California Department of Public Health Healthcare-Associated Infections in California Hospitals Annual Report For January to December 2014

Key Findings and Public Health Action

Healthcare-associated infections (HAI) remain a significant, and in some cases, a growing public health problem in California. In 2014, 419 acute care hospitals reported 19,200 HAI to the California Department of Public Health (CDPH) as required by Health and Safety Code section 1288.55. All acute care hospitals must perform ongoing surveillance for all cases of *Clostridium difficile* diarrheal infections (CDI), central line-associated bloodstream infections (CLABSI), bloodstream infections due to methicillin-resistant *Staphylococcus aureus* (MRSA BSI) and vancomycin-resistant Enterococci (VRE BSI), and surgical site infections (SSI) following 29 types of surgical procedures. Since 2012, reported data show that overall California hospitals are demonstrating significant progress in preventing some types of HAI, including CLABSI, MRSA BSI, and most types of SSI. Hospitals have not made progress in reducing the incidence of SSI following colon surgery compared with national baselines. In addition, hospital-onset CDI incidence continues to increase (Table 1).

Table	1.	Numbers	of	Healthcare-Associated	Infections	(HAI)	Reported	by	California	Hospitals	and	
Compa	comparisons of Statewide HAI Incidence to National Baselines, 2014											

	No. of HAI Reported by California Hospitals in 2014	2014 California HAI Data Compared with National Baselines*
CDI	10,588	1 9% since 2011
CLABSI	2809	↓ 49% since 2008
MRSA BSI	705	↓ 24% since 2011
VRE BSI	782	No national baseline
SSI – All Surgeries	4,316	↓ 40% since 2008
SSI – Colon Surgery	911	No difference from 2008
SSI – Hysterectomy	168	↓ 20% since 2008

*National baselines are based on surveillance data reported by U.S. hospitals to the Centers for Disease Control and Prevention's National Healthcare Safety Network.

Methodology

This report for 2014 marks the sixth year CDPH has published California hospital HAI data and the fifth year using data reported by hospitals via the web-based National Healthcare Safety Network (NHSN). Beginning April 1, 2010, all California-licensed general acute care hospitals were required to report HAI data using NHSN and provide to CDPH permission to access these data. SSI reporting via NHSN began April 1, 2011. CDPH extracted the data used to produce this 2014 report from NHSN on May 4, 2015, for the period January 1, 2014 through December 31, 2014.

CDPH publishes 2014 HAI data via a web page that includes a summary report of key findings and public health actions, data tables, an interactive map designed to help the public interpret hospital-specific findings, and technical reports for each infection type that include detailed information on statistical analysis methods and risk adjustment. For the first time, 2014 HAI data tables report hospital findings sorted alphabetically by county. All components of this annual public report are available on the CDPH HAI Program webpage at www.cdph.ca.gov/HAI. These 2014 HAI data will also be available via CDPH's Open Data Portal at https://cdph.data.ca.gov.

Data Quality

In 2013, CDPH began a three-year validation plan to help hospitals improve the accuracy and consistency of reported data. Validation allows a hospital to be more confident it is identifying all HAI necessary to determine which patient care units, surgical services, and/or specific infections the hospital needs to prioritize for prevention efforts. Validation also helps improve the accuracy of CDPH's reports of infection incidence across all California hospitals. For 2013 data, CDPH asked hospitals to attest to performing six best practices related to HAI surveillance, reporting, and review, and we reported hospital participation or non-participation in the public report. In 2014, CDPH validation efforts helped hospitals assess and improve case-finding and evaluate completeness in identifying and reporting CDI, CLABSI, MRSA BSI, VRE BSI, and colon SSI.

CDPH invited all reporting hospitals to participate in 2014 validation activities, including larger and smaller volume hospitals. Smaller volume hospitals are those with less than 15,000 patient days and/or less than 5,000 intensive care unit (ICU) patient days. Smaller volume hospitals performed a self-review process using a validation workbook and reported results electronically to CDPH. Validation at larger volume hospitals consisted of onsite visits by HAI Program Liaison Infection Preventionists. Among larger volume hospitals, 234 of 254 (92%) participated in validation in 2014. Among smaller volume hospitals, 112 of 138 (81%) completed the 2014 self-validation workbook. Overall, 46 of 392 reporting hospitals did not participate in the 2014 HAI validation (Appendix A). Because CDPH cannot be assured of the completeness or accuracy of 2014 reported data from these non-participating hospitals, findings from these hospitals are highlighted in each of the data tables and excluded from this report's summary of hospitals that demonstrated improvement from 2013 to 2014.

In 2015, hospitals participating in 2014 validation that had less than 85 percent sensitivity for CDI, MRSA BSI, and/or VRE BSI reporting, and/or missed the identification and reporting of one or more CLABSI during the 3-month sample period repeated the onsite validation process. Each hospital is expected to demonstrate a gap analysis and steps to improve surveillance and reporting processes.

Key Findings

In 2014, 392 licensed general acute care hospitals reported HAI data for 419 physical campuses. The hospitals included 289 (74%) community hospitals, 26 (7%) major teaching hospitals, 11 (3%) pediatric hospitals, 34 (9%) critical access hospitals, 24 (6%) long-term acute care (LTAC) hospitals, six (2%) rehabilitation acute care hospitals, and two (<1%) prison hospitals. CDPH cites for deficiencies hospitals that do not completely report all required HAI data. Eight (2%) hospitals failed to report complete HAI data in 2014 (Appendix B).

From 2013 to 2014, 34 hospitals significantly reduced one of the HAI types: 21 community hospitals, seven major teaching hospitals, five LTAC hospitals, and one rehabilitation acute care hospital. (Appendix C). Four hospitals that showed improvement in HAI from 2013 to 2014 were excluded due to non-participation in 2014 data validation.

CDI. *Clostridium difficile* (*C. difficile*) is a common cause of diarrhea in health care settings. Morbidity and mortality due to *C. difficile* infection (CDI) have increased over the past several years due to the emergence of more infectious and more virulent *C. difficile* strains. Infection control precautions including hand hygiene and environmental cleaning, as well as the judicious use of antibiotics as monitored and directed by hospital antimicrobial stewardship programs, are equally important in preventing CDI infections.

CDPH reports hospital CDI incidence using a risk-adjustment method called the standardized infection ratio (SIR), which is calculated by comparing the number of CDI that were observed and reported by the hospital with the number that would be predicted based on national baselines. For more precise comparisons, the CDI SIR is calculated when at least one infection is predicted, or three or more CDI were reported by a hospital in 2014. CDI cases are classified as hospital-onset when the positive stool sample is obtained on day four or later during the hospital stay. Risk factors found to be significant in predicting hospital-onset CDI include CDI test method, major teaching hospital, bed size, and burden of community-onset CDI in patients admitted to the hospital. Adjusting for these factors provides a more accurate comparison of hospitals' infections. All references to CDI in this report refer to hospital-onset infections.

In 2014, 386 (98%) California hospitals reported 12 months of CDI data. Of these, 47 (12%) hospitals reported no hospital-onset cases of CDI. The statewide CDI SIR in 2014 was 1.09, compared with the national baseline SIR of 1.0, and the statewide CDI SIR of 1.05 reported in 2013. In 2014, CDPH calculated CDI SIRs for 327 hospitals. Of these, 46 hospitals had significantly fewer CDI than predicted (low SIR), and 67 hospitals had significantly more CDI than predicted (high SIR).

