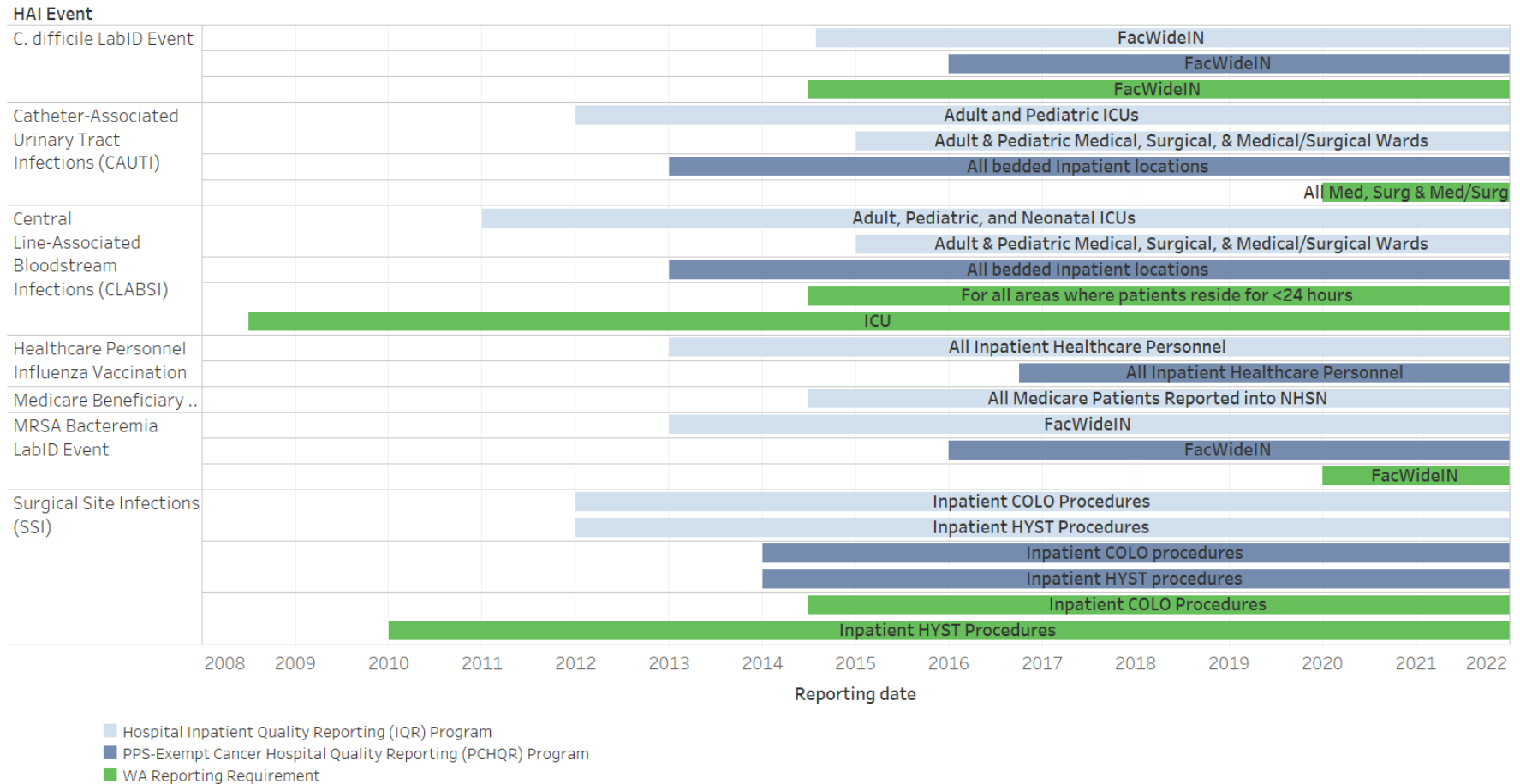
The Washington Administrative Code (WAC) established data collection and submission requirements for hospitals licensed under chapter 70.41 RCW to report HAIs. [WAC 246-440-100](#) was updated in 2020 to align Washington State HAI requirements with current CMS reporting requirements. See Figure 3 for a timeline of reporting requirements for acute care hospitals per CMS rules (blue) and Washington state WAC updates (green), including the WAC updates that went into effect January 1, 2020. Specific reporting requirements are found in WAC 246-440-100 and listed in Table 2.

Purpose of RCW 43.70.056

The [Revised Code of Washington \(RCW\) 43.70.056](#) charges hospitals to collect and submit HAI data to the WA DOH via CDC's NHSN. Under the RCW, WA DOH is charged with using data to compile and publish reports, implement regional infection prevention strategies, and evaluate the quality and accuracy of HAI reporting. Starting in January 2020, the RCW required the WA DOH to align with CMS reporting categories and criteria.



Figure 3. HAI Reporting Requirement Timeline



*Facility-wide inpatient (FacWideIN)

Figure 3 shows the timeline of reporting requirements for ACHs per CMS rules (light and dark blue) and Washington state WAC updates (green), including the WAC updates that went into effect January 1, 2020.

Table 2: Hospital Reporting Requirements for HAI under WAC 246-440-100

Hospital Type	Reporting Requirement	Reporting Specifications
Acute Care Hospital	CLABSI	Adult, pediatric and neonatal intensive care units, medical, surgical, and medical/surgical wards
	CAUTI	Adult and pediatric intensive care units, medical, surgical, and medical/surgical wards
	SSI <ul style="list-style-type: none"> • Colon • Abdominal hysterectomy 	Inpatient procedures
	MRSA bacteremia LabID Event	Facility-wide inpatient
	CDI LabID Event	Facility-wide inpatient
	Healthcare personnel vaccination <ul style="list-style-type: none"> • Influenza • COVID-19 	All inpatient locations
Cancer Hospital	CLABSI	Facility-wide inpatient
	CAUTI	Facility-wide inpatient
	SSI <ul style="list-style-type: none"> • Colon • Abdominal hysterectomy 	Inpatient procedures
	MRSA bacteremia LabID Event	Facility-wide inpatient
	CDI LabID Event	Facility-wide inpatient
	Healthcare personnel vaccination <ul style="list-style-type: none"> • Influenza • COVID-19 	All inpatient locations
Rehabilitation Hospital	CAUTI	Facility-wide inpatient
	CDI LabID Event	Facility-wide inpatient
	Healthcare personnel vaccination <ul style="list-style-type: none"> • Influenza • COVID-19 	All inpatient locations
Critical Access Hospital	Healthcare personnel vaccination <ul style="list-style-type: none"> • Influenza • COVID-19 	All inpatient locations



Methods

Per Washington’s reporting requirements, hospitals are required to report HAIs into the CDC’s NHSN system. The WA DOH HAI/AR Program has established a data use agreement (DUA) with the CDC, which allows the WA DOH to use NHSN to retrieve and report on data submitted by hospitals. The SIR tables following each HAI section list SIRs for ACHs. The Washington state data included in this report are those that have been reported to CMS and may differ from those published by CDC. The reasons for the differences include when the data are frozen prior to reporting, the locations or units included in the data, and whether the data included only those reported to CMS or all data submitted by the hospitals. Data submitted to CMS from NHSN that may exclude some entries. Generally, the observed and predicted numbers, along with the standardized infection ratio (SIR) differ slightly, however the differences are negligible.

Incidence

Incidence is the occurrence of new cases of disease in a population over a specified period of time (e.g., month, year). Incidence is typically calculated as a rate or proportion.

$$\text{Incidence} = \frac{\text{Number of new cases of specific disease during specified time period}}{\text{Total population at risk}}$$

Standardized Infection Ratio (SIR)

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 such as patients and procedures with higher risk of infection, as well as other factors, such as the facility’s size and affiliation with a medical school (refer to the National Targets section). In a given time period, the SIR compares the number of infections *reported* to the number of infections that were *predicted* using data from the NHSN established baseline, which varies for each infection type and is dependent on each facility’s individual risk. Lower SIRs indicate better performance. For more information on the SIR, please see [A Guide to the SIR](#). The SIR compares the number of infections associated with a hospital’s number of device days, procedures, or patient (denominator) days with national baseline data. National data are provided as a metric for



comparison and include hospitals that report data into NHSN. The national data reported may include all HAI data submitted to NHSN, not just those submitted to CMS.

Healthcare-associated Infection	Denominator
CAUTI	Total device (catheter) days
CLABSI	Total device (central line) days
CDI	Total patient days
MRSA	Total patient days
SSI	Total procedures

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. For reporting purposes, the SIR can be assumed to be zero if it was not calculated. When the SIR is calculated, there are three possible results:

- The SIR is less than 1.0 (**better than predicted**) – this indicates that there were fewer infections reported during the surveillance period than would have been predicted given the baseline data.
- The SIR is equal to 1.0 (**same as predicted**) – as in any ratio, the value of 1 indicates that the numerator and denominator are equal. In this case, the number of infections reported during the surveillance period is the same as the number of infections predicted given the baseline data.
- The SIR is greater than 1.0 (**worse than predicted**) – this indicates that there were more infections reported during the surveillance period than would have been predicted given the baseline data.

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



Statistical Significance

The p-value and 95% confidence intervals are statistical measures that describe the likelihood that a numerical estimate, i.e., what was observed, was due to random chance. These measures indicate whether a facility's SIR is significantly different from 1, the value expected if the facility performed the same as predicted based on the national data.

- If the p-value is **less than or equal to 0.05**, the number of observed infections is significantly different than the number of predicted infections (i.e., the SIR is significantly different from 1).
- If the p-value is **greater than 0.05**, the number of observed infections in a facility is not significantly different than the number predicted (i.e., the SIR is no different than 1).







The 95% confidence interval is a range of values, indicating a high degree of confidence. In this case, the 95% confidence interval indicates that the true SIR lies within this range. The upper and lower limits are used to determine the significance and precision of the SIR.

- If the confidence interval **includes the value of 1**, then the SIR is *not significant* (i.e., the number of observed events is not significantly different than the number predicted).
- If the confidence interval **does not include the value of 1**, then the SIR is *significant* (i.e., the number of observed events is significantly different than the number predicted).
- When the **SIR is 0**, the lower bound of the 95% confidence interval cannot be calculated. However, for ease of interpretation, it can be considered 0



Hospital Performance Legend

The following symbols visually depict how a facility's observed number of HAIs compare to the number of HAIs predicted by NHSN, based on the national baseline. "Observed similar to predicted" was used when the difference between the number of observed and predicted infections is less than 1 for statewide tables. The symbol in the performance column describes the state's SIR compared to the national SIRs in the specified acute care locations. "Observed similar to predicted" was used when the difference between the state SIR and the national SIR is less than 0.05.

