

**California Department of Public Health
Healthcare-Associated Infections in California Hospitals Annual Report
January to December 2017**

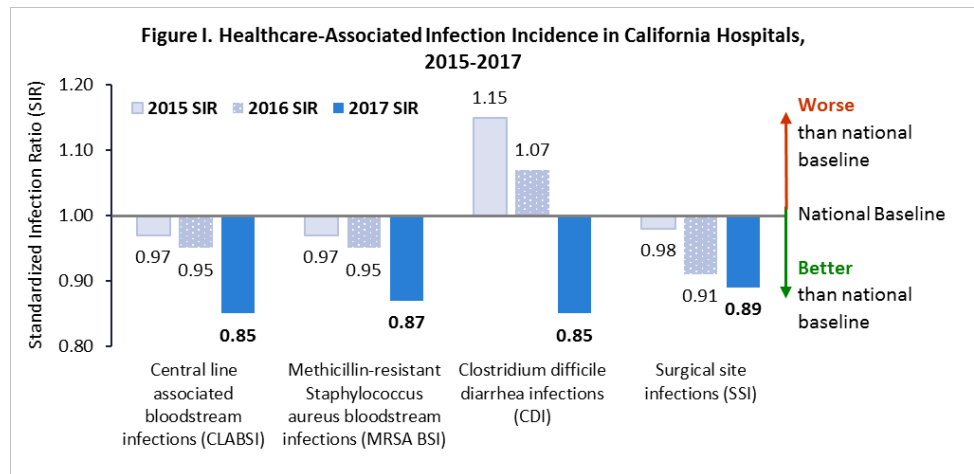
Executive Summary

The California Department of Public Health (CDPH) publishes healthcare-associated infections (HAI) data to prompt hospitals to take action to prevent infections and provide to consumers vital information about the quality of hospital care (Health and Safety Code section 1288.55).

This report presents California hospital HAI data for calendar year 2017. From 2016 to 2017, California hospitals made the most substantial progress in HAI prevention since reporting began in 2009. In 2017, hospitals reported 2,602 fewer HAI than reported in 2016. Statewide incidence for all reportable infection types is now lower or “better” than 2015 national baselines (Figure I).

The 2017 reductions occurred most notably for *C. difficile* infections (CDI), a type of life-threatening diarrhea that occurs when a patient inadvertently ingests the organism and is treated with certain antibiotics, and Vancomycin-resistant Enterococcus bloodstream infections (VRE BSI),

invasive infections caused by a gut organism that has acquired resistance to certain antibiotics. The statewide CDI incidence decreased by 26% since 2015. For the first time, statewide VRE BSI rates decreased for all hospital types (teaching, community (small, medium, and large), and pediatric) except long-term acute care (LTAC) hospitals.



Despite overall improvement, HAI incidence is not decreasing for all infection types in all hospitals. In response to this report, CDPH is taking specific action including coordinating with the California Hospital Association and others engaged in statewide HAI prevention projects and providing HAI trend data and support to local health departments to address regional HAI issues. CDPH is also continuing to provide support to nine hospitals with high HAI incidence over multiple years and providing onsite assistance to 44 hospitals with the highest surgical site infection (SSI) incidence. To help develop a statewide reduction strategy, CDPH will also convene 20 hospitals that reported nearly half of all central line associated bloodstream infections (CLABSI).

CDPH recommends that all hospitals implement a facility-wide adherence monitoring program to evaluate health care provider and staff compliance with care practices known to prevent hospitalized patients from acquiring HAI. Members of the public should ask their doctors and other health care providers if they have adherence monitoring programs and other actions to prevent HAI.

Annual Report

Patients in hospitals are exposed to invasive devices, procedures, and medications that put them at risk for acquiring healthcare-associated infections (HAI). Many HAI can be avoided if health care providers and staff consistently adhere to infection prevention care practices [1]. The California Department of Public Health (CDPH) publishes HAI data to prompt California hospitals to act and provide to consumers and health care purchasers important information for evaluating the quality of care in California hospitals.

This report provides an annual summary of HAI data reported by California hospitals to CDPH, in accordance with Health and Safety Code sections 1288.5 and 1288.55. In 2017, 404 general acute care hospitals reported 16,322 HAIs, 2,602 fewer HAI than reported in 2016. Although hospitals have made significant progress, hospitals can take even more action to further reduce preventable HAI.

Methods

California acute care hospitals track and report to CDPH five types of hospital-onset infections (Health and Safety Code section 1288.5):

- Central line-associated bloodstream infections (CLABSI) result from contamination of a central line, a catheter (tube) that is inserted in a large vein in the neck, chest, or groin, to give medication or fluids. CLABSI can occur due to breaks in infection control care practices during insertion of the central line or during the time the line is in use. Low CLABSI rates are important indicators of patient safety because most CLABSI can be prevented with consistent adherence to recommended infection prevention care practices [2].
- Methicillin-resistant *Staphylococcus aureus* (MRSA) bloodstream infections (BSI) are very serious infections due to one of the most common organisms resistant to multiple antibiotics. MRSA BSI acquired in the hospital can result in patients having longer hospital stays, higher hospital costs, and greater risk of death. For MRSA to cause an infection in the bloodstream, the bacteria must be introduced into the bloodstream by a device or during a procedure, or travel to the bloodstream from a MRSA infection at another body site.
- Vancomycin-resistant Enterococci (VRE) BSI are invasive infections that occur due to displacement or disruption of gastrointestinal tract bacteria that have acquired resistance due to prior antibiotic exposure or from transmission in a hospital or other health care setting.
- *Clostridium difficile* infections (CDI) are a type of life-threatening diarrhea that occurs far too commonly in hospitalized patients due to lapses in infection control care practices and exposure to certain antibiotics.
- Surgical site infections (SSI) occur after surgery in the part of the body where the surgery took place due to contamination during the time of the operation. California hospitals track and report SSIs for 28 types of surgical procedures.

This report summarizes HAI data reported from January 1, 2017, through December 31, 2017, via the Centers for Disease Control and Prevention (CDC) National Healthcare Safety Network (NHSN). Twenty (5%) California hospitals did not report complete HAI data for 2017; 11 of these also failed to report complete data in a prior year (Table 1). CDPH issues deficiencies to hospitals that do not report all required HAI data.

Table 1. California Hospitals with Incomplete Reporting of Healthcare-Associated Infections Data, 2017

County Hospital	Infection Type(s) with Missing or Incomplete Data in 2017	Incomplete or Missing Data in Previous Year
Butte Adventist Health Feather River Oroville Hospital	MRSA BSI, VRE BSI, CDI MRSA BSI, VRE BSI	
Glenn Glenn Medical Center	CLABSI	
Inyo Southern Inyo Hospital	CLABSI, MRSA BSI, VRE BSI, CDI	2015
Kern Adventist Health Tehachapi Valley	CLABSI, MRSA BSI	
Los Angeles Catalina Island Medical Center Encino Hospital Medical Center Kindred Hospital, Los Angeles Pacifica Hospital of the Valley	CLABSI, MRSA BSI, VRE BSI, CDI CLABSI, MRSA BSI, VRE BSI, CDI CDI MRSA BSI, VRE BSI	2015
Mariposa John C. Fremont Healthcare District	CLABSI	2016
Modoc Surprise Valley Community Hospital	CLABSI, MRSA BSI, VRE BSI, CDI	2015, 2016
Orange Healthbridge Children's Hospital, Orange	CLABSI, MRSA BSI, VRE BSI, CDI	2016
Plumas Eastern Plumas Hospital, Portola Campus Seneca District Hospital	MRSA BSI, VRE BSI, CDI CLABSI, VRE BSI	2015 2015
San Bernardino Bear Valley Community Hospital Mountains Community Hospital Victor Valley Global Medical Center	CLABSI, MRSA BSI, VRE BSI, CDI MRSA BSI, VRE BSI, CDI CLABSI, MRSA BSI, VRE BSI, CDI	2014, 2015, 2016
Santa Clara Mission Oaks Hospital	VRE BSI	2016
Shasta Mayers Memorial Hospital	MRSA BSI, VRE BSI, CDI	2016
Sonoma Sonoma Developmental Center	CLABSI, MRSA BSI, VRE BSI, CDI	2015

CDPH calculates and presents HAI incidence based on national referent data (baselines) to track California hospital HAI prevention progress from year to year [3]. When available, CDPH reports HAI incidence using a measure called the standardized infection ratio (SIR). The SIR is calculated by comparing the number of HAI that were reported by the hospital with the number of HAI that were predicted by 2015 national baseline data [4]. The predicted number of infections is determined by a risk adjustment process that accounts for differences in hospital and patient characteristics. CDPH presents VRE BSI incidence as rates (per 10,000 patient days) because a risk adjustment model and SIRs are not available.

