



HAWAII STATE  
DEPARTMENT  
OF HEALTH

HEALTHCARE-ASSOCIATED  
INFECTIONS IN HAWAII

2021  
Report

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## Executive Summary:

Healthcare-associated infections (HAIs) are infections associated with receiving treatment in a healthcare setting. According to Centers for Disease Control and Prevention (CDC) Survey, on any given day about one in 31 hospital patients in the United States has at least one HAI. HAIs are estimated to cost to U.S. hospitals almost \$33 billion per year.

The following report includes information about specific HAIs among patients who received treatment in Hawai'i's acute care facilities in 2021, as well as a report of influenza vaccination coverage in Hawai'i facilities for the 2021-2022 influenza season. This report contains data for conditions mandated by the Centers for Medicare and Medicaid Services (CMS) for the Inpatient Quality Reporting (IQR) program as mandated by HRS §325-2.5. Beginning in 2016, critical access hospitals were required to report influenza vaccination coverage as part of Medicare Beneficiary Quality Improvement Project (MBQIP).

Overall, the statewide Standardized Infection Ratios (SIR) for HAIs were lower than 1.0, except for colon surgical site infections. An SIR of less than 1.0 indicates that fewer HAIs were observed than predicted. However, when compared to the previous year, there was an increase in HAI events for CLABSIs, CAUTI, COLO, CDI, and MRSA. The only HAI that saw a decrease in 2021 was abdominal hysterectomy (HYST) SSIs. Continued efforts in infection prevention are necessary to achieve HAI reductions in the state. Hawai'i observed the following changes in SIRs:

- A **63% increase** in the CLABSI SIR between 2020 and 2021
- A **53% increase** in the CAUTI SIR between 2020 and 2021
- A **45% increase** in colon (COLO) surgical site infections (SSIs) SIR between 2020 and 2021
- A **53% decrease** in abdominal hysterectomies (HYST) SSI SIR between 2020 and 2021
- A **4% increase** in *C. difficile* (CDI) SIR between 2020 and 2021
- An **84% increase** in MRSA bacteremia SIR between 2020 and 2021

Hawai'i continues to work towards longer term goals in HAI reduction. In October 2016, the U.S. Department of Health & Human Services (DHHS) announced new HAI Prevention Targets to be achieved by 2020<sup>1</sup>. The new targets for 2023 were not available by the time this report was completed; the Healthy People 2020 targets were used for this report. This year, Hawai'i only achieved the SIR targets CDI and MRSA. As a measure of national success, CDC calculated a new baseline using 2015 national data; this will drive prevention targets closer to zero HAIs in facilities.

Influenza vaccination coverage of 90% of a facility's healthcare personnel (HCP) was a DHHS Healthy People 2020 goal. This element of performance was eliminated on January 1<sup>st</sup>, 2021. The new vaccination target for everyone eligible is 70% according to Healthy People 2030.<sup>2</sup> Vaccination coverage by hospitals in our state ranged from 33% to 92%, and the overall state average was 70.5% for the 2021–2022 influenza season. To provide context, the Hawai'i average was 81% during the 2020–2021 influenza season, and the national average was 75.9%. The state average for the 2021–2022 influenza season showed a 10.5% decline from the previous year, and only fourteen facilities have attained the Healthy People 2020 goal, considering the goal decreased from 90% to 70%, increasing vaccination rate still needs to be an area of increased focus by facilities.

The measures in this report do not represent all infections associated with healthcare but provide a good overview of how a hospital is doing in preventing HAIs. Many factors contribute to a healthcare facility's reported infection rate, both within the facility as a whole and at the level of individual provider practices. Continued vigilance and education are necessary to ensure HAIs become the exceptions rather than accepted consequences of healthcare interactions.

<sup>1</sup> [National HAI Targets & Metrics \(HHS, 2021\)](#)

<sup>2</sup> [Increase the proportion of people who get the flu vaccine every year — IID-09](#)

## Introduction:

Healthcare-associated infections (HAIs) are infections related to receiving treatment in a healthcare setting. For each type of infection affecting a patient in a healthcare setting, specific criteria are used to determine whether the infection is an HAI for the purposes of surveillance. For example, if a bloodstream infection develops in a patient on or after the third hospital day (day of admission is day one), the infection is considered an HAI. Bloodstream infections occurring within the first two hospital days are considered community-associated infections; i.e., they were acquired in the community before admission to the hospital.

In 2009, CDC estimated the direct cost of HAIs to U.S. hospitals ranged from \$28.4 to 33.8 billion (after adjusting to 2007 dollars)<sup>3</sup>. According to a 2011 survey by CDC, approximately one in 25 hospital patients developed at least one HAI. There were an estimated 722,000 HAIs in U.S. acute care hospitals in 2011, and about 75,000 hospital patients with HAIs died during their hospitalizations.

HAIs have decreased dramatically in hospitals across the nation, including Hawai'i. New technologies, more teamwork, and a reliance on evidence-based practices have had a considerable impact on safety and quality of care. Less than 20 years ago, HAIs were considered an unavoidable risk of being hospitalized. Today many intensive care units and other inpatient wards are reporting 6, 12, and even 24 consecutive months without a single case of healthcare-associated bloodstream, urinary tract, or pneumonia infections.

The following report includes information about HAIs among patients who received treatment requiring specific types of devices or procedures in Hawai'i's acute care facilities in 2021. In 2011, the Hawai'i legislature [passed HRS §325-2.5](#), relating to HAI reporting. Healthcare facilities have granted the Hawai'i Department of Health (HDOH) access to HAI data reported under the Centers for Medicare and Medicaid Services (CMS) rules to the [National Healthcare Safety Network \(NHSN\)](#).

The statute also instructs HDOH to prepare public reports of Hawai'i HAI rates using methodology developed by CDC and CMS. The [first Hawai'i HAI report](#) was released in 2013 and contained data for conditions mandated by CMS for the Inpatient Quality Reporting (IQR) program for calendar year 2012, including all CLABSI and CAUTI in intensive care unit (ICU) locations as well as all inpatient surgical site infections (SSIs) after abdominal hysterectomy (HYST) and colon (COLO) surgeries. The following year, the 2013 Hawai'i HAI Report added data on facility-wide methicillin-resistant *Staphylococcus aureus* (MRSA) bacteremia, CDI infections, and healthcare personnel (HCP) influenza vaccination rates. The 2015 report added CLABSI and CAUTI data for medical and surgical wards (in addition to ICU data) in accordance with IQR reporting requirements. Beginning in 2016, critical access hospitals (CAHs) were required to report influenza vaccination coverage as part of Medicare Beneficiary Quality Improvement Project (MBQIP).

Figure 1 shows the location of each hospital included in this report. Hospitals not part of the CMS IQR program were excluded, including: Lanai Community Hospital, Leahi Hospital, and Tripler Army Medical Center. While Kahuku Medical Center, Kapiolani Medical Center for Women & Children, Kaua'i Veterans Memorial Hospital, and Shriners Hospital for Children also fall into this category, they have voluntarily shared their data with HDOH and are therefore included in this report. Rehabilitation Hospital of the Pacific participates in the CMS Inpatient Rehabilitation Facility Quality Reporting Program for HCP influenza vaccination, and their influenza vaccination coverage is included in this report. For the 2019/2020 season, Inpatient Psychiatric Facilities were no longer required to report this data, hence Kahi Mohala's absence in this report. The following CAHs provide their HCP influenza vaccination coverage data to HDOH as part of MBQIP reporting: Kahuku Medical Center, Ka'u Hospital, Kaua'i Veterans Memorial Hospital, Kohala Hospital, Hale Ho'ola Hamakua, Molokai General Hospital, Samuel Mahelona Memorial Hospital.

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<sup>3</sup> [Clinical and economic burden of healthcare-associated infections: A prospective cohort study](#)

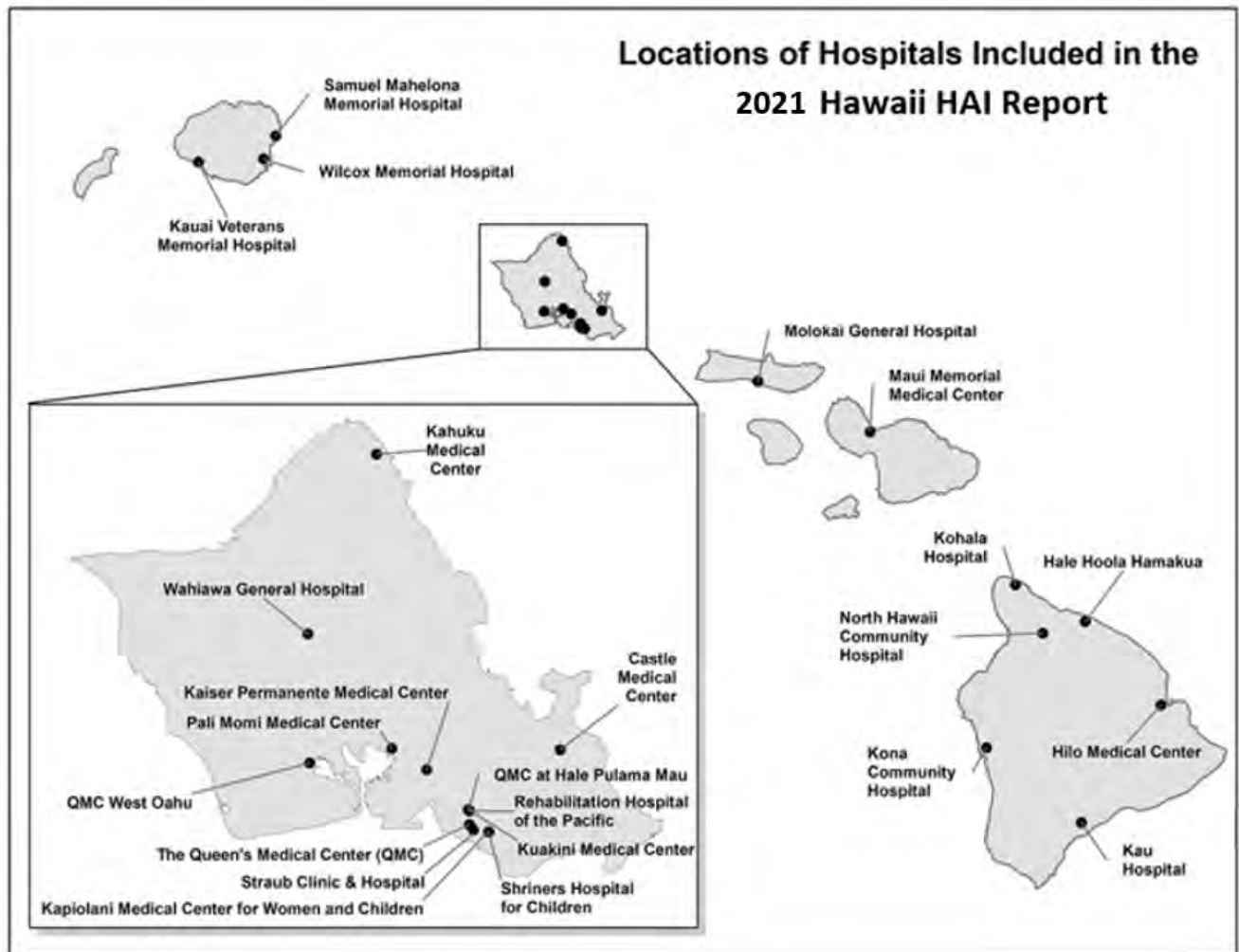


Figure 1: Locations of hospitals included in the 2021 HAI Report

The information in this report is consistent with HAI data published in [CDC reports](#) and on the CMS website [Hospital Compare](#). Please note the Hospital Compare website may have some discrepancies compared with our report because data submitted to CMS cannot be corrected or updated by facilities once a quarterly submission period has ended. Additionally, for SSI, CMS utilizes slightly different statistical models which may generate small discrepancies.

## Methods:

HDOH utilizes CDC's NHSN system for HAI reporting. NHSN is a free, secure, web-based surveillance system developed by CDC and used by over 22,000 healthcare facilities in the nation. NHSN has data collection modules covering a wide variety of HAIs from many types of healthcare organizations. The data are risk-adjusted and aggregated with standardized numerator and denominator definitions to allow for comparison against a national benchmark.

The six CMS-mandated HAIs are presented using a standardized infection ratio (SIR). The SIR is a summary measure which compares the number of infections associated with a facility's number of device days (CLABSI and CAUTI), procedures (SSI), or patient days (CDI and MRSA bacteremia) with national baseline data. The national data include all U.S. hospitals reporting data to CDC's NHSN database.

