



HAWAII STATE
DEPARTMENT
OF HEALTH



HEALTHCARE- ASSOCIATED INFECTIONS IN HAWAII

2015 REPORT

Table of Contents:

Executive Summary	3
Introduction	4
Methods	6
Limitations	7
Instructions For Reading The Graphs And Tables	8
Central Line-Associated Bloodstream Infections (CLABSI) Fact Sheet	9
SIR Graph For CLABSI in ICUs & Medical/Surgical Wards	10
SIR Table For CLABSI in ICUs & Medical/Surgical Wards	11
Catheter Associated Urinary Tract Infections (CAUTI) Fact Sheet	12
SIR Graph For CAUTIs in ICUs & Medical/Surgical Wards.....	13
SIR Table For CAUTIs in ICUs & Medical/Surgical Wards	14
Inpatient Colon Surgery—Surgical Site Infection (SSI) Fact Sheet	15
SIR Graph For Inpatient Colon Surgery SSI	16
SIR Table For Inpatient Colon Surgery SSI	17
Inpatient Abdominal Hysterectomy—SSI Fact Sheet	18
SIR Graph For inpatient Abdominal Hysterectomy—SSI	19
SIR Table For inpatient Abdominal Hysterectomy—SSI.....	20
Inpatient <i>Clostridium difficile</i> Infection (CDI) Fact Sheet	21
SIR Graph For Inpatient CDI Infections.....	22
SIR Table For inpatient CDI Infections	23
Inpatient Methicillin-Resistant <i>Staphylococcus aureus</i> (MRSA) Bacteremia Fact Sheet	24
SIR Graph For Inpatient MRSA Bacteremia	25
SIR Table For Inpatient MRSA Bacteremia	26
Influenza Vaccination of Healthcare Personnel Fact Sheet	27
Healthcare Personnel Influenza Vaccination Table	28
Influenza Vaccination Coverage by Facility Graph.....	29
Hospital Summary Table (2015) – Hospital Performance Compared to NHSN National Data	30
Hospital Summary Table (2015) – SIRs	31
Conclusion	32
Acknowledgements	33
Appendix 1 – Acronyms	34
Appendix 2 – CLABSIs in ICUs	35
Appendix 3 – CAUTIs in ICUs	36
Appendix 4 - HAI Advisory Committee	37

Executive Summary:

Healthcare-associated infections (HAIs) are infections associated with receiving treatment in a healthcare setting. According to a 2011 survey by the Center for Disease Control and Prevention (CDC), about 1 in 25 hospital patients in the United States had at least one healthcare-associated infection. The total cost of HAIs to U.S. hospitals has been estimated at almost \$33 billion per year.

The following report includes information about specific HAIs among patients who received treatment in Hawaii's acute care facilities in 2015, as well as a report of influenza vaccination coverage in Hawaii facilities for the 2015–2016 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. Please note that, beginning in 2015, facilities were required to report central line-associated bloodstream infections (CLABSI) and catheter associated urinary tract infections (CAUTI) for medical and surgical wards in addition to intensive care units (ICUs).

Overall, the statewide infection rates were lower than predicted; the total observed number of HAIs in Hawaii hospitals was almost 51% lower than predicted based on national data. We saw decreases in all HAIs assessed in the 2015 report (below). Continued efforts in infection prevention are necessary to maintain our successes in HAI reduction. For each condition in the report, compared with the nationally predicted levels, there were (* denotes statistically significant decrease):

- 89% fewer CLABSIs*
- 56% fewer CAUTIS*
- 21% fewer colon (COLO) surgical site infections (SSIs)
- 29% fewer abdominal hysterectomy (HYST) SSIs
- 38% fewer *Clostridium difficile* infections (CDI)
- 48% fewer methicillin-resistant *Staphylococcus aureus* (MRSA) bacteremia events

Hawaii continues to work towards longer term goals in HAI reduction. In 2009, the U.S. Department of Health & Human Services (DHHS) developed HAI Prevention Targets to be achieved by 2013. This year, Hawaii has achieved the targets for each condition, with the exception of SSIs. As a measure of national success, CDC will be calculating a new baseline; we anticipate this will drive prevention targets to be closer to having zero HAIs in facilities. Additional strategies may be needed to address SSIs and to further reduce HAIs in general to achieve these anticipated updated goals.

Influenza vaccination coverage of 90% of a facility's healthcare personnel is a DHHS Healthy People 2020 goal¹; The Joint Commission (TJC) requires facilities set incremental goals to achieve this goal². Vaccination coverage by hospitals in our state ranged from 58% to 92%, and the overall state average was 77% for the 2015–2016 influenza season. To provide context, the Hawaii average was 74% during the 2014–2015 influenza season, and the national average was 85%³. The state average for the 2015–2016 influenza season showed improvement, but only two facilities have attained the Healthy People 2020 goal, indicating that this continues to be an area for increased focus by facilities.

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 and individual patient situations. Hawaii's healthcare sector continues to stay abreast and even ahead of national peers in controlling the incidence of HAIs. Continued vigilance and education are necessary to ensure HAIs become the exceptions rather than accepted consequences of hospitalizations.

¹ http://www.healthypeople.gov/node/6361/data_details

² http://www.jointcommission.org/assets/1/18/R3_Report_Issue_3_5_18_12_final.pdf

³ <http://www.cdc.gov/flu/fluview/healthcare/trends1314-1415/trends-1415.html>

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 a 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 a 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). 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 Hawaii. New technologies, more teamwork, and a reliance on evidence-based practices have had a considerable impact on safety and quality of care. Just 15 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 CDC's most [recent HAI Progress report](#) (assessing 2014 data), shows that the nation continues to strive to reduce HAIs across the board. Hawaii's standardized infection ratios (SIRs) showed improvement when compared with the national SIR for all reportable conditions, except for colon (COLO) surgical site infections (SSIs). Additionally, among the hospitals with enough data to calculate an SIR, there were no facilities with a significantly higher (worse) SIR compared with national SIRs for central line-associated bloodstream infections (CLABSIs), catheter associated urinary tract infections (CAUTIs), and *Clostridium difficile* infections (CDIs) ([Hawaii Progress Fact Sheet](#)).

The following report includes information about HAIs among patients who received treatment requiring specific types of devices or procedures in Hawaii's acute care facilities in 2015. In 2011, the Hawaii legislature [passed HRS §325-2.5](#), relating to HAI reporting. Healthcare facilities have granted the Hawaii 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 Hawaii HAI rates using methodology developed by CDC and CMS. The [first Hawaii 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 SSIs after abdominal hysterectomy (HYST) and COLO surgeries. The following year the 2013 Hawaii HAI Report added data on methicillin-resistant *Staphylococcus aureus* (MRSA) bacteremia, CDI infections, and healthcare personnel (HCP) influenza vaccination rates. These data were presented for the entire facility, respectively. This year's report contains CLABSI and CAUTI data for medical and surgical wards (in addition to ICU data) in accordance with IQR reporting requirements.

Figure 1 shows the location of each hospital included in this report. Hospitals not part of the CMS IQR program were excluded, including: Kahuku Medical Center, Kau Hospital, Kohala Hospital, Kula Hospital, Lanai Community Hospital, Leahi Hospital, Maluhia, Molokai General Hospital, and Tripler Army Medical Center. While Kapiolani Medical Center for Women & Children, Kauai Veterans Memorial Hospital, Hale Hoola Hamakua, Samuel Mahelona 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.

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.

These 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 HAI rate, both within the facility as a whole and at the level of individual provider practices and individual patient situations. However, these infections are largely preventable when healthcare providers use infection prevention best practices and national recommendations. Hawaii's healthcare sector continues to stay abreast and even ahead of national peers in controlling the incidence of HAIs. Continued vigilance and education are necessary to ensure HAIs become exceptions rather than accepted consequences of hospitalizations.