No national baseline data are available to risk-adjust LTAC and rehabilitation acute care hospital CDI data, so CDPH reports pooled mean rates instead. Incidence of CDI is decreasing in LTAC hospitals as demonstrated by a mean CDI rate in 2014 of 14.9 per 10,000 patient days, compared with 16.8 in 2013 and 17.6 in 2012. In rehabilitation acute care hospitals in 2014, the mean CDI rate was 4.0 per 10,000 patient days (range of 0.0 to 7.6) compared with 5.4 in 2013 and 4.6 in 2012.

Additional CDI Findings:

- Six hospitals reported less than 12 months of CDI data.
- Five hospitals reported extreme outlier (unusually high) community-onset CDI prevalence rates for one or two quarters in 2014. NHSN excluded data in those time periods from further analyses. The CDI SIR for these hospitals is presented for 2014 but includes only nine or six months of data.
- Twenty-nine hospitals had no CDI SIR calculated due to having a predicted number of CDI cases less than one and reporting fewer than three CDI.
- For LTAC and rehabilitation acute care hospitals, CDI rates are not risk-adjusted. Differences in rates can result from differences in laboratory testing methods, patient populations, infection and transmission prevention practices, antibiotic use, and/or community onset rates of CDI. LTAC and

rehabilitation acute care hospitals using different types of laboratory tests are not comparable because there can be as much as a two-fold difference in test sensitivity between polymerase chain reaction (PCR) testing and other methods.

Four CDI data tables accompany this 2014 report. <u>CDI Table 1</u> presents the hospital-onset CDI SIRs for general acute care hospitals other than LTAC and rehabilitation acute care. <u>CDI Table 2</u> presents CDI rates in LTAC hospitals. <u>CDI Table 3</u> presents CDI rates in rehabilitation acute care hospitals. <u>CDI Table 4</u> presents the six hospitals that reported fewer than 12 months of complete CDI data in 2014.

CLABSI. Central line-associated bloodstream infections (CLABSI) result from contamination of a central line, either during insertion or during the time the line is in use during patient care. CLABSI rates are important markers for patient safety because most can be prevented with sustained and consistent adherence to infection control recommendations.

CDPH reports hospital-specific CLABSI SIRs as a single value for each hospital's CLABSI incidence; lower SIRs are better. CLABSI SIRs are adjusted to account for differences in numbers of patients with central lines and the distribution of patients admitted to the various types of ICUs and wards within each participating hospital. The baseline national CLABSI SIR of 1.0 was established in 2008. In 2014, the California-wide CLABSI SIR was 0.51, which represents a 49% decrease compared with the national baseline and shows a statewide steady decline from 0.52 in 2013 and 0.53 in 2012. In 2014, 167 California hospitals achieved a CLABSI SIR below 0.50, helping to realize the national five-year goal established by the U.S. Department of Health and Human Services in 2009 to reduce CLABSI by 50%. Despite overall progress in CLABSI prevention, in 2014, six California hospitals had a CLABSI SIR significantly higher than the 2008 national baseline (indicated by an asterisk, Appendix D).

This report also provides hospital-specific CLABSI rates with comparisons to California pooled mean rates (i.e., average rates). CLABSI data are grouped by patient care locations where patients with similar medical conditions receive similar levels of care across hospitals. The data are risk-stratified by hospital unit type, but are not risk-adjusted by individual patient risk factors. Hospital CLABSI rates are identified as statistically significantly higher, significantly lower, or not significantly different than the comparable California rate. Overall the numbers of CLABSI reported by California hospitals were nearly the same in 2014 (2,809) compared with 2013 (2,836). The California average CLABSI rate in ICUs was 0.90 per 1000 central line days in 2014 compared with 0.93 in 2013 and 1.06 in 2012. In general patient wards, the CLABSI rate was 0.73 in 2014 compared with 0.71 in 2013 and 0.80 in 2012. This report includes CLABSI rates for 30 types of ICUs and wards.

California hospitals are also required to report adherence to central line insertion practices (CLIP) for each central line inserted in an ICU. CLIP indicates adherence to eight practices known to prevent CLABSI: hand hygiene, use of a recommended skin preparation agent, allowing the skin preparation agent to dry prior to line insertion, and use of five maximal sterile barriers during central line insertion, cap, mask, gown, gloves, and drape. Among 331 hospitals with an ICU, 328 (99%) submitted CLIP data; three hospitals did not submit CLIP data because they did not insert central lines within an ICU. Adherence to all eight clinical care practices of the CLIP bundle occurred in 80,872 out of 83,678 central line insertions reported in 2014 for an overall adherence of 97%. This percentage is unchanged from adherence reported in 2013 and 2012. Adherence was similar across ICU types, with 97% in adult ICUs, 97% in pediatric ICUs, and 96% in neonatal ICUs.

Continued decreasing California CLABSI incidence is an encouraging sign that suggests prevention progress. However, decreases in the number and rates of CLABSI are not occurring uniformly across all patient care locations and all hospitals. Reporting hospital-wide CLABSI SIRs and CLABSI rates by patient care locations provide specific, current information to target infection prevention efforts, to monitor CLABSI prevention progress within California hospitals over time, and to enable patients to make more informed health care choices.

Additional CLABSI Findings:

Statewide findings

- The overall California average CLABSI rates in nine patient care locations were lower in 2014 than in 2013. For example, in burn critical care units, the 2014 rate was 22% lower compared with 2013 (2.38 vs. 3.03). In trauma critical care units, the 2014 rate was 41% lower compared with 2013 (0.56 vs. 0.95). In adult rehabilitation acute care wards, the 2014 rate was 34% lower compared with 2013 (0.23 vs. 0.35).
- The overall California average CLABSI rates in nine patient care locations were higher in 2014 than 2013. For example, in labor, delivery, recovery, post-partum wards, the 2014 rate was 31% higher compared with 2013 (0.63 vs. 0.48). In pediatric general wards, the 2014 rate was 26% higher compared with 2013 (0.96 vs. 0.76).

Hospital-specific findings

- Of 392 California hospitals in continuous operation in 2014, ten (3%) reported no central line-days (i.e., had no patients at risk for developing CLABSI). The remaining 382 (97%) hospitals reported at least one central line-day or one CLABSI. Of these, 379 (99%) were included in this report; three hospitals were excluded because data could not be risk stratified because the hospital defined all of their patient care locations as "mixed acuity."
- In 2014, nine (2%) hospitals had at least one patient care location CLABSI rate that was statistically lower than the comparable statewide average. There were fewer hospitals with at least one CLABSI treatment location that was statistically lower than the state average in 2014 than in 2013 (9 vs. 20).
- In 2014, 52 (14%) hospitals had one or more patient care location CLABSI rates that were statistically higher than the comparable statewide average; this percentage is similar to the percentage reported in 2013 (14%). Of these, 40 (77%) had a single patient care location that was statistically high; the remaining 12 (23%) had two to four statistically high rate units.
- Fourteen (27%) hospitals had one or more patient care location for which the CLABSI rates were statistically higher than the statewide average in both 2014 and 2013.