The SIR accounts for some risk factors which could increase or decrease a patient's risk of infection. This adjustment for differences in risk allows for reasonable comparisons among hospitals, regardless of patient characteristics. The findings in this report are based on the assumption that patients at Hawai'i hospitals are similar to all patients in the NHSN database. Lower SIRs indicate better performance.

The SIR is a ratio describing a hospital's actual infection numbers compared with a predicted number calculated using national baseline data. Since the NHSN database does not contain data for every HAI in the United States, there is a level of uncertainty associated with the estimated SIR. This uncertainty is represented by a 95% confidence interval (CI; presented as an error bar). This means we have a high degree of confidence (in this case, 95%) the true SIR lies within this range. CIs provide a simple way to determine statistical significance. 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. ([Click here for a technical guide on the SIR](#)).

This report also presents HCP influenza vaccination status in Hawai'i's healthcare facilities. HCP include employees, licensed independent practitioners, adult students/trainees and volunteers. Additionally, there is an optional category that includes other contract personnel: direct care providers and providers of non-direct services such as maintenance, IT, or dietary food staff. The proportion of HCP vaccinated was calculated as the number of workers known to be vaccinated divided by the total number of workers in the facility. For the purposes of this report, facility benchmarks were set at 70% (the Healthy People 2030 goal), 75.9% (the 2020-2021 National average) and 81% (the 2020-2021 state average). In addition to data from acute care hospitals, data are included from several CAHs. These facilities participate in a number of non-IQR CMS reporting programs, it should be noted that these facilities may not be comparable with acute care facilities.

## Limitations:

These reports cover data from January 1, 2021 to December 31, 2021, and the data were downloaded from NHSN **November 29, 2022, 2022–March 22, 2023**; any changes made to the data after this date are not reflected in this report. The 2020 data presented in this report have not been externally validated. External validation is defined as a survey and audit process which would be performed by an outside agency (i.e. HDOH) to assure quality of NHSN surveillance and reporting. However, the 2021 data have been assessed for completeness and quality.

A hospital's ability to detect HAI cases varies between hospitals as a result of the different resources available for surveillance, methodology (including laboratory testing methodology) employed, and infection prevention methods implemented. Higher HAI rates may be attributable to superior detection of HAIs rather than an actual higher number of events.

The national data used for comparison in these data analyses are the NHSN aggregated data from national HAI data. Data collected in 2015 was used as the new baseline for 2016 and will be used for all subsequent years (including the 2021 data in this report); it is important to note that 2016 and future reports will not be comparable with reports using the earlier baselines (e.g. 2012-2014 data). Also, with the new baseline, facility SIRs have increased and shifted closer to 1 ([click here for more information about the updated NHSN baseline](#)).










Additionally, for HCP influenza vaccination, caution should be used in applying these data as an estimate of the overall number of healthcare workers vaccinated in the state. In some instances, a single healthcare worker may be counted in multiple hospitals, and therefore the total number of vaccinated personnel in the state as shown in this table may be inflated.


## Instructions for reading the graphs and tables:

Since the SIR is an estimate, the graphs included in this report display an associated confidence interval (CI) using an error bar; please see the methods section for definitions of the SIR and CI. For hospitals with smaller patient volumes, the error bar will be wider.

The nearer the SIR is to 1.0, the closer the actual number of infections was to the predicted number of infections for a given hospital. A SIR greater than 1.0 indicates more HAIs were observed than predicted; conversely, a SIR less than 1.0 indicates fewer HAIs were observed than predicted. A SIR of 0 means the hospital had no infections during the time period. The SIR can only be calculated if the number of predicted infections for the hospital is greater than 1.0. When the number of predicted infections is less than 1.0, the number of device days, procedures, or patient days in that facility is too low to calculate a reliable SIR. For this reason, a SIR could not be calculated for every facility in Hawai'i.

There are four possible categories for a hospital's SIR:

- If the error bar on the graph (95% CI) falls completely below the reference line of 1.0, the number of infections was **significantly lower (better)** than what we would predict, based on national data. This is represented by a green checkmark on the table:  or a green circle:  on the SIR graph.
- If the error bar crosses over the reference line of 1.0, the number of infections **was similar (not significantly different)** than predicted, based on national data. This is represented by a yellow equals sign on the table:  or a yellow square:  on the SIR graph.
- If the error bar falls completely above the reference line of 1.0, the number of infections was **significantly higher (worse)** than predicted, based on national data. This is represented by a yield sign on the table:  or a red diamond:  on the SIR graph.
- If the number of **predicted infections is less than 1.0**, then an SIR could not be calculated. This is represented by a white triangle  on the table and will not be included on the SIR graph (indicated by an \* by the facility name).

Additionally, facilities achieving zero infections during the specified time period are marked with a green flower  next to the facility name in the table.



# Central Line-Associated Bloodstream Infections



## What is a Central Line-Associated Bloodstream Infection (CLABSI)?

A “central line” or “central catheter” is a tube placed into a patient’s large vein, usually in the neck, chest, arm, or groin. The central line is often used to draw blood or give fluids or medications. It may be left in place for several weeks. A bloodstream infection can occur when bacteria or other germs travel into a “central line” and enter the bloodstream. If you develop a central line-associated bloodstream infection (CLABSI) you may become ill with fevers and chills, or the skin around the central line may become sore and red. For more information, visit CDC’s CLABSI website.

## What are some of the things hospitals do to prevent CLABSI?

To prevent CLABSI, doctors, nurses, and other healthcare providers:

- Clean their hands with soap and water or an alcohol-based hand rub before putting in the central line.
- Wear a mask, cap, sterile gown, and gloves when putting in the catheter.
- Clean their hands, wear gloves, and clean the central line opening with an antiseptic solution before using the central line to draw blood or give medications. Healthcare providers also clean their hands and wear gloves when changing the bandage covering the area where the central line enters the skin.
- Evaluate every day whether the patient still needs to have the central line. The central line is removed as soon as it is no longer needed.

## What can you do to help prevent a CLABSI?

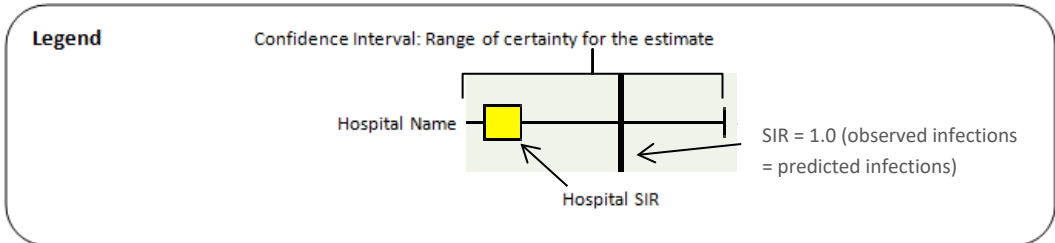
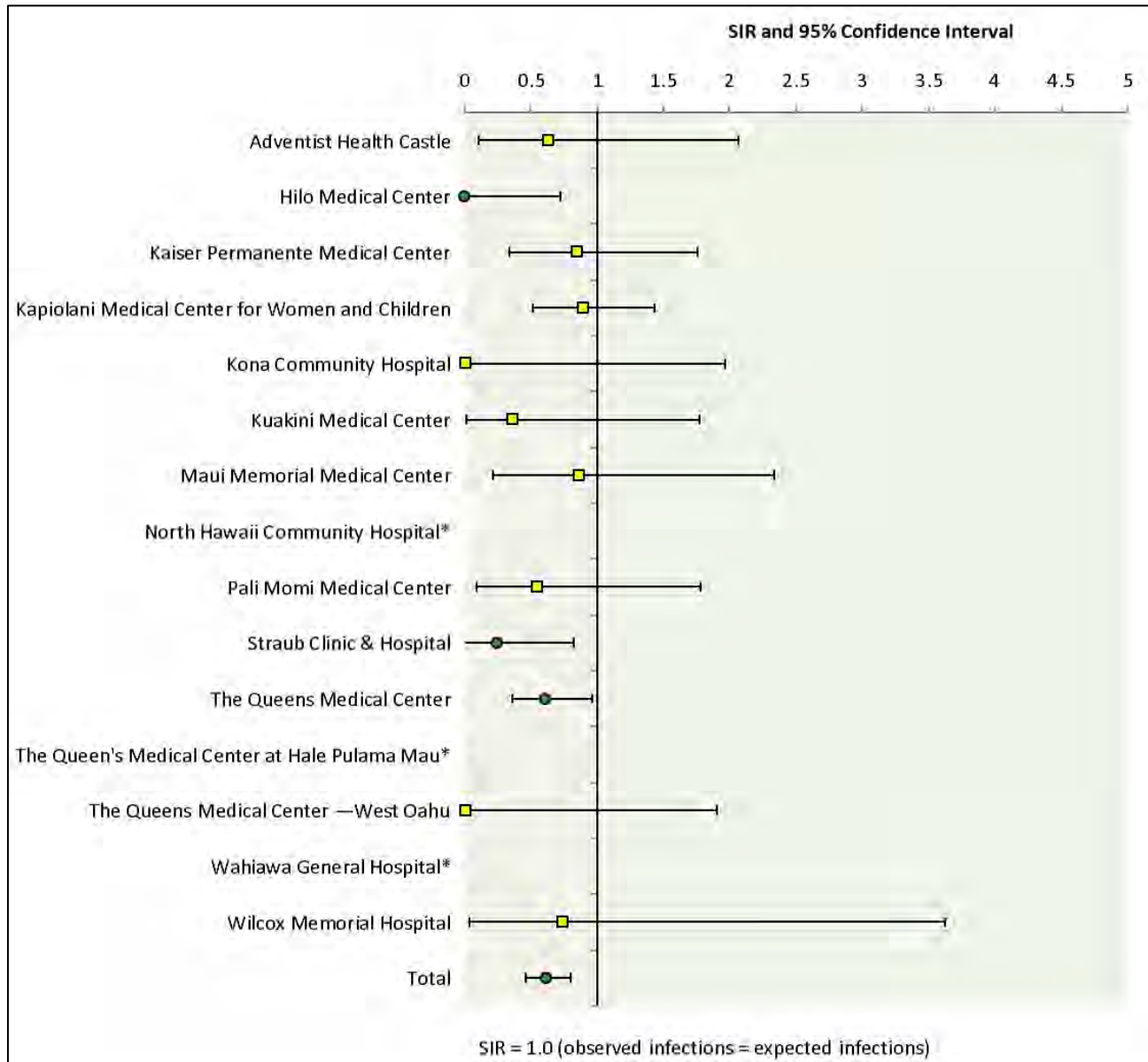
- Ask your doctors and nurses to explain why you need the central line and how long you will have it.
- Make sure all doctors and nurses caring for you clean their hands with soap and water or an alcohol-based hand rub before and after caring for you. If you do not see your providers clean their hands, please ask them to do so.
- Inform your nurse or doctor if the area around your central line is sore or red and if the bandage comes off or becomes wet or dirty.
- Family and friends should clean their hands with soap and water or an alcohol-based hand rub before and after visiting you. If you do not see them clean their hands, ask them to clean their hands.

## What is the current situation of CLABSIs?

- In 2021, 50 CLABSIs were reported in ICU & medical/surgical ward locations within acute care hospitals in Hawai‘i. This was nearly 38% lower than 1.0.
- In 2021, Hawai‘i did not achieve the former DHHS 2020 HAI prevention target (SIR of 0.50) with an SIR of 0.62.