Locations of Hospitals Included in the 2015 Hawaii HAI Report

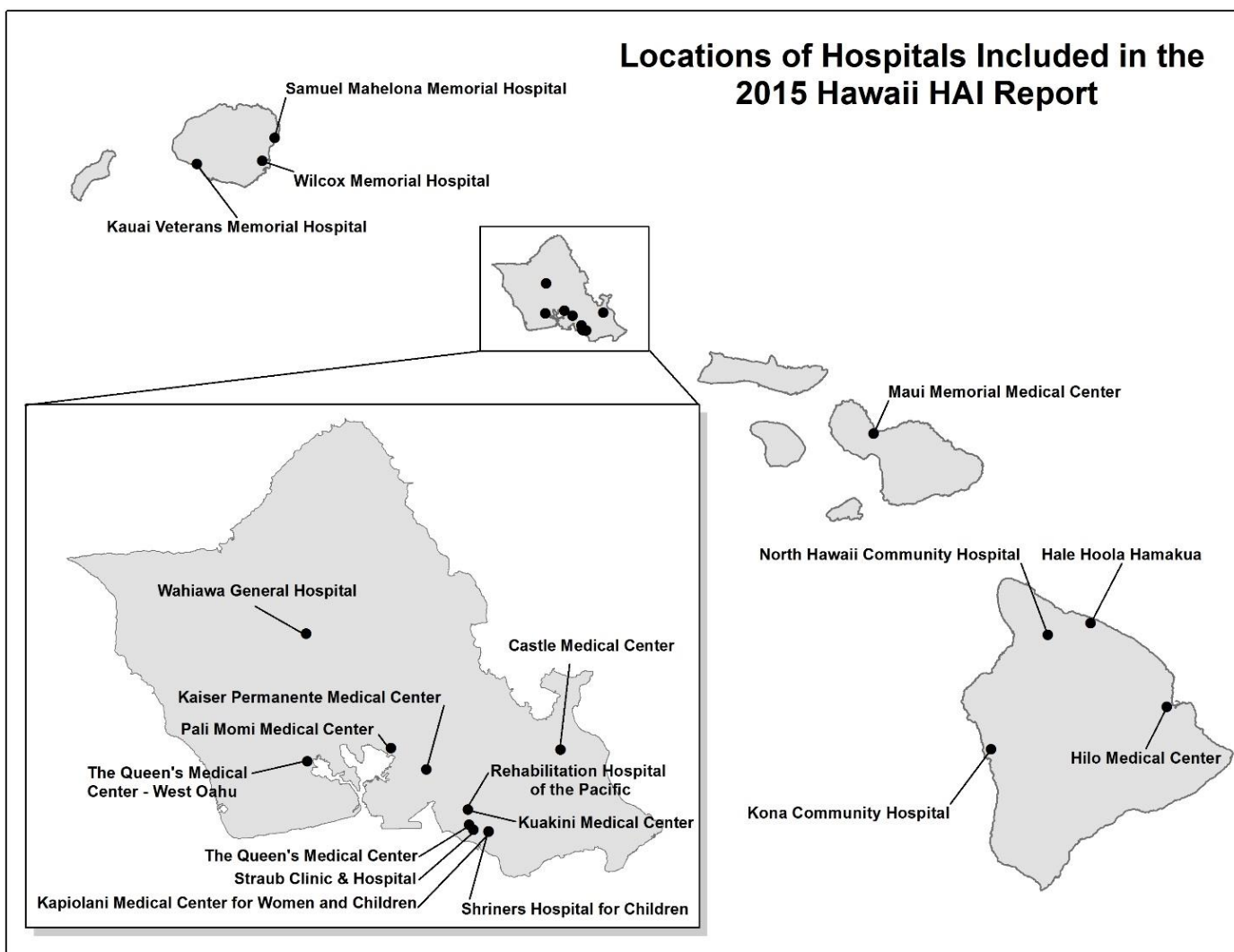


Figure 1: Locations of hospitals included in the 2015 HAI Report

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 17,000 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 and trending across facilities.

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 Hawaii 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 Hawaii'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. Influenza vaccination coverage of 90% of a facility's healthcare personnel is a U.S. Department of Health and Human Services Healthy People 2020 goal⁴; The Joint Commission on Accreditation (TJC) requires facilities set incremental goals to achieve the 90% rate⁵. For the purposes of this report, facility benchmarks were set at 90% (the Healthy People 2020 goal), 85% (the 2014–2015 National average) and 74% (the 2014–2015 state average). Additionally, data are included from the Rehabilitation Hospital of the Pacific, an inpatient rehabilitation facility participating in the CMS Inpatient Rehabilitation Facility Quality Reporting Program for HCP influenza vaccination; it should be noted that rehabilitation facilities may not be comparable with acute care facilities.

⁴ http://www.healthypeople.gov/node/6361/data_details

⁵ http://www.jointcommission.org/assets/1/18/R3_Report_Issue_3_5_18_12_final.pdf

Limitations:

These reports cover data from January 1, 2015 to December 31, 2015, and the data were downloaded from NHSN on July 7, 2016; any changes made to the data after this date are not reflected in this report. The 2015 data presented in this report have not been validated. Validation is defined as a survey and audit process which would be performed by HDOH to assure quality of NHSN surveillance and reporting. However, the 2015 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 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 pooled averages from national HAI data collected during each condition's respective "baseline period" (see table below). Data collected in 2015 will be used as the new baseline for 2016 and beyond; it is important to note that next year's and future reports will not be comparable with reports using the earlier baselines.

Condition	Baseline	Reporting Location	Reporting Start Date
CLABSI	2006–2008	Adult, Pediatric, and Neonatal ICUs	January 2011
CAUTI	2009	Adult and Pediatric ICUs	January 2012
SSI: COLO & HYST	2006–2008	All inpatient procedures	January 2012
MRSA Bacteremia	2010–2011	Facility wide—inpatient	January 2013
CDI	2010–2011	Facility wide—inpatient	January 2013








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 CI using an error bar; please see the methods section for definitions of the SIR and CI. For hospitals with smaller volumes, the error bar will be wider.

The closer 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 or procedures in that facility is too low to calculate a reliable SIR. For this reason, a SIR could not be calculated for every facility in Hawaii.

There are four possible results 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 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?

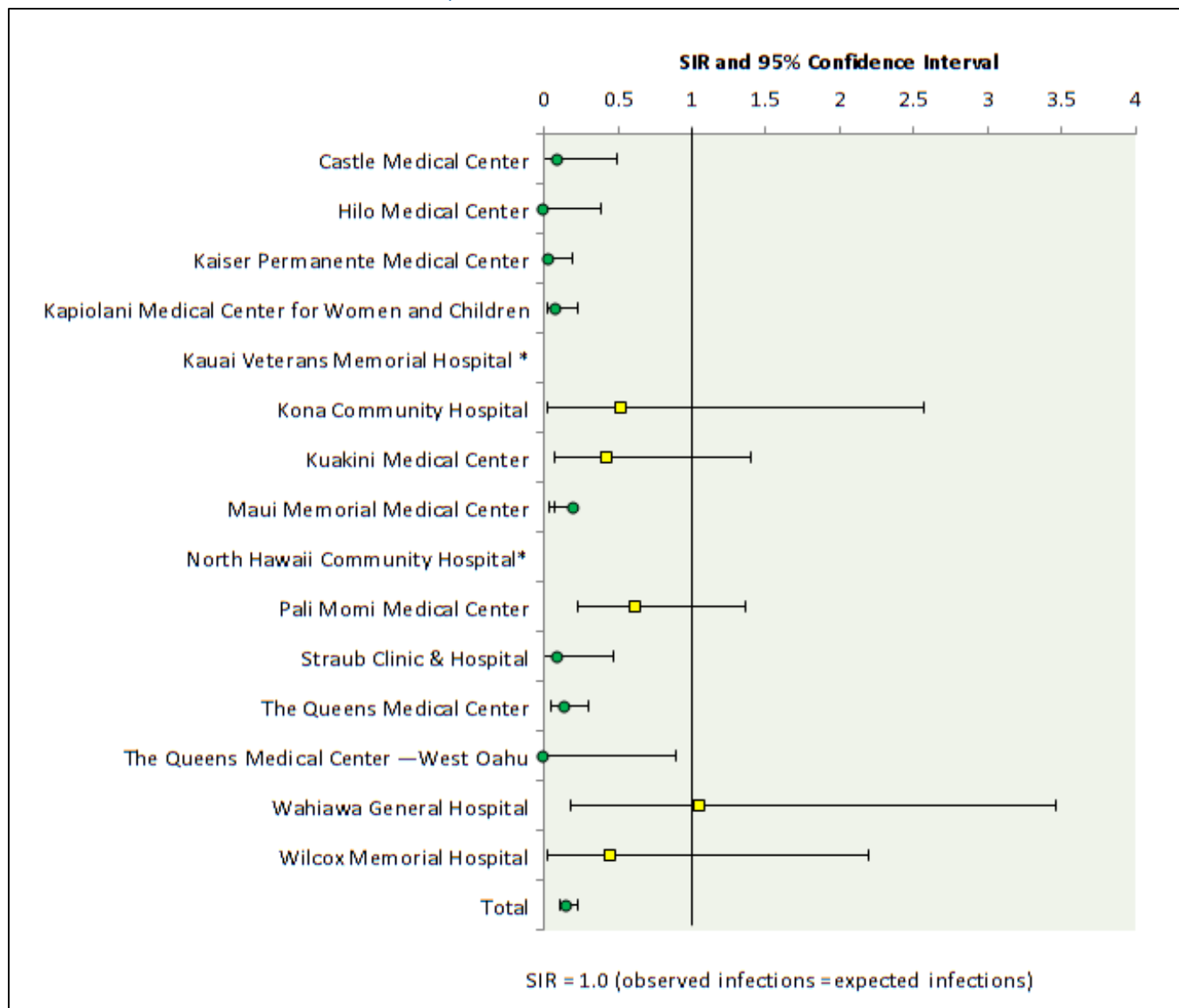
- Ask your doctors and nurses to explain why you need the central line and how long you will have it.
- Make sure all doctors and nurses caring for you clean their hands with soap and water or an alcohol-based hand rub before and after caring for you. If you do not see your providers clean their hands, 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 2015, 25 CLABSIs were reported in ICU & medical/surgical ward locations within Hawaii hospitals. This was 84% lower than predicted.
- Hawaii achieved the DHHS 2013 HAI prevention target (SIR of 0.5) with an SIR of 0.16.
- A statistically significant decrease was observed between 2014 and 2015 CLABSI SIRs.