Interpreting CLABSI findings

- CLABSI rates are affected by clinical and infection control practices related to the insertion and ongoing care of central lines, risk factors of patients in varying types of care locations, and surveillance methods. While stratifying CLABSI rates by patient care location makes rates more comparable, it cannot control for all individual patient factors that can affect CLABSI rates or for differences among hospitals in identifying and reporting infections.
- A low CLABSI rate may reflect greater diligence with infection prevention care practices in line insertion and line maintenance practices, or may reflect less effective surveillance methods that

detect fewer infections. Similarly, a high rate may reflect failure to consistently adhere to all recommended infection prevention care practices, or may reflect more complete and accurate infection surveillance.

Forty-six CLABSI and CLIP data tables accompany this 2014 HAI data report. <u>CLABSI Table 1</u> depicts the risk-adjusted CLABSI SIR for hospitals (other than LTAC and rehabilitation acute care), identifying hospitals statistically higher (H), lower (L), or no different (N) from the 2008 national baseline. <u>CLABSI Table 2</u> presents the percent change in statewide CLABSI rates from 2013 to 2014 by patient care locations (ICUs and wards). <u>CLABSI Table 3</u> presents statewide average and distributions of CLABSI rates and CLIP adherence percentages by patient care locations. <u>CLABSI Table 4</u> presents an alphabetical list of California counties and hospitals demonstrating hospital-specific locations where 2014 CLABSI rates were statistically higher (H), lower (L), or no different (N) from state average rates. <u>CLABSI Tables 5 to 45</u> present detailed, hospital-specific CLABSI information for each patient care location, including numbers of CLABSI, central line-days, CLABSI rates and their interpretations (confidence intervals and symbols indicating higher (H), lower (L), or no different (N) from statewide averages) and CLIP adherence percentages for ICUs. <u>CLABSI Table 46</u> lists hospitals and mixed acuity locations excluded from analyses.

MRSA BSI and VRE BSI. Methicillin-resistant *Staphylococcus aureus* (MRSA) and vancomycinresistant Enterococci (VRE) are two of the most common organisms resistant to multiple antimicrobial drugs that cause infections in hospital patients. Bloodstream infections (BSIs) due to these resistant pathogens are among the most serious HAIs, resulting in increased lengths of hospital stay, higher hospital costs, and risk of death.

This report presents data for hospital-onset MRSA BSI and VRE BSI. As with CDI, this report presents hospital-specific MRSA BSI incidence as SIRs. Risk of infection is adjusted for bed size, medical school affiliation, and the community-onset MRSA BSI prevalence rate of patients admitted to the hospital. The 2014 statewide MRSA BSI SIR was 0.76 compared with 0.70 in 2013. Fourteen hospitals had significantly fewer MRSA BSI than predicted (low SIR), and nine hospitals had significantly more MRSA BSI than predicted (high SIR).

MRSA BSI SIR risk adjustment is not available for LTAC and acute rehabilitation hospitals; therefore, this report presents rates of MRSA BSI for these settings. The average MRSA BSI rate among 23 LTAC hospitals was 1.71 per 10,000 patient days in 2014, compared with 2.28 reported in 2013. Two LTAC hospitals had rates significantly higher than the average state rate, and one had a rate significantly lower. Only one of the six rehabilitation acute care hospitals reported MRSA BSI in 2014; MRSA BSI are unusual events in rehabilitation hospitals.

The statewide VRE BSI average rate in 2014 was 0.50 per 10,000 patient days, compared with 0.48 in 2013. NHSN provides no risk-adjustment method for VRE BSI. This report presents risk-stratified VRE BSI rates by grouping hospitals into categories based on the types of patients served and type of care delivered (Table 2).

Hospital Type	No. of Hospitals Reporting in	VRE BSI Pooled Mean Rate per 10,000 Patient Days				
	2014	2014	2013			
Long Term Acute Care	24	1.56	2.19			
Major Teaching	26	1.15	1.06			
Community	287	0.30	0.30			
Pediatric	11	0.18	0.12			
Critical Access	33	0.10	0.00			
Rehabilitation	6	0.00	0.00			
Prison	1	0.00	0.00			
All	388	0.50	0.48			

 Table 2. Vancomycin-Resistant Enterococci (VRE) Rates by Hospital Type

* Four hospitals reported less than 12 months of VRE BSI data (two community, one critical access, and one prison hospital)

Additional MRSA BSI and VRE BSI Findings:

- 159 (44%) general acute care hospitals reported no MRSA BSI in 2014 versus 155 (41%) in 2013.
 Three of 24 (13%) LTAC hospitals reported no MRSA BSI in 2014.
- Five hospitals reported less than 12 months of MRSA BSI data (two community, one critical access, one LTAC, and one prison hospital).
- The pooled mean rate of VRE BSI for LTACs was 1.56 per 10,000 patient days in 2014; this is the highest pooled mean VRE BSI rate of any hospital type. One (4%) LTAC hospital had VRE BSI rates significantly lower than the average rate. No LTAC hospitals had VRE BSI rates significantly higher. Two (8%) LTAC hospitals reported no VRE BSIs.
- Four (15%) major teaching hospitals had VRE BSI rates significantly higher than the average state rate, and seven (27%) had VRE BSI rates significantly lower than the state average rate.
- No pediatric hospitals had significantly higher or lower VRE BSI rates than the average state rate. Seven (64%) pediatric hospitals reported no VRE BSIs.
- No VRE BSIs were reported by rehabilitation acute care hospitals or prison hospitals. One of the 33
 critical access hospitals reported one VRE BSI. VRE BSIs are unusual events in these types of
 hospitals.

Interpreting MRSA BSI and VRE BSI findings

- The higher rates of MRSA BSI and VRE BSI in LTAC and major teaching hospitals likely reflect the
 increased severity of illness in patients in these hospitals compared with community hospitals and
 critical access hospitals. The lower rates of MRSA BSI and VRE BSI in pediatric hospitals likely
 result from factors specific to age rather than the measure of severity of illness, as the case mix
 index for pediatric hospital patients is similar to major teaching hospitals.
- NHSN provides no risk adjustment method for standardized comparisons of VRE BSI. Variation in
 rates could be affected by differences in severity of illness in patients between hospitals, differences
 in adherence to clinical and infection control practices that reduce the risk of VRE BSI, and/or to
 differences in the completeness of reporting.

Thirteen MRSA and VRE BSI data tables accompany this 2014 report. <u>MRSA BSI Table 1</u> presents the statewide MRSA BSI incidence for general acute care, LTAC, and rehabilitation hospitals in 2014. <u>MRSA BSI Table 2</u> lists the hospital-onset MRSA BSI SIR for hospitals other than LTAC and rehabilitation acute care. <u>MRSA BSI Table 3</u> lists the MRSA BSI rates in LTAC hospitals. <u>MRSA BSI Table 4</u> lists the MRSA BSI rates in rehabilitation hospitals. <u>VRE BSI Tables 5 through 12</u> present hospital-specific VRE BSI rates stratified by seven hospital categories: major teaching, LTAC, pediatric, rehabilitation, critical access, prison, or community hospital. <u>MRSA/VRE BSI Table 13</u> lists the hospitals that reported fewer than 12 months in 2014.

SSI. A surgical site infection (SSI) is an infection that occurs after surgery in the part of the body where the surgery took place due to contamination during the time of the operation. SSIs are the second most common type of HAI, often resulting in longer hospitalization or readmission to the hospital.

All 353 licensed California hospitals known to be subject to SSI reporting requirements reported data on one or more surgical procedure category. This report presents the third full year of data from hospitals reporting SSI for 29 surgical procedure categories. We observed a small increase in both the number of surgical procedures reported and the number of SSIs reported in 2014 compared with 2013. California hospitals reported 737,519 surgical procedures resulting in 4,316 SSI in 2014 compared with 716,334 surgical procedures resulting in 3,940 SSI in 2013.