In 2015, the CDPH HAI Advisory Committee recommended that CDPH track each hospital's progress in meeting national HAI reduction goals [5]. From 2015 to 2020, all California hospitals should achieve 50% reductions in CLABSI and MRSA BSI incidence and 30% reduction in CDI and SSI. Included for the first time in this report, CDPH reports hospital progress toward achieving the 2020 HAI prevention goals and whether the hospitals are on track to reach the 2020 reduction goals. To be considered on track, hospitals must have SIRs at or below incremental targets each year (Table 2).

Table 2. Using the Standardized Infection Ratio (SIR) to Monitor Progress toward 2020 Target Reduction Goals, by Infection Type and Year

HAI Type	2015 Baseline SIR	SIR Considered "On Track" to Meet 2020 Goal				2020 Target SIR Goal
		2016	2017	2018	2019	
CLABSI and MRSA BSI	1.0	0.90	0.80	0.70	0.60	0.50
CDI and SSI	1.0	0.94	0.88	0.82	0.76	0.70

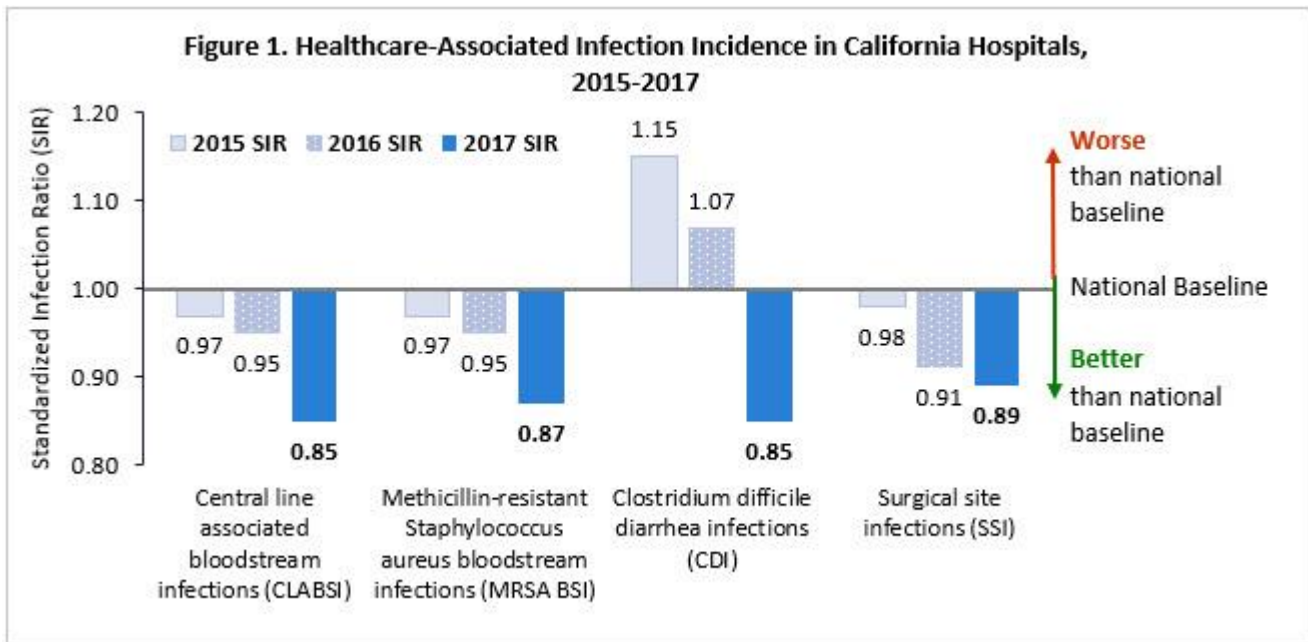
CDPH publishes annual HAI findings on its website (www.cdph.ca.gov/HAI) and posts all HAI data tables on the California Health and Human Services Open Data Portal (<https://data.chhs.ca.gov/>). The CDPH webpage includes this "Annual Report of Healthcare-Associated Infections in California Hospitals, 2017" and a two-page HAI profile for each California hospital. The profiles show detailed HAI data reported in 2017 and graphs of annual infection trends since 2015. The profiles are also available via the CDPH interactive map, "My Hospital's Infections." For the first time, users of the My Hospital's Infections map are able to perform side-by-side comparisons of HAI results from three hospitals.

In 2017, CDPH received HAI data from 335 acute care hospitals (including 270 community, 55 major teaching, and 10 pediatric acute care hospitals), 23 long-term acute care (LTAC) hospitals, 34 critical access hospitals, and 75 acute care rehabilitation hospitals and units. CDPH reports HAI data from LTAC, critical access, and rehabilitation hospitals in separate sections of this report because risk-adjustment methods are different for each hospital type. The Key Findings section of this report presents HAI data for the majority (335) of California hospitals.

Key Findings

From 2016 to 2017, California hospitals made substantial progress in preventing HAIs. Among California’s 335 community, teaching, and pediatric hospitals, 157 (47%) hospitals reported a reduction in CLABSI incidence, 137 (41%) in MRSA BSI, 214 (64%) in CDI, and 144 (43%) in SSI. Statewide incidence for all reportable infection types is significantly lower or “better” than national baselines (Figure 1).

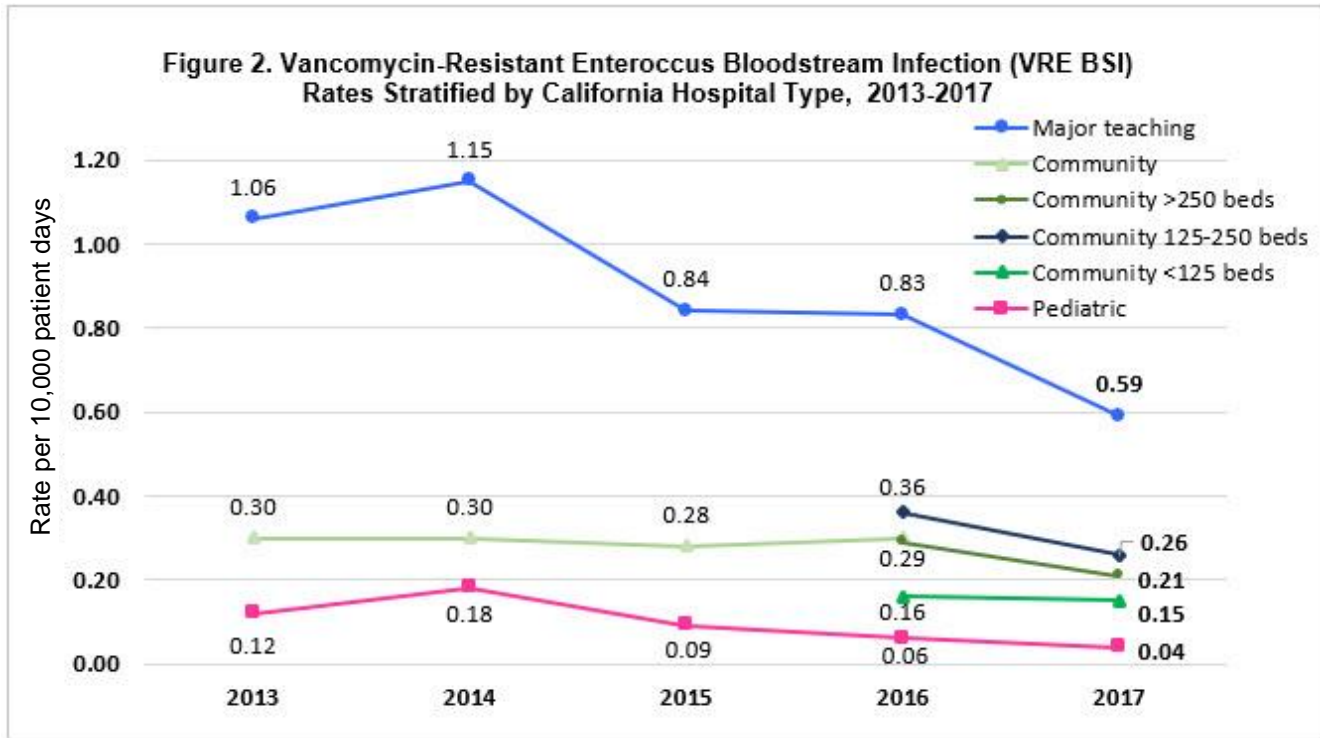
For at least one infection type, 116 (35%) hospitals in 27 counties have HAI incidence significantly better (★) than the national baseline (or statewide VRE BSI rate) and 115 (34%) hospitals in 30 counties had HAI incidence significantly worse (✘) (Appendix A).