	Statistically fewer (better) infections
	Fewer infections (not statistically significant)
	More infections (not statistically significant)
	Statistically more (worse) infections
	Number of predicted infections is less than 1; SIR cannot be calculated
	Observed similar to predicted (not statistically significant)



National Targets

In 2015, the CDC created new baselines for each HAI reported to NHSN to be used when comparing HAI data. Progress of HAI prevention is measured in comparison to infection data reported to NHSN, using updated risk-adjustment models which account for the differences in risk that may impact infections reported by a hospital (e.g., unit type, hospital bed size, or patient age). Hospital performance is compared using the SIR, discussed in more detail in the “Methods” section.

The 2020 U.S. Department of Health and Human Services (HHS) SIR target, developed for the [National Action Plan to Prevent Health Care-Associated Infections: Road Map to Elimination \(HAI Action Plan\)](#), provides HAI target goals for each NHSN reportable condition. The HHS HAI Action Plan targets the most common infections in inpatient settings and provides a standard of measurable improvement for ACHs. Due to complications of the COVID-19 pandemic, hospitals nationwide were unable to meet the target goals for most HAIs, including those located in Washington state.

HHS has continued to include HAI reduction goals in the [Healthy People 2030](#) national objectives for the next decade. Two HAI objectives in Healthy People 2030 are specific to nationally reportable HAIs and tracked by the WA DOH:

- “Reduce *C. diff* infections that people get in the hospital²”—target SIR goal of 0.70
- “Reduce MRSA bloodstream infections that people get in the hospital³”—target SIR goal of 0.50

Progress Towards National Targets

Since 2015, Washington hospitals saw a downward trend in the incidence of most HAIs. All HAIs had SIRs below the NHSN baseline of 1.0, meaning there were fewer infections than predicted for each of the HAIs included in this report. However, the COVID-19 pandemic derailed progress for most HAIs. This was apparent in the data, starting with 2020 data when incidence rates increased for most HAIs. However, significant progress in preventing HAIs has been made when compared to the national experience. Of the five HAIs included in this report, only the SIR for CAUTI was significantly worse than the national average (SIR: 1.03 to 0.80, respectively). The SIRs for CDI, CLABSI, and SSI-COLO were all similar to their respective national SIRs in all acute care locations. The SIRs for MRSA



and SSI-HYST were better than the national average, with MRSA having a statistically significant SIR at 0.68, while the national average SIR was 1.07.

Table 3 below shows the progress made toward three different national goals:

- NHSN SIR Baseline of 1.0
- National Average SIR
- Healthy People (HP) 2030
 - Target goals for *C. diff* and MRSA bacteremia infections only

In Table 3, green checkmarks denote goals that were met in 2021, while instances where the target SIR was not met are marked with a black X. Washington ACHs have made significant strides to reduce SIRs below these national targets, meeting or exceeding each goal for at least half of the HAIs tracked. Notably, Washington ACHs performed better than the national average for four of the five HAIs and met all three national goals for CDI.



Table 3: Washington Acute Care Hospitals' Progress toward National Targets in 2021

2021 WA HAI	LESS THAN OR EQUAL TO	LESS THAN OR EQUAL TO	LESS THAN OR EQUAL TO
	NHSN Baseline SIR	National Average	HP 2030
	1.0	SIR	
CAUTI	✗	✗	NA
CDI	✓	✓	✓
CLABSI	✓	✓	NA
MRSA BACTEREMIA	✓	✓	✗
SSI – COLO	✓	✓	NA
SSI – HYST	✓	✓	NA



CAUTI: No Improvement as Statewide SIR Increased to 1.03

Historically, Washington ACHs have faced challenges decreasing the incidence of CAUTI. 2019 marked the greatest percentage decrease in CAUTI incidence since 2015, with a 14.3% reduction. Unfortunately, the COVID-19 pandemic deterred efforts to achieve the HHS HAI Action Plan 2020 target goal of 0.75, as the statewide SIR for CAUTI in 2020 was 0.94. For reporting year 2021, the CAUTI SIR for Washington ACHs surpassed the NHSN baseline at 1.03.



CDI: Stable as Statewide SIR Remained at 0.54



Since 2015, the CDI SIRs have been on a downward trend. CDI incidence was reduced by 46.4%, the greatest decrease of any reportable HAI in WA. Since 2015, there has been at least a 10% annual decrease in SIR. During the COVID-19 pandemic, hospitals in Washington, as well as nationally, experienced lower CDI incidence when compared to previous years. The SIR for 2021 remained the same at 0.54 for a second year in a row. Additionally, Washington ACHs surpassed the Healthy People 2030 goal of reducing CDI incidence below the SIR goal of 0.70.



CLABSI: No Improvement as Statewide SIR Increased to 0.82

Similar to CDI, CLABSI incidence had been on the decline since 2015. From 2015 to 2019, there was a 40.2% reduction in SIR. Unfortunately, 2021 marks the second consecutive year with an increase in the statewide SIR for CLABSI, which has increased by 57.8% since the beginning of the COVID-19 pandemic.



COLO: No Improvement as Statewide SIR Increased to 0.80

The incidence of SSI following colon surgery (COLO) has been declining since 2016. During 2020, the first year of pandemic, the SIR remained stable at 0.66. Unfortunately, 2021 marks the first increase, since 2016, in incidence of COLO in Washington ACHs, with a SIR of 0.80.



HYST: No Improvement as Statewide SIR Increased to 0.86

Between 2020 and 2021, there was a 100% increase from 0.43 to 0.86 in the SIR for SSI following abdominal hysterectomy (HYST). This increase is likely attributable to the Governor's Emergency



Proclamation that restricted non-urgent elective procedures for much of 2020. Compared to the 2019 SIR of 0.70, the 2021 SIR of 0.86 was slightly elevated, but not statistically significant.



MRSA: Improved as Statewide SIR Decreased to 0.68

2021 was the first year since 2016 that MRSA bacteremia incidence decreased in Washington ACHs. Although the incidence slightly decreased from 0.72 in 2020 to 0.68 in 2021, this decrease was not statistically significant. While the statewide SIR was greater than the Healthy People 2030 goal (SIR= 0.50) for MRSA, it was significantly better than the national average of 1.07.

In Summary

While much progress was made pre-pandemic, the COVID-19 pandemic has curtailed efforts made by Washington ACHs to reduce HAI incidence. The WA DOH HAI/AR Program continues to work with partner organizations, including the Washington State Hospital Association (WSHA), Association for Professionals in Infection Control and Epidemiology (APIC), LHJs, and ACHs to improve existing programs and develop new strategies to reduce HAI incidence and ultimately protect patients who entrust their care to Washington hospitals.

Variations in occurrence of HAIs between hospitals depends on several factors, including infection prevention practices or policies, patient risk factors, and underlying conditions. In 2021, hospitals continued to manage increased hospitalizations related the pandemic and COVID-19 surges, including the Delta wave in the summer and fall. With the continued increase in hospitalizations, incidence also increased among the device and procedure-associated HAIs: CAUTI, CLABSI, SSI-COLO, and SSI-HYST. Decreases were observed in the laboratory-identified HAIs: CDI and MRSA.

Reporting year 2021 was the first year without any major national HAI targets, as the HHS HAI Action Plan targets expired at the end of 2020. The Healthy People 2030 only includes target goals for CDI and MRSA reduction. Despite not having national goals to compare to, WA DOH continues to monitor progress of HAI reduction among Washington hospitals. Sharing state-wide data promotes patient



safety and best practices in clinical settings. Continued vigilance in surveillance and education in infection control practices are essential to improve patient safety and outcomes and foster patient trust in healthcare systems.



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The WA DOH HAI/AR Program can be contacted at HAI@doh.wa.gov.



Glossary

- ACH: Acute care hospital
- ACIP: Advisory Committee on Immunization Practices
- BSI: Bloodstream infection
- CAH: Critical access hospital
- CAUTI: Catheter-associated urinary tract infection
- CC: Critical care location
- CDC: Centers for Disease Control and Prevention
- CDI: *Clostridioides* (formerly *Clostridium*) *difficile* infection
- CI: Confidence interval
- CLABSI: Central line-associated bloodstream infection
- CMS: Centers for Medicare and Medicaid Services
- COLO: Colon surgery
- DUA: Data use agreement
- FacWideln: Facility-wide Inpatient
- HAI: Healthcare-associated infection
- HAI/AR: Healthcare-Associated Infections/Antibiotic Resistance
- HHS: U.S. Department of Health and Human Services
- HO: Hospital-onset
- HP: Healthy People 2030
- HYST: Abdominal hysterectomy surgery
- ICU: Intensive care unit
- IUC: Indwelling urinary catheter
- IQR: Inpatient Quality Reporting
- LabID: Laboratory-identified
- LHJ: Local health jurisdictions
- MBQIP: Member Beneficiary Quality Improvement Project
- MDRO: Multidrug-resistant organism
- MRSA: Methicillin-resistant *Staphylococcus aureus*
- NHSN: National Healthcare Safety Network
- PCHQR: PPS-Exempt Cancer Hospital Quality Reporting
- PPE: Personal protective equipment
- RCW: Revised Code of Washington
- SA: *Staphylococcus aureus*
- SIR: Standardized infection ratio
- SSI: Surgical site infection
- UTI: Urinary tract infection
- WA DOH: Washington State Department of Health
- WAC: Washington Administrative Code



Catheter-Associated Urinary Tract Infections (CAUTI)

An indwelling urinary catheter (IUC) is a drainage tube that is inserted into the urinary bladder through the urethra, left in place, and connected to a closed collection system. A urinary tract infection (UTI) is an infection involving any part of the urinary system, including urethra, bladder, ureters, and kidneys. A catheter-associated urinary tract infection (CAUTI) occurs when germs (usually bacteria) enter the urinary tract through the urinary catheter and cause infection.

UTIs are the fifth most common type of HAI, and CAUTI is the third most common reportable event for NHSN⁴. Among hospital acquired UTIs, approximately 75% are associated with a urinary catheter. Between 15% to 25% of hospitalized patients have urinary catheters placed during their hospital stay. The most important risk factor for developing a CAUTI is prolonged use of the urinary catheter. Therefore, catheters should only be used for appropriate indications and removed as soon as they are no longer medically needed.