This report presents SSI data as procedure-specific SIRs, which use both patient-level and hospitallevel factors for risk adjustment. Currently, there is no risk adjustment process for five of the 29 California-mandated reportable surgical procedure categories: heart transplant, kidney surgery, ovarian surgery, pacemaker surgery, and spleen surgery. SIRs cannot be calculated for these five categories. This report includes the number of procedures and the number of SSI reported by each hospital.

In this report, 19 of 24 surgical procedures demonstrated overall statewide SSI SIRs that were statistically lower compared with the national referent SIR of 1.0. One surgical procedure, appendectomy, had an SSI SIR that was statistically higher in 2014. Colon, gallbladder surgery, vaginal hysterectomy, and rectal surgery SSI SIRs were not statistically different from the national data (Table 3).

Table 3. Californi	a Surgical	Site	Infection	(SSI)	Incidence	and	Standardized	Infection	Ratios	(SIR)	with
Comparisons to National Baselines, 2014											

Surgical Procedure Category	No. Hospitals Performing Surgery, 2014	Statewide SSI SIR Compared with National Baselines^			
	5 ,	201	4	2013	
Abdominal aortic aneurysm repair	124	0.27	L	0.28	
Appendectomy	320	1.15	н	1.03*	
Bile duct, liver, or pancreatic surgery	247	0.26	L	0.26	
Cardiac surgery	157	0.49	L	0.54	
Cesarean section	249	0.23	L	0.31	
Colon surgery	323	1.06	Ν	0.82	
Coronary artery bypass graft with chest and donor site incisions	127	0.47	L	0.53	
Coronary artery bypass graft with chest incision only	105	0.33	L	0.39	
Exploratory laparotomy	319	0.69	L	0.69	
Gallbladder surgery	326	0.98	Ν	0.77	
Gastric surgery	290	0.62	L	0.60	
Hip prosthesis	304	0.68	L	0.70	
Hysterectomy, abdominal	312	0.81	L	0.72	
Hysterectomy, vaginal	286	0.95	Ν	0.78*	
Kidney transplant	20	0.35	L	0.35	
Knee prosthesis	292	0.58	L	0.60	
Laminectomy	226	0.46	L	0.45	
Liver transplant	11	0.25	L	0.22	
Open reduction of fracture	318	0.43	L	0.42	
Rectal surgery	264	0.97	Ν	0.73	
Small bowel surgery	305	0.53	L	0.61	
Spinal fusion	219	0.51	L	0.57	
Spine re-fusion	154	0.24	L	0.53	
Thoracic surgery	248	0.35	L	0.53	

^2014 statistical interpretation indicates SSI SIRs that were statistically higher (H), lower (L), or no different (N) than the predicted number of infections.

* 2013 SSI SIRs that were not statistically different are marked with an asterisk; all others were statistically lower.

Hospital-specific SSI SIRs can be generated for each surgical procedure type when at least one infection is predicted, which is determined by the number of surgeries performed and the mix of patients undergoing each procedure type. In addition, CDPH calculates an SSI SIR if hospitals performed more than 100 procedures in a surgical category even if the predicted number of infections was less than one. Each hospital may not have SSI SIRs for every surgical procedure category. For

California hospitals that perform small numbers of surgeries, SSI SIRs cannot be reported for many of their procedure categories.

In 2014, SSI SIRs could be calculated for 293 hospitals for one or more surgical categories, allowing comparison with national referent data. Of these, 112 hospitals had one or more type of surgery with fewer SSIs than predicted (low SIR), and 127 hospitals had SSI SIRs that showed no difference between the number of SSI reported and the number predicted. Fifty-four hospitals had one or more type of surgery with more SSIs than predicted (high SIR).

Interpreting SSI key findings

Past validation assessments by CDPH have demonstrated that many hospitals have problems identifying SSI, leading to under-reporting. Therefore, reported SSI data should be interpreted with caution. Efforts are underway to help California hospitals improve SSI surveillance and reporting.

Thirty-one SSI Data Tables accompany this 2014 report. <u>SSI Tables 1 through 29</u> present the 29 different reportable surgical procedure categories with data from 353 general acute care hospitals. <u>SSI Table 30</u> presents data from two LTAC hospitals. No SSI information was reported by rehabilitation acute care hospitals. <u>SSI Table 31</u> lists the 39 hospitals that submitted confirmation that they performed no surgeries among the 29 reportable surgical procedure categories in 2014.

Public Health Action

Multiple stakeholders use this annual HAI report. State and local public health use the report to understand local trends and to determine needs for public health outreach. Hospitals use the report to compare their infection incidence and assess areas for targeted HAI prevention. Consumers use the report to make decisions about where to seek care. Under the transparency of public reporting, declining infection incidence is expected to continue.

Infections that occur as a result of healthcare are largely preventable if healthcare providers adhere consistently with recommended infection prevention practices. To use these HAI data to leverage prevention activities where needed, CDPH developed and implemented an HAI "data for action" strategy to identify hospitals with high HAI incidence and ensure they are responding to the need for improvement. Regionally-based CDPH HAI Program Liaison Infection Preventionists offer assistance and support to hospitals for local implementation of prevention action plans. Of the 112 hospitals identified and targeted for high infection incidence based on 2013 data, all are collaborating with HAI Program Liaison Infection of their process improvement activities for preventing infections (Table 4).

In 2014, many California hospitals continued to demonstrate low infection incidence or decreases in their infection incidence compared with previous years. However, improvement is not occurring uniformly across all hospitals. From these 2014 reported data, CDPH identified 128 hospitals with high HAI incidence and targeted them for consultations; 56 hospitals were also on the data for action list in 2013 (highlighted in Appendix D).

HAI	Criteria Used to Target Hospitals for Data for Action Outreach	# of Hospitals Targeted, 2014
CDI	Hospitals with significantly high CDI SIR in 2014 compared with 2011 national baseline.	67
CLABSI	Hospitals with significantly high CLABSI SIRs in 2014 compared with 2008 national baseline, hospitals with at least one patient care location with a significantly high CLABSI rate in two consecutive years (2013 and 2014), and/or hospitals with two or more locations with significantly high CLABSI rates in 2014 compared with state mean rates.	24
MRSA BSI	Hospitals with significantly high MRSA BSI SIR in 2014 compared with 2011 national baseline and LTAC hospitals with significantly high rates in 2014 compared with other LTACs.	11
VRE BSI	Hospitals with significantly high VRE BSI rates in 2014 compared with other California hospitals in their strata (i.e. community, major teaching, pediatric, LTAC, rehabilitation, critical access, prison).	15
SSI	Hospitals with significantly high SSI SIR in 2014 compared with 2008 national baseline.	54

	Table 4	. Data foi	r Action	Strategy	Targeting	California	Hospitals	with High	Healthcar	e-Associate	ed Infectio	n
((HAI) In	cidence,	2014									

Note: CDPH targeted 34 hospitals with high HAI incidence for more than one infection type.

CDPH contacts targeted hospitals and offers a prevention assessment onsite visit by an HAI Liaison Infection Preventionist. Liaison Infection Preventionists perform tailored assessments specific to the HAI problem, which may include observational measurements to assess healthcare provider adherence to core prevention strategies, such as hand hygiene, use of bundle practices, environmental cleaning, and adherence to standard and contact precautions. The Liaison Infection Preventionist reminds previously targeted hospitals to provide updates on the infection prevention strategies they committed to in the past.