In 2017, hospitals reported 2,278 CLABSI and would have needed to prevent approximately 900 of those to achieve the 2020 reduction goal. Thirteen hospitals continue to have significantly worse CLABSI incidence compared with the 2015 national baseline. CDPH identified 20 (6%) hospitals that reported 42% of all CLABSI to target for action and reduce the statewide rate. Hospitals that reported the most CLABSI are more likely to be large (>250 beds), teaching hospitals, and providing care on oncology and critical care step down units.

Hospitals reported 690 MRSA BSI and would have needed to prevent approximately 290 of those to achieve the 2020 reduction goal. CDPH identified 101 (15%) MRSA BSI were associated with a central line-related infection, 11 (2%) were associated with a SSI, and 3 (<1%) were associated with a urinary catheter-related infection. CDPH is unaware of an associated cause for the majority (575 (83%)) of reported MRSA BSI. This information is needed to direct specific MRSA BSI prevention recommendations. In 2017, 12 (4%) hospitals reported 25% of the statewide MRSA BSI. This group can help CDPH identify and categorize the underlying causes of these serious infections.

In 2017, California hospitals reported 489 VRE BSI. VRE BSI rates decreased among all hospital types from 2016 to 2017 (Figure 2). Major teaching hospitals continue to have the highest VRE BSI rate (0.59). CDPH identified the eight major teaching hospitals with the highest VRE BSI rates and another eight hospitals with significantly high VRE BSI rates compared with their hospital types. These 16 (5%) hospitals accounted for over half (52%) of all VRE reported and represent an important group to target for improvement.

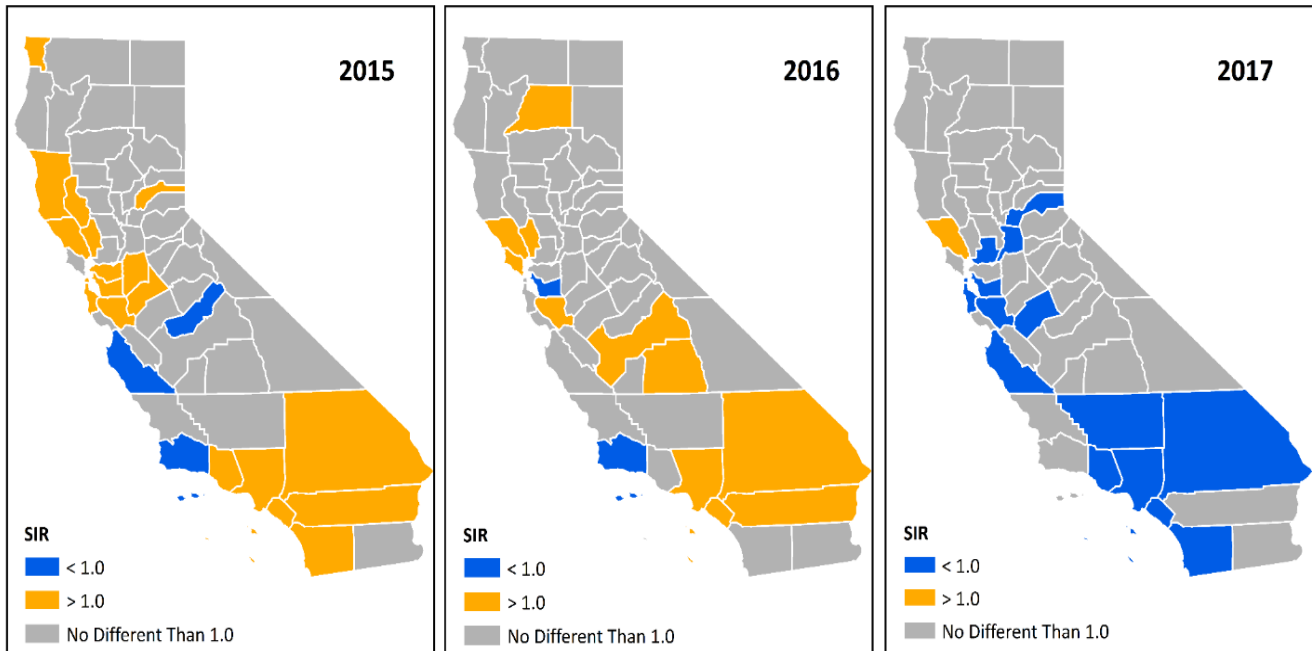


The largest HAI reductions occurred for CDI. The statewide CDI incidence decreased 26% from 2015 to 2017. The observed CDI reductions were widespread. In 2017, 102 (30%) hospitals reported a significant reduction in CDI since 2015. However, CDI incidence remains significantly higher than the 2015 national baseline in 18 hospitals (far fewer than the 53 hospitals with significantly high CDI in 2016).

CDI is a community-wide public health concern because infections are often spread among hospitals, skilled nursing facilities, and medical clinics that commonly share patients. By 2017, CDI incidence is significantly better than national baseline, defined as an SIR less than 1.0, in 15 counties compared with just three counties in 2015. Only one county, Sonoma, has a CDI SIR significantly above 1.0 (Figure 3).

Despite progress, CDI continues to be the most common HAI occurring in California hospitals. Overall, hospitals reported 7,783 CDI in 2017 and would have needed to prevent approximately 1,390 of those to achieve the 2020 reduction goal.

Figure 3. California Counties' CDI Incidence Presented as Significantly Lower, Higher, or No Different Compared with National Baseline Standardized Infection Ratio (SIR) of 1.0, 2015-2017



CDPH reports SSI data separately for adult (18 years and older) and pediatric (younger than 18 years) surgical patients because different risk adjustment models are applied to account for differences in the two patient groups. Among pediatric patients, California hospitals reported 112 SSI following 23,358 surgeries. The statewide SSI incidence for pediatric surgical patients is the same as national baselines for all procedure types. Among adult patients, California hospitals reported 3,564 SSI following 685,320 surgical procedures. The statewide SSI incidence for adult surgical patients is better than national baselines for nine of the 28 reportable procedure types, the same as national baselines for 18 procedure types, and worse than national baselines for one procedure type (Table 3).

In 2017, 85% of all reported SSI occurred following 12 (43%) types of surgical procedures. For these 12 procedures, CDPH identified 76 hospitals with SSI incidence in the highest 10th percentile among hospitals performing each procedure. These 76 hospitals accounted for 12% of procedures performed but 32% of the SSI reported. This group has been targeted by CDPH for SSI prevention activities.

Overall, hospitals reported 3,676 SSI and would have needed to prevent approximately 770 of those to achieve the 2020 reduction goal. Twenty-eight hospitals have significantly low SSI incidence for one or more procedures and 71 hospitals have significantly high SSI incidence for one or more procedures (Appendix B).