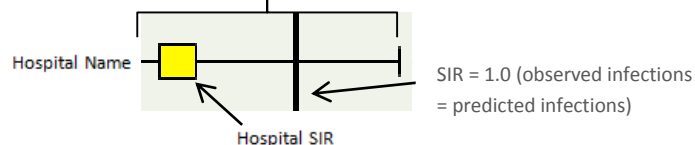
SIRs for Central Line-Associated Bloodstream Infections in ICUs & Medical/Surgical Wards

January 1, 2015 – December 31, 2015



Legend

Confidence Interval: Range of certainty for the estimate



- = 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, 2015 through December 31, 2015

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
Castle Medical Center		1	10.10	7,151	0.10	0.01, 0.49
Hilo Medical Center 		0	7.70	5,183	0.00	0.00, 0.39
Kaiser Permanente Medical Center		1	26.08	15,318	0.04	0.00, 0.19
Kapiolani Medical Center for Women and Children		3	34.92	14,444	0.09	0.02, 0.23
Kauai Veterans Memorial Hospital 		0	0.69	528	Too Small To Calculate	
Kona Community Hospital		1	1.92	1,485	0.52	0.03, 2.56
Kuakini Medical Center		2	4.75	3,606	0.42	0.07, 1.39
Maui Memorial Medical Center		2	9.87	7,190	0.20	0.03, 0.65
North Hawaii Community Hospital		1	0.78	601	Too Small To Calculate	
Pali Momi Medical Center		5	8.13	6,325	0.62	0.23, 1.36
Straub Clinic & Hospital		1	10.43	7,637	0.10	0.01, 0.47
The Queen's Medical Center		5	36.24	22,252	0.14	0.05, 0.31
The Queens Medical Center — West Oahu 		0	3.37	2,562	0.00	0.00, 0.89
Wahiawa General Hospital		2	1.91	1,230	1.05	0.18, 3.46
Wilcox Memorial Hospital		1	2.24	1,720	0.45	0.02, 2.20
Hawaii Total		25	159.13	97,232	0.16	0.10, 0.23

Note: Reporting in Hawaii is linked to CMS IQR reporting requirements. Shriners Hospital for Children is not mandated to report CLABSI to NHSN. Source of national baseline data: NHSN Report, *Am J Infect Control* 2009; 37:783-805. Data contained in this report were last generated on July 7, 2016.

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 in ICU locations



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?

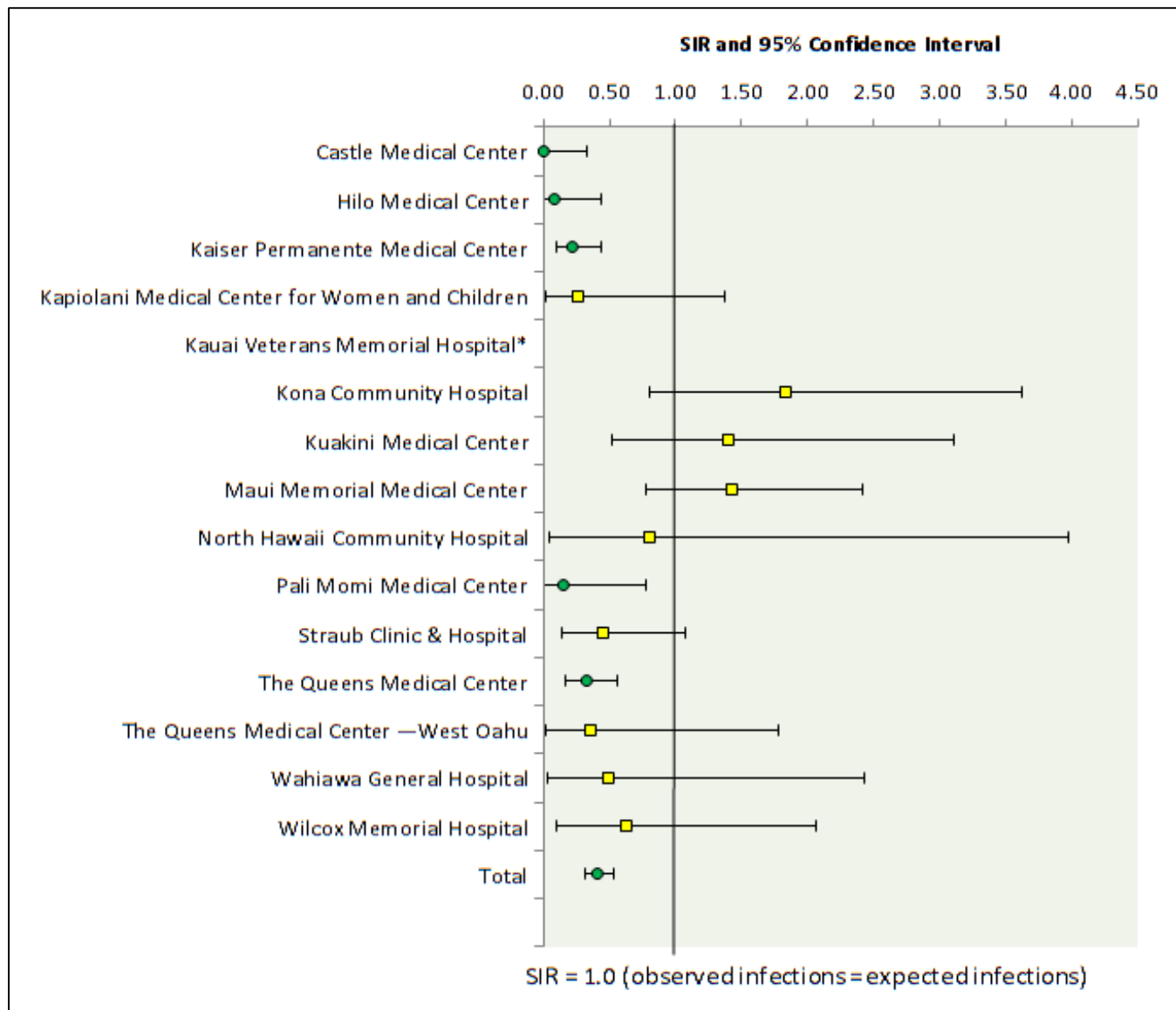
- Ask your healthcare provider each day if you still need the catheter.
- Make sure all doctors and nurses caring for you clean their hands with soap and water or an alcohol-based hand rub before and after caring for you. If you do not see your providers clean their hands, please ask them to do so.
- 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 2015, 54 CAUTIs were reported in ICU & medical/surgical ward locations within Hawaii hospitals. This was 59% lower than predicted.
- Hawaii achieved the DHHS 2013 HAI prevention target (SIR of 0.75) with an SIR of 0.41.
- A statistically significant decrease was observed between 2014 and 2015 CLABSI SIRs.

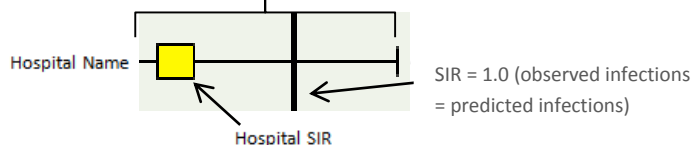
SIRs for Catheter Associated Urinary Tract Infections in ICUs & Medical/Surgical Wards

January 1, 2015 – December 31, 2015



Legend



Confidence Interval: Range of certainty for the estimate



- = 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, 2015 through December 31, 2015

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
Castle Medical Center 		0	8.98	5405	0.00	0.00, 0.33
Hilo Medical Center		1	11.14	6778	0.09	0.00, 0.44
Kaiser Permanente Medical Center		7	31.79	16698	0.22	0.10, 0.44
Kapiolani Medical Center for Women and Children		1	3.60	1640	0.27	0.01, 1.37
Kauai Veterans Memorial Hospital 		0	0.83	475	Too Small To Calculate	
Kona Community Hospital		7	3.82	2606	1.83	0.80, 3.62
Kuakini Medical Center		5	3.57	2477	1.40	0.51, 3.10
Maui Memorial Medical Center		12	8.44	5960	1.42	0.77, 2.42
North Hawaii Community Hospital		1	1.24	839	0.81	0.04, 3.98
Pali Momi Medical Center		1	6.37	4297	0.16	0.01, 0.77
Straub Clinic & Hospital		4	8.96	5959	0.45	0.14, 1.08
The Queen's Medical Center		11	34.07	15837	0.32	0.17, 0.56
The Queens Medical Center — West Oahu		1	2.77	1950	0.36	0.02, 1.78
Wahiawa General Hospital		1	2.03	1101	0.49	0.03, 2.44
Wilcox Memorial Hospital		2	3.20	2143	0.62	0.11, 2.06
Hawaii Total		54	130.81	74165	0.41	0.31, 0.54

Note: Reporting in Hawaii is linked to CMS IQR reporting requirements. Shriners Hospital for Children is not mandated to report CAUTI to NHSN. Source of national baseline data: NHSN Report, *Am J Infect Control* 2011; 39:349-367. Data contained in this report were last generated on July 7, 2016.

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)?

A 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 a 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 a SSI?