# SIRs for Central Line-Associated Bloodstream Infections in Acute Care ICUs & Medical/Surgical Wards

January 1, 2021 – December 31, 2021



- = Number of infections was **lower (better)** than predicted
- = Number of infections was **similar (not significantly different)** to predicted
- ◆ = Number of infections was **higher (worse)** than predicted

Note: Facilities with an asterisk (\*) have less than one predicted infection, and therefore do not have a SIR or confidence interval

**Central Line-Associated Bloodstream Infections in ICUs & Medical/Surgical Wards  
January 1, 2021 through December 31, 2021**

Facility Name	Hospital Performance Compared to National Data	Number of Infections	Number of Predicted Infections	Number of Central Line Days	Standardized Infection Ratio	95% Confidence Interval For SIR
Adventist Health Castle		2	3.19	4,022	0.63	0.11, 2.07
Hilo Medical Center		0	4.12	5,181	0.00	0.00, 0.73
Kaiser Permanente Medical Center		6	7.11	6,633	0.84	0.34, 1.76
Kapiolani Medical Center for Women and Children		15	16.87	14,073	0.89	0.52, 1.43
Kona Community Hospital		0	1.53	2,170	0.00	0.00, 1.96
Kuakini Medical Center		1	2.78	3,452	0.36	0.02, 1.77
Maui Memorial Medical Center		3	3.50	4,936	0.86	0.22, 2.33
North Hawai'i Community Hospital		1	0.31	501	Too small to calculate	
Pali Momi Medical Center		2	3.71	4,508	0.54	0.09, 1.78
Straub Clinic & Hospital		2	8.03	9,944	0.25	0.04, 0.82
The Queen's Medical Center		16	26.44	24,995	0.61	0.36, 0.96
The Queen's Medical Center at Hale Pulama Mau		0	0.47	624	Too small to calculate	
The Queen's Medical Center — West O'ahu		0	1.57	1,686	0.00	0.00, 1.91
Wahiawa General Hospital		1	0.21	277	Too small to calculate	
Wilcox Memorial Hospital		1	1.36	2,251	0.73	0.04, 3.62
<b>Hawai'i Total – Acute care</b>		50	81.20	85,253	0.62	0.46, 0.81
Kaua'i Veterans Memorial Hospital†		0	0.07	259	Too Small to Calculate	

Note: Reporting in Hawai'i is linked to CMS IQR reporting requirements. Shriners Hospital for Children is not mandated to report CLABSI to NHSN. Source of national baseline data: 2015 NHSN CLABSI Data. Data contained in this report were last generated on 12/1/2022.

† CAHs utilize different models to calculate the number of predicted infections, and are therefore separated for CLABSI, CAUTI, CDI & MRSA Bacteremia.

**Legend:**

- = Number of infections was **lower (better)** than predicted
- = Number of infections was **similar (not significantly different)** to predicted
- = Number of infections was **higher (worse)** than predicted
- = Patients had too few central line days to calculate a reliable SIR. When SIR cannot be calculated, a comparison to national data is not possible.
- = Recognizes hospitals with zero infections during the specified time period
- Too Small to Calculate = Predicted number of infections was less than one

# Catheter Associated Urinary Tract Infections



## What is a Catheter Associated Urinary Tract Infection (CAUTI)?

A urinary catheter is a thin tube placed in the bladder to drain urine. Urine drains through the tube into a bag to collect the urine. People with urinary catheters have a much higher chance of getting a urinary tract infection than people who do not have a catheter. A urinary tract infection is an infection in the urinary system, which includes the bladder (stores the urine) and the kidneys (filter the blood to make urine). Germs (for example, bacteria or yeasts) do not normally live in these areas; if germs are introduced, an infection can occur. If you have a urinary catheter, germs can travel along the catheter and cause an infection in your bladder or your kidney, in which case it is called a catheter-associated urinary tract infection (CAUTI). For more information, visit CDC's CAUTI website.

## What are some of the things hospitals are doing to prevent CAUTI?

To prevent CAUTI, doctors, nurses, and other healthcare providers:

- Put in catheters only when necessary and routinely evaluate to determine if they can be removed as soon as possible.
- Only allow catheters to be inserted and removed by properly trained persons using sterile (clean) technique.
- Clean the skin in the area where the catheter will be inserted before inserting the catheter.
- Clean their hands by washing them with soap and water or using an alcohol-based hand rub before and after touching a catheter.

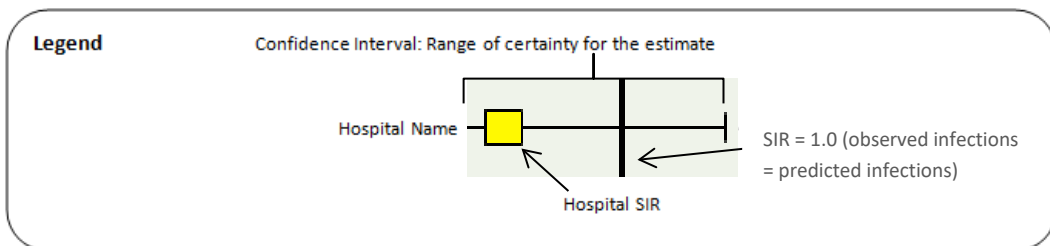
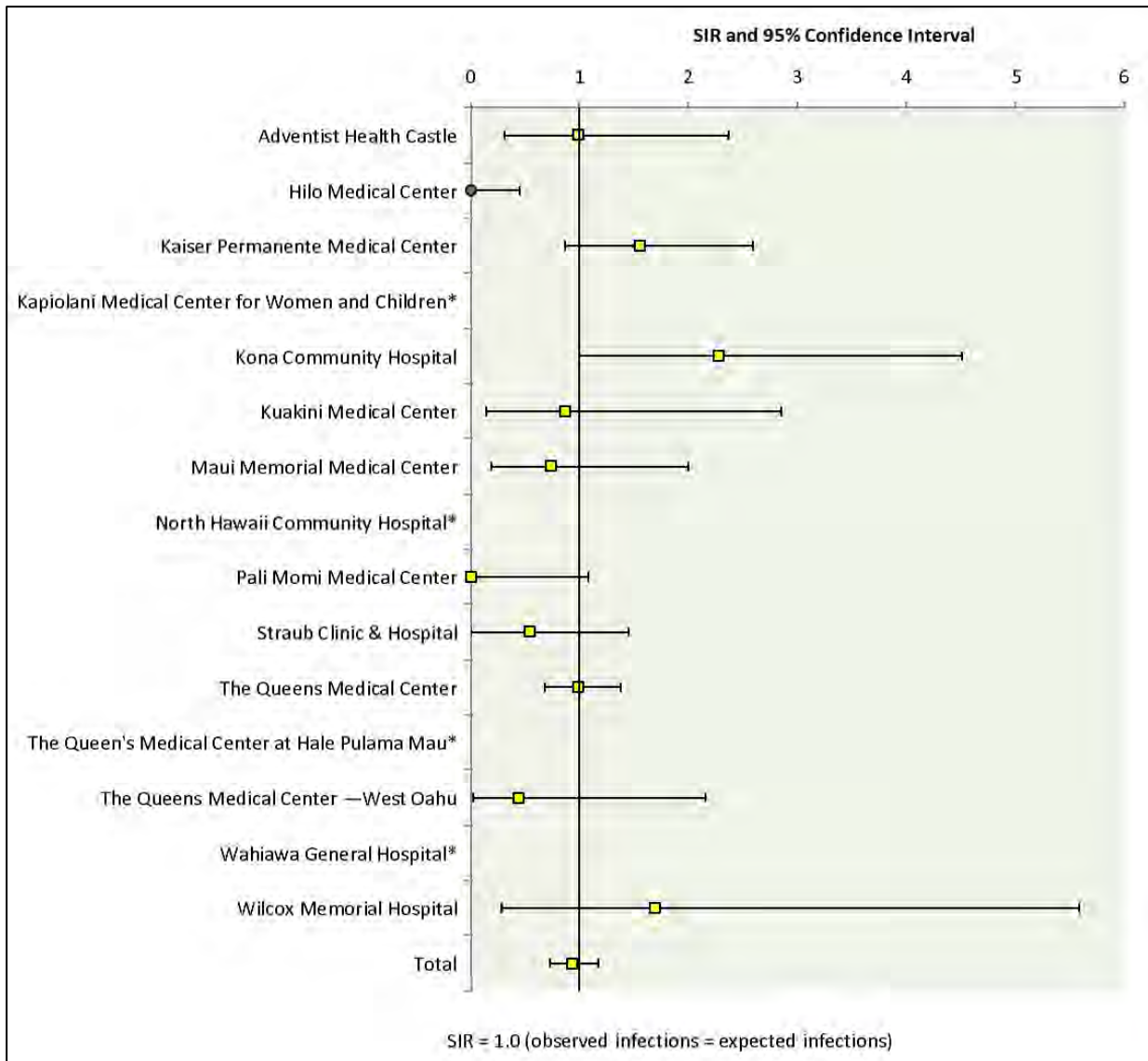
## What can you do to help prevent a CAUTI?

- Ask your healthcare provider each day if you still need the catheter.
- Make sure all doctors and nurses caring for you clean their hands with soap and water or an alcohol-based hand rub before and after caring for you. If you do not see your providers clean their hands, please ask them to do so.
- Always clean your hands before and after doing catheter care.
- Always keep your urine bag below the level of your bladder.
- Family and friends should clean their hands with soap and water or an alcohol-based hand rub before and after visiting you. If you do not see them clean their hands, ask them to clean their hands.

## What is the current situation of CAUTIs?

- In 2021, 69 CAUTIs were reported in ICU & medical/surgical ward locations within acute care hospitals in Hawai'i. This was 7% lower than 1.0.
- In 2021, Hawai'i did not achieve the DHHS 2020 HAI prevention target (SIR of 0.75) with an SIR of 0.93.


## SIRs for Catheter Associated Urinary Tract Infections in ICUs & Medical/Surgical Wards January 1, 2021 – December 31, 2021



- = Number of infections was **lower (better)** than predicted
- = Number of infections was **similar (not significantly different)** to predicted
- ◆ = Number of infections was **higher (worse)** than predicted

Note: Facilities with an asterisk (\*) have less than one predicted infection, and therefore do not have a SIR or confidence interval






**Catheter Associated Urinary Tract Infections in ICUs & Medical/Surgical Wards**  
January 1, 2021 through December 31, 2021

Facility Name	Hospital Performance Compared to NHSN National Data	Number of Infections	Number of Predicted Infections	Number of Catheter Days	Standardized Infection Ratio	95% Confidence Interval For SIR
Adventist Health Castle		4	4.07	5,067	0.98	0.31, 2.37
Hilo Medical Center 		0	6.65	8,227	0.00	0.00, 0.45
Kaiser Permanente Medical Center		13	8.36	6,529	1.56	0.87, 2.59
Kapiolani Medical Center for Women and Children		1	0.93	956	Too Small to Calculate	
Kona Community Hospital		7	3.07	4,513	2.28	0.99, 4.51
Kuakini Medical Center		2	2.32	2,915	0.86	0.15, 2.85
Maui Memorial Medical Center		3	4.10	4,840	0.73	0.19, 1.99
North Hawai'i Community Hospital 		0	0.32	615	Too Small to Calculate	
Pali Momi Medical Center 		0	2.77	3,459	0.00	0.00, 1.08
Straub Clinic & Hospital		3	5.63	7,056	0.53	0.14, 1.45
The Queen's Medical Center		31	31.63	19,283	0.98	0.68, 1.37
The Queen's Medical Center at Hale Pulama Mau 		0	0.26	360	Too Small to Calculate	
The Queen's Medical Center – West O'ahu		1	2.29	2,242	0.44	0.022, 2.16
Wahiawa General Hospital		2	0.50	863	Too Small to Calculate	
Wilcox Memorial Hospital		2	1.18	2,326	1.69	0.28, 5.58
Hawai'i Total – Acute care		69	74.06	69,251	0.93	0.73, 1.17
Kaua'i Veterans Memorial Hospital† 		0	0.23	344	Too Small to Calculate	

Note: Reporting in Hawai'i is linked to CMS IQR reporting requirements. Shriners Hospital for Children is not mandated to report CAUTI to NHSN. Source of national baseline data: 2015 NHSN CAUTI Data. Data contained in this report were last generated on Dec 1, 2022.

† CAHs utilize different models to calculate the number of predicted infections, and are therefore separated for CLABSI, CAUTI, CDI & MRSA Bacteremia.

**Legend:**

-  = Number of infections was **lower (better)** than predicted
-  = Number of infections was **similar (not significantly different)** to predicted
-  = Number of infections was **higher (worse)** than predicted
-  = Patients had too few catheter days to calculate a reliable SIR. When SIR cannot be calculated, a comparison to national data is not possible.
-  = Recognizes hospitals with zero infections during the specified time period
- Too Small to Calculate = Predicted number of infections was less than one

# Inpatient Colon Surgery—Surgical Site Infection



## What is a Surgical Site Infection (SSI)?

An SSI is an infection occurring after surgery in the part of the body where the surgery took place. Most surgical patients do not develop an infection. However, infections develop in approximately 1 to 3 out of every 100 patients who have surgery in the United States. The most common symptoms of an SSI are redness and pain around the area of the surgery, drainage of cloudy fluid from the surgical wound, and fever. For more information, visit [CDC's SSI website](#).

## What is Colon Surgery (COLO)?

COLO is a surgical procedure that includes incision (cutting), resection (removal), and sometimes the re-joining of any part(s) of the colon (large intestine). It does not include operations on the rectum (the rectum is the end of the colon); those involve a different surgical procedure.