CAUTI was made a reportable HAI in January 2020 when RCW 43.70.056 was updated to complement reporting requirements of all HAIs to those of CMS. Previously, WA DOH did not have access to CAUTI SIRs by facility; instead, WA DOH received aggregated state data.

Table 4 shows the SIR for each ACH in Washington and table 5 shows the state SIR compared to the national CAUTI SIR.

The 2021 SIR for CAUTI in all acute care locations in Washington was 1.03. Between 2020 and 2021, the **SIR increased by 9.4%, but this increase was not statistically significant ($p>0.05$)**. Figure 4 shows the CAUTI SIR trend since 2015, noting that prior to 2020, all data were processed by NHSN and provided to Washington in aggregate. There was a downward trend until 2020, the first year of the pandemic, when CAUTI incidence began to increase.

For more information, visit CDC's webpage on [CAUTI](#).



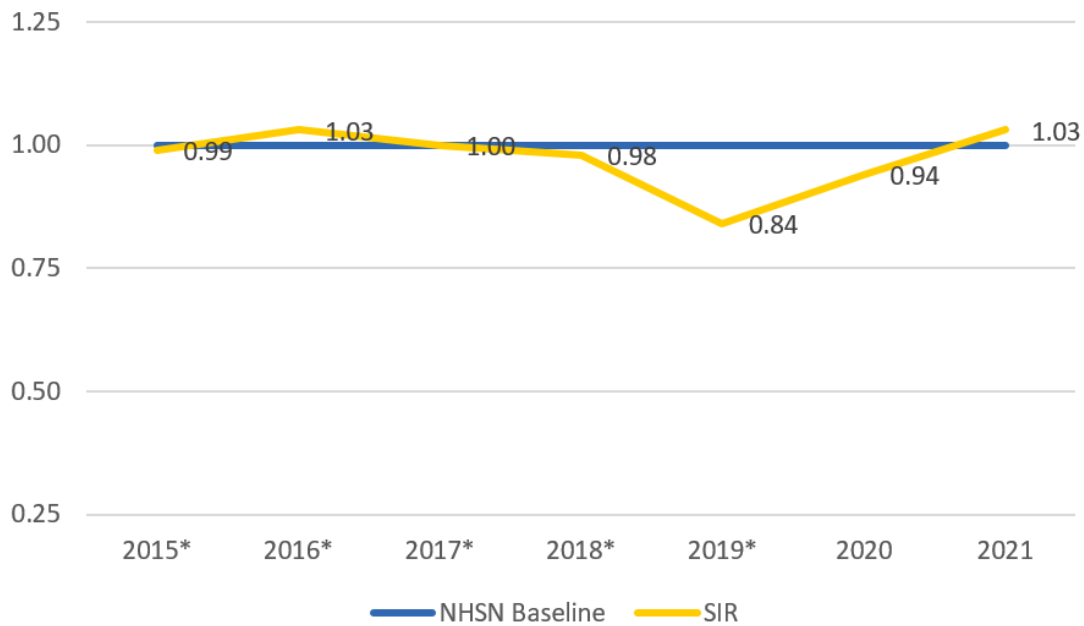
Figure 4: CAUTI SIR Trend in Washington, 2015-2021

Figure 4 shows the SIR for CAUTI in all locations of ACHs in Washington from 2015 to 2021. There has been a slow decline from the national baseline of 1 and since the pandemic, the CAUTI SIR has surpassed the national baseline. Washington did not make CAUTI reportable until 2020. The SIR presented for prior years, denoted by the asterisk (*), were aggregated and reported by NHSN's annual HAI report.



Table 4: CAUTI Standardized Infection Ratios by Facility

Facility Name	Performance	Number of Infections	Number Predicted	Catheter Days	SIR	95% Confidence Interval
Astria Toppenish Hospital		1	0.27	502		NA
Capital Medical Center		4	1.30	2,191	3.08	0.98, 7.43
Cascade Valley Hospital		1	0.51	983		NA
Central Washington Hospital		10	5.34	7,558	1.87	0.95, 3.34
CHI-FHS St. Anne Hospital		4	3.91	3,718	1.02	0.33, 2.47
CHI-FHS St. Anthony Hospital		2	6.34	6,260	0.32	0.05, 1.04
CHI-FHS St. Clare Hospital		2	3.43	3,344	0.58	0.10, 1.93
CHI-FHS St. Francis Hospital		3	6.43	6,269	0.47	0.12, 1.27
CHI-FHS St. Joseph Medical Center		14	25.19	13,835	0.56	0.32, 0.91
CHI-FHS St. Michael Medical Center		12	10.66	8,712	1.13	0.61, 1.91
Evergreen Health Kirkland		13	11.09	8,841	1.17	0.65, 1.95
Evergreen Health Monroe		0	0.38	762		NA
Grays Harbor Community Hospital		2	1.69	3,310	1.18	0.20, 3.91
Harborview Medical Center		69	57.45	24,772	1.20	0.94, 1.51
Island Hospital		0	0.76	1,492		NA
Kadlec Regional Medical Center		2	11.36	11,976	0.18	0.03, 0.58
Kaiser Permanente Central Hospital		1	0.14	293		NA
Legacy Health Salmon Creek		13	4.55	6,551	2.86	1.59, 4.77



Facility Name	Performance	Number of Infections	Number Predicted	Catheter Days	SIR	95% Confidence Interval
MultiCare Allenmore Hospital		0	0.93	2386		NA
MultiCare Auburn Medical Center		7	3.25	4,073	2.15	0.94, 4.26
MultiCare Covington Medical Center		1	0.37	657		NA
MultiCare Deaconess Hospital		8	10.43	10,745	0.77	0.36, 1.46
MultiCare Good Samaritan		11	12.24	12,509	0.90	0.47, 1.56
MultiCare Mary Bridge Hospital		1	0.70	745		NA
MultiCare Tacoma General Hospital		22	14.45	14,239	1.52	0.98, 2.27
MultiCare Valley Hospital and Medical Center		2	3.17	4,408	0.63	0.11, 2.09
Northwest Hospital and Medical Center		8	6.58	6,666	1.22	0.56, 2.31
Olympic Medical Center		2	2.28	3,023	0.88	0.15, 2.90
Overlake Hospital Medical Center		8	5.36	6,179	1.49	0.69, 2.84
PeaceHealth Southwest Medical Center		7	11.89	12,189	0.59	0.26, 1.16
PeaceHealth St John Medical Center		4	2.50	3,539	1.60	0.51, 3.87
PeaceHealth St. Joseph Medical Center		5	5.81	6,794	0.86	0.32, 1.91
Providence Centralia Hospital		6	1.96	2,766	3.07	1.24, 6.38
Providence Holy Family Hospital		6	3.26	4,645	1.84	0.75, 3.83
Providence Regional Medical Center Everett		29	29.04	23,089	1.00	0.68, 1.42



Facility Name	Performance	Number of Infections	Number Predicted	Catheter Days	SIR	95% Confidence Interval
Providence Sacred Heart Medical Center		16	17.81	13,815	0.90	0.53, 1.43
Providence St. Mary Medical Center		4	1.99	2,852	2.01	0.64, 4.85
Providence St. Peter's Hospital		22	14.95	14,935	1.47	0.94, 2.19
Samaritan Hospital		0	0.40	806		NA
Seattle Children's Hospital		2	5.74	4,204	0.35	0.06, 1.15
Skagit Regional Hospital		14	4.91	6,237	2.85	1.62, 4.67
Swedish Medical Center - Ballard		0	0.35	470		NA
Swedish Medical Center - Cherry Hill		4	11.09	6,807	0.36	0.12, 0.87
Swedish Medical Center - Edmonds		2	2.49	3,507	0.80	0.14, 2.66
Swedish Medical Center - First Hill		16	15.54	12,442	1.03	0.61, 1.64
Swedish Medical Center - Issaquah		7	2.70	3,793	2.59	1.13, 5.12
Trios Southridge Hospital		1	2.86	3,696	0.35	0.02, 1.73
University of Washington Medical Center		28	22.85	18,001	1.23	0.83, 1.75
Valley Medical Center		14	13.49	13,592	1.04	0.59, 1.70
Virginia Mason Medical Center		4	13.01	10,597	0.31	0.10, 0.74
Wenatchee Valley Medical Center		1	0.15	302		NA
Yakima Valley Memorial Hospital		2	10.26	8,237	0.20	0.03, 0.64



State and National CAUTI Standardized Infection Ratios

Table 5 below shows the SIR for the state, with aggregated NHSN data. The symbol in the performance column describes the state's SIR compared to the national SIRs for CAUTI in the specified care location. Overall, the statewide SIR for CAUTI is significantly higher than the national SIR.

Table 5: CAUTI Standardized Infection Ratios 2021 State Summary

	Performance	Number of Infections	Number Predicted	Catheter Days	SIR	95% Confidence Interval
All locations (WA)	▲	417	405.58	354,314	1.03	0.93, 1.13
Critical Care locations (WA)	▲	250	234.28	176,972	1.07	0.94, 1.21
Non-Critical Care locations (WA)	▲	167	171.30	177,342	0.98	0.84, 1.13
All locations (National)	Reference	24,710	31,077.11	27,018,974	0.80	0.79, 0.81
Critical Care Locations (National)	Reference	12,208	15,306.71	11,416,888	0.80	0.78, 0.81
Non-Critical Care Locations (National)	Reference	12,502	15,770.46	15,602,086	0.79	0.78, 0.81

▼	Statistically fewer (better) infections
▽	Fewer infections (not statistically significant)
▲	More infections (not statistically significant)
▲	Statistically more (worse) infections
▬	State SIR similar to National SIR (not statistically significant)

If a patient has a urinary catheter, they should understand why it's needed and ask their doctor frequently if it is still necessary.



Central Line-Associated Bloodstream Infections (CLABSI)

A central line is a long, flexible tube (catheter) that is inserted into a large vein in the neck, chest, upper arm, or leg to allow access to a patient's bloodstream with a tip that ends near the heart. They are used to provide medicine, nutrients, fluids, access for laboratory testing, or to monitor pressure inside the heart. Central lines are typically kept in place longer than a regular intravenous (IV) catheter and are often used for treatments of kidney disease (dialysis) or cancer (chemotherapy). Patients can be discharged from the hospital with a central line in place if they require continuous treatment at home or an outpatient infusion facility.