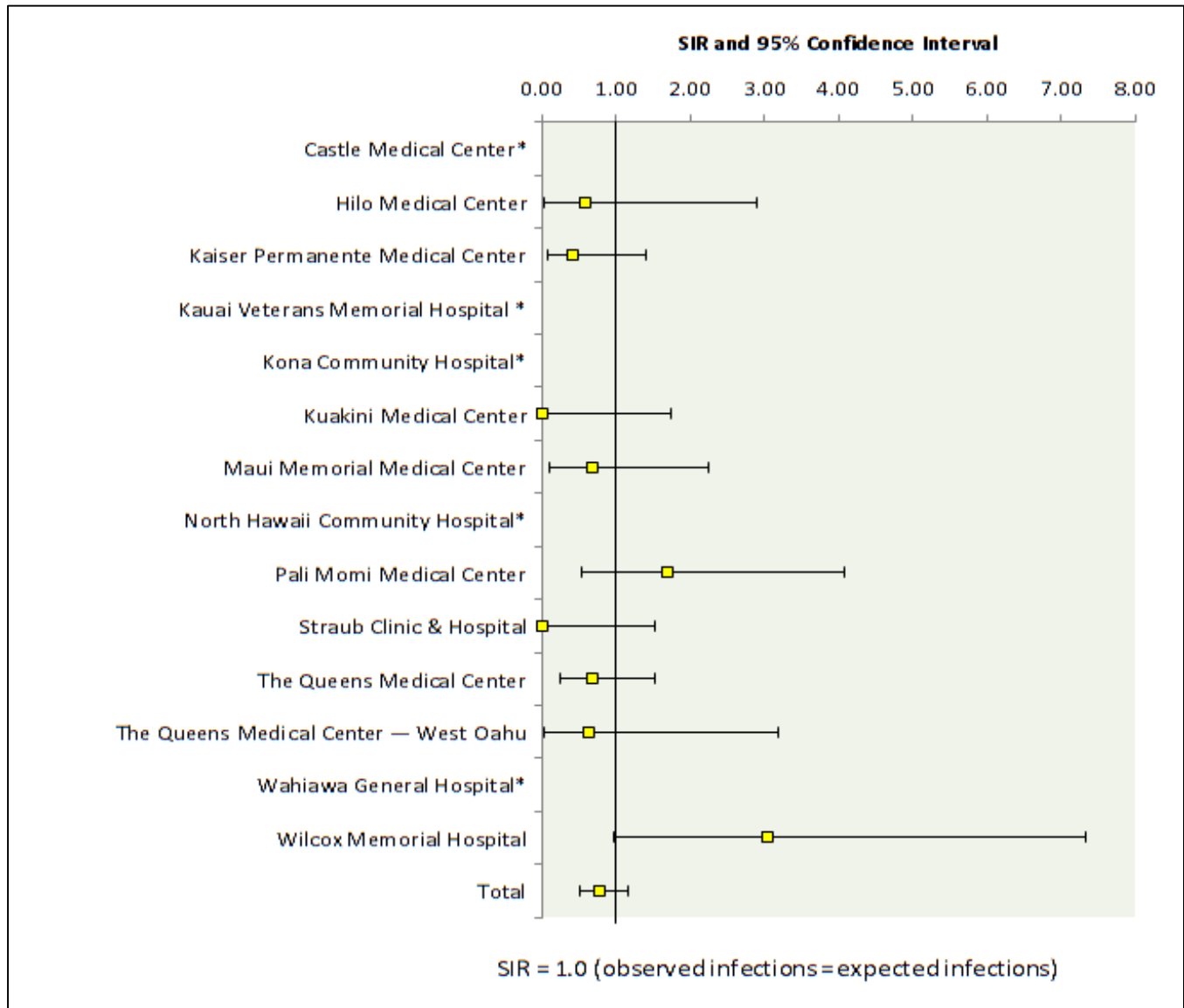
- Make sure your healthcare providers clean their hands before and after examining you, either with soap and water or an alcohol-based hand rub. If you do not see your providers clean their hands, please ask them to do so.
- Do not shave surgical area with a razor before surgery.
- Speak up if someone 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 2015, 22 COLO SSIs were reported within Hawaii hospitals. This was 21% lower than predicted.
- Hawaii did not achieve the DHHS 2013 HAI prevention target (SIR of 0.75), with an SIR of 0.78.
- No statistical difference was observed between 2014 and 2015 COLO SSI SIRs.

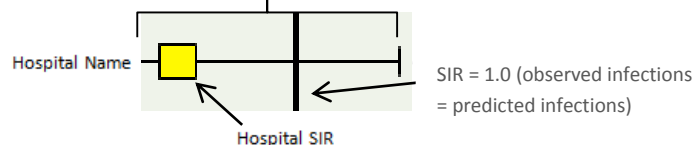
SIRs for Inpatient Colon Surgery—Surgical Site Infection

January 1, 2015 – December 31, 2015



Legend





















Confidence Interval: Range of certainty for the estimate



- = 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, 2015 through December 31, 2015**

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
Castle Medical Center		2	0.95	33	Too Small To Calculate	
Hilo Medical Center		1	1.70	57	0.59	0.03, 2.9
Kaiser Permanente Medical Center		2	4.74	179	0.42	0.07, 1.4
Kauai Veterans Memorial Hospital 		0	0.17	7	Too Small To Calculate	
Kona Community Hospital		1	0.66	30	Too Small To Calculate	
Kuakini Medical Center 		0	1.73	74	0.00	0.00, 1.73
Maui Memorial Medical Center		2	2.95	88	0.68	0.11, 2.24
North Hawaii Community Hospital 		0	0.43	16	Too Small To Calculate	
Pali Momi Medical Center		4	2.36	99	1.70	0.54, 4.09
Straub Clinic & Hospital 		0	1.95	83	0.00	0.00, 1.53
The Queen's Medical Center		5	7.22	218	0.69	0.25, 1.53
The Queens Medical Center — West Oahu		1	1.55	56	0.64	0.03, 3.18
Wahiawa General Hospital 		0	0.18	6	Too Small To Calculate	
Wilcox Memorial Hospital		4	1.32	38	3.04	0.97, 7.34
Hawaii Total		22	27.91	984	0.79	0.51, 1.17

Note: Reporting in Hawaii 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: 2006–2008 NHSN SSI Data. Data contained in this report were last generated on July 7, 2016.

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)?

A 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 a 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 a SSI?

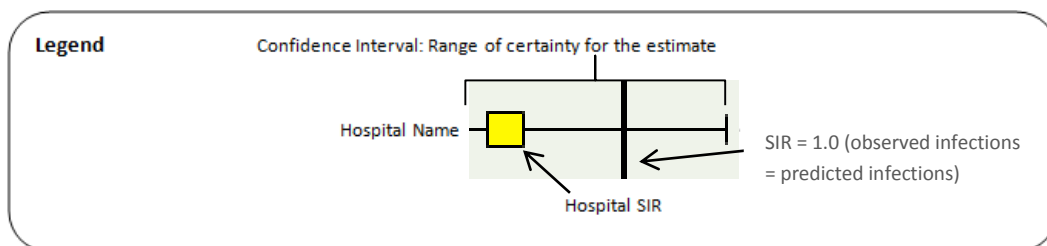
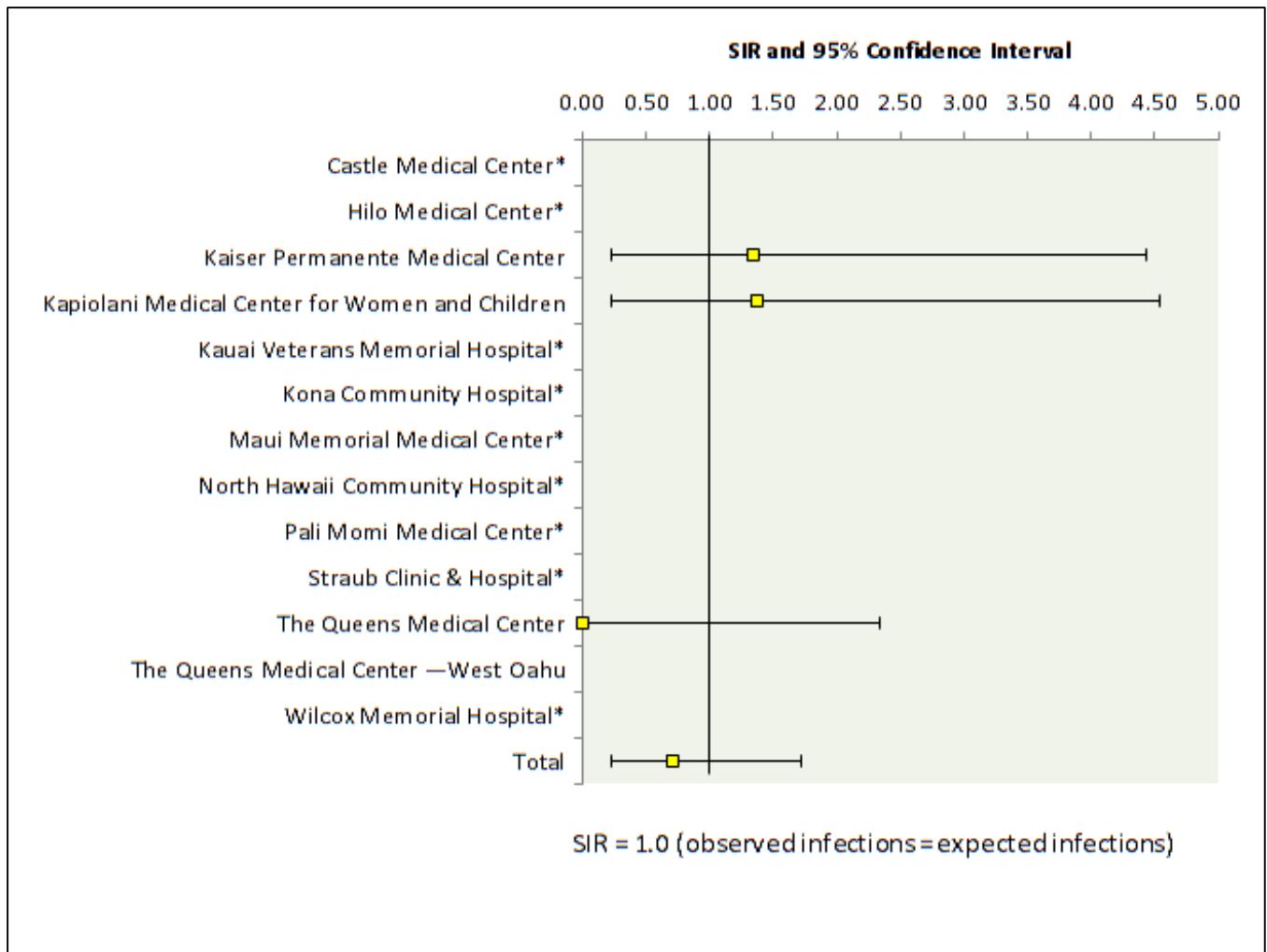
- Make sure your healthcare providers clean their hands before and after examining you, either with soap and water or an alcohol-based hand rub. If you do not see your providers clean their hands, please ask them to do so.
- Do not shave surgical area with a razor prior to surgery.
- Speak up if someone 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 2015, 4 HYST SSIs were reported within Hawaii hospitals. This was 29% lower than predicted.
- Hawaii did achieve the DHHS 2013 HAI prevention target (SIR of 0.75), with an SIR of 0.71.
- No statistical difference was observed between 2014 and 2015 HYST SSI SIRs.


