## What are some of the things hospitals are doing to prevent SSIs?

To prevent SSIs, doctors, nurses, and other healthcare providers:

- Clean their hands and arms up to their elbows with an antiseptic agent just before the surgery.
- May remove some of your hair immediately before your surgery using electric clippers if the hair is in the same area where the procedure will occur. They should not shave you with a razor as that could cause microscopic wounds and possible entry points for bacteria.
- Give you antibiotics before your surgery starts to try to decrease the bacteria level on your skin and therefore limit your risk for infection. In most cases, you should get antibiotics within 60 minutes of the surgery; antibiotics should be stopped at most 24 hours after surgery.

## What can you do to help prevent an SSI?

- Make sure your healthcare providers clean their hands before and after examining you, either with soap and water or an alcohol-based hand rub. If you do not see your providers clean their hands, please ask them to do so.
- Do not shave surgical area with a razor before surgery.
- Speak up if someone tries to shave you with a razor before surgery. Ask why you need to be shaved and talk with your surgeon if you have any concerns.
- Family and friends should clean their hands with soap and water or an alcohol-based hand rub before and after visiting you. If you do not see them clean their hands, ask them to clean their hands.

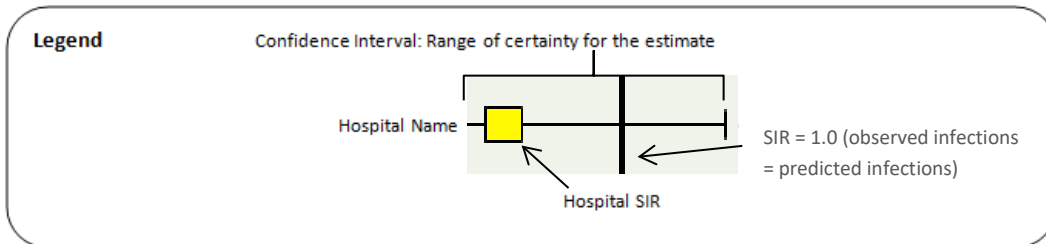
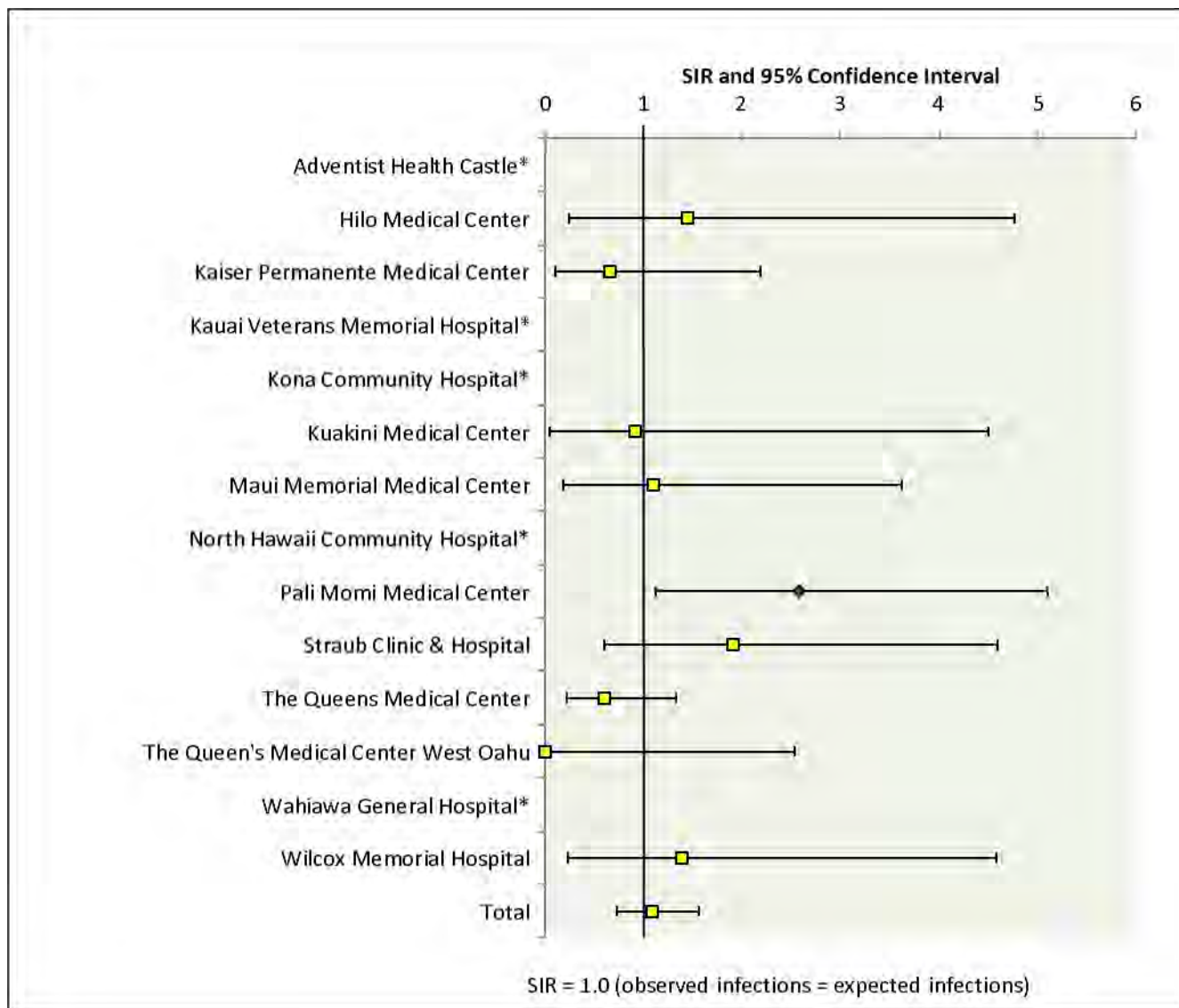
## What is the current situation of COLO SSIs?

- In 2021, 27 COLO SSIs were reported within Hawai'i hospitals. This was a 45.3% increase in COLO SSIs events between 2020 and 2021.
- In 2021, Hawai'i did not achieve the DHHS 2020 HAI prevention target (SIR of 0.75), with an SIR of 1.09.



## SIRs for Inpatient Colon Surgery—Surgical Site Infection

January 1, 2021 – December 31, 2021



- = Number of infections was **lower (better)** than predicted
- = Number of infections was **similar (not significantly different)** to predicted
- ◆ = Number of infections was **higher (worse)** than predicted

Note: Facilities with an asterisk (\*) have less than one predicted infection, and therefore do not have a SIR or confidence interval



**Inpatient Colon Surgery—Surgical Site Infection  
January 1, 2021 through December 31, 2021**

Facility Name	Hospital Performance Compared to NHSN National Data	Number of Infections	Number of Predicted Infections	Number of Procedures	Standardized Infection Ratio	95% Confidence Interval For SIR
Adventist Health Castle	△	1	0.80	36	Too Small to Calculate	
Hilo Medical Center	▬▬	2	1.39	60	1.44	0.24, 4.77
Kaiser Permanente Medical Center	▬▬	2	3.02	134	0.66	0.11, 2.19
Kaua'i Veterans Memorial Hospital 🌿	△	0	0.03	1	Too Small to Calculate	
Kona Community Hospital	△	0	.	0	Too Small to Calculate	
Kuakini Medical Center	▬▬	1	1.10	45	0.91	0.05, 4.51
Mauai Memorial Medical Center	▬▬	2	1.82	92	1.10	0.18, 3.62
North Hawai'i Community Hospital 🌿	△	0	0.29	15	Too Small to Calculate	
Pali Momi Medical Center	▽	7	2.71	122	2.58	1.13, 5.11
Straub Clinic & Hospital	▬▬	4	2.10	96	1.91	0.61, 4.60
The Queen's Medical Center	▬▬	5	8.33	252	0.60	0.22, 1.33
The Queen's Medical Center — West O'ahu 🌿	▬▬	0	1.18	45	0.00	0.00, 2.53
Wahiawa General Hospital* 🌿	△	0	.	0	Too Small to Calculate	
Wilcox Memorial Hospital	▬▬	2	1.44	57	1.39	0.23, 4.58
<b>Hawai'i Total</b>	▬▬	26	24.21	955	1.074	0.72, 1.55

Note: Reporting in Hawai'i is linked to CMS IQR reporting requirements. Shriners Hospital for Children does not perform this procedure. Kapiolani Medical Center for Women and Children is not mandated to report COLO SSI to NHSN. Report excludes Superficial Incisional Secondary (SIS) and Deep Incisional Secondary (DIS) SSIs. Includes only procedures and associated SSIs that are reported with primary closure technique. Source of national baseline data: 2015 NHSN SSI Data. Data contained in this report were last generated on Dec 1, 2022. \*Wahiawa General Hospital is no longer performing the procedure in the specified reporting time frame. Calculated using Adult Complex AR SSI Data with the 2015 Baseline.

**Legend:**

- ✓ = Number of infections was **lower (better)** than predicted
  - ▬▬ = Number of infections was **similar (not significantly different)** to predicted
  - ▽ = Number of infections was **higher (worse)** than predicted
  - △ = ICU patients had too few COLO procedures to calculate a reliable SIR. When SIR cannot be calculated, a comparison to national data is not possible.
  - 🌿 = Recognizes hospitals with zero infections during the specified time period
- Too Small to Calculate = Predicted number of infections was less than one

# Inpatient Abdominal Hysterectomy—Surgical Site Infection



## What is a Surgical Site Infection (SSI)?

An SSI is an infection occurring after surgery in the part of the body where the surgery took place. Most surgical patients do not develop an infection. However, infections develop in approximately 1 to 3 out of every 100 patients who have surgery in the United States. The most common symptoms of an SSI are redness and pain around the area of the surgery, drainage of cloudy fluid from the surgical wound, and fever. For more information, visit [CDC's SSI website](#).

What is an Abdominal Hysterectomy (HYST)?

HYST is a procedure to remove the uterus through an incision in the abdominal (i.e., belly) wall. This includes hysterectomy procedures done by laparoscope. (Laparoscopy is an operation performed in the abdomen or pelvis through tiny incisions using small surgical tools and a camera to see the areas needing repair or removal.)

## What are some of the things hospitals are doing to prevent SSIs?

To prevent SSIs, doctors, nurses, and other healthcare providers:

- Clean their hands and arms up to their elbows with an antiseptic agent just before the surgery.
- May remove some of your hair immediately before your surgery using electric clippers if the hair is in the same area where the procedure will occur. They should not shave you with a razor as that could cause microscopic wounds and possible entry points for bacteria.
- Give you antibiotics before your surgery starts to try to decrease the bacteria level on your skin and therefore limit your risk for infection. In most cases, you should get antibiotics within 60 minutes of the surgery; antibiotics should be stopped at most 24 hours after surgery.