A serious infection can occur if bacteria enters the bloodstream through a central line, called Central Line-Associated Bloodstream Infection (CLABSI). CLABSIs typically causes prolonged hospitalization, increased costs, and risk of mortality. Hospital CLABSI SIRs are compared by the type of hospital unit based on the type of patient care required. Table 6 lists SIRs for all locations combined in each ACH.

Since 2011, Washington hospitals have been required to report all adult, pediatric, and neonatal intensive care unit (ICU) acquired CLABSIs. That requirement was extended to all adult and pediatric medical, surgical, and medical/surgical wards in 2015.

Between 2020 and 2021, the state SIR for CLABSI **increased significantly ($p < 0.05$) by 30.9% in all locations combined**. For more information, visit CDC's webpage on [CLABSI](#).



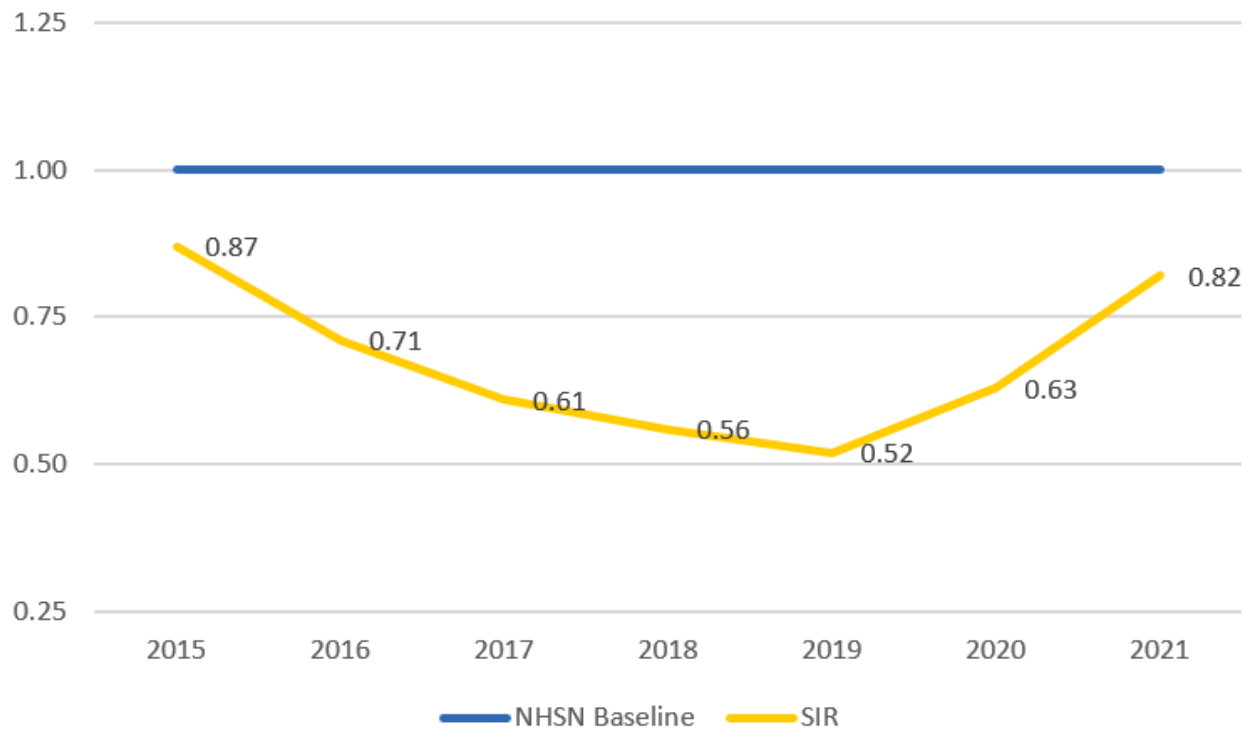
Figure 5: CLABSI SIR Trend in Washington, 2015-2021

Figure 5 shows the SIR for CLABSI in all locations of ACHs in Washington from 2015 to 2021. After steady decline began in 2015, the SIR began to increase after 2019, possibly due to pandemic challenges. The 2021 SIR of 0.82 was close to the 2015 SIR of 0.87, which is the highest Washington has seen for CLABSI.

ICU patients have an increased risk for CLABSI because 48% of ICU patients have central venous catheters⁵.



Table 6: CLABSI Standardized Infection Ratios by Facility

Facility Name	Performance	Number of Infections	Number Predicted	Device Days	SIR	95% Confidence Interval
Astria Toppenish Hospital		0	0.25	431		NA
Capital Medical Center		1	1.35	1,865	0.74	0.04, 3.64
Cascade Valley Hospital		1	0.44	714		NA
Central Washington Hospital		4	5.85	8,442	0.68	0.22, 1.65
CHI-FHS St. Anne Hospital		1	2.79	3,078	0.36	0.02, 1.77
CHI-FHS St. Anthony Hospital		1	4.87	5,433	0.21	0.01, 1.01
CHI-FHS St. Clare Hospital		0	2.71	2,904	0	0.00, 1.11
CHI-FHS St. Francis Hospital		5	5.09	5,524	0.98	0.36, 2.18
CHI-FHS St. Joseph Medical Center		7	17.39	14,888	0.40	0.18, 0.80
CHI-FHS St. Michael Medical Center		1	9.55	9,234	0.11	0.01, 0.52
Evergreen Health Kirkland		2	5.66	5,336	0.35	0.06, 1.17
Evergreen Health Monroe		0	0.10	170		NA
Grays Harbor Community Hospital		1	0.86	1,376		NA
Harborview Medical Center		40	27.21	19,127	1.47	1.06, 1.98
Island Hospital		1	0.41	666		NA
Kadlec Regional Medical Center		10	10.33	11,192	0.97	0.49, 1.73
Kaiser Permanente Central Hospital		0	0.18	318		NA
Legacy Health Salmon Creek		6	3.84	5,327	1.56	0.63, 3.25
MultiCare Allenmore Hospital		1	1.17	1,662	0.86	0.4, 4.22



Facility Name	Performance	Number of Infections	Number Predicted	Device Days	SIR	95% Confidence Interval
MultiCare Auburn Medical Center	▼	1	3.50	4,216	0.28	0.01, 1.41
MultiCare Covington Medical Center	◆	0	0.48	715	◆	NA
MultiCare Deaconess Hospital	▼	7	10.70	11,566	0.65	0.29, 1.29
MultiCare Good Samaritan	▼	5	10.33	11,107	0.48	0.18, 1.07
MultiCare Mary Bridge Hospital	▼	1	3.05	3,352	0.33	0.02, 1.62
MultiCare Tacoma General Hospital	▼	19	21.16	20,944	0.90	0.56, 1.38
MultiCare Valley Hospital and Medical Center	▲	3	1.95	2,813	1.54	0.39, 4.20
Northwest Hospital and Medical Center	▲	7	5.53	6,195	1.26	0.55, 2.50
Olympic Medical Center	▬	1	1.80	2,215	0.56	0.03, 2.75
Overlake Hospital Medical Center	▼	3	5.77	6,931	0.52	0.13, 1.42
PeaceHealth Southwest Medical Center	▼	6	10.34	12,505	0.58	0.24, 1.21
PeaceHealth St John Medical Center	▬	2	2.05	2,931	0.98	0.16, 3.23
PeaceHealth St. Joseph Medical Center	▲	9	7.71	9,846	1.17	0.57, 2.14
Providence Centralia Hospital	◆	0	0.96	1,413	◆	NA
Providence Holy Family Hospital	▬	5	4.32	6,239	1.16	0.42, 2.57
Providence Regional Medical Center Everett	▼	21	24.07	23,286	0.87	0.55, 1.31
Providence Sacred Heart Medical Center	▼	17	23.67	20,482	0.72	0.43, 1.13
Providence St. Mary Medical Center	▬	2	2.02	2,930	0.99	0.17, 3.26
Providence St. Peter's Hospital	▼	8	17.08	18,084	0.47	0.22, 0.89
Samaritan Hospital	◆	0	0.14	247	◆	NA



Facility Name	Performance	Number of Infections	Number Predicted	Device Days	SIR	95% Confidence Interval
Seattle Children's Hospital		30	28.72	20,873	1.04	0.72, 1.47
Skagit Regional Hospital		9	5.47	6,974	1.64	0.80, 3.02
Swedish Medical Center - Ballard		0	0.24	312		NA
Swedish Medical Center - Cherry Hill		5	7.15	7,373	0.70	0.26, 1.55
Swedish Medical Center - Edmonds		3	2.76	3,919	1.09	0.28, 2.96
Swedish Medical Center - First Hill		21	22.33	20,780	0.94	0.60, 1.41
Swedish Medical Center - Issaquah		4	3.11	45,50	1.28	0.41, 3.10
Trios Southridge Hospital		7	2.31	2,820	3.04	1.33, 6.01
University of Washington Medical Center		30	30.82	28,325	0.97	0.67, 1.37
Valley Medical Center		12	16.03	17,372	0.75	0.41, 1.27
Virginia Mason Medical Center		1	12.82	12,514	0.08	0.00, 0.39
Wenatchee Valley Medical Center		1	0.10	174		NA
Yakima Valley Memorial Hospital		1	4.34	4,175	0.23	0.01, 1.14

	Statistically fewer (better) infections
	Fewer infections (not statistically significant)
	More infections (not statistically significant)
	Statistically more (worse) infections
	Number of predicted infections <1; SIR cannot be calculated
	Observed similar to predicted (not statistically significant)



State and National CLABSI Standardized Infection Ratios

Table 7 shows the SIR for the state by the specified care location with aggregated NHSN data. The symbol in the performance column describes the state's SIR compared to the national SIRs for CLABSI. Overall, the statewide SIR for CLABSI is similar to the national SIR, for all location.