SIRs for Inpatient Abdominal Hysterectomy—Surgical Site Infection

January 1, 2015 – December 31, 2015








- = 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 Abdominal Hysterectomy—Surgical Site Infection January 1, 2015 through December 31, 2015						
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
Castle Medical Center 		0	0.12	15	Too Small To Calculate	
Hilo Medical Center 		0	0.40	58	Too Small To Calculate	
Kaiser Permanente Medical Center		2	1.49	192	1.34	0.23, 4.43
Kapiolani Medical Center for Women and Children		2	1.46	177	1.37	0.23, 4.54
Kauai Veterans Memorial Hospital 		0	0.04	5	Too Small To Calculate	
Kona Community Hospital 		0	0.04	8	Too Small To Calculate	
Maui Memorial Medical Center 		0	0.10	12	Too Small To Calculate	
North Hawaii Community Hospital 		0	0.14	19	Too Small To Calculate	
Pali Momi Medical Center 		0	0.03	3	Too Small To Calculate	
Straub Clinic & Hospital 		0	0.24	17	Too Small To Calculate	
The Queen's Medical Center 		0	1.28	215	0	0.00, 2.33
The Queens Medical Center — West Oahu 		0	0.01	1	Too Small To Calculate	
Wilcox Memorial Hospital 		0	0.28	33	Too Small To Calculate	
Hawaii Total		4	5.62	755	0.71	0.23, 1.72

Note: Reporting in Hawaii 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: 2006–2008 NHSN SSI Data. Data contained in this report were last generated on July 7, 2015.

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 *Clostridium difficile* Infection



What is a *Clostridium difficile* infection (CDI)?

Clostridium 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?

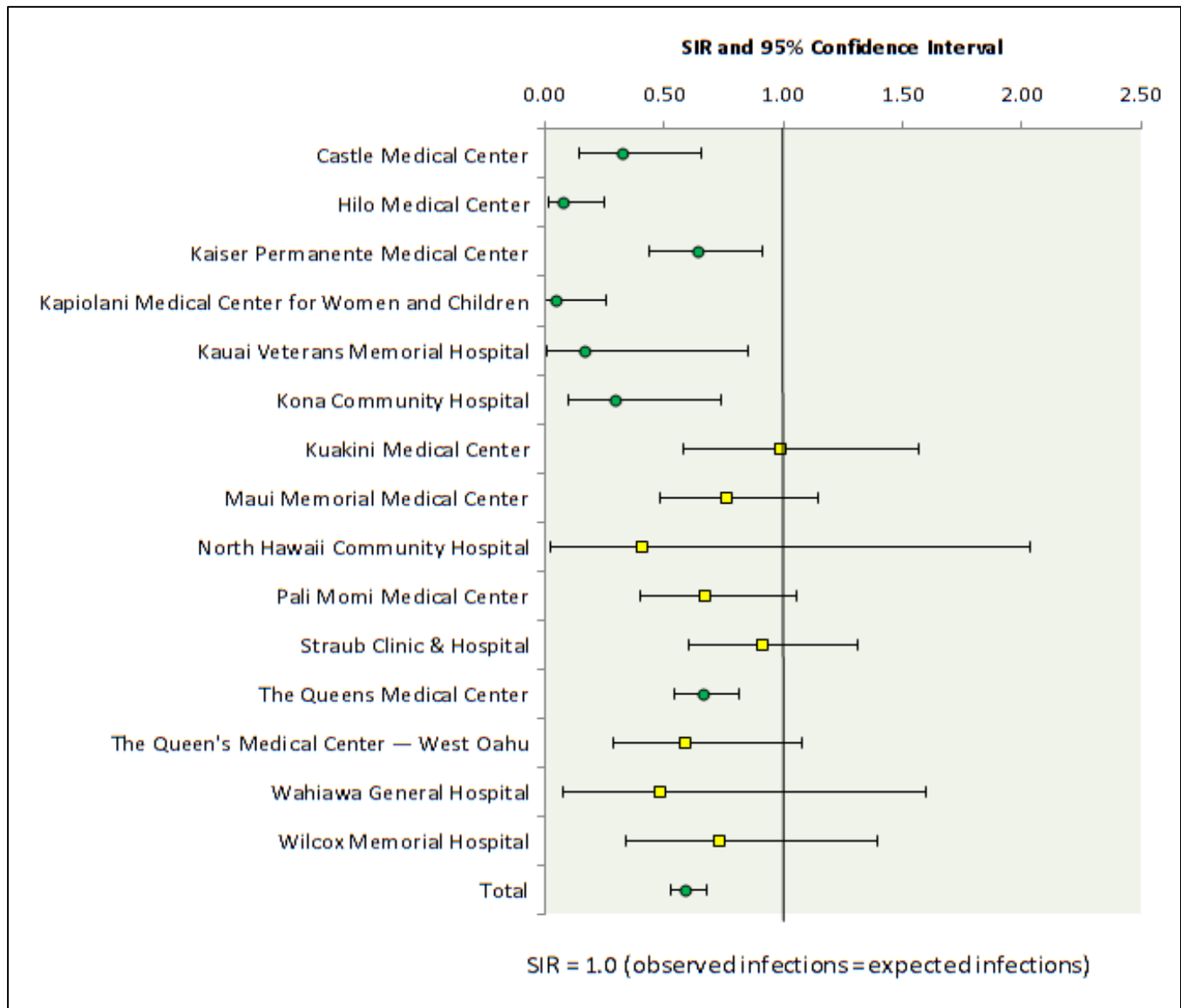
- Make sure your healthcare providers clean their hands before and after examining you. If you do not see your providers clean their hands, please ask them to do so.
- Family and friends should clean their hands with soap and water or an alcohol-based hand rub before and after visiting you. If you do 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 2015, 251 CDI were reported within Hawaii hospitals. This was 38% lower than predicted.
- Hawaii achieved the DHHS 2013 HAI prevention target (SIR of 0.70) with an SIR of 0.62.
- No statistical difference was observed between 2014 and 2015 CDI SIRs.

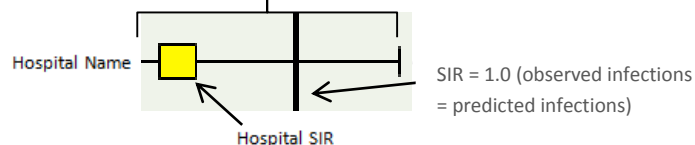
SIRs for Inpatient *Clostridium difficile* Infections

January 1, 2015 – December 31, 2015



Legend

Confidence Interval: Range of certainty for the estimate



- = 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 <i>Clostridium difficile</i> Infections January 1, 2015 through December 31, 2015						
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
Castle Medical Center	✓	7	21.02	33,479	0.33	0.15, 0.66
Hilo Medical Center	✓	2	23.24	39,254	0.09	0.01, 0.25
Kaiser Permanente Medical Center	✓	29	44.85	63,429	0.65	0.44, 0.92
Kapiolani Medical Center for Women and Children	✓	10	19.33	38,673	0.52	0.26, 0.92
Kauai Veterans Memorial Hospital	✓	1	5.77	12,032	0.17	0.01, 0.86
Kona Community Hospital	✓	4	13.05	23,062	0.31	0.10, 0.74
Kuakini Medical Center	▬	16	16.24	28,850	0.99	0.58, 1.57
Maui Memorial Medical Center	▬	21	27.53	55,783	0.76	0.49, 1.15
North Hawaii Community Hospital	▬	1	2.43	5,562	0.41	0.02, 2.03
Pali Momi Medical Center	▬	17	25.31	38,035	0.67	0.40, 1.06
Straub Clinic & Hospital	▬	26	28.53	45,695	0.91	0.61, 1.32
The Queen's Medical Center	✓	98	146.03	162,788	0.67	0.55, 0.81
The Queens Medical Center — West Oahu	▬	9	15.35	21,719	0.59	0.29, 1.08
Wahiawa General Hospital	▬	2	4.14	8,190	0.48	0.08, 1.60
Wilcox Memorial Hospital	▬	8	10.88	16,788	0.74	0.34, 1.40
Hawaii Total	✓	251	403.70	593,339	0.62	0.55, 0.70

Note: Reporting in Hawaii is tied to CMS IQR reporting requirements. Shriners Hospital for Children are not mandated to report CDI to NHSN. Only laboratory confirmed inpatient healthcare-onset CDI isolates are presented. Source of national baseline data: 2010–2011 NHSN CDI LabID Data. Data contained in this report were last generated on July 7, 2016.