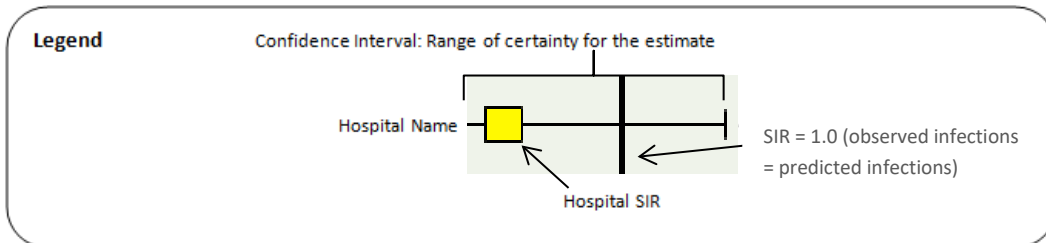
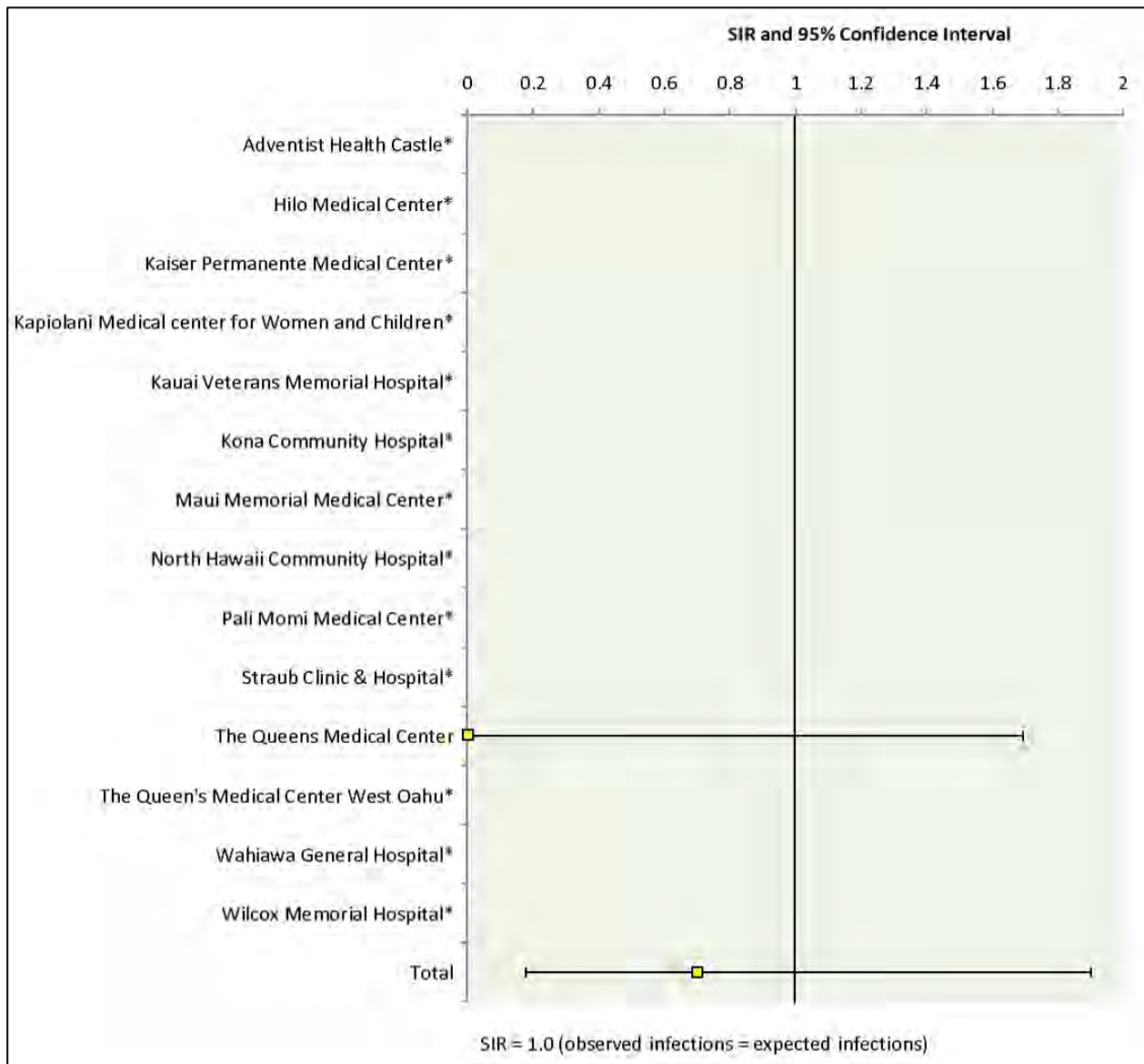
## What can you do to help prevent an SSI?

- Make sure your healthcare providers clean their hands before and after examining you, either with soap and water or an alcohol-based hand rub. If you do not see your providers clean their hands, please ask them to do so.
- Do not shave surgical area with a razor prior to surgery.
- Speak up if someone tries to shave you with a razor before surgery. Ask why you need to be shaved, and talk with your surgeon if you have any concerns.
- Family and friends should clean their hands with soap and water or an alcohol-based hand rub before and after visiting you. If you do not see them clean their hands, ask them to clean their hands.

## What is the current situation of HYST SSIs?

- In 2021, 3 HYST SSIs were reported within Hawai'i hospitals. This is a 53% decrease in HYST SSI events between 2020 and 2021.
- In 2021, Hawai'i achieved the DHHS 2020 HAI prevention target (SIR of 0.75), with an SIR of 0.70.

SIRs for Inpatient Abdominal Hysterectomy—Surgical Site Infection  
 January 1, 2021 – December 31, 2021



- = Number of infections was **lower (better)** than predicted
- = Number of infections was **similar (not significantly different)** to predicted
- ◆ = Number of infections was **higher (worse)** than predicted

Note: Facilities with an asterisk (\*) have less than one predicted infection, and therefore do not have an SIR or confidence interval

**Inpatient Abdominal Hysterectomy—Surgical Site Infection**  
**January 1, 2021 through December 31, 2021**

Facility Name	Hospital Performance Compared to NHSN National Data	Number of Infections	Number of Predicted Infections	Number of Procedures	Standardized Infection Ratio	95% Confidence Interval For SIR
Adventist Health Castle 🌿	△	0	0.01	3	Too Small to Calculate	
Hilo Medical Center 🌿	△	0	0.16	30	Too Small to Calculate	
Kaiser Permanente Medical Center 🌿	△	0	0.98	121	Too Small to Calculate	
Kapiolani Medical Center for Women and Children	△	3	0.77	108	Too Small to Calculate	
Kaua'i Veterans Memorial Hospital 🌿	△	0	0.02	3	Too Small to Calculate	
Kona Community Hospital 🌿	△	0	.	0	Too Small to Calculate	
Maui Memorial Medical Center 🌿	△	0	0.09	11	Too Small to Calculate	
North Hawai'i Community Hospital 🌿	△	0	0.03	6	Too Small to Calculate	
Pali Momi Medical Center 🌿	△	0	0.13	14	Too Small to Calculate	
Straub Clinic & Hospital 🌿	△	0	0.10	11	Too Small to Calculate	
The Queen's Medical Center 🌿	▬▬	0	1.77	243	0.00	0.00, 1.69
The Queen's Medical Center — West O'ahu 🌿	△	0	.	0	Too Small to Calculate	
Wahiawa General Hospital* 🌿	△	0	.	0	Too Small to Calculate	
Wilcox Memorial Hospital 🌿	△	0	0.24	37	Too Small to Calculate	
<b>Hawai'i Total</b>	▬▬	3	4.30	587	0.70	0.18, 1.90

Note: Reporting in Hawai'i is tied to CMS IQR reporting requirements. Shriners Hospital for Children and Kuakini Medical Center do not perform this procedure. Excludes Superficial Incisional Secondary (SIS) and Deep Incisional Secondary (DIS) SSIs. Includes only procedures and associated SSIs that are reported with primary closure technique. Source of national baseline data: 2015 NHSN SSI Data. Data contained in this report were last generated on December 1, 2022.

**Legend:**

- ✓ = Number of infections was **lower (better)** than predicted
- ▬▬ = Number of infections was **similar (not significantly different)** to predicted
- ▽ = Number of infections was **higher (worse)** than predicted
- △ = ICU patients had too few HYST procedures days to calculate a reliable SIR. When SIR cannot be calculated, a comparison to national data is not possible.
- 🌿 = Recognizes hospitals with zero infections during the specified time period
- Too Small to Calculate = Predicted number of infections was less than one

# Inpatient *Clostridioides difficile* Infection



## What is a *Clostridioides difficile* infection (CDI)?

*Clostridioides difficile*, also known as “C. diff,” is a bacterium which can cause diarrhea and inflammation of the colon (large intestine). CDI usually occurs in patients who are taking or have recently taken antibiotics. The most common symptoms of CDI include watery diarrhea, fever, loss of appetite, nausea, and belly pain. *C. difficile* can live as spores outside the human body for a very long time and can be found on objects such as bed linens, bathroom fixtures, and medical equipment. It can also be spread more directly through contaminated shared equipment and the hands of healthcare providers. For more information, visit [CDC’s CDI website](#).

## What are some of the things hospitals are doing to prevent CDI?

To prevent CDI, doctors, nurses, and other healthcare providers:

- Perform hand hygiene before and after caring for every patient.
- Carefully clean hospital rooms and medical equipment.
- Use Contact Precautions when caring for patients with CDI.
  - Whenever possible, a patient with CDI will have a single room or will share a room only with someone else who also has CDI.
  - Healthcare providers will put on gloves and wear a gown over their clothing while taking care of patients with CDI; visitors may also be asked to wear a gown and gloves.
  - When leaving the room, hospital providers and visitors remove their gown and gloves and clean their hands.
  - Patients on contact precautions are asked to stay in their hospital rooms as much as possible.

## What can you do to help prevent CDI?

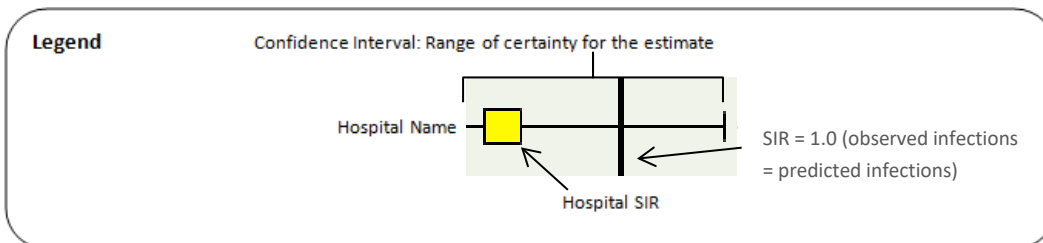
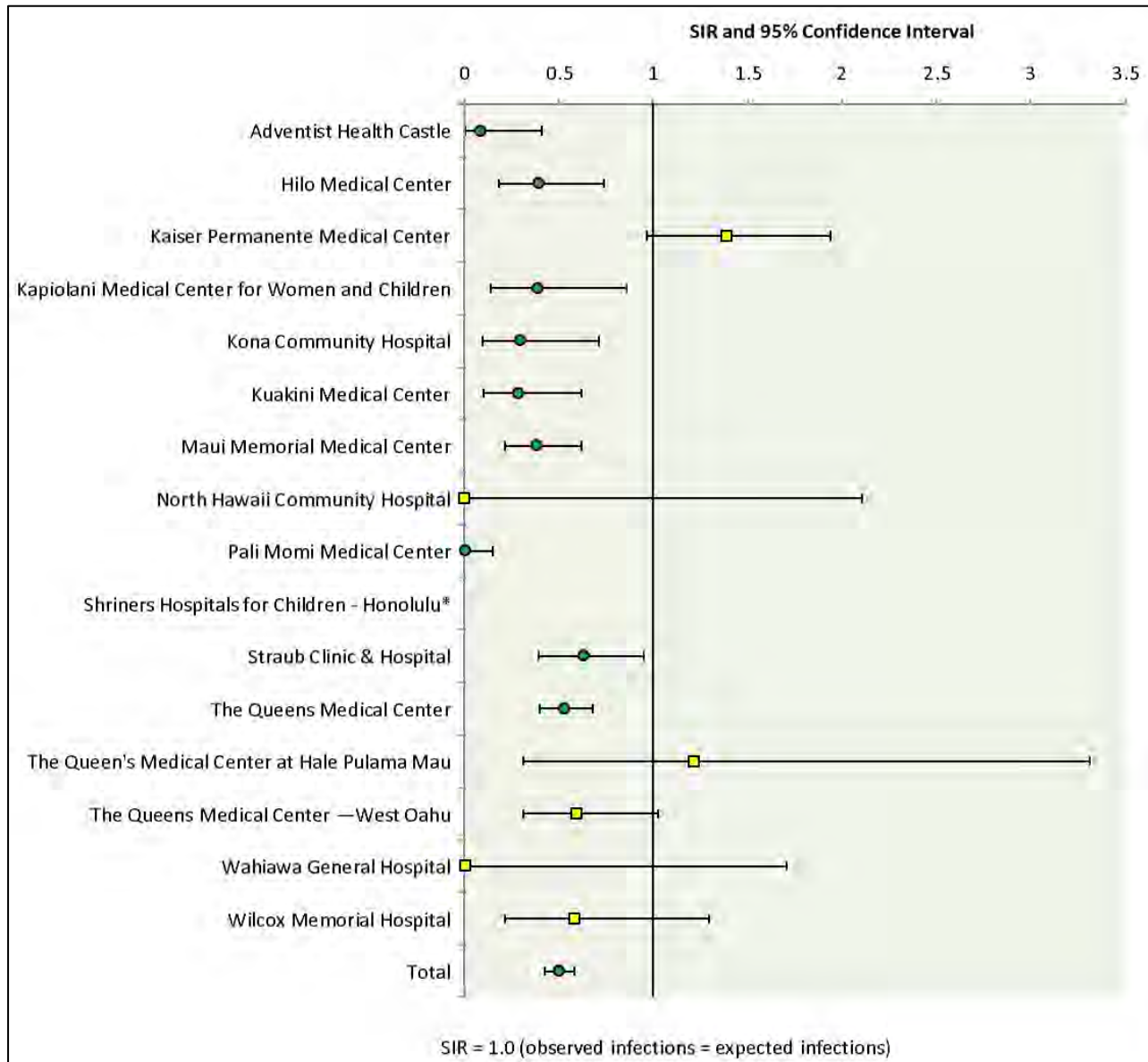
- Make sure your healthcare providers clean their hands before and after examining you. If you do not see your providers clean their hands, please ask them to do so.
- Family and friends should clean their hands with soap and water or an alcohol-based hand rub before and after visiting you. If you do not see them clean their hands, ask them to clean their hands.
- Only take antibiotics as prescribed by your doctor.
- Be sure to clean your hands often, especially after using the bathroom and before eating.