Table 3. California Hospital Surgical Site Infection Incidence for Adult Surgical Patients, 2015-2017

Surgical Procedure Category	Standardized Infection Ratio			2017 Compared with National Baseline	On Track to Achieve 2020 Target Goal?
	2015	2016	2017		
Abdominal aortic aneurysm repair	1.07	0.52	0.57	Same	Yes
Appendix surgery*	0.98	0.96	1.02	Same	No
Bile duct, liver or pancreatic surgery*	0.97	0.95	1.21	✖Worse	No
Cardiac surgery	1.35	0.72	1.01	Same	No
Cesarean section*	0.88	1.02	1.01	Same	No
Colon surgery*	1.07	0.96	0.97	Same	No
Coronary bypass, chest & donor incisions	0.98	0.88	0.78	★Better	Yes
Coronary bypass, chest incision only	0.90	0.89	1.01	Same	No
Exploratory abdominal surgery (laparotomy)*	0.97	1.12	0.94	Same	No
Gallbladder surgery*	0.95	0.88	0.95	Same	No
Gastric surgery	0.99	0.81	0.58	★Better	Yes
Heart transplant	0.33	0.12	0.00	★Better	Yes
Hip prosthesis*	0.98	0.87	0.93	Same	No
Hysterectomy, abdominal*	1.03	0.84	0.86	Same	Yes
Hysterectomy, vaginal	0.95	0.81	1.06	Same	No
Kidney surgery	0.97	0.77	0.86	Same	Yes
Kidney transplant	0.79	1.24	0.86	Same	Yes
Knee prosthesis*	0.89	0.86	0.95	Same	No
Laminectomy	0.97	0.90	0.72	★Better	Yes
Liver transplant	0.67	0.96	0.58	★Better	Yes
Open reduction of fracture*	1.01	0.90	0.96	Same	No
Ovarian surgery	0.95	1.12	1.16	Same	No
Pacemaker surgery	0.87	1.01	1.16	Same	No
Rectal surgery	1.12	0.58	0.50	★Better	Yes
Small bowel surgery*	1.03	0.90	0.74	★Better	Yes
Spinal fusion*	0.87	0.84	0.82	★Better	Yes
Spleen surgery	1.11	1.12	0.77	Same	Yes
Thoracic surgery	0.75	0.61	0.68	★Better	Yes

*One of 12 procedures that account for 85% of SSI

Hospitals with Low HAI Incidence for Multiple Infection Types

Forty (12%) of 335 hospitals are on track to reach 2020 reduction goals for all reported HAI types, defined as 2017 SIRs of 0.80 or less for CLABSI and MRSA BSI and 0.88 or less for CDI and SSI. Among these, 16 hospitals (✓) achieved 2020 target goals for all HAI types (0.50 and 0.70, respectively).

- Alameda County
 - Alameda Hospital ✓
- Butte County
 - Oroville Hospital
- Contra Costa County
 - John Muir Medical Center, Walnut Creek Campus
- El Dorado County
 - Barton Memorial Hospital ✓
- Kern County
 - Bakersfield Heart Hospital
 - Bakersfield Memorial Hospital ✓
- Los Angeles County
 - Adventist Health White Memorial
 - Citrus Valley Medical Center, QV Campus
 - Community Hospital of Huntington Park
 - East Los Angeles Doctors Hospital ✓
 - Greater El Monte Community Hospital ✓
 - Huntington Memorial Hospital
 - LAC/Rancho Los Amigos National Rehabilitation Center ✓
 - Pacific Alliance Medical Center ✓
 - Providence Little Company of Mary Medical Center San Pedro ✓
 - San Dimas Community Hospital
- Marin County
 - Kaiser Foundation Hospital, San Rafael
- Merced County
 - Mercy Medical Center ✓
- Orange County
 - Chapman Global Medical Center ✓
 - La Palma Intercommunity Hospital ✓
 - Orange Coast Memorial Medical Center ✓
- Riverside County
 - Southwest Healthcare System, Murrieta
- San Bernardino County
 - Arrowhead Regional Medical Center
 - Chino Valley Medical Center ✓
 - Community Hospital of San Bernardino
 - Desert Valley Hospital
 - Kaiser Foundation Hospital, Fontana
 - Loma Linda University Children's Hospital
 - St. Bernardine Medical Center
- San Diego County
 - Kaiser Foundation Hospital, San Diego ✓
 - Rady Children's Hospital
- San Francisco County
 - California Pacific Medical Center, California West Campus Hospital ✓
 - Kaiser Foundation Hospital, San Francisco ✓
 - St. Mary's Medical Center
- San Joaquin County
 - St. Joseph's Medical Center Of Stockton
- San Mateo County
 - Sequoia Hospital
- Santa Clara County
 - El Camino Hospital Los Gatos
- Santa Cruz County
 - Watsonville Community Hospital
- Stanislaus County
 - Memorial Medical Center
- Ventura County
 - Ventura County Medical Center

Hospitals with Improved HAI Incidence

Since 2013, CDPH has provided consultation and assistance to hospitals with high HAI incidence. In 2017, the CDPH HAI Program focused attention on 51 hospitals with significantly high CLABSI or CDI incidence for multiple years during the period 2013-2016. HAI Program liaison infection preventionists performed assessments to observe adherence to evidence-based infection prevention care practices. Fifty (98%) of the targeted hospitals received one or more consultations by CDPH to help identify gaps and implement specific prevention actions.

Among 12 hospitals targeted for multi-year high CLABSI incidence, 10 (83%) reduced their CLABSI incidence and are no longer worse than national baselines:

- | | |
|---|--|
| Contra Costa County | Riverside County |
| - San Ramon Regional Medical Center | - Desert Regional Medical Center |
| Los Angeles County | - Parkview Community Hospital Medical Center |
| - City of Hope Helford Clinical Research Hospital | San Bernardino County |
| - Good Samaritan Hospital, Los Angeles | - Loma Linda University Medical Center |
| - Ronald Reagan UCLA Medical Center | San Diego County |
| - USC Kenneth Norris Jr. Cancer Hospital | - UC San Diego Health La Jolla |
| | Santa Clara County |
| | - Santa Clara Valley Medical Center |

Among 39 hospitals targeted for multi-year high CDI incidence, 32 (82%) reduced their CDI incidence and are no longer worse than national baselines. Among these, three hospitals improved from being worse than national baselines for multiple years in 2013-2016 to being significantly better in 2017 (indicated by ✖→★):

- | | |
|--|--|
| Butte County | Riverside County |
| - Adventist Health Feather River | - Menifee Valley Medical Center ✖→★ |
| Contra Costa County | - Riverside Community Hospital |
| - Kaiser Foundation Hospital, Walnut Creek | - San Geronio Memorial Hospital |
| Los Angeles County | - Southwest Healthcare System, Wildomar |
| - Cedars-Sinai Medical Center ✖→★ | Sacramento County |
| - Kaiser Foundation Hospital, Los Angeles | - University of California Davis Medical Center |
| - Kaiser Foundation Hospital, South Bay ✖→★ | San Bernardino County |
| - Keck Hospital of USC | - Kaiser Foundation Hospital, Ontario |
| - Long Beach Memorial Medical Center | - Redlands Community Hospital |
| - Olympia Medical Center | San Diego County |
| - Pomona Valley Hospital Medical Center | - Grossmont Hospital |
| - Providence Saint Joseph Medical Center | - Kaiser Foundation Hospital Zion Medical Center |
| - Torrance Memorial Medical Center | - Pomerado Hospital |
| Marin County | - Scripps Green Hospital |
| - Marin General Hospital | - Sharp Chula Vista Medical Center |
| Napa County | San Francisco County |
| - Queen of the Valley Medical Center | - California Pacific Medical Center, Pacific Campus Hospital |
| Orange County | San Mateo County |
| - Hoag Memorial Hospital Presbyterian | - Seton Medical Center |
| - La Palma Intercommunity Hospital | Santa Clara County |
| - University of California Irvine Medical Center | - Stanford Health Care |
| | Ventura County |
| | - St Johns Pleasant Valley Hospital |

Hospitals with High HAI Incidence in Multiples Years or for Multiple Infection Types

Among 12 hospitals targeted for multi-year high CLABSI incidence, two hospitals continue to be worse than national baselines again in 2017:

- Fresno County
 - Community Regional Medical Center
- Los Angeles County
 - Olympia Medical Center

Among 39 hospitals targeted for multi-year high CDI incidence, seven hospitals continue to be worse than national baselines again in 2017:

- | | |
|---|---|
| Alameda County <ul style="list-style-type: none">- Washington Hospital | San Diego County <ul style="list-style-type: none">- UC San Diego Health La Jolla - Jacobs Medical Center |
| Los Angeles County <ul style="list-style-type: none">- Beverly Hospital- Ronald Reagan UCLA Medical Center- City of Hope Helford Clinical Research Hospital | San Francisco County <ul style="list-style-type: none">- UCSF Medical Center |
| | Sonoma County <ul style="list-style-type: none">- Santa Rosa Memorial Hospital |

In 2017, five hospitals are significantly worse than national baselines for three infection types (***)

- | | |
|--|--|
| Los Angeles County <ul style="list-style-type: none">- Marina Del Rey Hospital, CLABSI, MRSA BSI, VRE BSI- West Hills Hospital & Medical Center, MRSA BSI, CDI, SSI | Sacramento County <ul style="list-style-type: none">- Sutter Medical Center, Sacramento, CLABSI, MRSA BSI, SSI |
| Riverside County <ul style="list-style-type: none">- Riverside Community Hospital, MRSA BSI, VRE BSI*, SSI | San Diego County <ul style="list-style-type: none">- UC San Diego Health La Jolla - Jacobs Medical Center: VRE BSI*, CDI*, SSI |