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?

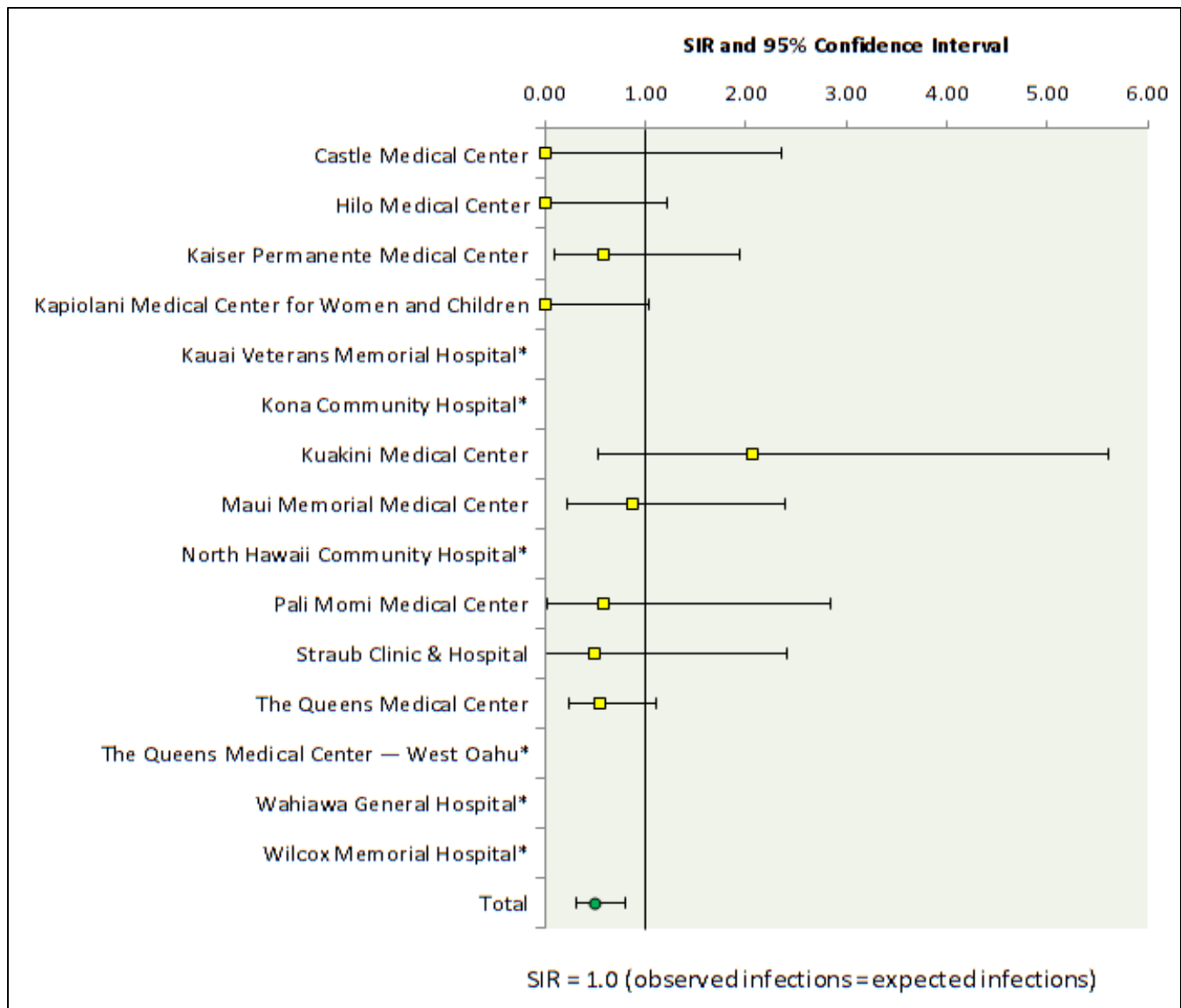
- Make sure your healthcare providers clean their hands before and after examining you, either with soap and water or an alcohol-based hand rub. If you do not see your providers clean their hands, please ask them to do so.
- Family and friends should clean their hands with soap and water or an alcohol-based 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 2015, 18 MRSA bacteremia infections were reported within Hawaii hospitals. This was 48% lower than predicted.
- Hawaii achieved the DHHS 2013 HAI prevention target (SIR of 0.75) with a SIR of 0.52.
- No statistical difference was observed between 2014 and 2015 MRSA bacteremia infection SIRs.

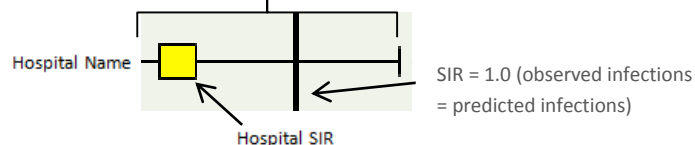
SIRs for Inpatient Methicillin-Resistant *Staphylococcus aureus* Bacteremia

January 1, 2015 – December 31, 2015



Legend

Confidence Interval: Range of certainty for the estimate



- = 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 <i>Staphylococcus aureus</i> Bacteremia						
January 1, 2015 through December 31, 2015						
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
Castle Medical Center 🌺	==	0	1.27	35,509	0.00	0.00, 2.36
Hilo Medical Center 🌺	==	0	2.48	39,254	0.00	0.00, 1.21
Kaiser Permanente Medical Center	==	2	3.41	67,370	0.59	0.10, 1.94
Kapiolani Medical Center for Women and Children 🌺	==	0	2.88	58,006	0	0.00, 1.04
Kauai Veterans Memorial Hospital 🌺	△	0	0.45	12,529	Too Small To Calculate	
Kona Community Hospital 🌺	△	0	0.89	23,062	Too Small To Calculate	
Kuakini Medical Center	==	3	1.46	28,850	2.06	0.52, 5.61
Maui Memorial Medical Center	==	3	3.42	58,530	0.88	0.22, 2.39
North Hawaii Community Hospital 🌺	△	0	0.26	7,187	Too Small To Calculate	
Pali Momi Medical Center	==	1	1.73	38,035	0.58	0.03, 2.85
Straub Clinic & Hospital	==	1	2.04	45,695	0.49	0.03, 2.42
The Queen's Medical Center	==	7	12.58	167,123	0.56	0.24, 1.10
The Queens Medical Center — West Oahu 🌺	△	0	0.82	21,719	Too Small To Calculate	
Wahiawa General Hospital	△	1	0.29	8,190	Too Small To Calculate	
Wilcox Memorial Hospital 🌺	△	0	0.79	17,954	Too Small To Calculate	
Hawaii Total	✓	18	34.77	629,026	0.52	0.32, 0.80

Note: Reporting in Hawaii is tied to CMS IQR reporting requirements. Only healthcare-onset, inpatient MRSA bacteremia lab events are presented. Source of national baseline data: 2010–2011 NHSN MRSA Blood LabID Data. Data contained in this report were last generated on July 7, 2016.

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 Vaccination?

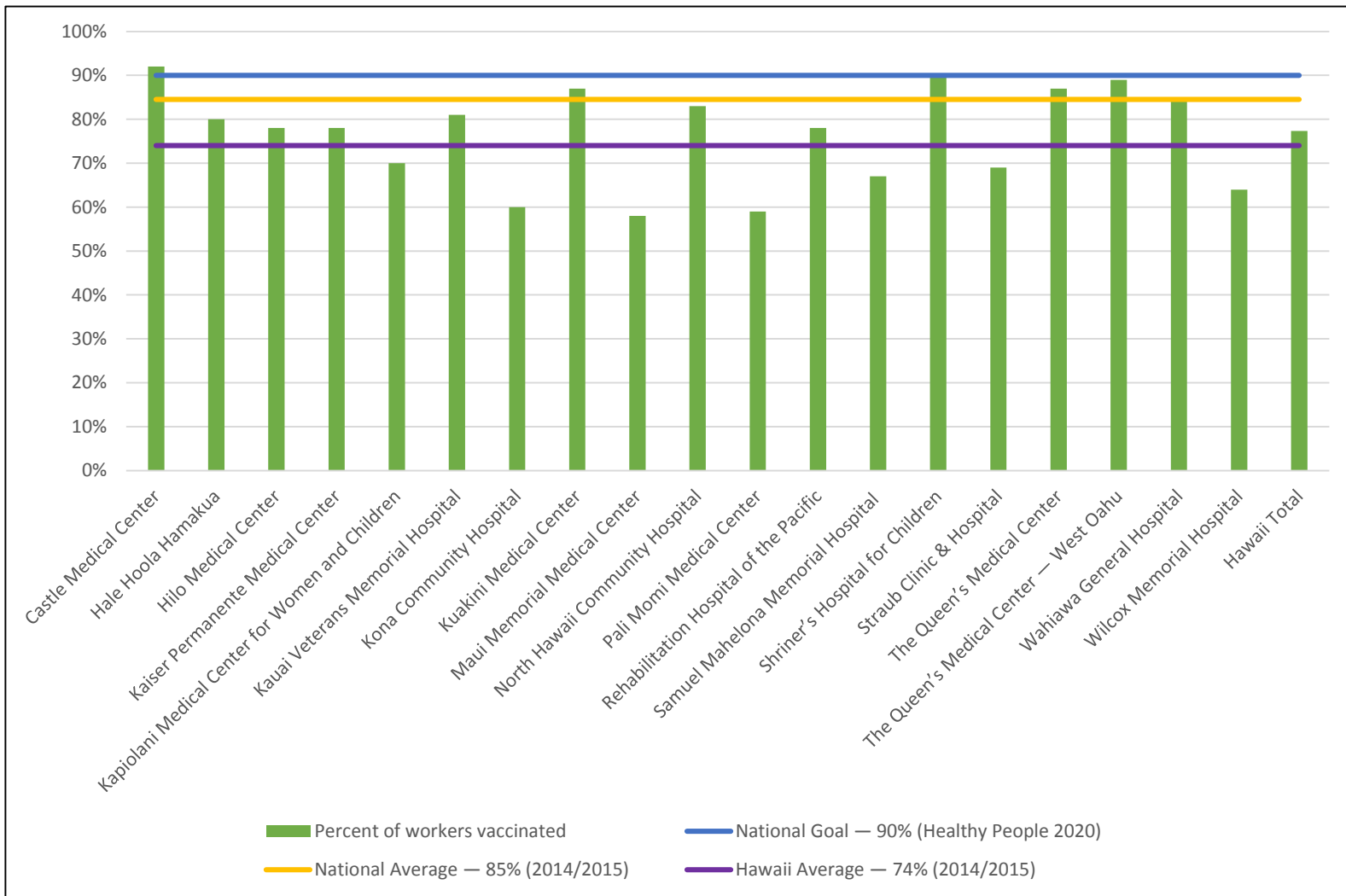
- For the 2015–2016 influenza season, the overall State average vaccination coverage was 77%.
- Only 2 facilities in Hawaii have achieved the DHHS Healthy People 2020 goal of 90% vaccination coverage.
- For context, the overall State average vaccination coverage for the 2014–2015 was 74%, and the national average was 85%.