CDPH Action Steps:

- 1. Target hospitals with high CDI rates and work with hospital medical providers (e.g., hospitalists) to implement strategies to prevent transmission of *C. difficile* and reduce inappropriate use of antimicrobials through enhanced antimicrobial stewardship efforts.
- 2. For those hospitals with high CDI incidence, recommend and offer assistance to assess adherence to core CDI prevention practices, including thoroughness of environmental cleaning, antimicrobial stewardship, and judicious use of contact precautions, hand hygiene, and establishing clear communication between facilities sharing potentially transmissible CDI patients.
- 3. Engage with hospitals that have patient care locations with CLABSI rates statistically higher than national or statewide averages to explore opportunities to improve CLABSI prevention and control.
- 4. Recommend to hospitals with high CLABSI incidence that they review central line insertion practices and the accuracy and completeness of CLIP reporting, consider monitoring CLIP in all locations where central lines are inserted (e.g., interventional radiology) in addition to ICUs, and ensure adherence to CDC core prevention recommendations for the care and maintenance of central lines, device utilization rates, and daily assessment of central line necessity.

- 5. Continue to explore opportunities for preventing MRSA BSI and VRE BSI, including recommending that hospitals monitor adherence to hand hygiene, isolation precautions, environmental cleaning, and antimicrobial stewardship practices.
- 6. Encourage hospitals to report SSI surveillance data to their surgical and operating room staff track and provide surgeon-specific feedback, and examine adherence to surgical infection prevention practices.
- 7. Consult with hospitals on their planned infection prevention strategies, sustainability issues, use of HAI validation tools available on the CDPH website.
- 8. Continue prevention collaborative efforts, adopting regional approaches where HAI incidence is high.
- 9. Assist with identifying local networking opportunities for infection prevention education.
- 10. Continue to monitor accuracy and completeness of reported HAI data.
- 11. Continue to provide assistance to hospitals to improve surveillance and detection of SSI.

Recommended Hospital Action Steps:

- 1. Hospitals with high infection incidence should partner with the CDPH HAI Program by scheduling an assessment visit with an HAI Program Liaison Infection Preventionist and following through on HAI prevention recommendations.
- 2. Review and implement CDI prevention strategies to include:
 - Reviewing hospital CDI prevention policies, procedures, and protocols, to ensure consistency with recommendations from CDC and infection control professional organizations (e.g. Society for Healthcare Epidemiology of America, Infectious Diseases Society of America, Association for Professionals in Infection Control and Epidemiology);
 - Identifying antimicrobials and prescribing practices most strongly associated with CDI at their hospitals and targeting antimicrobial stewardship strategies;
 - Ensuring all surfaces in hospital rooms housing patients with CDI are thoroughly and effectively terminally cleaned prior to admitting another patient.
 - Actively monitoring adherence to infection control practices known to decrease risk of transmitting *C. difficile* among patients, including contact precautions, hand hygiene, environmental cleaning, and prompt identification of patients admitted with CDI and hospitalized patients who develop CDI symptoms; and
 - Ensuring accuracy and completeness of CDI data for monitoring prevention progress over time by strictly following NHSN protocols and definitions for all CDI positive tests.
- 3. Review and implement CLABSI prevention strategies to include:
 - Investigating patient care locations with the highest rates of CLABSI to identify opportunities to improve CLABSI prevention;

- Actively monitoring adherence to evidence-based CLABSI prevention measures including catheter choice and site, insertion and maintenance care practices, and prompt removal of catheters that are no longer necessary;
- Using CLIP bundle adherence as a quality improvement tool to identify care component(s) with low percentages and targeting interventions to improve adherence;
- Expanding CLIP adherence monitoring to all patient care areas and units where central lines are inserted;
- Analyzing CLIP data to target avoidance of femoral insertion sites;
- Evaluating CLIP adherence for each CLABSI as part of a root cause analysis (or other case review) to identify specific areas for practice improvement; and
- Ensuring the accuracy and completeness of CLABSI data for monitoring prevention progress over time by a) reviewing all positive blood cultures to confirm or rule out CLABSI and b) strictly following NHSN definitions and protocols for identifying, classifying, and reporting CLABSI, central line-days, and CLIP data.
- 4. Review and implement strategies to prevent MRSA BSI and VRE BSI to include:
 - Examining MRSA BSI SIRs and evaluating VRE BSI rates relative to hospitals in their hospital category;
 - Taking action to prevent the transmission of MRSA and VRE using recommendations of the CDC and professional organizations; and
 - Ensuring the accuracy and completeness of MRSA BSI and VRE BSI data for monitoring prevention progress over time by reviewing and reporting all MRSA and VRE positive blood cultures per NHSN protocols.
- 4. Review and implement strategies to prevent SSI to include:
 - Reporting to all surgical services and operating room staff surgery-specific SSI surveillance findings and comparisons;
 - Tracking surgeon-specific SSI incidence and providing feedback to individual surgeons with comparisons to their surgical group's SSI incidence;
 - Monitoring adherence to evidence-based SSI prevention practices; and
 - Ensuring complete identification and accurate reporting of all SSIs for the 29 required surgical procedure categories, incorporating the use of administrative and diagnostic codes to flag patient records for SSI case review.

Recommended Public Action Steps:

- Review the infection information presented for your hospital and ask your health care provider questions you have about the data they reported.
- Ask your health care provider about the actions your hospital is taking to ensure patient safety and prevent HAI.

- Ask your health care provider about what actions you can take to ensure your safety in the hospital and protect yourself against HAI.
- Ask your health care provider about what actions they are taking to prevent CDI, including whether they have an antimicrobial stewardship program to ensure appropriate use of antibiotics.
- Ask your health care provider about what actions they are taking to prevent the transmission of MRSA and VRE.
- Observe whether your health care provider performs hand hygiene or hand washing just prior to examining you.
- Speak up if you do not understand or have a question. Clear communication between you and your health care provider is one of the first steps you can take toward ensuring your own safety.

County	Nonparticipating Hospitals
Butte	Biggs Gridley Memorial Hospital
Kern	Good Samaritan Hospital, Bakersfield
Kern	Mercy Southwest Hospital
Kern	Ridgecrest Regional Hospital
Lassen	Banner Lassen Medical Center
Los Angeles	Coast Plaza Hospital
Los Angeles	Foothill Presbyterian Hospital-Johnston Memorial
Los Angeles	Glendale Memorial Hospital and Health Center
Los Angeles	Glendora Community Hospital
Los Angeles	LAC/Harbor-UCLA Medical Center
Los Angeles	Los Angeles County Olive View-UCLA Medical Center
Los Angeles	Marina Del Rey Hospital
Los Angeles	Memorial Hospital of Gardena
Los Angeles	Mission Community Hospital
Los Angeles	Olympia Medical Center
Los Angeles	Pacifica Hospital of the Valley
Los Angeles	Providence Tarzana Medical Center
Los Angeles	Santa Monica - UCLA Medical Center and Orthopaedic Hospital
Los Angeles	Shriners Hospitals for Children
Madera	Madera Community Hospital
Marin	Kentfield Rehabilitation & Specialty Hospital
Modoc	Modoc Medical Center
Modoc	Surprise Valley Community Hospital
Napa	Queen of the Valley Medical Center
Orange	Children's Hospital at Mission
Orange	Healthbridge Children's Hospital - Orange
Placer	Sutter Auburn Faith Hospital
Plumas	Seneca Healthcare District
San Bernardino	Mountains Community Hospital
San Diego	Promise Hospital of San Diego
San Joaquin	Sutter Tracy Community Hospital
San Luis Obispo	Twin Cities Community Hospital
San Mateo	San Mateo Medical Center
Santa Barbara	Marian Regional Medical Center
Santa Cruz	Watsonville Community Hospital
Solano	Sutter Solano Medical Center
Sonoma	Sonoma Developmental Center
Stanislaus	Central Valley Specialty Hospital
Stanislaus	Doctors Medical Center
Stanislaus	Memorial Medical Center
Stanislaus	Oak Valley Hospital District (2-Rh)
l ehama	St. Elizabeth Community Hospital
Iulare	Porterville Developmental Center
Ventura	Simi Valley Hospital & Health Care Services
Ventura	St Johns Regional Medical Center