Ten hospitals are worse than national baselines for two HAI types (**)

- | | |
|---|---|
| Los Angeles County <ul style="list-style-type: none">- City of Hope Helford Clinical Research Hospital, VRE BSI*, CDI*- Los Angeles Community Hospital, CLABSI*, MRSA BSI*- Providence Holy Cross Medical Center, MRSA BSI, SSI*- Providence Saint John's Health Center, CDI*, SSI- Ronald Reagan UCLA Medical Center, VRE BSI*, CDI* | Orange County <ul style="list-style-type: none">- Foothill Regional Medical Center, CLABSI, MRSA BSI |
| | San Bernardino County <ul style="list-style-type: none">- Loma Linda University Medical Center, VRE BSI*, SSI*- Loma Linda University Surgical Hospital, CDI*, SSI |
| | San Francisco County <ul style="list-style-type: none">- California Pacific Medical Center, Pacific Campus Hospital, VRE BSI*, SSI |
| | Santa Clara County <ul style="list-style-type: none">- Good Samaritan Hospital, San Jose, CLABSI*, SSI* |

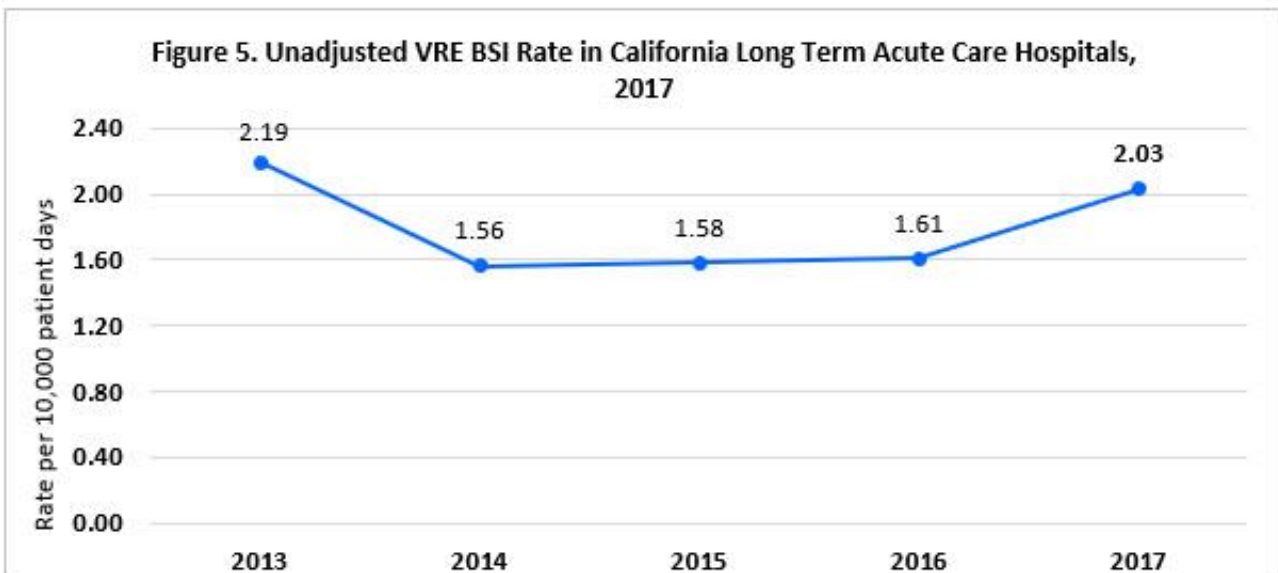
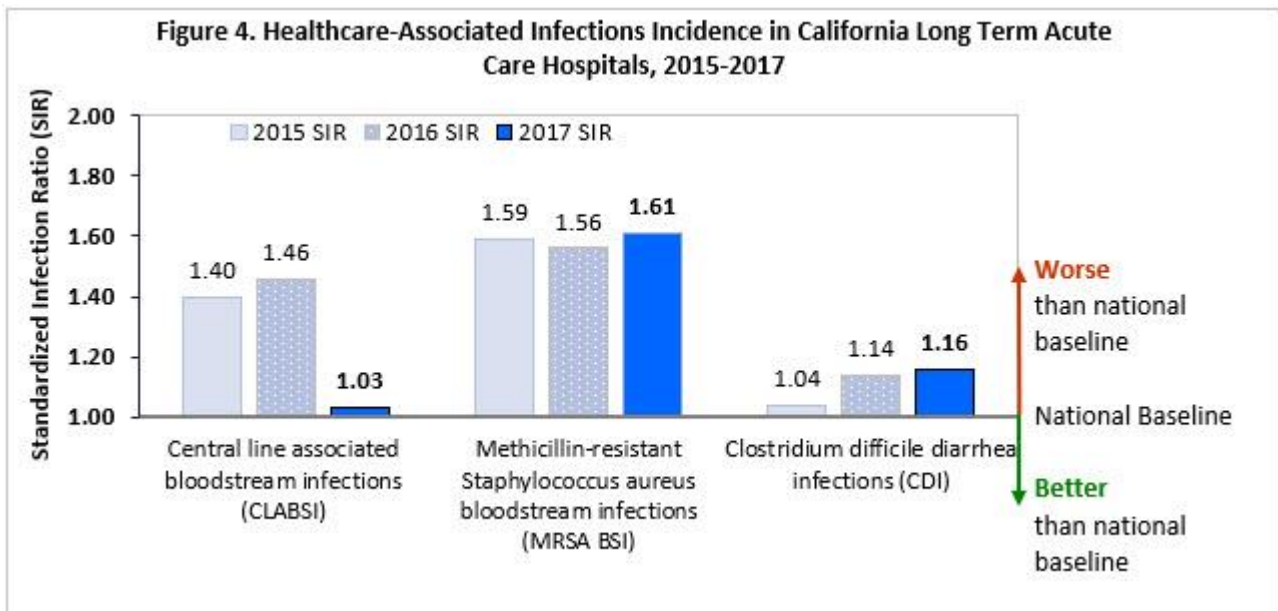
* indicates same HAI high in one or more years during 2013-2016

Long-Term Acute Care (LTAC) Hospitals

LTAC hospitals provide complex care to patients discharged from intensive care units. LTAC patients typically require prolonged acute care (greater than 25 days) for respiratory ventilation, multiple intravenous (IV) medications, or complex wound care.

In 2017, 23 LTAC hospitals reported 314 CLABSI, 110 MRSA BSI, 96 VRE BSI, and 627 CDI. To achieve the 2020 national HAI target goals, California LTAC hospitals need to prevent approximately 160 CLABSI, 70 MRSA BSI, and 250 CDI during a calendar year.

The statewide incidence is the same as the national baseline for CLABSI and worse for MRSA BSI and CDI (Figure 4). VRE BSI incidence remains high in California LTAC hospitals and increased significantly from 2016-2017 (Figure 5). In 2017, the statewide LTAC VRE BSI rate was 2.03, which is a 26% increase from the rate reported in 2016.