Healthcare Personnel Influenza Vaccination—All Healthcare Workers October 1, 2015 through March 31, 2016							
Facility Name	Vaccinated at Facility	Vaccinated Elsewhere	Total Vaccinated	Total number of workers	Number of Contraindications	Number of declinations	Percent of workers vaccinated
Castle Medical Center	878	433	1,311	1,419	40	59	92%
Hale Hoola Hamakua	87	14	101	126	0	24	80%
Hilo Medical Center	796	90	886	1,137	20	194	78%
Kaiser Permanente Medical Center	1,846	195	2,041	2,615	39	259	78%
Kapiolani Medical Center for Women and Children	1,151	898	2,049	2,933	35	472	70%
Kauai Veterans Memorial Hospital	214	24	238	294	8	33	81%
Kona Community Hospital	367	0	367	609	9	135	60%
Kuakini Medical Center	782	545	1,327	1,518	13	132	87%
Maui Memorial Medical Center	906	125	1,031	1,764	3	442	58%
North Hawaii Community Hospital	384	121	505	605	1	42	83%
Pali Momi Medical Center	713	417	1,130	1,901	13	358	59%
Rehabilitation Hospital of the Pacific *	280	181	461	589	10	54	78%
Samuel Mahelona Memorial Hospital	81	4	85	126	1	36	67%
Shriner's Hospital for Children	208	95	303	335	2	18	90%
Straub Clinic & Hospital	1,260	617	1,877	2,703	26	519	69%
The Queen's Medical Center	4,496	1,805	6,301	7,245	80	301	87%
The Queens Medical Center — West Oahu	728	165	893	998	10	70	89%
Wahiawa General Hospital	420	52	472	553	13	11	85%
Wilcox Memorial Hospital	433	149	582	915	19	219	64%
Hawaii Total	16,030	5,930	21,960	28,385	342	3,378	77%

Note: * Rehabilitation Hospital of the Pacific participates in the CMS Inpatient Rehabilitation Facility Quality Reporting Program for HCP influenza vaccination; their data may not be comparable to acute care facility data. Data contained in this report were last generated on June 17, 2016.

Influenza Vaccination Coverage of Healthcare Personnel⁶ by Facility

October 1, 2015 – March 31, 2016



Note: National average from the CDC's FluVaxView 2013-14 and 2014-15 Healthcare Personnel State Vaccination Trend Report

<http://www.cdc.gov/flu/fluview/view/healthcare/trends1314-1415/trends-1415.html>

State average from Healthcare-Associated Infections in Hawaii – 2014 report:

<http://health.hawaii.gov/docd/files/2015/08/Hawaii2014HAIReport.pdf>

National goal obtained from Healthy People Objective IID-12.13:

<http://www.healthypeople.gov/2020/topicsobjectives2020/objectiveslist.aspx?topicId=23>. Additionally, TJC requires facilities to set incremental goals to reach 90%. http://www.jointcommission.org/assets/1/18/R3_Report_Issue_3_5_18_12_final.pdf

⁶ HCP include employees, licensed independent practitioners, adult students/trainees and volunteers. 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.

Hospital Summary Table (2015) – Respective Healthcare Associated Infection SIRs Compared with NHSN National Baseline

Facility Name	CLABSI	CAUTI	COLO	HYST	CDI	MRSA
Castle Medical Center	✓	✓	△	△	✓	▬
Hilo Medical Center	✓	✓	▬	△	✓	▬
Kaiser Permanente Medical Center	✓	✓	▬	▬	✓	▬
Kapiolani Medical Center for Women and Children	✓	▬	**	▬	✓	▬
Kauai Veterans Memorial Hospital	△	△	△	△	✓	△
Kona Community Hospital	▬	▬	△	△	✓	△
Kuakini Medical Center	▬	▬	▬	**	▬	▬
Maui Memorial Medical Center	✓	▬	▬	△	▬	▬
North Hawaii Community Hospital	△	▬	△	△	▬	△
Pali Momi Medical Center	▬	✓	▬	△	▬	▬
Straub Clinic & Hospital	✓	▬	▬	△	▬	▬
The Queen's Medical Center	✓	✓	▬	▬	✓	▬
The Queens Medical Center — West Oahu	✓	▬	▬	**	▬	△
Wahiawa General Hospital	▬	▬	△	△	✓	△
Wilcox Memorial Hospital	▬	▬	▬	△	▬	△
Hawaii Total	✓	✓	▬	▬	✓	✓

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 (2015) – SIRs

Facility Name	CLABSI	CAUTI	COLO	HYST	CDI	MRSA
Castle Medical Center	0.10	0.00	Too Small	Too Small	0.33	0.00
Hilo Medical Center	0.00	0.09	0.59	Too Small	0.09	0.00
Kaiser Permanente Medical Center	0.04	0.22	0.42	1.34	0.65	0.59
Kapiolani Medical Center for Women and Children	0.09	0.27	**	1.37	0.52	0.00
Kauai Veterans Memorial Hospital	Too Small	Too Small	Too Small	Too Small	0.17	Too Small
Kona Community Hospital	0.52	1.83	Too Small	Too Small	0.31	Too Small
Kuakini Medical Center	0.42	1.40	0.00	**	0.99	2.06
Maui Memorial Medical Center	0.20	1.42	0.68	Too Small	0.76	0.88
North Hawaii Community Hospital	Too Small	0.81	Too Small	Too Small	0.41	Too Small
Pali Momi Medical Center	0.62	0.16	1.70	Too Small	0.67	0.58
Straub Clinic & Hospital	0.10	0.45	0.00	Too Small	0.91	0.49
The Queen's Medical Center	0.14	0.32	0.69	0.00	0.67	0.56
The Queens Medical Center — West Oahu	0.00	0.36	0.64	Too Small	0.59	Too Small
Wahiawa General Hospital	1.05	0.49	Too Small	Too Small	0.48	Too Small
Wilcox Memorial Hospital	0.45	0.62	3.04	Too Small	0.74	Too Small
Hawaii Total	0.16	0.41	0.79	0.71	0.62	0.52

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 2015 a total of 364 HAIs were reported, including 251 CDI, 54 CAUTI, 26 SSIs, 25 CLABSI, and 18 MRSA bacteremia events. The overall observed number of HAIs in Hawaii hospitals was almost 51% lower than predicted based on national data.

For those conditions also reported in the 2014 Hawaii HAI Report, decreases in number of infections and SIRs was observed for all HAIs. However, these decreases were only statistically significant for CAUTI and CLABSI. Therefore, continued vigilance in infection prevention and HAI reduction is critical. Please note that comparisons of 2014 and 2015 CLABSI and CAUTI data were possible for ICU data only (appendix 2 and 3).

Condition	2014			2015			Difference in Observed HAIs	Percent Change: 2014 vs 2015 State SIR
	Observed	Predicted	SIR	Observed	Predicted	SIR		
CLABSI (ICU only)	20	83.47	0.24	9	85.89	0.11	-11	54% Decrease**
CAUTI (ICU only)	42	58.16	0.72	25	57.45	0.44	-17	39% Decrease**
COLO	35	26.49	1.32	22	27.91	0.79	-13	40% Decrease
HYST	5	5.60	0.89	4	5.62	0.71	-1	20% Decrease
CDI	258	355.66	0.73	251	403.70	0.62	-7	15% Decrease
MRSA	25	35.29	0.71	18	34.77	0.52	-7	27% Decrease

** Statistically significant difference

Hawaii 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. This year, Hawaii has continued to achieve the target for each condition, with the exception of SSIs.