Table 7: CLABSI Standardized Infection Ratios 2021 State Summary

	Performance	Number of Infections	Number Predicted	Device Days	SIR	95% Confidence Interval
All Locations (WA)	⚖️	323	392.91	395,865	0.82	0.74, 0.92
Critical Care Locations (WA)	⚖️	213	193.10	176,808	1.10	0.96, 1.26
Non-Critical Care Locations (WA)	▼	84	175.08	200,733	0.48	0.39, 0.59
Neonatal Critical Care Locations (WA)	▲	26	24.73	18,324	1.05	0.70, 1.52
All Locations (National)	Reference	27,021	29,335.40	29,128,185	0.92	0.91, 0.93
Critical Care Locations (National)	Reference	14,003	11,580.13	10,751,699	1.21	1.19, 1.23
Non-Critical Care Locations (National)	Reference	11,863	15,887.85	17,036,877	0.75	0.73, 0.76
Neonatal Critical Care Locations (National)	Reference	1,155	1,867.41	1,339,609	0.62	0.58, 0.66

▼	Statistically fewer (better) infections
◄	Fewer infections (not statistically significant)
►	More infections (not statistically significant)
▲	Statistically more (worse) infections
⚖️	State SIR similar to National SIR (not statistically significant)



Clostridioides Difficile (C. diff or CDI) Laboratory Identified (LAB-ID) Infections

Clostridioides difficile (formerly *Clostridium difficile*), also known as “CDI, *C. difficile* or *C. diff*”, is a bacterium (germ) that can cause severe diarrhea, colitis, sepsis, and death. Most cases of CDI occur in people who are currently or have recently been taking antibiotics, clearing the way for *C. diff* to colonize in the gastro-intestinal tract. Other risk factors include a recent stay in a hospital or nursing home, weakened immune system, being at least 65 years old, and having previous *C. diff* infection.

C. difficile infection can spread from person to person on contaminated equipment and the hands of healthcare providers and visitors. Since the spore-forming bacteria can persist in the environment and resist some methods of cleaning and disinfection, *C. difficile* poses a great infection prevention challenge in healthcare settings. The CDC has classified *C. difficile* as ‘Urgent’, the highest threat level, based on the level of concern to human health⁶.

NHSN data revealed strong declines in CDI nationally, likely due to pandemic-related improvements in hospital settings, such as hand hygiene, personal protective equipment (PPE) practices, and environmental cleaning. Regardless of pandemic-related improvements, pre-pandemic efforts made by hospitals to reduce CDI incidence has been effective as Washington ACHs have continued to maintain CDI incidence at a low statewide level.

Since 2014, Washington ACHs have been required to report all *C. difficile* infections identified by a laboratory test (Lab-ID). According to NHSN, the onset of the infection is assigned based on the location that the specimen was collected, the date of specimen collection, and the date of admission to the facility. Table 7 lists SIRs for hospital-onset *Clostridioides difficile* infections (HO-CDI) for each ACH in Washington. Table 8 shows the SIR for the state compared to the national HO-CDI LabID SIR.

Between 2020 and 2021, the state SIR for HO-CDI LabID events was 0.54, **which has remained unchanged** for a second year in a row. Figure 6 shows the CDI SIR Trend since 2015, which has consistently decreased.

For more information, visit the CDC’s webpage on [C. difficile](#).



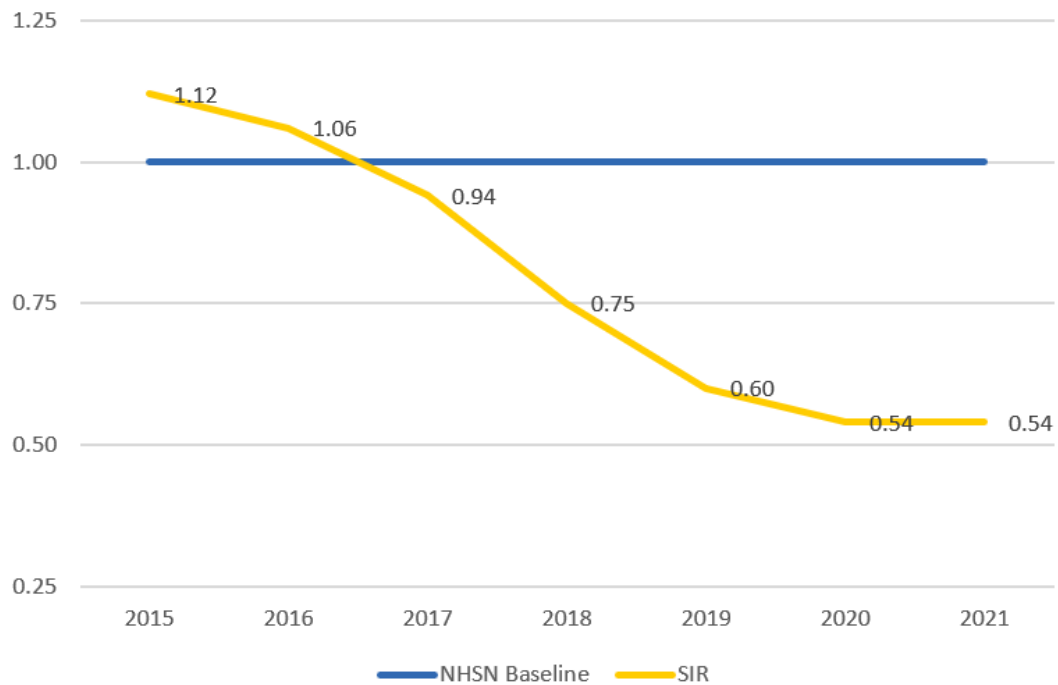

Figure 6: CDI SIR Trend in Washington, 2015-2021

Figure 6 shows the SIR for CDI in all locations of ACHs in Washington from 2015 to 2021. The SIR was over the national baseline of 1 in 2015, and it declined significantly since then. Washington ACHs met the HHS 2020 Target SIR goal of 0.70 in 2019, and it has continued to decrease.



Table 8: HO-CDI Standardized Infection Ratios by Facility

Facility Name	Performance	Number of Events	Number Predicted	Patient Days	SIR	95% Confidence Interval
Astria Toppenish Hospital		0	0.67	3,648		NA
Capital Medical Center		4	8.06	14,040	0.50	0.16, 1.20
Cascade Valley Hospital		0	1.91	6,333	0.00	0.00, 1.57
Central Washington Hospital		21	33.62	49,411	0.62	0.40, 0.94
CHI-FHS St. Anne Hospital		2	12.69	32,347	0.16	0.03, 0.52
CHI-FHS St. Anthony Hospital		11	15.68	36,647	0.70	0.37 1.22
CHI-FHS St. Clare Hospital		7	15.44	37,245	0.45	0.20, 0.90
CHI-FHS St. Francis Hospital		4	14.19	37,540	0.28	0.09, 0.68
CHI-FHS St. Joseph Medical Center		9	51.20	109,854	0.18	0.09, 0.32
CHI-FHS St. Michael Medical Center		13	35.10	74237	0.37	0.21, 0.62
Evergreen Health Kirkland		14	37.55	79,616	0.37	0.21, 0.61
Evergreen Health Monroe		1	0.90	2,461		NA
Grays Harbor Community Hospital		2	7.46	10,373	0.27	0.05, 0.89
Harborview Medical Center		94	89.73	123,312	1.05	0.85, 1.28
Island Hospital		0	2.52	8,208	0.00	0.00, 1.19
Kadlec Regional Medical Center		21	44.32	72,966	0.47	0.30, 0.71
Kaiser Permanente Central Hospital		0	5.07	20,885	0.00	0.00, 0.59
Legacy Health Salmon Creek		22	35.27	61,611	0.62	0.40, 0.93
MultiCare Allenmore Hospital		6	5.45	16580	1.10	0.45, 2.30



Facility Name	Performance	Number of Events	Number Predicted	Patient Days	SIR	95% Confidence Interval
MultiCare Auburn Medical Center	▼	6	15.96	28,443	0.38	0.15, 0.78
MultiCare Covington Medical Center	▬	3	3.27	9,566	0.92	0.23, 2.50
MultiCare Deaconess Hospital	▼	15	35.80	55,019	0.42	0.24, 0.68
MultiCare Good Samaritan	▼	23	64.99	89,225	0.35	0.23, 0.52
MultiCare Mary Bridge Hospital	▾	3	5.21	13,841	0.58	0.15, 1.57
MultiCare Tacoma General Hospital	▼	35	59.82	89,797	0.58	0.41, 0.81
MultiCare Valley Hospital and Medical Center	▼	2	8.42	22,219	0.24	0.04, 0.79
Northwest Hospital and Medical Center	▼	13	29.75	43,859	0.44	0.24, 0.73
Olympic Medical Center	▬	13	12.58	14,272	1.03	0.58, 1.72
Overlake Hospital Medical Center	▼	10	37.24	78,074	0.27	0.14, 0.48
PeaceHealth Southwest Medical Center	▼	8	45.53	99,282	0.18	0.08, 0.33
PeaceHealth St John Medical Center	▼	5	11.29	30,115	0.44	0.16, 0.98
PeaceHealth St. Joseph Medical Center	▼	10	26.72	63,111	0.37	0.19, 0.67
Providence Centralia Hospital	▼	3	10.39	24,314	0.29	0.07, 0.79
Providence Holy Family Hospital	▾	12	17.84	41,838	0.67	0.36, 1.14
Providence Regional Medical Center Everett	▼	27	88.73	171,898	0.30	0.21, 0.44
Providence Sacred Heart Medical Center	▼	30	76.42	153,796	0.39	0.27, 0.55
Providence St. Mary Medical Center	▼	2	8.88	23,346	0.22	0.04, 0.74
Providence St. Peter's Hospital	▼	17	43.11	96,838	0.39	0.24, 0.62



Facility Name	Performance	Number of Events	Number Predicted	Patient Days	SIR	95% Confidence Interval
Samaritan Hospital	▼	0	1.91	9,662	0.00	0.00, 1.57
Seattle Cancer Care Alliance	▲	11	7.25	4,940	1.52	0.80, 2.64
Seattle Children's Hospital	▲	46	29.80	88,983	1.54	1.14, 2.04
Shriners Hospitals for Children – Spokane	◆	0	0.26	1,672	◆	NA
Skagit Regional Hospital	▼	4	21.08	40,436	0.19	0.06, 0.46
Swedish Medical Center – Ballard	▼	0	2.96	14,689	0.00	0.00, 1.01
Swedish Medical Center – Cherry Hill	▼	9	20.55	48,695	0.44	0.21, 0.84
Swedish Medical Center – Edmonds	▼	6	18.83	43,139	0.32	0.13, 0.66
Swedish Medical Center – First Hill	▼	18	67.92	133,703	0.26	0.16, 0.41
Swedish Medical Center – Issaquah	▼	4	11.24	29,064	0.36	0.11, 0.86
Trios Southridge Hospital	▼	2	7.26	20,187	0.28	0.05, 0.91
University of Washington Medical Center	≡	87	86.69	120,772	1.00	0.81, 1.23
Valley Medical Center	▲	67	60.62	85,957	1.10	0.86, 1.40
Virginia Mason Medical Center	▼	22	36.49	71,224	0.60	0.39, 0.90
Wenatchee Valley Medical Center	◆	0	0.49	1,776	◆	NA
Yakima Valley Memorial Hospital	▼	15	21.97	50,403	0.68	0.40, 1.10








State and National HO-CDI Standardized Infection Ratios

Table 9 shows the SIR for the state, with aggregated NHSN data. The symbol in the performance column describes the state's SIR compared to the national SIRs for CDI in all acute care locations combined. Overall, the statewide and national SIRs for HO-CDI are similar.