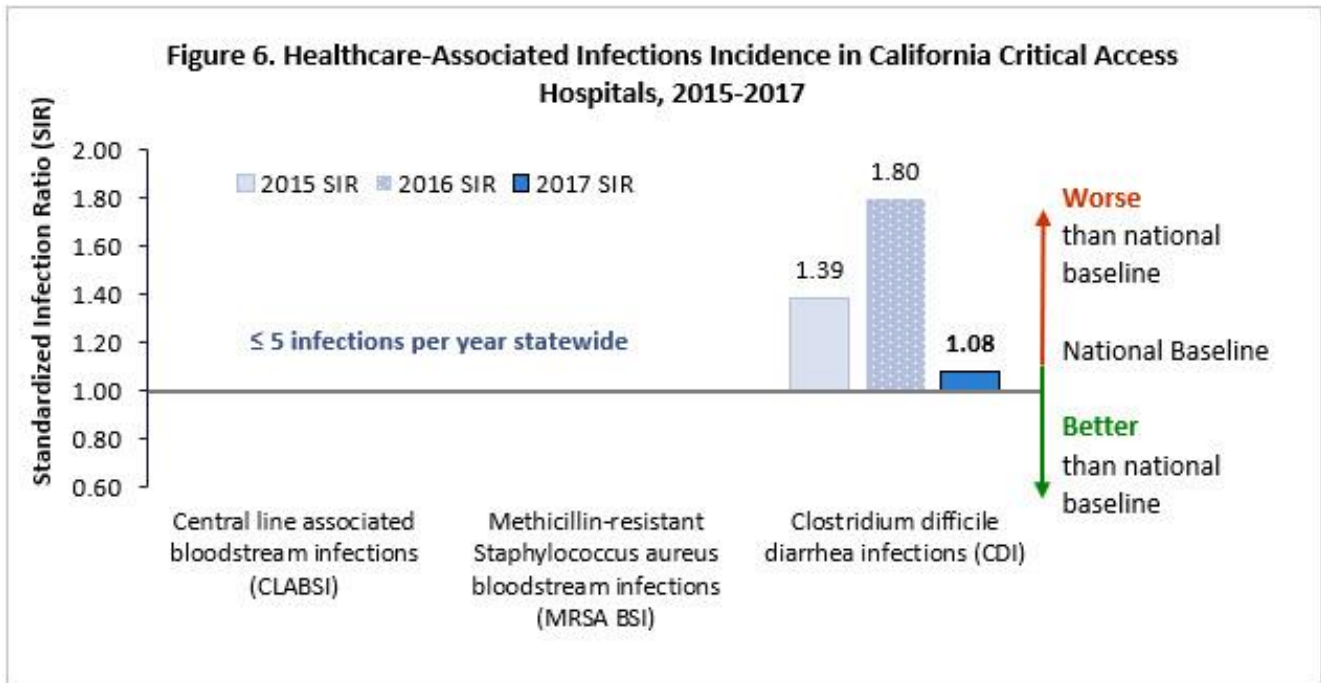


Four LTAC hospitals are significantly better than national baselines (or VRE BSI statewide rate) for one HAI type. Eleven LTAC hospitals are significantly worse for one or more HAI types, including two LTAC hospitals that are significantly worse for three infection types. Ten LTAC hospitals reported HAI incidence that is neither better nor worse than national baselines (Appendix C).

Critical Access Hospitals

Critical access hospitals have 25 beds or less and are located more than 35 miles from another hospital (with some exceptions). Patients in critical access hospitals stay on average four days or less.

In 2017, 34 California critical access hospitals reported two CLABSI, two MRSA BSI, zero VRE BSI, 31 CDI, and 15 SSI. Statewide CDI incidence for all HAI types is the same as national baselines (Figure 6). No critical access hospitals have HAI incidence that is significantly better or worse than national baselines (Appendix D).

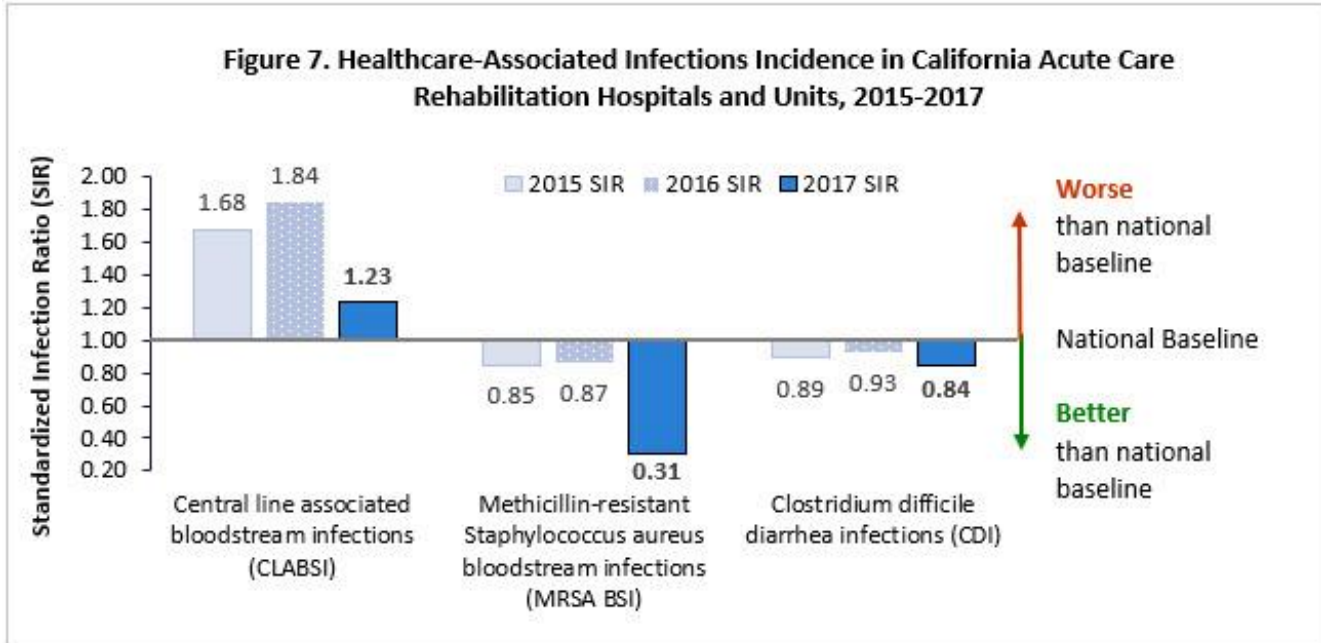


Rehabilitation Hospitals and Units

Acute care rehabilitation hospitals and units evaluate and restore function to patients who have lost function due to acute or chronic pain, musculoskeletal problems, stroke, or catastrophic events resulting in complete or partial paralysis.

In 2017, 12 freestanding rehabilitation hospitals and 63 hospital-based acute care rehabilitation units reported HAI data to CDPH, including 12 CLABSI, three MRSA BSI, zero VRE BSI, and 194 CDI. To achieve the 2020 national HAI target goals, they need to prevent approximately five CLABSI, two MRSA BSI, and 30 CDI each year. Overall, CLABSI incidence is the same as the national baseline and MRSA BSI and CDI incidence is significantly better (Figure 7).

CDI incidence is significantly lower than the national baseline in five rehabilitation units and significantly higher in one rehabilitation hospital. HAI incidence is the same as national baselines in all other rehabilitation hospitals and units (Appendix E).



Public Health Action

Most HAI can be prevented if health care personnel strictly follow evidence-based infection prevention practices for all care encounters. In response to this report, the CDPH Licensing and Certification Program prioritizes hospitals with significantly high HAI incidence when developing the annual relicensing survey schedule. The CDPH HAI Program is consulting with hospitals with high HAI incidence and offering assistance to assess infection prevention care practices, identify gaps, and offer recommendations for improvement.

Specifically, CDPH is:

- Continuing to work with two hospitals, targeted for multi-year high CLABSI incidence, that continue to have significantly high CLABSI in 2017
- Convening a one-day workshop with 20 hospitals that reported over 40% of all CLABSI in 2017 to seek their assistance for developing a strategy to further reduce the statewide CLABSI rate and meet the 2020 reduction goal
- Collaborating with 12 hospitals that reported 25% of all MRSA BSI in 2017 to better understand the underlying causes of these infections and refine MRSA BSI prevention actions
- Targeting 16 hospitals that reported over 50% of all VRE BSI in 2017 to identify what actions they are taking to address their high rates
- Engaging with local health departments to convene regional CDI and antimicrobial-resistant infection prevention collaboratives
- Continuing to work with seven hospitals targeted for multi-year high CDI incidence that continue to have significantly high CDI in 2017
- Continuing to promote antibiotic stewardship activities to improve antibiotic prescribing and use
- Providing onsite assistance to 44 hospitals with SSI incidence in the top 10th and top 25th percentile for multiple procedure categories and targeting gastrointestinal, orthopedic, and obstetrics/gynecology surgical specialty groups as needed
- Alerting and offering onsite assistance to an additional five hospitals with high CLABSI incidence, 32 hospitals with high SSI, 11 hospitals with high CDI, and 7 hospitals with high MRSA BSI in 2017
- Developing a statewide strategy and outreach plan to address continued high HAI incidence in California LTAC hospitals
- Providing local health departments with HAI trend data for hospitals within their jurisdictions and offering suggestions to address hospitals not on track to achieve 2020 reduction goals
- Strongly encouraging hospital-wide adherence monitoring programs to measure and improve compliance with infection control care practices known to prevent HAI if performed consistently
- Coordinating with the California Hospital Association, Hospital Quality Institute, Health Services Advisory Group, Los Angeles County Healthcare Outreach Unit, and others engaged in HAI prevention projects in the State
- Continuing to build the infection prevention workforce by offering a two-day classroom course, “Basics of Infection Prevention” twice per year