Appendix A. California Hospitals That Did Not Participate in 2014 Healthcare-Associated Infections Data Validation

County	Hospital	Missing Data	Facility Category		
Los Angeles	Coast Plaza Hospital	CDI, VRE BSI	Community		
Los Angeles	Memorial Hospital of Gardena	CDI, MRSA BSI, VRE BSI	Community		
Los Angeles	Mission Community	MRSA BSI	Community		
San Bernardino	Colorado River Medical Center	CDI	Critical Access		
San Bernardino	Mountains Community Hospital	CDI, MRSA BSI, VRE BSI	Critical Access		
San Diego	Promise Hospital of San Diego	MRSA BSI	Long-Term Acute Care		
San Luis Obispo	California Mens Colony	CDI, MRSA BSI, VRE BSI	Prison		
Trinity	Trinity Hospital	CDI	Critical Access		

Appendix B: Hospitals with Incomplete Healthcare-Associated Infections Reporting, 2014

CDI = Clostridium difficile diarrheal infections

MRSA BSI = bloodstream infections due to methicillin-resistant *Staphylococcus aureus*

VRE BSI = bloodstream infections due to vancomycin-resistant Enterococci

Clostridium difficile Diarrheal Infections (CDI)										
		No. of Infec	ctions 2013	SIR	No. of Infect	tions 2014	SIR	Percent	Percent SIR Reduction 95% Cl [*]	
Reporting hospital	County	Observed	Predicted	2013	Observed	Predicted	2014	Reduction		
San Leandro Hospital	Alameda	23	6.86	3.35	9	6.52	1.38	41.2	(18.0, 88.0)	
John Muir Medical Center- Walnut Creek Campus	Contra Costa	77	60.06	1.28	55	62.81	0.88	68.3	(48.0, 97.0)	
Henry Mayo Newhall Hospital	Los Angeles	30	27.00	1.11	18	42.29	0.43	38.3	(21.0, 69.0)	
LAC/Rancho Los Amigos National Rehabilitation Ctr	Los Angeles	23	29.25	0.79	10	28.78	0.35	44.2	(20.0, 92.0)	
Methodist Hospital of Southern California	Los Angeles	83	46.43	1.79	77	63.29	1.22	68.1	(50.0, 93.0)	
Saint Francis Medical Center	Los Angeles	59	56.74	1.04	37	59.53	0.62	59.8	(39.0, 90.0)	
Hemet Valley Medical Center	Riverside	65	28.93	2.25	40	26.50	1.51	67.2	(45.0, 99.0)	
Arrowhead Regional Medical Center	San Bernardino	90	70.37	1.28	50	60.49	0.83	64.6	(46.0, 91.0)	
Redlands Community Hospital	San Bernardino	71	33.93	2.09	42	29.86	1.41	67.2	(46.0, 98.0)	
Scripps Green Hospital	San Diego	47	24.46	1.92	28	28.26	0.99	51.5	(32.0, 82.0)	
Lodi Memorial Hospital	San Joaquin	50	27.08	1.85	28	25.60	1.09	59.2	(37.0, 94.0)	
Santa Barbara Cottage Hospital	Santa Barbara	40	27.77	1.44	23	45.09	0.51	35.4	(21.0, 59.0)	
O'Connor Hospital	Santa Clara	52	39.04	1.33	28	34.20	0.82	61.5	(38.0, 97.0)	

Appendix C. California Hospitals with Statistically Significantly Lower Incidence (Standardized Infection Ratios (SIR) or Rates) of Healthcare-Associated Infections in 2014 Compared with 2013

CDI in Long-Term Acute Care and Rehabilitation Acute Care Hospitals Hospitals											
Reporting hospital	County	Infection Count 2013	Patient Days 2013	Incide nce Rate 2013	Infection Count 2014	Patient Days 2014	Incide nce Rate 2014	Incidence Rate Ratio (IRR)	IRR 95% CI		
Kindred Hospital, San Gabriel Valley	Los Angeles	45	19393	23.20	20	19609	10.20	0.44	(0.25, 0.74)		
Promise Hospital of East Los Angeles-Suburban Campus	Los Angeles	58	42303	13.71	34	45818	7.42	0.54	(0.35, 0.82)		
Ballard Rehabilitation Hospital	San Bernardino	25	15151	16.50	13	17018	7.64	0.46	(0.23, 0.90)		

Central Line-Associated Bloodstream Infections (CLABSI)											
		No. of Infec	ctions 2013		No. of Infections 2014			Percent	Percent SIR		
Reporting hospital	County	Observed	Predicted	SIR 2013	Observed	Predicted	SIR 2014	SIR Reduction	Reduction 95% CI [*]		
Oroville Hospital	Butte	8	4.22	1.90	0	4.61	0.00	0.00	(0.00,42.0)		
California Hospital Medical Center - Los Angeles	Los Angeles	12	11.96	1.00	4	15.29	0.26	26.1	(7.00,78.0)		
Kaiser Foundation Hospital, Los Angeles	Los Angeles	22	41.83	0.53	8	39.87	0.20	38.2	(16.0,84.0)		
Providence Little Company of Mary Medical Center San Pedro	Los Angeles	7	5.19	1.35	0	5.07	0.00	0.00	(0.00,55.0)		
University of California Irvine Medical Center	Orange	43	82.72	0.52	13	81.58	0.16	30.6	(16.0,56.0)		
Riverside Community Hospital	Riverside	29	39.91	0.73	10	36.37	0.28	37.8	(18.0,76.0)		
Mercy San Juan Medical Center	Sacramento	16	44.74	0.36	3	40.75	0.07	20.7	(5.00,65.0)		
San Antonio Community Hospital	San Bernardino	14	11.01	1.27	2	13.61	0.15	11.6	(2.00,45.0)		

Appendix C. California Hospitals with	Statistically Significantly	/ Lower Incidence	(Standardized Infection	Ratios (SIR) or Rate	es) of Healthcare-
Associated Infections in 2014 Compar	ed with 2013 (continued)				

CLABSI in Long-Term Acute Care Hospitals										
Reporting hospital	County	Infection Count 2013	Central Line Days 2013	Incidence Rate 2013	Infection Count 2014	Central Line Days 2014	Incidence Rate 2014	Incidence Rate Ratio (IRR)	IRR 95% CI [*]	
Vibra Hospital of Northern California	Shasta	10	9560	1.05	2	9888	0.20	0.19	(0.03,0.79)	