## What is the current situation of CDI?

- In 2021, 162 CDI were reported within Hawai’i hospitals. This was 50% lower than 1.0.
- In 2021, Hawai’i achieved the DHHS 2020 HAI prevention target (SIR of 0.70) with an SIR of 0.50.

## SIRs for Inpatient Acute Care *Clostridioides difficile* Infections

January 1, 2021 – December 31, 2021



- = Number of infections was **lower (better)** than predicted
- = Number of infections was **similar (not significantly different)** to predicted
- ◆ = Number of infections was **higher (worse)** than predicted

Note: Facilities with an asterisk (\*) have less than one predicted infection, and therefore do not have a SIR or confidence interval

**Inpatient *Clostridioides difficile* Infections**  
**January 1, 2021 through December 31, 2021**

Facility Name	Hospital Performance Compared to NHSN National Data	Number of Infections	Number of Predicted Infections	Number of Patient Days	Standardized Infection Ratio	95% Confidence Interval For SIR
Adventist Health Castle		1	11.97	39,018	0.08	0.004, 0.41
Hilo Medical Center		8	20.58	46,125	0.39	0.18, 0.74
Kaiser Permanente Medical Center		32	23.04	44,726	1.39	0.97, 1.94
Kapiolani Medical Center for Women and Children		5	12.93	38,618	0.39	0.14, 0.86
Kona Community Hospital		4	13.51	38,260	0.30	0.09, 0.71
Kuakini Medical Center		5	17.78	24,960	0.28	0.10, 0.62
Maui Memorial Medical Center		14	36.82	63,679	0.38	0.22, 0.62
North Hawai'i Community Hospital		0	1.42	5,831	0.00	0.00, 2.11
Pali Momi Medical Center		0	20.24	34,993	0.00	0.00, 0.15
Shriner's Hospital for Children		0	0.11	710	Too small to calculate	
Straub Clinic & Hospital		20	31.83	44,686	0.63	0.40, 0.95
The Queen's Medical Center		54	102.51	148,153	0.53	0.40, 0.68
The Queen's Medical Center at Hale Pulama Mau		3	2.46	10,919	1.22	0.31, 3.31
The Queen's Medical Center — West O'ahu		11	18.68	33,393	0.59	0.31, 1.02
Wahiawa General Hospital		0	1.76	4,481	0.00	0.00, 1.71
Wilcox Memorial Hospital		5	8.54	17,491	0.59	0.21, 1.30
<b>Hawai'i Total</b>		162	324.19	596,043	0.50	0.43, 0.58
<b>Kaua'i Veterans Memorial Hospital† </b>		0	1.013	4,588	0.00	0.00, 2.96

Note: Reporting in Hawai'i is tied to CMS IQR reporting requirements. Only laboratory confirmed inpatient healthcare-onset CDI isolates are presented. Source of national baseline data: 2015 NHSN CDI LabID Data. Data contained in this report were last generated on December 1, 2022.

† CAHs utilize different models to calculate the number of predicted infections, and are therefore separated for CLABSI, CAUTI, CDI & MRSA Bacteremia.

**Legend:**

- = Number of infections was **lower (better)** than predicted
- = Number of infections was **similar (not significantly different)** to predicted
- = Number of infections was **higher (worse)** than predicted
- = ICU patients had too few patient days to calculate a reliable SIR. When SIR cannot be calculated, a comparison to national data is not possible.
- = Recognizes hospitals with zero infections during the specified time period
- Too Small to Calculate = Predicted number of infections was less than one

# Inpatient Methicillin-Resistant *Staphylococcus aureus* Bacteremia



## What is methicillin-resistant *Staphylococcus aureus* (MRSA)?

*Staphylococcus aureus* is a very common bacterium found on the skin or in the nose of about 1 out of every 3 people. Usually, this bacterium does not cause problems for people, but under the right circumstances it can cause serious infections such as skin or wound infections, pneumonia, or infections of the blood (bacteremia). MRSA is a type of *S. aureus* which is resistant to some of the antibiotics often used to treat these infections. For more information, visit [CDC's MRSA website](#).

## What are some of the things hospitals are doing to prevent MRSA infections?

To prevent MRSA infections, doctors, nurses, and other healthcare providers:

- Clean their hands with soap and water or an alcohol-based hand rub before and after caring for every patient.
- Carefully clean hospital rooms and medical equipment.
- Use Contact Precautions when caring for patients with MRSA.
  - Whenever possible, a patient with MRSA will have a single room or will share a room only with someone else who also has MRSA.
  - Healthcare providers will put on gloves and wear a gown over their clothing while taking care of patients with MRSA; visitors may also be asked to wear a gown and gloves.
  - When leaving the room, hospital providers and visitors remove their gown and gloves and clean their hands.
  - Patients on contact precautions are asked to stay in their hospital rooms as much as possible.

## What can you do to help prevent MRSA infections?

- Make sure your healthcare providers clean their hands before and after examining you, either with soap and water or an alcohol-based hand rub. If you do not see your providers clean their hands, please ask them to do so.
- Family and friends should clean their hands with soap and water or an alcohol-based hand rub before and after visiting you. If you do not see them clean their hands, ask them to clean their hands.

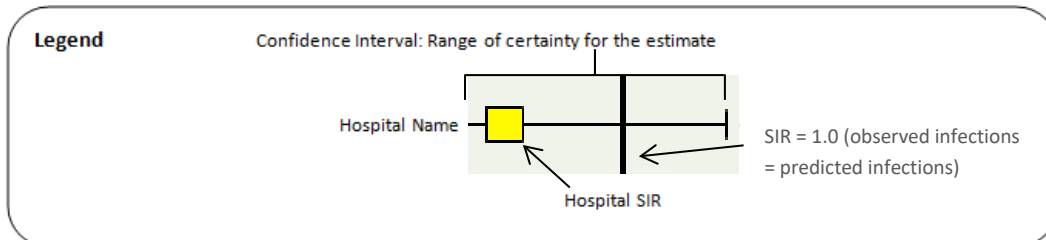
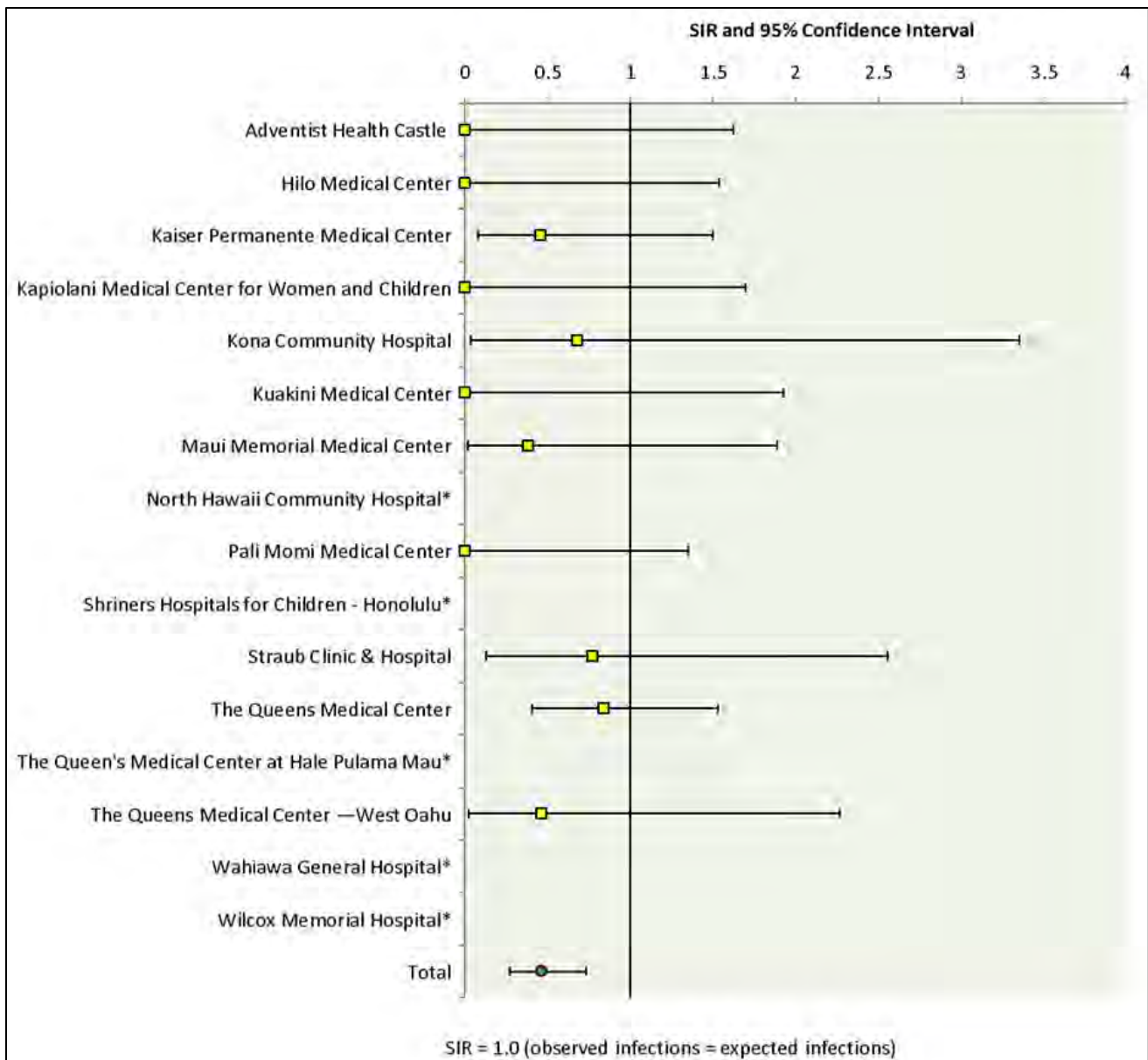
## What is the current situation of MRSA bacteremia infections?

- In 2021, 16 MRSA bacteremia infections were reported within Hawai'i hospitals. This was 54% lower than 1.0.
- Hawai'i achieved the DHHS 2020 HAI prevention target (SIR of 0.75) with a SIR of 0.46.



SIRs for Inpatient Acute Care Methicillin-Resistant *Staphylococcus aureus* Bacteremia

January 1, 2021 – December 31, 2021



- = Number of infections was **lower (better)** than predicted
- = Number of infections was **similar (not significantly different)** to predicted
- ◆ = Number of infections was **higher (worse)** than predicted

Note: Facilities with an asterisk (\*) have less than one predicted infection, and therefore do not have a SIR or confidence interval

**Inpatient Methicillin-Resistant *Staphylococcus aureus* Bacteremia**

**January 1, 2021 through December 31, 2021**

Facility Name	Hospital Performance Compared to NHSN National Data	Number of Infections	Number of Predicted Infections	Number of Patient Days	Standardized Infection Ratio	95% Confidence Interval For SIR
Adventist Health Castle 🌿	🟡	0	1.85	40,409	0.00	0.00, 1.62
Hilo Medical Center 🌿	🟡	0	1.95	47,739	0.00	0.00, 1.53
Kaiser Permanente Medical Center	🟡	2	4.41	49,494	0.45	0.08, 1.50
Kapiolani Medical Center for Women and Children 🌿	🟡	0	1.77	61,421	0.00	0.00, 1.70
Kona Community Hospital	🟡	1	1.47	39,138	0.68	0.03, 3.36
Kuakini Medical Center 🌿	🟡	0	1.55	24,960	0.00	0.00, 1.93
Maui Memorial Medical Center	🟡	1	2.61	66,777	0.38	0.02, 1.89
North Hawai'i Community Hospital 🌿	△	0	0.12	5,889	Too Small to Calculate	
Pali Momi Medical Center 🌿	🟡	0	2.22	34,993	0.00	0.00, 1.35
Shriner's Hospital for Children 🌿	△	0	0.01	710	Too Small to Calculate	
Straub Clinic & Hospital	🟡	2	2.59	44,686	0.77	0.13, 2.55
The Queen's Medical Center	🟡	9	10.78	150,637	0.84	0.41, 1.53
The Queen's Medical Center at Hale Pulama Mau 🌿	△	0	0.33	10,919	Too Small to Calculate	
The Queen's Medical Center — West O'ahu	🟡	1	2.18	33,393	0.46	0.02, 2.26
Wahiawa General Hospital 🌿	△	0	0.09	4,481	Too Small to Calculate	
Wilcox Memorial Hospital 🌿	△	0	0.85	18,449	Too Small to Calculate	
<b>Hawai'i Total – Acute care</b>	✔️	16	34.78	634,095	0.46	0.27, 0.73
Kaua'i Veterans Memorial Hospital† 🌿	△	0	0.11	5,101	Too Small to Calculate	
Samuel Mahelona Memorial Hospital† 🌿	△	0	0.01	488	Too Small to Calculate	

Note: Reporting in Hawai'i is tied to CMS IQR reporting requirements. Source of national baseline data: 2015 NHSN MRSA Blood LabID Data. Only laboratory confirmed inpatient healthcare-onset MRSA Bacteremia isolates are presented. Data contained in this report were last generated on December 5, 2022.