Table 9: HO-CDI Standardized Infection Ratios 2021 State Summary

	Performance	Number of Events	Number Predicted	Patient Days	SIR	95% Confidence Interval
All Locations (WA)	=	759	1414.08	2,711,469	0.54	0.50, 0.58
All Locations (National)	Reference	44,948	89,798.11	153,453,225	0.50	0.50, 0.51

	Statistically fewer (better) infections
	Fewer infections (not statistically significant)
	More infections (not statistically significant)
	Statistically more (worse) infections
	State SIR similar to National SIR (not statistically significant)

C. diff can spread when people touch contaminated surfaces and don't wash their hands with soap and water.



Methicillin-Resistant *Staphylococcus Aureus* (MRSA)

Staphylococcus aureus (SA) are bacteria commonly found on the skin. Although these bacteria are generally harmless, they can cause infections ranging from pimples or boils to serious infections of internal organs. Most SA infections are minor and do not require treatment with antibiotics. However, more severe SA infections are often treated with antibiotics. Methicillin-resistant *Staphylococcus aureus* (MRSA) is a strain of SA that has become resistant to certain antibiotics, such as methicillin.

MRSA can spread within the community or in a health care setting, such as a hospital or long-term care facility. When MRSA is contracted in the health care setting, severe problems can manifest, such as bacteremia (bloodstream infections), pneumonia, and SSIs. If not properly treated, MRSA infections can result in sepsis or death.

MRSA Bacteremia LabID events became reportable to WA DOH for the first time after RCW 43.70.056 went into effect January 2020. Prior to the RCW revision, WA DOH received MRSA Bacteremia LabID data from CDC/NHSN as aggregated state data. Figure 7 shows the statewide MRSA trend has been stable since 2015, with a slight increase in 2020.

Washington ACHs are required to report all MRSA bacteremia events identified by a laboratory test. According to NHSN, the onset of the infection is assigned based on the location that the specimen was collected, the date of specimen collection, and the date of admission to the facility. Table 10 shows the SIR for each ACH in Washington.

The 2021 SIR for HO-MRSA LabID events in Washington was 0.68. Between 2020 and 2021, the state SIR **decreased by 6.4%, but the decrease was not statistically significant ($p>0.05$)**. For more information, visit the CDC's webpage on [MRSA](#).



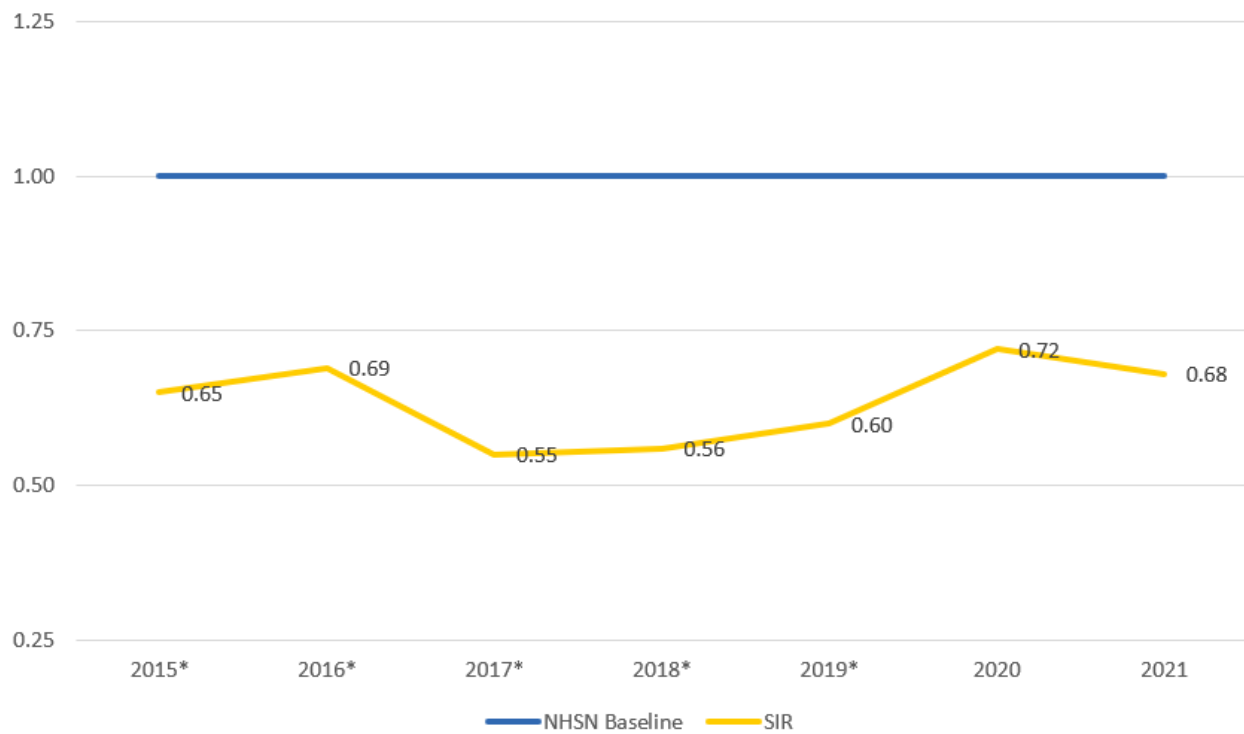
Figure 7: MRSA SIR Trend in Washington, 2015-2021

Figure 7 shows the SIR for MRSA in all locations of ACHs in Washington from 2015 to 2021. The SIR has been consistently below the national baseline of 1 since 2015, with increases and decreases over the years. Since the pandemic, the SIR has slowly increased, but it remains below the national baseline. Washington did not make MRSA reportable until 2020. The SIR presented for prior years, denoted by the asterisk (*), were aggregated and reported by NHSN's annual HAI report.



Table 10: HO-MRSA LabID Standardized Infection Ratios by Facility

Facility Name	Performance	Number of Events	Number Predicted	Patient Days	SIR	95% Confidence Interval
Astria Toppenish Hospital		0	0.07	3,648		NA
Capital Medical Center		0	0.60	14,697		NA
Cascade Valley Hospital		0	0.13	6,517		NA
Central Washington Hospital		1	2.51	52,009	0.40	0.02, 1.97
CHI-FHS St. Anne Hospital		3	2.34	33,981	1.28	0.33, 3.49
CHI-FHS St. Anthony Hospital		2	2.48	36,647	0.81	0.14, 2.67
CHI-FHS St. Clare Hospital		0	2.56	37,245	0.00	0.00, 1.17
CHI-FHS St. Francis Hospital		4	2.44	39,746	1.64	0.52, 3.95
CHI-FHS St. Joseph Medical Center		6	11.33	122,987	0.53	0.22, 1.10
CHI-FHS St. Michael Medical Center		5	6.25	78,673	0.80	0.24, 1.77
Evergreen Health Kirkland		4	4.91	84,974	0.81	0.26, 1.97
Evergreen Health Monroe		0	0.04	2,461		NA
Grays Harbor Community Hospital		1	0.51	10,653		NA
Harborview Medical Center		14	11.60	123,312	1.21	0.69, 1.98
Island Hospital		0	0.17	8,712		NA



Facility Name	Performance	Number of Events	Number Predicted	Patient Days	SIR	95% Confidence Interval
Kadlec Regional Medical Center	▲	7	4.65	83,839	1.51	0.66, 2.98
Kaiser Permanente Central Hospital	◆	0	0.37	20,885	◆	NA
Legacy Health Salmon Creek	▼	1	2.82	64,922	0.36	0.02, 1.75
MultiCare Allenmore Hospital	◆	0	0.32	16,580	◆	NA
MultiCare Auburn Medical Center	≡	2	2.10	31,144	0.95	0.16, 3.14
MultiCare Covington Medical Center	◆	0	0.25	9,861	◆	NA
MultiCare Deaconess Hospital	≡	5	5.43	60,297	0.92	0.34, 2.04
MultiCare Good Samaritan	≡	5	5.34	93,945	0.94	0.34, 2.08
MultiCare Mary Bridge Hospital	◆	0	0.34	13,841	◆	NA
MultiCare Tacoma General Hospital	▼	3	7.03	111,550	0.43	0.11, 1.16
MultiCare Valley Hospital and Medical Center	◆	0	0.93	22,219	◆	NA
Northwest Hospital and Medical Center	≡	3	2.95	46,396	1.02	0.26, 2.77
Olympic Medical Center	◆	1	0.87	15,234	◆	NA
Overlake Hospital Medical Center	▼	1	3.43	82,017	0.29	0.02, 1.44
PeaceHealth Southwest Medical Center	▲	13	8.32	104,032	1.56	0.87, 2.61
PeaceHealth St. John Medical Center	≡	2	1.82	31,825	1.10	0.18, 3.62