Appendix C. California Hospitals with Statistically Significantly Lower Incidence (Standardized Infection Ratios (SIR) or Rates) of Healthcare-Associated Infections in 2014 Compared with 2013 (continued)

Methicillin Resistant Staphylococcus aureus Bloodstream Infections (MRSA BSI)											
in Long-Term Acute Care Hospitals											
		Infection	Patient	Incidence	Infection	Patient	Incidence	Incidence			
	Count	Days	Rate	Count	Days	Rate	Rate Ratio	IRR			
Reporting hospital	County	2013	2013	2013	2014	2014	2014	(IRR)	95% CI [*]		
Kindred Hospital, Los Angeles	Los Angeles	18	27196	6.62	4	27162	1.47	0.22	(0.06, 0.62)		
Kindred Hospital, Ontario	Kindred Hospital, Dos ratigolos Los ratigolos <thlos ratigolos<="" th=""> Los ratigolos</thlos>										

Vancomycin-resistant Enterococci Bloodstream Infections (VRE BSI)										
Reporting hospital	County	Infection Count 2013	Patient Days 2013	Incidence Rate 2013	Infection Count 2014	Patient Days 2014	Incidence Rate 2014	Incidence Rate Ratio (IRR)	IRR 95% CI [*]	
Providence Saint Joseph Medical Center	Los Angeles	11	84710	1.30	2	76263	0.26	0.20	(0.03, 0.81)	
Silver Lake Medical Center	Los Angeles	3	14494	2.07	0	39274	0.00	0.00	(0.00, 0.63)	

Surgical Site Infections (SSI)												
			No. of Infe	ctions 2013		No. of Infec	tions 2014	015				
Reporting Hospital	County	SSI Procedure	Observed	Predicted	2013	Observed	Predicted	2014	Percent SIR Reduction			
Doctors Medical Center	Stanislaus	Open Reduction of Fracture	7	3.13	2.24	1	3.85	0.26	11.6			
UCSF Medical Center	San Francisco	Hip Prosthesis	11	4.82	2.28	3	4.55	0.66	28.9			
Stanford Hospital	Santa Clara	Abdominal Surgery	11	7.53	1.46	3	6.98	0.43	29.5			
University of California, San Diego Medical Center	San Diego	Abdominal Surgery	9	3.03	2.97	2	3.23	0.62	20.9			
Orange Coast Memorial Medical Center	Orange	Abdominal Surgery	10	0.94	10.68	3	1.33	2.26	21.2			

CI = Confidence Interval

Appendix D. Hospitals with Significantly High Healthcare-Associated Infection (HAI) Incidence and Targeted for Public Health Outreach Based on 2014 Reported Data

Clostridium difficile diarrheal infections (CDI) Hospitals with significantly high CDI SIR in 2014 compared with 2011 national baseline. Alameda Alameda Alameda Alameda Alameda Alameda Alameda Kaiser Foundation Hospital, Fremont Kaiser Foundation Hospital infections (CDI) Hospitals with significantly high CDI SIR infections (CDI) Alameda Alameda Alameda Alameda Kaiser Foundation Hospital, Valleycare Medical Center Mameda Valleycare Medical Center Alameda Valleycare Medical Center Alameda Valleycare Medical Center Concord Campus Kaiser Foundation Hospital Contra Costa Contra Costa John Muir Medical Center Imperial Los Angeles El Centro Regional Medical Center Los Angeles Cos Angeles City of Hope Helford Clinical Research Hospital Los Angeles Los Angeles Kaiser Foundation Hospital, Baldwin Park Los Angeles Los Angeles Kaiser Foundation Hospital, South Bay Los Angeles Los Angeles Kaiser Foundation Hospital, West LA Los Angeles Los Angeles Los Angeles Los Angeles Los Angeles Los Angeles Los Angeles Los Angeles Los Angeles Los Angeles Lo	HAI Type	Criteria	County	Targeted Hospitals, 2014
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diarrheal infections (CDI) baseline. Alameda Alam	difficile	in 2014 compared with 2011 national	Alameda	Kaiser Foundation Hospital, Fremont
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Los Angeles Olympia Medical Center Los Angeles Pomona Valley Hospital Medical Center Los Angeles Presbyterian Intercommunity Hospital			Los Angeles	Marina Del Rey Hospital
Los Angeles Pomona Valley Hospital Medical Center			Los Angeles	Olympia Medical Center
Los Angeles Presbyterian Intercommunity Hospital			Los Angeles	Pomona Valley Hospital Medical Center
			Los Angeles	Presbyterian Intercommunity Hospital
Los Angeles Providence Saint Joseph Medical Center			Los Angeles	Providence Saint Joseph Medical Center
Los Angeles Providence Tarzana Medical Center			Los Angeles	Providence Tarzana Medical Center
Los Angeles Ronald Reagan UCLA Medical Center			Los Angeles	Ronald Reagan UCLA Medical Center
Los Angeles San Gabriel Valley Medical Center			Los Angeles	San Gabriel Valley Medical Center
Los Angeles Snerman Oaks Hospital			Los Angeles	Sherman Oaks Hospital
Los Angeles USC Kenneth Norris Jr. Cancer Hospital			Los Angeles	USC Kenneth Norris Jr. Cancer Hospital
Orange Hoag Memorial Hospital Presbyterian			Orange	Hoag Memorial Hospital Presbyterian
Orange La Palma Intercommunity Hospital			Orange	La Palma Intercommunity Hospital
Orange Los Alamitos Medical Center			Orange	Los Alamitos Medical Center
Drange University of California Irvine Medical Center			Divoraida	Corona Regional Medical Center
Riverside Corona Regional Medical Center			Riverside	
Riverside Fiemet valley Medical Center			Riverside	Reiser Foundation Heapital Marana Vallay
Riverside Raiser Foundation Hospital, Moreno Valley			Riverside	Kaiser Foundation Hospital, Woreno Valley

Hospitals in bold also reported statistically high incidence for the same infection type in 2013

Appendix D. Hospitals with Significantly High Healthcare-Associated Infection (HAI) Incidence and Targeted for Public Health Outreach Based on 2014 Reported Data

HAI Type	Criteria	County	Targeted Hospitals, 2014
CDI, continued		Riverside	Menifee Valley Medical Center
		Riverside	Riverside Community Hospital
		Riverside	San Gorgonio Memorial Hospital
		Sacramento	Kaiser Foundation Hospital, Sacramento
		Sacramento	Mercy General Hospital
		San Bernardino	Kaiser Foundation Hospital, Fontana
		San Bernardino	Kaiser Foundation Hospital, Ontario
		San Bernardino	Redlands Community Hospital
		San Bernardino	St. Bernardine Medical Center
		San Diego	Kaiser Foundation Hospital, San Diego
		San Diego	Palomar Medical Center
		San Diego	Pomerado Hospital
		San Diego	Sharp Chula Vista Medical Center
		San Diego	Sharp Memorial Hospital
		San Diego	University of California, San Diego Medical Center
		San Francisco	Saint Francis Memorial Hospital
		San Joaquin	St. Joseph's Medical Center Of Stockton
		San Mateo	Kaiser Foundation Hospital, Redwood City
		San Mateo	Seton Medical Center
		Santa Clara	Kaiser Foundation Hospital, San Jose
		Santa Clara	Stanford Hospital
		Solano	Kaiser Foundation Hospital and Rehab Center, Vallejo
		Solano	Kaiser Foundation Hospital, Vacaville
		Solano	Northbay Vacavalley Hospital
		Sonoma	Sutter Santa Rosa Regional Hospital
		Stanislaus	Kaiser Foundation Hospital, Manteca
		Sutter	Rideout Memorial Hospital
		Ventura	Los Robles Hospital and Medical Center
		Ventura	St Johns Pleasant Valley Hospital