† CAHs utilize different models to calculate the number of predicted infections, and are therefore separated for CLABSI, CAUTI, CDI, & MRSA Bacteremia.

**Legend:**

- ✔️ = Number of infections was **lower (better)** than predicted
- 🟡 = Number of infections was **similar (not significantly different)** to predicted
- ▽ = Number of infections was **higher (worse)** than predicted
- △ = ICU patients had too few patient days to calculate a reliable SIR. When SIR cannot be calculated, a comparison to national data is not possible.
- 🌿 = Recognizes hospitals with zero infections during the specified time period
- Too Small to Calculate = Predicted number of infections was less than one

# Influenza Vaccination of Healthcare Personnel



## What is influenza?

Influenza, also known as the flu, is a contagious respiratory illness caused by influenza viruses. It can cause mild to severe illness. Serious outcomes of influenza infection can result in hospitalization or death. Some people, such as older adults, young children, and people with certain health conditions, are at higher risk for serious flu complications. The best way to prevent the flu is by getting vaccinated each year. Attaining vaccination coverage of 90% of a facility's HCP is a U.S. DHHS Healthy People 2020 goal. For more information, visit CDC's influenza website.

## What are some of the things hospitals are doing to prevent influenza?

To prevent influenza, healthcare facilities, doctors, nurses, and other healthcare providers ensure the following strategies:

- **Vaccination:** Annual vaccination is the most important measure to prevent seasonal influenza infection. Facilities promote and administer seasonal influenza vaccination. High HCP and patient vaccination rates are critical steps in preventing healthcare transmission of influenza.
- **Cough Etiquette:** Ensure providers cover their mouth and nose when coughing or sneezing with a tissue or their elbow and then clean their hands with soap and water or an alcohol-based hand rub.
- **Management of Ill Workers:** Ensure ill workers stay home, or if at work, stop patient-care activities, wear a facemask, and promptly notify their supervisor and infection control personnel/occupational health before leaving work.
- **Infection Control:** Adhere to infection prevention precautions for all patient-care activities and aerosol-generating procedures.
- **Environmental Cleaning:** Carefully clean hospital rooms and medical equipment.

## What can you do to help prevent influenza infections?

- The single best way to prevent the flu is get vaccinated against flu each season.
- Practice cough etiquette and cover your mouth or nose when you cough or sneeze.
- Make sure your healthcare providers clean their hands before and after examining you, either with soap and water or an alcohol-based hand rub. If you do not see your providers clean their hands, please ask them to do so.
- Family and friends should clean their hands with soap and water or an alcohol-based hand rub before and after visiting you. If you do not see them clean their hands, ask them to clean their hands.

## What is the current situation of Healthcare Personnel Influenza (HCP) Vaccination?

- For the 2021-2022 influenza season, the overall State average vaccination coverage was 70.5%.
- Only 14 facilities in Hawai'i achieved the DHHS Healthy People 2030 goal of at least 70% vaccination coverage.
- For context, the overall State average vaccination coverage for the 2020–2021 season was 81%, and the national average was 75.9%.

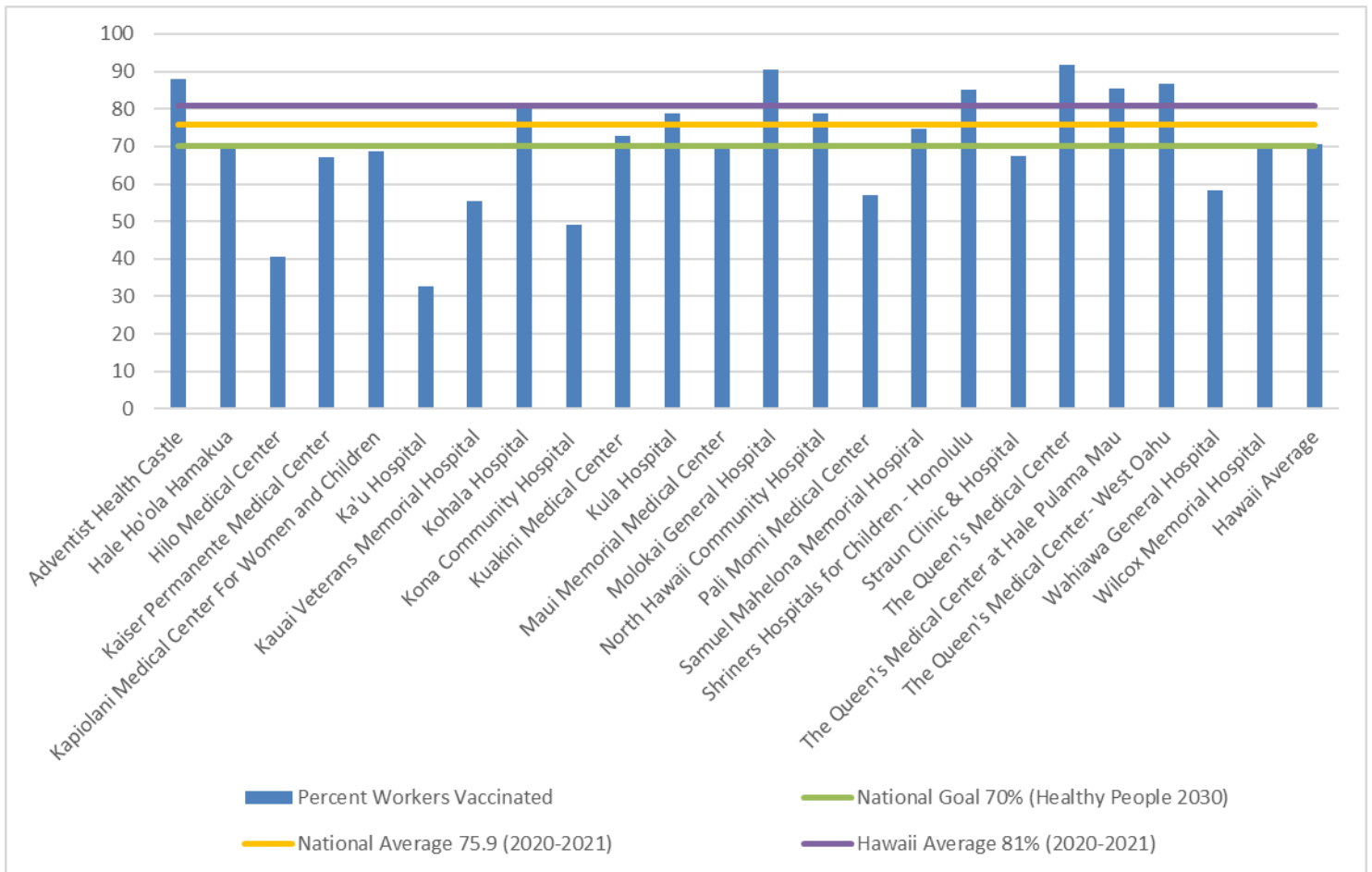
**Healthcare Personnel Influenza Vaccination—All Healthcare Workers  
October 1, 2021 through March 31, 2022**

Facility Name	Vaccinated at Facility	Vaccinated Elsewhere	Total Vaccinated	Total number of workers	Number of Contraindications	Number of declinations	Percent of workers vaccinated
Adventist Health Castle	853	643	1,496	1,698	32	32	88%
Hale Ho'ola Hamakua	89	9	98	138	1	19	71%
Hilo Medical Center	440	99	539	1,331	5	63	41%
Kaiser Permanente Medical Center	1,657	0	1,657	2,469	0	5	67%
Kapiolani Medical Center for Women and Children	1,276	757	2,033	2,961	6	31	69%
Ka'u Hospital	18	0	18	55	0	37	33%
Kohala Hospital	48	31	79	98	0	19	81%
Kona Community Hospital	324	176	500	1,020	17	112	49%
Kuakini Medical Center	519	341	860	1,180	4	19	73%
Kula Hospital	153	14	167	212	0	32	79%
Kaua'i Veterans Memorial Hospital	131	21	152	275	0	24	55%
Maui Memorial Medical Center	948	160	1,108	1,583	5	246	70%
Molokai General Hospital	100	14	114	126	0	10	91%
North Hawai'i Community Hospital	335	92	427	542	0	100	79%
Pali Momi Medical Center	716	462	1,178	2,061	3	112	57%
Shriners Hospitals for Children - Honolulu	127	115	242	284	0	0	85%
Samuel Mahelona Memorial Hospital	80	20	100	134	0	10	75%
Straub Clinic & Hospital	1,177	591	1,768	2,616	5	79	68%
The Queen's Medical Center	4,686	2,572	7,258	7,909	34	469	92%
The Queen's Medical Center at Hale Pulama Mau	98	8	106	124	0	0	86%
The Queen's Medical Center West O'ahu	1,071	325	1,396	1,612	6	157	87%
Wahiawa General Hospital	2	259	261	448	1	24	58%
Wilcox Memorial Hospital	464	205	669	952	6	52	70%
<b>Total</b>	15,312	6,914	22,226	29,828	125	1,652	71%

Data contained in this report were last generated on 3/22/2023.

## Influenza Vaccination Coverage of Healthcare Personnel<sup>4</sup> by Facility

October 1, 2021 – March 31, 2022



### Influenza Vaccination Coverage References:

1. National average from the CDC's [Influenza Vaccination Coverage Among Health Care Personnel — United States, 2020–21 Influenza Season](#).
2. State average from Healthcare-Associated Infections in Hawai'i – 2020 Report: 81%.
3. The element of performance (EP), EP 5, addressed by the Joint Commission's R3 Report was eliminated in Jan 1, 2021. This EP set incremental influenza vaccination goals to try and achieve the 90% rate set by national initiatives. The new influenza vaccination target is 70%, established by Healthy People 2030. The new goal, [IID-09](#), is to "increase the proportion of people who get the flu vaccine every year," for persons aged 6 months and over, not specifically healthcare workers.

<sup>4</sup> HCP include employees, licensed independent practitioners, adult students/trainees and volunteers.

# Hospital Summary Table (2021) – Respective Healthcare-Associated Infection SIRs Compared with NHSN National Baseline

Facility Name	CLABSI	CAUTI	COLO	HYST	CDI	MRSA
Adventist Health Castle	▬▬	▬▬	△	△	✓	▬▬
Hilo Medical Center	✓	✓	▬▬	△	✓	▬▬
Kaiser Permanente Medical Center	▬▬	▬▬	▬▬	△	▬▬	▬▬
Kapiolani Medical Center for Women and Children	▬▬	△	**	△	✓	▬▬
Kona Community Hospital	▬▬	▬▬	△	△	✓	▬▬
Kuakini Medical Center	▬▬	▬▬	▬▬	**	✓	▬▬
Maui Memorial Medical Center	▬▬	▬▬	▬▬	△	✓	▬▬
North Hawai'i Community Hospital	△	△	△	△	▬▬	△
Pali Momi Medical Center	▬▬	▬▬	▽	△	✓	▬▬
Shriner's Hospital for Children	**	**	**	**	△	△
Straub Clinic & Hospital	✓	▬▬	▬▬	△	✓	▬▬
The Queen's Medical Center	✓	▬▬	▬▬	▬▬	✓	▬▬
The Queen's Medical Center at Hale Pulama Mau	△	△	**	**	▬▬	△
The Queen's Medical Center – West O'ahu	▬▬	▬▬	▬▬	△	▬▬	▬▬
Wahiawa General Hospital	△	△	△	△	▬▬	△
Wilcox Memorial Hospital	▬▬	▬▬	▬▬	△	▬▬	△
Hawai'i Total – Acute care	✓	▬▬	▬▬	▬▬	✓	✓
Kahuku Medical Center†	**	**	**	**	**	**
Kaua'i Veterans Memorial Hospital†	△	△	△	△	▬▬	△
Samuel Mahelona Memorial Hospital†	**	**	**	**	**	△

† CAHs utilize different models to calculate the number of predicted infections, and are therefore separated for CLABSI, CAUTI, CDI, & MRSA Bacteremia

## Legend:

- ✓ = Number of infections was lower (better) than predicted
- ▬▬ = Number of infections was similar (not significantly different) than predicted
- ▽ = Number of infections was higher (worse) than predicted
- △ = The facility had too few device days/procedures or patient days to calculate a reliable SIR. When SIR cannot be calculated, a comparison to national data is not possible.
- \*\* = Surveillance not mandated for reporting into NHSN on this device or procedure, or procedure not performed at this facility.