Facility Name	Performance	Number of Events	Number Predicted	Patient Days	SIR	95% Confidence Interval
PeaceHealth St. Joseph Medical Center	▼	3	4.93	68,598	0.61	0.16, 1.66
Providence Centralia Hospital	◆	2	0.80	25,234	◆	NA
Providence Holy Family Hospital	▼	1	2.38	42,645	0.42	0.02, 2.07
Providence Regional Medical Center Everett	▼	8	13.17	184,651	0.61	0.28, 1.15
Providence Sacred Heart Medical Center	▼	9	15.75	171,265	0.57	0.28, 1.05
Providence St. Mary Medical Center	▼	0	1.02	24,761	0.00	0.00, 2.94
Providence St. Peter's Hospital	▬	6	5.91	100,089	1.02	0.41, 2.11
Samaritan Hospital	◆	0	0.17	9,662	◆	NA
Seattle Cancer Care Alliance	◆	0	0.43	6,625	◆	NA
Seattle Children's Hospital	▼	0	3.43	99,272	0.00	0.00, 0.87
Shriners Hospitals for Children – Spokane	◆	0	0.03	1,672	◆	NA
Skagit Regional Hospital	▬	2	2.10	42,431	0.95	0.16, 3.14
Swedish Medical Center – Ballard	◆	0	0.55	14,689	◆	NA
Swedish Medical Center – Cherry Hill	▼	1	4.25	48,695	0.23	0.01, 1.16
Swedish Medical Center – Edmonds	▼	0	2.43	46,210	0.00	0.00, 1.23
Swedish Medical Center – First Hill	▼	4	14.93	163,609	0.27	0.09, 0.65



Facility Name	Performance	Number of Events	Number Predicted	Patient Days	SIR	95% Confidence Interval
Swedish Medical Center – Issaquah	⚖️	2	1.18	32,691	1.70	0.29, 5.62
Trios Southridge Hospital	⬠	0	0.79	21,513	⬠	NA
University of Washington Medical Center	▾	5	11.14	135,038	0.45	0.16, 1.00
Valley Medical Center	▾	2	5.99	96,472	0.33	0.06, 1.10
Virginia Mason Medical Center	▾	1	5.30	71,682	0.19	0.01, 0.93
Wenatchee Valley Medical Center	⬠	0	0.04	1,776	⬠	NA
Yakima Valley Memorial Hospital	⚖️	2	2.38	53,199	0.84	0.14, 2.77

▾	Statistically fewer (better) infections
▾	Fewer infections (not statistically significant)
▴	More infections (not statistically significant)
▴	Statistically more (worse) infections
⬠	Number of predicted infections <1; SIR cannot be calculated
⚖️	Observed similar to predicted (not statistically significant)



State and National HO-MRSA LabID Standardized Infection Ratios

Table 11 shows the SIR for the state, with aggregated NHSN data. The symbol in the performance column describes the state's SIR compared to the national SIRs for HO-MRSA LabID events for all acute care locations combined. The statewide SIR for HO-MRSA LabID was significantly lower than the national SIR.

Table 11: HO-MRSA LabID Standardized Infection Ratios 2021 State Summary

	Performance	Number of Events	Number Predicted	Patient Days	SIR	95% Confidence Interval
Facility-wide (WA)	▼	131	194.01	2,927,328	0.68	0.56, 0.80
Facility-wide (National)	Reference	11,605	10,850.79	165,896,703	1.07	1.05, 1.09

▼	Statistically fewer (better) infections
▽	Fewer infections (not statistically significant)
▲	More infections (not statistically significant)
▲	Statistically more (worse) infections
▬	State SIR similar to National SIR (not statistically significant)

Nationally, the rate of hospital-onset of MRSA cases increased 13% in 2020, compared to 2019. This was likely due to pandemic challenges⁷.



Surgical Site Infections (SSI)

A surgical site infection (SSI) is an infection that occurs after surgery was performed. SSIs are a substantial cause of morbidity and mortality that can result in prolonged hospital stays and increased costs. SSIs occur in 2% to 5% of patients undergoing any inpatient surgery. These infections can spread in superficial skin layers, deep incisional layers (fascial and muscle), and into the organ/space areas.

SSI reporting focuses on certain types of surgeries because they are performed frequently or may have higher risk of infection. Hospital SSI rates are compared by the type of surgical procedure performed. Nationally, two SSI types are reported by all or most ACHs in most states: abdominal hysterectomy and colon surgery infections. SSI reporting of following inpatient colon and abdominal hysterectomy surgeries has been mandated in Washington since 2012.

Figure 8: SSI SIR Trend in Washington, 2015-2021

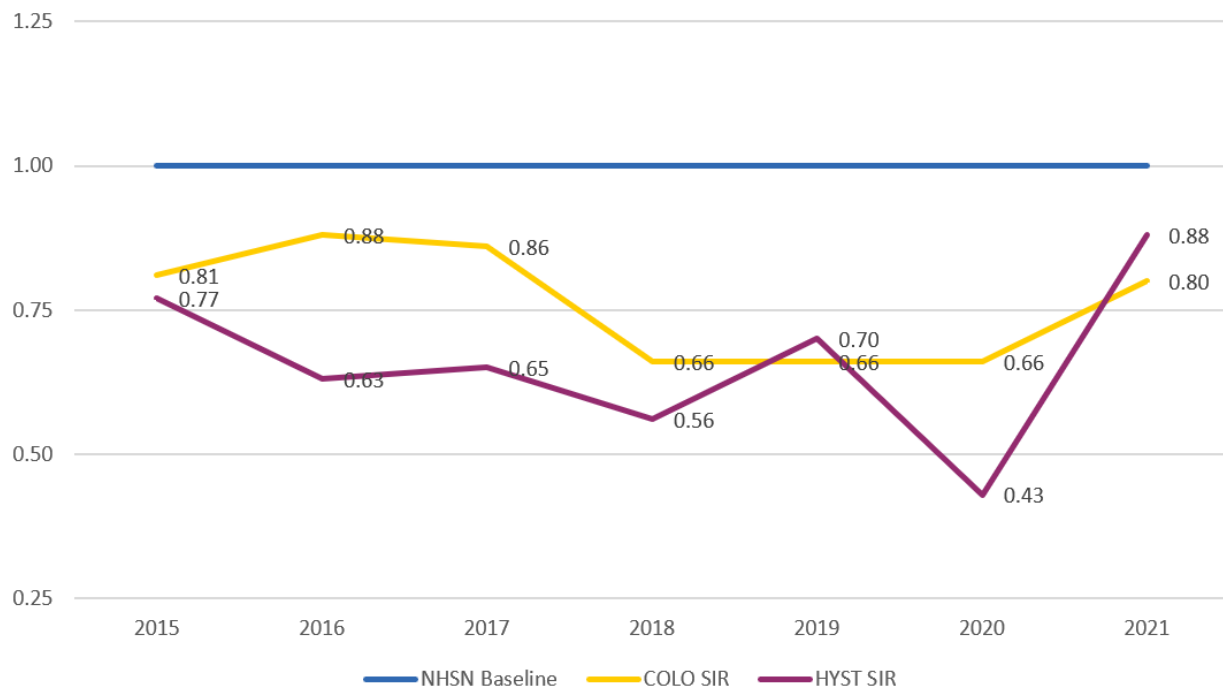


Figure 8 shows the SIR for adult SSI in all locations of ACHs in Washington from 2015 to 2021. The SIR for both SSI-COLO and SSI-HYST has stayed consistently below the national baseline of 1 since 2015.



Colon Surgeries

Colon (large intestine or bowel) surgeries involve a surgical incision to access the intestinal cavity to make a repair on or remove part of the large intestine. Some colon repairs include removing diseased or damaged colon (resection), attaching healthy parts of the colon together (anastomosis), or making an opening in the colon to remove waste (ostomy).

SSI-COLO can affect the tissue around the incision and cause a superficial infection in skin and subcutaneous tissue. It can also cause a deep infection in the muscles, connective tissues, or organs such as the gastrointestinal tract or in the intra-abdominal area.

Rectal operations, small bowel surgeries, gallbladder, or appendix removal, and non-surgical routine tests like colonoscopies are considered different types of procedures and are not included in this NHSN colon surgery category and are not tracked by the WA DOH.

The 2021 SIR for SSIs following colon surgeries in Washington was 0.80. Between 2020 and 2021, the SIR has **increased by 20.6%, but this increase was not statistically significant ($p>0.05$)**. Tables 12 shows SIRs for SSIs following colon surgeries in acute care hospitals in Washington.



Table 12: SSI-Colon Standardized Infection Ratios by Facility

Facility Name	Performance	Number of Infections	Number Predicted	Number of Procedures	SIR	95% Confidence Interval
Capital Medical Center	==	2	1.86	69	1.08	0.18, 3.56
Cascade Valley Hospital	==	2	1.18	47	1.70	0.29, 5.62
Central Washington Hospital	==	4	3.43	139	1.17	0.37, 2.81
CHI-FHS St. Anne Hospital	▼	0	1.58	59	0.00	0.00, 1.89
CHI-FHS St. Anthony Hospital	==	1	1.51	56	0.66	0.03, 3.27
CHI-FHS St. Clare Hospital	◆	0	0.28	10	◆	NA
CHI-FHS St. Francis Hospital	==	1	1.40	58	0.71	0.04, 3.52
CHI-FHS St. Joseph Medical Center	▼	1	7.76	293	0.13	0.01, 0.64
CHI-FHS St. Michael Medical Center	▼	2	4.03	153	0.50	0.08, 1.64
Evergreen Health Kirkland	▼	1	3.69	145	0.27	0.01, 1.34
Evergreen Health Monroe	◆	0	0.49	17	◆	NA
Grays Harbor Community Hospital	◆	1	0.18	6	◆	NA
Harborview Medical Center	▲	17	4.68	117	3.63	2.19, 5.70
Island Hospital	◆	1	0.64	27	◆	NA
Kadlec Regional Medical Center	▼	4	6.30	221	0.64	0.20, 1.53
Legacy Health Salmon Creek	▼	3	4.03	158	0.74	0.19, 2.03
MultiCare Allenmore Hospital	==	1	1.08	41	0.93	0.05, 4.57
MultiCare Auburn Medical Center	▼	0	1.54	57	0.00	0.00, 1.95