Recommended Hospital Actions

By 2020, CDPH expects hospitals to achieve the national HAI reduction targets as recommended by the HAI Advisory Committee. CDPH recommends that hospitals:

- Implement a facility-wide adherence monitoring program to evaluate compliance with care practices known to prevent HAI occurrence
- Participate in infection prevention consultations, regional collaboratives, and educational programs offered by the CDPH HAI Program
- Review past assessments by CDPH HAI Program liaison infection preventionists and follow through on implementing HAI prevention recommendations
- If invited by CDPH, participate in the strategy-setting CLABSI reduction workshop
- Use the NHSN central line insertion date field to track and characterize whether CLABSI are occurring within 10 days (possibly indicating line insertion problems) or after 10 days (possibly indicating line access and maintenance problems) [6]
- Provide timely procedure-specific SSI incidence data, with comparisons to national baselines and 2020 reduction goals, to surgeons, surgical specialty services, and operating room staff
- Share CDI reduction goals with the hospital Antimicrobial Stewardship Program, track and limit use of antimicrobials associated with higher CDI risk by promoting use of lower risk antimicrobials and shortest effective duration of therapy, optimize CDI treatment and stop unnecessary antimicrobials in patients with new CDI diagnoses, and incorporate CDI diagnostic testing stewardship practices to improve accuracy of CDI diagnosis and surveillance data [7]
- Develop and share a hospital-specific VRE BSI prevention plan with CDPH HAI Program
- If invited, collaborate with the CDPH HAI Program to review MRSA BSI reported in 2017 to identify the primary site of infection (based on NHSN standardized definitions)
- Use [CDC Targeted Action for Prevention resources and tools](https://www.cdc.gov/hai/prevent/tap.html) to continue HAI prevention efforts (<https://www.cdc.gov/hai/prevent/tap.html>)

Recommended Public Actions

Members of the public can take part in reducing infection rates by learning more about what can be done to prevent HAI and talking with their health care providers. CDPH recommends that members of the public:

- View 2017 HAI results for hospitals in your county (or adjacent counties) on the [CDPH My Hospital's Infections map](https://www.cdph.ca.gov/Programs/CHCQ/HAI/Pages/HAlmap.aspx) (<https://www.cdph.ca.gov/Programs/CHCQ/HAI/Pages/HAlmap.aspx>)
- Print a copy of the [2-page HAI profile for your hospital](https://www.cdph.ca.gov/Programs/CHCQ/HAI/Pages/AnnualHAIRports.aspx) and take it with you to your next scheduled appointment to discuss with your doctor and ask questions (<https://www.cdph.ca.gov/Programs/CHCQ/HAI/Pages/AnnualHAIRports.aspx>)
- Ask your doctor and other members of your health care team if their facility has an infection prevention adherence monitoring program and what other actions they are taking to prevent HAI
- Speak up if you don't see your health care provider cleaning her hands before examining or treating you and ask if she should also be wearing gloves
- Educate yourself about HAI by visiting the [CDPH HAI "Me and My Family"](https://www.cdph.ca.gov/Programs/CHCQ/HAI/Pages/MeAndMyFamily.aspx) webpage (<https://www.cdph.ca.gov/Programs/CHCQ/HAI/Pages/MeAndMyFamily.aspx>)
- Clean your hands frequently
- [Learn more about when antibiotics](https://www.cdc.gov/antibiotic-use/community/for-patients/common-illnesses/index.html) are and aren't needed for common infections (<https://www.cdc.gov/antibiotic-use/community/for-patients/common-illnesses/index.html>)

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Appendix A. California Acute Care Hospitals with HAI Incidence Significantly ★Better, ✖Worse, or the Same as Compared with the National Baselines, 2017

County Hospital	CLABSI	MRSA BSI	VRE BSI	CDI	SSI*
Alameda					
Alameda Hospital					
Alta Bates Summit Medical Center					★
Alta Bates Summit Medical Center, Alta Bates Campus					
Children's Hospital & Research Center Oakland	★				
Eden Medical Center				★	✖
Highland Hospital			★		
Kaiser Foundation Hospital, Fremont					
Kaiser Foundation Hospital, Oakland/Richmond	★				✖
Kaiser Foundation Hospital, San Leandro				★	✖✖
San Leandro Hospital			✖		
St Rose Hospital					
Stanford Health Care - ValleyCare					
Washington Hospital				✖	
Amador					
Sutter Amador Hospital					
Butte					
Adventist Health Feather River					
Enloe Medical Center, Esplanade	★			✖	
Oroville Hospital					
Contra Costa					
Contra Costa Regional Medical Center					✖
John Muir Medical Center, Concord Campus					
John Muir Medical Center, Walnut Creek Campus					★
Kaiser Foundation Hospital, Antioch					✖
Kaiser Foundation Hospital, Richmond Campus					
Kaiser Foundation Hospital, Walnut Creek	★				✖✖
San Ramon Regional Medical Center				★	
Sutter Delta Medical Center					
Del Norte					
Sutter Coast Hospital					
El Dorado					
Barton Memorial Hospital					
Marshall Medical Center	★				✖
Fresno					
Adventist Health Reedley					
Adventist Health Selma					
Clovis Community Medical Center					
Coalinga Regional Medical Center					
Community Regional Medical Center	✖				
Fresno Heart and Surgical Hospital					
Fresno Surgical Hospital					
Kaiser Foundation Hospital, Fresno					
Saint Agnes Medical Center	✖				
Valley Children's Hospital	★				
Humboldt					

Appendix A. California Acute Care Hospitals with HAI Incidence Significantly ★Better, ✘Worse, or the Same as Compared with the National Baselines, 2017

County Hospital	CLABSI	MRSA BSI	VRE BSI	CDI	SSI*
Mad River Community Hospital					
St. Joseph Hospital, Eureka					✘
Imperial					
El Centro Regional Medical Center				★	
Pioneers Memorial Healthcare District					
Kern					
Adventist Health Bakersfield	★			★	★
Bakersfield Heart Hospital					
Bakersfield Memorial Hospital	★			★	
Delano Regional Medical Center				★	
Good Samaritan Hospital, Bakersfield					
Kern Medical Center	★				✘
Mercy Hospital					
Mercy Southwest Hospital					✘
Kings					
Adventist Health Hanford		✘			
Los Angeles					
Adventist Health Glendale				★	✘
Adventist Health White Memorial			★	★	★
Alhambra Hospital Medical Center					
Antelope Valley Hospital					
Beverly Hospital				✘	
California Hospital Medical Center, Los Angeles				★	
Cedars-Sinai Medical Center	★	★		★	★
Centinela Hospital Medical Center		✘			
Children's Hospital Los Angeles				✘	✘
Citrus Valley Medical Center, IC Campus	★				✘
Citrus Valley Medical Center, QV Campus	★				★
City of Hope Helford Clinical Research Hospital			✘	✘	★★
Coast Plaza Hospital					
College Medical Center				★	
Community Hospital Long Beach				✘	
Community Hospital of Huntington Park					
Earl & Loraine Miller Children's Hospital					
East Los Angeles Doctors Hospital					
Encino Hospital Medical Center					
Foothill Presbyterian Hospital - Johnston Memorial					
Garfield Medical Center			✘		
Glendale Memorial Hospital and Health Center					
Glendora Community Hospital					
Good Samaritan Hospital, Los Angeles					
Greater El Monte Community Hospital				★	
Henry Mayo Newhall Hospital	★				
Hollywood Presbyterian Medical Center					
Huntington Memorial Hospital					★★★
Kaiser Foundation Hospital, Baldwin Park					

Appendix A. California Acute Care Hospitals with HAI Incidence Significantly ★Better, ✘Worse, or the Same as Compared with the National Baselines, 2017