## Hospital Summary Table (2021) – SIRs

Facility Name	CLABSI	CAUTI	COLO	HYST	CDI	MRSA
Adventist Health Castle	0.63	0.98	Too Small to Calculate	Too Small to Calculate	0.08	0.00
Hilo Medical Center	0.00	0.00	1.44	Too Small to Calculate	0.39	0.00
Kaiser Permanente Medical Center	0.84	1.56	0.66	Too Small to Calculate	1.39	0.45
Kapiolani Medical Center for Women and Children	0.89	Too small to calculate	**	Too Small to Calculate	0.39	0.00
Kona Community Hospital	0.00	2.28	Too Small to Calculate	Too Small to Calculate	0.30	0.68
Kuakini Medical Center	0.36	0.86	0.91	**	0.28	0.00
Maui Memorial Medical Center	0.86	0.73	1.10	Too Small to Calculate	0.38	0.38
North Hawai'i Community Hospital	Too small to calculate	Too small to calculate	Too Small to Calculate	Too Small to Calculate	0.00	Too Small to Calculate
Pali Momi Medical Center	0.54	0.00	2.58	Too Small to Calculate	0.00	0.00
Shriner's Hospital for Children	**	**	**	**	Too small to calculate	Too Small to Calculate
Straub Clinic & Hospital	0.25	0.53	1.91	Too Small to Calculate	0.63	0.77
The Queen's Medical Center	0.61	0.98	0.60	0.00	0.53	0.84
The Queen's Medical Center at Hale Pulama Mau	Too small to calculate	Too small to calculate	**	**	1.22	Too Small to Calculate
The Queen's Medical Center — West O'ahu	0.00	0.44	0.00	Too Small to Calculate	0.59	0.46
Wahiawa General Hospital	Too small to calculate	Too small to calculate	Too Small to Calculate	Too Small to Calculate	0.00	Too Small to Calculate
Wilcox Memorial Hospital	0.73	1.69	1.39	Too Small to Calculate	0.59	Too Small to Calculate
<b>Hawai'i Total — Acute care</b>	<b>0.62</b>	<b>0.93</b>	<b>1.09</b>	<b>0.70</b>	<b>0.50</b>	<b>0.46</b>

Too Small = The number of predicted infections is less than 1.0, the number of device days or procedures in that facility is too low to calculate a reliable SIR

\*\* = Surveillance not mandated for reporting into NHSN on this device or procedure, or procedure not performed at this facility.

## Conclusion

In 2021, a total of 327 HAIs were reported, including 162 CDI, 69 CAUTI, 50 CLABSI, 30 SSIs, and 16 MRSA bacteremia events. Overall, the statewide Standardized Infection Ratios (SIR) were lower than 1.0 with exception of COLO, however, when compared with the previous year, there was an increase in all HAIs, except for HYST SSI events, between 2020 and 2021.

Unfortunately, SIRs previously presented under the old baseline (e.g. 2012-2015 data) cannot be directly compared to SIRs collected under the [updated baseline](#) (based on 2015 data). HAI Reports from 2017 forward will compare two years' worth of data (e.g. 2016 vs 2017).

Condition	2020			2021			Difference in Observed HAIs	Relative Change: 2020 vs 2021 State SIR**
	Observed	Predicted	SIR	Observed	Predicted	SIR		
CLABSI (Acute Care ICUs & Medical/Surgical Wards)	30	78.56	0.38	50	81.20	0.62	+20	<b>61% Increase</b>
CAUTI (Acute Care ICUs & Medical/Surgical Wards)	48	69.93	0.69	69	74.06	0.93	+21	<b>36% Increase</b>
COLO	18	23.93	0.75	27	24.79	1.09	+9	<b>45% Increase</b>
HYST	6	4.04	1.49	3	4.30	0.70	-3	<b>53% Decrease</b>
CDI	142	294.89	0.48	162	324.19	0.50	+20	<b>4% Increase</b>
MRSA	8	31.50	0.25	16	34.78	0.46	+8	<b>81% Increase</b>

\*\*Calculated using the NHSN Statistics Calculator: Comparing Two SIRs.

Hawai'i continues to work towards longer-term goals. In 2009, the U.S. DHHS developed [the National Action Plan to Prevent Health Care-Associated Infections: Road Map to Elimination](#), which identified the HAI measures recommended for continued monitoring and provided a roadmap for HAI prevention in acute care hospitals. The Action Plan included 5-year Prevention Targets to be achieved by 2013. In October 2016, U.S. DHHS announced new [Prevention Targets](#) to reach by 2020. In 2021, Hawai'i achieved the target SIRs only for CDIs and MRSA Bacteremia events (see below).

Condition	2020 Target	Hawai'i 2021 SIR	Target:
CLABSI (Acute Care ICUs & Medical/Surgical Wards)	0.50 SIR or 50% lower than predicted	0.62 SIR or 38% lower than predicted	Not Achieved
CAUTI (Acute Care ICUs & Medical/Surgical Wards)	0.75 SIR or 25% lower than predicted	0.93 SIR or 7% lower than predicted	Not Achieved
SSI (combined)	0.75 SIR or 25% lower than predicted	1.03 SIR or 0.03 % higher than predicted	Not Achieved
CDI	0.70 SIR or 30% lower than predicted	0.50 SIR or 50% lower than predicted	Achieved
MRSA	0.75 SIR or 25% lower than predicted	0.46 SIR or 54% lower than predicted	Achieved

HDOH, working with stakeholders, will continue to monitor trends and promote prevention strategies with a goal of elimination of HAIs as a public health concern.



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## For questions about this report, please contact:

Healthcare-Associated Infections Branch  
State of Hawai'i Department of Health  
1250 Punchbowl St, Suite 435  
Honolulu, HI, 96822

Email: [doh.docd.hai@doh.Hawaii.gov](mailto:doh.docd.hai@doh.Hawaii.gov)

Website: <http://health.Hawaii.gov/docd/dib/healthcare-associated-infections-hais/>

## Appendix 1 – Acronyms:

<b>CAUTI</b>	Catheter associated urinary tract infections
<b>CDC</b>	Centers for Disease Control and Prevention
<b>CDI</b>	<i>Clostridioides difficile</i> infection
<b>CI</b>	Confidence interval
<b>CLABSI</b>	Central line-associated bloodstream infections
<b>CMS</b>	Centers for Medicare and Medicaid Services
<b>COLO</b>	Colon surgeries
<b>DHHS</b>	Department of Health and Human Services
<b>HAIs</b>	Healthcare-associated infections
<b>HCP</b>	Healthcare personnel
<b>HDOH</b>	Hawai'i Department of Health
<b>HYST</b>	Abdominal hysterectomy
<b>ICU</b>	Intensive care unit (also known as critical care unit)
<b>IQR</b>	Inpatient quality reporting
<b>MBQIP</b>	Medicare Beneficiary Quality Improvement Project
<b>MRSA</b>	Methicillin-resistant <i>Staphylococcus aureus</i>
<b>NHSN</b>	National Healthcare Safety Network
<b>NICU</b>	Neonatal intensive (critical) care unit
<b>SIR</b>	Standardized infection ratio: $SIR = \frac{\text{Observed HAIs}}{\text{Expected HAIs}}$
<b>SSI</b>	Surgical site infections
<b>TJC</b>	The Joint Commission

## Appendix 2 – CLABSI in Acute Care ICUs

Central Line-Associated bloodstream Infections in ICU locations January 1, 2021 through December 31, 2021						
Facility Name	Hospital Performance Compared To NHSN National Data	Number of Infections	Number of Predicted Infections	Number of Central Line Days	Standardized Infection Ratio	95% Confidence Interval For SIR
Adventist Health Castle		1	1.12	1,275	0.90	0.05, 4.42
Hilo Medical Center		0	1.50	1,715	0.00	0, 2.00
Kaiser Permanente Medical Center		4	4.03	3,473	0.99	0.32, 2.40
Kapiolani Medical Center for Women and Children		11	14.89	12,331	0.74	0.39, 1.28
Kuakini Medical Center		0	1.27	1,447	0.00	0, 2.37
Maui Memorial Medical Center		1	2.10	2,785	0.48	0.02, 2.35
North Hawai'i Community Hospital		0	0.12	181	Too small to calculate.	
Pali Momi Medical Center		1	2.24	2,564	0.45	0.02, 2.20
Straub Clinic & Hospital		2	3.80	4,344	0.53	0.09, 1.74
The Queen's Medical Center		11	15.19	13,458	0.72	0.38, 1.26
The Queen's Medical Center — West O'ahu		0	1.06	1,078	0.00	0, 2.84
Wahiawa General Hospital		1	0.15	192	Too small to calculate.	
Wilcox Memorial Hospital		1	0.42	624	Too small to calculate.	
Hawai'i Total — Acute care		33	47.87	45,467	0.69	0.48, 0.96
Kaua'i Veterans Memorial Hospital		0	0.01	36	Too small to calculate.	

Note: Reporting in Hawai'i is linked to CMS IQR reporting requirements. Source of national baseline data: 2015 NHSN CLABSI Data. Data contained in this report were last generated on November 29, 2022.

### Legend:

- = Number of infections was **lower (better)** than predicted
- = Number of infections was **similar (not significantly different)** to predicted
- = Number of infections was **higher (worse)** than predicted
- = ICU patients had too few central line days to calculate a reliable SIR. When SIR cannot be calculated, a comparison to national data is not possible.
- = Recognizes hospitals with zero infections during the specified time period
- Too Small to Calculate = Predicted number of infections was less than one

## Appendix 3 – CAUTIs in Acute Care ICUs

Catheter Associated Urinary Tract Infections in ICUs locations January 1, 2021 through December 31, 2021						
Facility Name	Hospital Performance Compared To NHSN National Data	Number of Infections	Number of Predicted Infections	Number of Catheter Days	Standardized Infection Ratio	95% Confidence Interval For SIR
Adventist Health Castle		2	1.19	1,426	1.68	0.28, 5.56
Hilo Medical Center		0	2.58	3,094	0.00	0, 1.16
Kaiser Permanente Medical Center		9	3.81	2,799	2.36	1.15, 4.33
Kapiolani Medical Center for Women and Children		1	0.64	572	Too small to calculate.	
Kuakini Medical Center		0	1.35	1,623	0.00	0, 2.21
Maui Memorial Medical Center		2	2.10	2,347	0.95	0.16, 3.14
North Hawaii Community Hospital		0	0.15	275	Too small to calculate.	
Pali Momi Medical Center		0	1.77	2,117	0.00	0, 1.70
Straub Clinic & Hospital		1	3.46	4,155	0.29	0.01, 1.42
The Queens Medical Center		21	22.79	11,753	0.92	0.59, 1.38
The Queen's Medical Center West Oahu		1	1.49	1,405	0.67	0.03, 3.30
Wahiawa General Hospital		0	0.18	282	Too small to calculate.	
Wilcox Memorial Hospital		1	0.41	743	Too small to calculate.	
<b>Hawai'i Total — Acute care</b>		<b>38</b>	<b>41.93</b>	<b>32,591</b>	<b>0.91</b>	<b>0.65, 1.23</b>
Kaua'i Veterans Memorial Hospital		0	0.05	81	Too small to calculate.	

Note: Reporting in Hawai'i is linked to CMS IQR reporting requirements. Source of national baseline data: 2015 NHSN CAUTI Data. Data contained in this report were last generated on November 29, 2022.

### Legend:

- = Number of infections was **lower (better)** than predicted
- = Number of infections was **similar (not significantly different)** to predicted
- = Number of infections was **higher (worse)** than predicted
- = ICU patients had too few catheter days or number of infections predicted to calculate a reliable SIR. When SIR cannot be calculated, a comparison to national data is not possible.
- = Recognizes hospitals with zero infections during the specified time period
- Too Small to Calculate = Predicted number of infections was less than one