Facility Name	Performance	Number of Infections	Number Predicted	Number of Procedures	SIR	95% Confidence Interval
MultiCare Covington Medical Center		0	0.23	8		NA
MultiCare Deaconess Hospital		0	4.36	160	0.00	0.00, 0.69
MultiCare Good Samaritan		7	4.83	180	1.45	0.63, 2.87
MultiCare Tacoma General Hospital		7	6.25	224	1.12	0.49, 2.22
MultiCare Valley Hospital and Medical Center		0	1.98	78	0.00	0.00, 1.51
Northwest Hospital and Medical Center		3	2.38	95	1.26	0.32, 3.43
Olympic Medical Center		3	1.54	61	1.95	0.50, 5.31
Overlake Hospital Medical Center		4	7.15	279	0.56	0.18, 1.35
PeaceHealth Southwest Medical Center		5	5.09	182	0.98	0.36, 2.18
PeaceHealth St John Medical Center		3	1.77	63	1.70	0.43, 4.61
PeaceHealth St. Joseph Medical Center		4	6.5	244	0.62	0.20, 1.48
Providence Centralia Hospital		0	1.01	39	0.00	0.00, 2.97
Providence Holy Family Hospital		2	5.19	191	0.38	0.07, 1.27
Providence Regional Medical Center Everett		8	9.28	323	0.86	0.40, 1.64
Providence Sacred Heart Medical Center		8	11.18	407	0.72	0.33, 1.36
Providence St. Mary Medical Center		0	1.67	63	0.00	0.00, 1.79
Providence St. Peter's Hospital		5	7.33	256	0.68	0.25, 1.51
Samaritan Hospital		0	0.71	26		NA
Seattle Children's Hospital		0	0.22	5		NA



Facility Name	Performance	Number of Infections	Number Predicted	Number of Procedures	SIR	95% Confidence Interval
Skagit Regional Hospital	▼	1	2.4	97	0.42	0.02, 2.06
Swedish Medical Center - Cherry Hill	◆	0	0.12	3	◆	NA
Swedish Medical Center - Edmonds	▲	4	3.38	133	1.18	0.38, 2.85
Swedish Medical Center - First Hill	▼	10	11.37	437	0.88	0.45, 1.57
Swedish Medical Center - Issaquah	▼	2	3.03	111	0.66	0.11, 2.18
Trios Southridge Hospital	◆	0	0.80	29	◆	NA
University of Washington Medical Center	▲	10	8.53	307	1.17	0.60, 2.09
Valley Medical Center	≡	5	4.84	188	1.03	0.38, 2.29
Virginia Mason Medical Center	▼	4	7.89	297	0.51	0.16, 1.22
Yakima Valley Memorial Hospital	▼	0	2.62	95	0.00	0.00, 1.14








State and National SSI Colon Standardized Infection Ratios

Table 13 shows the SIR for the state, with aggregated NHSN data. The symbol in the performance column describes the state's SIR compared to the national SIRs for SSI-COLO. The state-wide and national SIRs for SSI-COLO are similar.

Table 13: SSI Colon Standardized Infection Ratios 2021 State Summary

	Performance	Number of Infections	Number Predicted	Number of Procedures	SIR	95% Confidence Interval
Washington	=	137	172.07	6,364	0.80	0.67, 0.94
National	Reference	7,094	8,531.86	318,896	0.83	0.81, 0.85

	Statistically fewer (better) infections
	Fewer infections (not statistically significant)
	More infections (not statistically significant)
	Statistically more (worse) infections
	State SIR similar to National SIR (not statistically significant)













Abdominal Hysterectomies

Abdominal hysterectomy is a common surgical procedure in which the uterus is removed through an incision in the lower abdomen. SSI-HYST can affect the area around the incision. This is a superficial infection, as the area affected is limited to the skin and subcutaneous tissue. Other more serious SSIs can result in a deep infection in the muscles or an infection affecting the reproductive tract in the area around the abdomen. A lower risk alternative to an abdominal hysterectomy is a vaginal hysterectomy.

The 2021 SIR for SSIs following abdominal hysterectomies in Washington was 0.86. Between 2020 and 2021, the SIR had a **statistically significant increase of 98.6% ($p < 0.05$)**. Due to the pandemic in 2020, many elective surgeries were canceled or delayed. This could provide context for the decline in infections for 2020 and the marked increase in 2021. Tables 14 shows SIRs for SSIs following abdominal hysterectomies in acute care hospitals in Washington.

For more information, visit the CDC's webpage on [SSI](#).

Table 14: SSI Hysterectomy Standardized Infection Ratios by Facility

Facility Name	Performance	Number of Infections	Number Predicted	Number of Procedures	SIR	95% Confidence Interval
Astria Toppenish Hospital		0	0.09	11		NA
Capital Medical Center		0	0.25	30		NA
Cascade Valley Hospital		0	0.02	2		NA
Central Washington Hospital		0	0.31	41		NA
CHI-FHS St. Anne Hospital		0	0.17	23		NA
CHI-FHS St. Anthony Hospital		1	0.66	84		NA
CHI-FHS St. Clare Hospital		0	0.03	3		NA
CHI-FHS St. Francis Hospital		0	0.12	18		NA



Facility Name	Performance	Number of Infections	Number Predicted	Number of Procedures	SIR	95% Confidence Interval
CHI-FHS St. Joseph Medical Center	▬	1	1.46	172	0.69	0.03, 3.39
CHI-FHS St. Michael Medical Center	◆	0	0.50	60	◆	NA
Evergreen Health Kirkland	◆	2	0.77	99	◆	NA
Grays Harbor Community Hospital	◆	0	0.11	12	◆	NA
Harborview Medical Center	◆	0	0.34	44	◆	NA
Island Hospital	◆	0	0.50	67	◆	NA
Kadlec Regional Medical Center	▲	4	2.42	271	1.66	0.53, 3.99
Legacy Health Salmon Creek	◆	0	0.71	84	◆	NA
MultiCare Allenmore Hospital	◆	0	0.17	21	◆	NA
MultiCare Auburn Medical Center	◆	2	0.22	24	◆	NA
MultiCare Deaconess Hospital	◆	0	0.40	41	◆	NA
MultiCare Good Samaritan	◆	0	0.83	91	◆	NA
MultiCare Tacoma General Hospital	◆	1	0.75	85	◆	NA
MultiCare Valley Hospital and Medical Center	◆	0	0.31	38	◆	NA
Northwest Hospital and Medical Center	◆	0	0.59	78	◆	NA
Olympic Medical Center	◆	0	0.36	43	◆	NA
Overlake Hospital Medical Center	▼	4	1.86	271	2.15	0.68, 5.18
PeaceHealth Southwest Medical Center	▼	0	1.32	164	0.00	0.00, 2.27
PeaceHealth St John Medical Center	◆	0	0.99	100	◆	NA



Facility Name	Performance	Number of Infections	Number Predicted	Number of Procedures	SIR	95% Confidence Interval
PeaceHealth St. Joseph Medical Center	==	1	1.30	154	0.77	0.04, 3.79
Providence Centralia Hospital	◆	0	0.53	62	◆	NA
Providence Holy Family Hospital	◆	0	0.26	28	◆	NA
Providence Regional Medical Center Everett	▽	3	4.22	501	0.71	0.18, 1.93
Providence Sacred Heart Medical Center	==	2	2.03	234	0.99	0.17, 3.26
Providence St. Mary Medical Center	◆	0	0.76	84	◆	NA
Providence St. Peter's Hospital	▽	0	1.94	224	0.00	0.00, 1.55
Samaritan Hospital	◆	0	0.36	36	◆	NA
Seattle Children's Hospital	◆	0	0.02	1	◆	NA
Skagit Regional Hospital	◆	0	0.06	8	◆	NA
Swedish Medical Center - Ballard	◆	0	0.02	2	◆	NA
Swedish Medical Center - Edmonds	◆	1	0.54	72	◆	NA
Swedish Medical Center - First Hill	▽	3	4.04	509	0.74	0.19, 2.02
Swedish Medical Center - Issaquah	◆	0	0.53	70	◆	NA
Trios Southridge Hospital	◆	1	0.08	8	◆	NA
University of Washington Medical Center	▽	5	2.70	325	1.85	0.68, 4.10
Valley Medical Center	==	2	1.16	146	1.72	0.29, 5.69
Virginia Mason Medical Center	◆	0	0.51	64	◆	NA
Yakima Valley Memorial Hospital	◆	1	0.80	98	◆	NA



State and National SSI Hysterectomy Standardized Infection Ratios

Table 15 shows the SIR for the state, with aggregated NHSN data. The symbol in the performance column describes the state's SIR compared to the national SIRs for SSI-HYST. The state-wide SIR for SSI-HYST is lower than the national SIR, but it is not statistically significant.

Table 15: SSI Hysterectomy Standardized Infection Ratios 2021 State Summary

	Performance	Number of Infections	Number Predicted	Number of Procedures	SIR	95% Confidence Interval
Washington	▼	34	39.43	4,775	0.86	0.61, 1.19
National	Reference	1,871	1,883.86	268,359	0.99	0.95, 1.04

▼	Statistically fewer (better) infections
▼	Fewer infections (not statistically significant)
▲	More infections (not statistically significant)
▲	Statistically more (worse) infections
≡	State SIR similar to National SIR (not statistically significant)



Healthcare Personnel Influenza Vaccination

The Advisory Committee on Immunization Practices (ACIP) recommends that all healthcare personnel (HCP) and persons in training for healthcare professions should be vaccinated against influenza annually. Influenza vaccination of HCPs reduces potential healthcare associated transmission and risk to patients. CMS-certified hospitals are required to report on influenza vaccination to NHSN for hospital employees, licensed independent practitioners (non-employee physicians, advanced practice nurses, and physician assistants), and adult students/trainees and volunteers who are at least 18 years old. Since 2017, inpatient hospitals have been required to report influenza vaccinations for healthcare personnel. Vaccinations received inside and outside of the facility between October 1 and March 31 of each year are to be reported. Medical contraindications and declinations are also reported to NHSN. Contraindication is defined as a condition or circumstance that indicates a technique or drug should not be used. For vaccinations, this includes a severe allergic reaction to eggs or other components of the influenza vaccine or a history of Guillain-Barre Syndrome within 6 weeks after a previous influenza vaccination. For more information, please visit the CDC's webpage on [HCP influenza vaccine reporting](#).

Table 16 lists the number of ACHs and CAHs that reported influenza vaccinations from 2019 to 2022 and the rate of vaccinated HCP. Rate vaccinated is defined as HCP who received a flu vaccine. HCP who declined are not considered vaccinated, and individuals with contraindications are not included in total HCP eligible for influenza vaccination. The increase in number of hospitals from 2019/2020 to 2020/2021 is likely due to increased awareness of reporting requirements.

Table 16. Healthcare Personnel Influenza Vaccination, 2019-2022

Influenza Season (October 1 - March 31)	Number of Hospitals	Rate vaccinated (of total HCP eligible for vaccination)
2019/2020	63	93%
2020/2021	79	86%
2021/2022	79	81%



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