Hospitals in bold also reported statistically high incidence for the same infection type in 2013

Appendix D.	Hospitals	with	Significantly	High	Healthcare-Associated	Infection	(HAI)	Incidence	and	Targeted	for	Public	Health
Outreach Bas	sed on 2014	Rep	orted Data										

HAI Type	Criteria	County	Targeted Hospitals, 2014
Central line- associated bloodstream infections (CLABSI)	Hospitals with significantly high CLABSI SIRs in 2014 compared with 2008 national baseline (*); hospitals with one or more patient care location (ICU or ward) with a significantly high CLABSI rate in two consecutive years, 2013 and 2014; hospitals with two or more locations with significantly high CLABSI rates in 2014.	Fresno Fresno Los Angeles Los Angeles Cos	Community Regional Medical Center Saint Agnes Medical Center Antelope Valley Hospital Barlow Respiratory Hospital Childrens Hospital Los Angeles College Medical Center* Kaiser Foundation Hospital, Woodland Hills Mission Community Hospital* Monrovia Memorial Hospital Olympia Medical Center Pacifica Hospital of the Valley* Ronald Reagan UCLA Medical Center Saint Francis Medical Center Southern California Hospital at Hollywood* USC Kenneth Norris Jr. Cancer Hospital* Hoag Memorial Hospital Presbyterian Loma Linda University Medical Center Kaiser Foundation Hospital, San Diego Paradise Valley Hospital University of California, San Diego Medical Center Kaiser Foundation Hospital, San Jose Regional Medical Center of San Jose Regional Medical Facility*
Methicillin- resistant <i>Staphylococcus aureus</i> bloodstream infections (MRSA BSI)	Hospitals with significantly high MRSA BSI SIR in 2014 compared with 2011 national baseline, and LTAC hospitals with significantly high rates in 2014 compared with all other LTAC hospitals	Kern Los Angeles <i>Los Angeles</i> Orange Orange Riverside Sacramento San Bernadino Shasta Tulare	Bakersfield Memorial Hospital Lakewood Regional Medical Center <i>Los Angeles Community Hospital</i> Huntington Beach Hospital <i>Kindred Hospital, Westminster</i> La Palma Intercommunity Hospital Hemet Valley Medical Center University of California Davis Medical Center Loma Linda University Medical Center Vibra Hospital of Northern California Kaweah Delta Medical Center

Hospitals in bold also reported statistically high incidence for the same infection type in 2013

Appendix D. Hospitals with Significantly High Healthcare-Associated Infection (HAI) Incidence and Targeted for Public Health Outreach Based on 2014 Reported Data

HAI Type	Criteria	County	Targeted Hospitals, 2014
Vancomycin- resistant Enterococcus bloodstream infections (VRE BSI)	Hospitals with significantly high VRE BSI rates in 2014 compared with other California hospitals in their strata, i.e. community, major teaching, pediatric, LTAC, rehabilitation, critical access, or prison hospital	Fresno Kern Los Angeles Los Angeles Los Angeles Los Angeles Los Angeles Los Angeles Los Angeles Riverside San Bernardino San Diego San Francisco Santa Clara	Saint Agnes Medical Center Mercy Hospital <i>City of Hope Helford Clinical Research Hospital</i> Kaiser Foundation Hospital, Baldwin Park Lakewood Regional Medical Center <i>Los Angeles Community Hospital</i> Olympia Medical Center <i>Ronald Reagan UCLA Medical Center</i> Sherman Oaks Hospital <i>USC Kenneth Norris Jr. Cancer Hospital</i> <i>Riverside Community Hospital</i> <i>St. Bernardine Medical Center</i> University of California, San Diego Medical Center California Pacific Medical Center - Pacific Campus Hospital Stanford Hospital
Surgical site infections (SSI)	Hospitals with significantly high SSI SIR in 2014 compared with 2008 national baseline.	Alameda Alameda Humboldt Imperial Kern Kern Los Angeles Los Angeles Cos Angeles	Highland HospitalKaiser Foundation Hospital, Oakland/RichmondSt. Joseph HospitalEl Centro Regional Medical CenterKern Medical CenterMercy Southwest HospitalSan Joaquin Community HospitalAntelope Valley HospitalCedars-Sinai Medical CenterChildrens Hospital Los AngelesLAC/Harbor-UCLA Medical CenterMethodist Hospital of Southern CaliforniaPomona Valley Hospital Medical CenterPresbyterian Intercommunity HospitalProvidence Saint Joseph Medical CenterRonald Reagan UCLA Medical CenterTorrance Memorial Medical CenterCommunity Hospital of The Monterey PeninsulaSalinas Valley Memorial HospitalChildren's Hospital of Orange CountyHoag Memorial Hospital Presbyterian

Hospitals in bold also reported statistically high incidence for the same infection type in 2013

Appendix D.	Hospitals	with	Significantly	High	Healthcare-Associated	Infection	(HAI)	Incidence	and	Targeted	for	Public	Health
Outreach Bas	ed on 2014	Repo	orted Data										

HAI Type	Criteria	County	Targeted Hospitals, 2014
SSI, continued		Orange	Mission Hospital Regional Medical Center
		Orange	Saddleback Memorial Medical Center
		Riverside	Eisenhower Medical Center
		Riverside	John F. Kennedy Memorial Hospital
		Riverside	Kaiser Foundation Hospital, Riverside
		Riverside	Loma Linda University Medical Center - Murrieta
		Riverside	Parkview Community Hospital Medical Center
		Riverside	Riverside Community Hospital
		Sacramento	Mercy Hospital of Folsom
		Sacramento	Mercy San Juan Medical Center
		San Bernardino	Arrowhead Regional Medical Center
		San Bernardino	Kaiser Foundation Hospital, Fontana
		San Bernardino	San Antonio Community Hospital
		San Diego	Pomerado Hospital
		San Diego	Scripps Green Hospital
		San Diego	Scripps Memorial Hospital - Encinitas
		San Diego	Scripps Memorial Hospital - La Jolla
		San Diego	Scripps Mercy Hospital
		San Diego	Scripps Mercy Hospital Chula Vista
		San Diego	University of California, San Diego Medical Center
		San Francisco	Kaiser Foundation Hospital, San Francisco
		Santa Barbara	Santa Barbara Cottage Hospital
		Santa Clara	Good Samaritan Hospital
		Santa Clara	Regional Medical Center of San Jose
		Santa Clara	Santa Clara Valley Medical Center
		Santa Clara	Stanford Hospital
		Santa Cruz	Dominican Hospital
		Shasta	Mercy Medical Center Redding
		Sonoma	Sutter Santa Rosa Regional Hospital
		Stanislaus	Doctors Medical Center
		Stanislaus	Memorial Medical Center
		Sutter	Rideout Memorial Hospital
		Ventura	Ventura County Medical Center

Hospitals in bold also reported statistical	ly high incidence for the sa	me infection type in 2013
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