Condition	2013 Target	Hawaii 2015 SIR	Target:
CLABSI	0.50 SIR or 50% lower than predicted	0.11 SIR or 89% lower than predicted	Achieved
CAUTI	0.75 SIR or 25% lower than predicted	0.44 SIR or 56% lower than predicted	Achieved
SSI (combined)	0.75 SIR or 25% lower than predicted	0.78 SIR or 3% higher than predicted	Not Achieved
CDI	0.70 SIR or 30% lower than predicted	0.62 SIR or 38% lower than predicted	Achieved
MRSA	0.75 SIR or 25% lower than predicted	0.52 SIR or 48% lower than predicted	Achieved

Efforts to date by the healthcare community have resulted in the prevention of hundreds of HAIs in just the past two years. This results in improved patient outcomes, decreases in re-hospitalization and long term rehabilitation, and savings in direct healthcare costs. 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.

Acknowledgements:

We would like to acknowledge the Vermont Program for Quality in Health Care for developing the original format and selected content used as a template for this document. Additionally, we incorporated language and guidance from the [HAI Data Analysis and Presentation Standardization Toolkit](#) developed by the Council of State and Territorial Epidemiologists. We greatly appreciate the staff at the Division of Healthcare Quality Promotion at CDC for their technical assistance. We would like to thank the infection prevention, quality, and information technology staff at Hawaii hospitals for collaborating to provide data presented in this report. Finally, we would also like to thank the members of the Hawaii HAI Advisory Committee for contributing guidance toward the completion of this report. Please see Appendix 4 for a list of the HAI Advisory Committee members.

For questions about this report, please contact:

Zeshan Chisty, MPH
HAI Collaborative Coordinator
Disease Investigation Branch
State of Hawaii Department of Health
1250 Punchbowl St, Suite 458
Honolulu, HI, 96822
Phone: 808-586-4595
Email: Zeshan.chisty@doh.hawaii.gov
Website: <http://health.hawaii.gov/docd/dib/healthcare-associated-infections-hais/>

Appendix 1 – Acronyms:

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

Appendix 2 – CLABSI in ICUs

Central Line-Associated bloodstream Infections in ICU locations January 1, 2015 through December 31, 2015						
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
Castle Medical Center 🌺	==	0	1.50	997	0.00	0, 2
Hilo Medical Center 🌺	✓	0	3.11	2,071	0.00	0, 0.96
Kaiser Permanente Medical Center 🌺	✓	0	10.56	5,009	0.00	0, 0.28
Kapiolani Medical Center for Women and Children	✓	3	29.61	12,621	0.10	0.03, 0.28
Kauai Veterans Memorial Hospital 🌺	△	0	0.16	86	Too Small To Calculate	
Kona Community Hospital 🌺	△	0	0.71	471	Too Small To Calculate	
Kuakini Medical Center 🌺	==	0	2.09	1,391	0.00	0, 1.44
Maui Memorial Medical Center	✓	1	5.27	3,513	0.19	0.01, 0.94
North Hawaii Community Hospital	△	1	0.27	182	Too Small To Calculate	
Pali Momi Medical Center	==	1	2.71	1,808	0.37	0.02, 1.82
Straub Clinic & Hospital	==	1	4.15	2,764	0.24	0.01, 1.19
The Queen's Medical Center	✓	1	22.25	11,500	0.05	0, 0.22
The Queens Medical Center — West Oahu 🌺	==	0	1.45	967	0.00	0, 2.07
Wahiawa General Hospital	==	1	1.17	617	0.85	0.04, 4.21
Wilcox Memorial Hospital 🌺	△	0	0.89	595	Too Small To Calculate	
Hawaii Total	✓	9	85.89	44,592	0.11	0.05, 0.19

Note: Reporting in Hawaii is linked to CMS IQR reporting requirements. Shriners Hospital for Children is not mandated to report CLABSI to NHSN. Source of national baseline data: NHSN Report, *Am J Infect Control* 2009; 37:783-805. Data contained in this report were last generated on July 7, 2016.

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 ICUs

Catheter Associated Urinary Tract Infections in ICUs locations January 1, 2015 through December 31, 2015						
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
Castle Medical Center 🌺	==	0	2.15	1,650	0.00	0, 1.4
Hilo Medical Center 🌺	✓	0	3.54	2,721	0.00	0, 0.85
Kaiser Permanente Medical Center	✓	3	8.39	3,752	0.36	0.09, 0.97
Kapiolani Medical Center for Women and Children	==	1	2.48	931	0.40	0.02, 1.99
Kauai Veterans Memorial Hospital 🌺	△	0	0.35	176	Too Small To Calculate	
Kona Community Hospital	==	3	1.51	1,159	1.99	0.51, 5.42
Kuakini Medical Center 🌺	==	0	1.70	1,305	0.00	0, 1.77
Maui Memorial Medical Center	==	7	3.92	3,263	1.79	0.78, 3.54
North Hawaii Community Hospital	==	1	0.45	344	Too Small To Calculate	
Pali Momi Medical Center 🌺	==	0	2.19	1,686	0.00	0, 1.37
Straub Clinic & Hospital	==	2	3.85	2,960	0.52	0.09, 1.72
The Queen's Medical Center	✓	6	23.13	9,284	0.26	0.11, 0.54
The Queens Medical Center — West Oahu 🌺	==	0	1.53	1,173	0.00	0, 1.97
Wahiawa General Hospital	==	1	1.32	658	0.76	0.04, 3.75
Wilcox Memorial Hospital	==	1	0.98	751	Too Small To Calculate	
Hawaii Total	✓	25	57.45	31,813	0.44	0.29, 0.63

Note: Reporting in Hawaii is linked to CMS IQR reporting requirements. Shriners Hospital for Children is not mandated to report CAUTI to NHSN. Source of national baseline data: NHSN Report, *Am J Infect Control* 2011; 39:349-367. Data contained in this report were last generated on July 7, 2016.

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 4- HAI Advisory Committee

Audrey Arita, RN, MSN
Infection Preventionist
Rehabilitation Hospital of the Pacific

Melinda Ashton, MD
VP, Patient Safety and Quality Services
Hawaii Pacific Health

Christian Bracerros, RN
Infection Control Coordinator
Straub Clinic & Hospital

Pam Carey-Goo, RN
Infection Preventionist and Employee Health Nurse
Shriners Hospitals for Children Honolulu

Yolanda Carreira, RN, MSN
Infection Control/ Employee Health RN
Wahiawa General Hospital

Ramona Chapman, RN
Infection Prevention & Control Department Coordinator
Maui Memorial Medical Center

Myra Ching-Lee, MPH
Disease Surveillance and Informatics Section
Hawaii Department of Health

Zeshan Chisty, MPH
HAI Collaborative Coordinator
Hawaii Department of Health

Les Chock, MS
Director, Regional Infection Control
Kaiser Permanente Medical Center

Lisa Downing, RN
Infection Prevention, Director
Kona Community Hospital

Geila Fukumitsu, RN
Program Manager, Hospital Infection Control
Kaiser Permanente Medical Center

Gerald Ohta
Affirmative Action Officer
Hawaii State Department of Health

Jan Pang, BSMT
Infection Prevention & Control Coordinator
The Queen's Medical Center

Richard Giardina, RN, MPH
Infection Preventionist
Kapiolani Medical Center for Women and Children

John Halloran, RN
Infection Prevention & Control Coordinator
The Queen's Medical Center

Lianne Higashida
Sr. Business Analyst
Hawaii Medical Service Association

Sally Kamai, RN, MBA-HCM
Director of Clinical Improvement
Hawaii Pacific Health

Vivian Kato, RN
Infection Prevention & Control Coordinator
The Queen's Medical Center - West Oahu

Stella Laroza, RN
Infection Control Coordinator
Straub Clinic & Hospital

Sheryl Lee, RN
Infection Prevention & Control Coordinator
The Queen's Medical Center

Kathleen Libao-Laygo, RN
Director of Quality & Regulatory Affairs
Healthcare Association of Hawaii

Shanon Lignon, RN
Infection Preventionist
Kapiolani Medical Center for Women and Children

Anne Massie, RN, MSN
Infection Prevention and Control
Castle Medical Center

Rebecca O'Brien, RN
Kauai Region Quality Director
Kauai Veterans Memorial Hospital

Jennifer Rabalais, RN
Infection Prevention and Control Coordinator
North Hawaii Community Hospital

Krist Pottorff, MPH, RN
Infection Control Coordinator
Pali Momi Medical Center

Maile Salter, MS
Infection Prevention & Control Coordinator
The Queen's Medical Center

Henedine Smith, MBA
Infection Prevention Coordinator
Kuakini Medical Center

Chad Shibuya, RN
Infection Control Director
Hilo Medical Center

Lisa Takeuchi, MPH
CDC/CSTE Applied Epidemiology Fellow
Hawaii Department of Health

Sara Keala Tanaka, MPH
Manager, Provider Quality Programs
Hawaii Medical Service Association

Melissa Viray, MD
Deputy State Epidemiologist
Hawaii Department of Health

Mary Wheaton, MSN
Infection Prevention
Wilcox Memorial Hospital

Betty Wood, MPH, PhD
PHS Epidemiology
Hawaii Department of Health

Joy Yadao, RN
Project Manager
Mountain-Pacific Quality Health

Stephen Yamada, MS
Infection Control & Epidemiology Program Manager
Department of Preventive Medicine
Tripler Army Medical Center

Susan Young, DHA, MSA, RN
Professor
University of Hawaii West Oahu