County Hospital	CLABSI	MRSA BSI	VRE BSI	CDI	SSI*
Kaiser Foundation Hospital, Downey					✘
Kaiser Foundation Hospital, Los Angeles					★ ✘
Kaiser Foundation Hospital, Panorama City					
Kaiser Foundation Hospital, South Bay				★	★
Kaiser Foundation Hospital, West LA					✘ ✘ ✘
Kaiser Foundation Hospital, Woodland Hills					
Keck Hospital of USC			✘		★
LAC/Harbor UCLA Medical Center					✘
LAC/Olive View UCLA Medical Center	★				
LAC/Rancho Los Amigos National Rehabilitation Center	★				
LAC+USC Medical Center	✘			★	★
Lakewood Regional Medical Center					
Long Beach Memorial Medical Center					
Los Angeles Community Hospital	✘	✘			
Marina Del Rey Hospital	✘	✘	✘		
Martin Luther King Jr. Community Hospital				★	
Memorial Hospital of Gardena					
Methodist Hospital of Southern California				★	✘
Miracle Mile Medical Center					
Mission Community Hospital					
Monterey Park Hospital					
Northridge Hospital Medical Center				★	✘
Norwalk Community Hospital				★	
Olympia Medical Center	✘				
Pacific Alliance Medical Center					
Pacifica Hospital of the Valley					
Palmdale Regional Medical Center					
PIH Health Hospital, Downey					
PIH Health Hospital, Whittier				★	✘
Pomona Valley Hospital Medical Center					
Providence Holy Cross Medical Center		✘			✘
Providence Little Company of Mary Medical Center San Pedro				★	
Providence Little Company of Mary Medical Center Torrance					
Providence Saint John's Health Center	★			✘	✘
Providence Saint Joseph Medical Center					★
Providence Tarzana Medical Center					
Ronald Reagan UCLA Medical Center			✘	✘	
Saint Francis Medical Center				★	
Saint Vincent Medical Center					★
San Dimas Community Hospital					
San Gabriel Valley Medical Center					✘

Appendix A. California Acute Care Hospitals with HAI Incidence Significantly ★Better, ✘Worse, or the Same as Compared with the National Baselines, 2017

County	Hospital	CLABSI	MRSA BSI	VRE BSI	CDI	SSI*
	Santa Monica - UCLA Medical Center and Orthopaedic Hospital	✘				
	Sherman Oaks Hospital		✘			
	Silver Lake Medical Center					
	Southern California Hospital at Culver City					
	Southern California Hospital at Hollywood		✘		★	
	St. Mary Medical Center, Long Beach					
	Torrance Memorial Medical Center	★		✘		★
	USC Kenneth Norris Jr. Cancer Hospital			✘		
	USC Verdugo Hills Hospital			✘		
	Valley Presbyterian Hospital					
	West Covina Medical Center					
	West Hills Hospital & Medical Center		✘		✘	✘
	Whittier Hospital Medical Center					
Madera						
	Madera Community Hospital					
Marin						
	Kaiser Foundation Hospital, San Rafael					
	Marin General Hospital					✘
	Novato Community Hospital					
Mendocino						
	Adventist Health Ukiah Valley				★	
Merced						
	Memorial Hospital Los Banos					
	Mercy Medical Center				★	
Monterey						
	Community Hospital of The Monterey Peninsula					
	George L. Mee Memorial Hospital				★	
	Natividad Medical Center				★	
	Salinas Valley Memorial Hospital					✘
Napa						
	Adventist Health St. Helena					
	Queen of the Valley Medical Center	★				
Nevada						
	Sierra Nevada Memorial Hospital					
Orange						
	AHMC Anaheim Regional Medical Center					
	Anaheim Global Medical Center					
	Chapman Global Medical Center					
	Children's Hospital at Mission					
	Children's Hospital of Orange County					
	College Hospital Costa Mesa				★	
	Fairview Developmental Center					
	Foothill Regional Medical Center	✘	✘			
	Fountain Valley Regional Hospital and Medical Center					✘✘✘
	Garden Grove Hospital and Medical Center					
	Healthbridge Children's Hospital, Orange					
	Hoag Hospital Irvine					

Appendix A. California Acute Care Hospitals with HAI Incidence Significantly ★Better, ✘Worse, or the Same as Compared with the National Baselines, 2017

County Hospital	CLABSI	MRSA BSI	VRE BSI	CDI	SSI*
Hoag Memorial Hospital Presbyterian					✘✘
Hoag Orthopedic Institute					✘
Huntington Beach Hospital					
Kaiser Foundation Hospital, Orange County, Anaheim	★				✘
Kaiser Foundation Hospital, Orange County, Irvine					✘
La Palma Intercommunity Hospital					
Los Alamitos Medical Center		✘			
Mission Hospital Laguna Beach					
Mission Hospital Regional Medical Center					✘
Orange Coast Memorial Medical Center	★			★	
Orange County Global Medical Center					
Placentia Linda Hospital					
Saddleback Memorial Medical Center					★
South Coast Global Medical Center					
St. Joseph Hospital, Orange					✘
St. Jude Medical Center				★	
University of California Irvine Medical Center	★				
West Anaheim Medical Center					
Placer					
Kaiser Foundation Hospital, Roseville	★		★	★	✘✘
Sutter Auburn Faith Hospital					
Sutter Roseville Medical Center				★	
Riverside					
Corona Regional Medical Center		✘		★	
Desert Regional Medical Center					
Eisenhower Medical Center					★
Hemet Valley Medical Center					✘
John F. Kennedy Memorial Hospital					
Kaiser Foundation Hospital, Moreno Valley					
Kaiser Foundation Hospital, Riverside					
Loma Linda University Medical Center, Murrieta					
Menifee Valley Medical Center				★	
Palo Verde Hospital					
Parkview Community Hospital Medical Center					
Riverside Community Hospital		✘	✘		✘✘✘
Riverside University Health System, Medical Center	★		★	★	✘
San Geronio Memorial Hospital					
Southwest Healthcare System, Murrieta					
Southwest Healthcare System, Wildomar					★
Temecula Valley Hospital					✘
Sacramento					
Kaiser Foundation Hospital, Sacramento				★	
Kaiser Foundation Hospital, South Sacramento				★	✘✘✘
Mercy General Hospital	★			✘	★
Mercy Hospital of Folsom					
Mercy San Juan Medical Center	★		★		✘

Appendix A. California Acute Care Hospitals with HAI Incidence Significantly ★Better, ✖Worse, or the Same as Compared with the National Baselines, 2017

County	Hospital	CLABSI	MRSA BSI	VRE BSI	CDI	SSI*
	Methodist Hospital of Sacramento					✖
	Shriners Hospitals for Children Northern California					★★
	Sutter Medical Center, Sacramento	✖	✖		★	✖
	University of California Davis Medical Center	★				✖
San Benito	Hazel Hawkins Memorial Hospital					
San Bernardino	Arrowhead Regional Medical Center			★	★	
	Barstow Community Hospital				✖	
	Chino Valley Medical Center					
	Community Hospital of San Bernardino					
	Desert Valley Hospital	★			★	
	Hi-Desert Medical Center					
	Kaiser Foundation Hospital, Fontana	★		★		★
	Kaiser Foundation Hospital, Ontario					
	Loma Linda University Children's Hospital				★	
	Loma Linda University Medical Center			✖		✖✖✖✖
	Loma Linda University Medical Center East Campus Hospital					✖
	Loma Linda University Surgical Hospital				✖	✖
	Montclair Hospital Medical Center					
	Redlands Community Hospital	★				
	San Antonio Regional Hospital					
	St. Bernardine Medical Center	★			★	
	St. Mary Medical Center, Apple Valley	✖				
	Victor Valley Global Medical Center					
San Diego	Alvarado Hospital Medical Center					
	Grossmont Hospital					
	Kaiser Foundation Hospital Zion Medical Center					★
	Kaiser Foundation Hospital, San Diego	★			★	
	Palomar Health Downtown Campus					
	Palomar Medical Center				★	✖
	Paradise Valley Hospital				★	
	Pomerado Hospital					
	Rady Children's Hospital, San Diego	★			★	✖
	Scripps Green Hospital					★
	Scripps Memorial Hospital, Encinitas					
	Scripps Memorial Hospital, La Jolla	★			★	✖
	Scripps Mercy Hospital				★	✖✖✖
	Scripps Mercy Hospital Chula Vista				★	
	Sharp Chula Vista Medical Center					
	Sharp Coronado Hospital and Healthcare Center					✖
	Sharp Mary Birch Hospital For Women And Newborns				★	✖
	Sharp Memorial Hospital				★	✖

Appendix A. California Acute Care Hospitals with HAI Incidence Significantly ★Better, ✘Worse, or the Same as Compared with the National Baselines, 2017

County	Hospital	CLABSI	MRSA BSI	VRE BSI	CDI	SSI*
	Tri-City Medical Center					
	UC San Diego Health Hillcrest, Hillcrest Medical Center				★	
	UC San Diego Health La Jolla - Jacobs Medical Center & Sulpizio Cardiovascular Center			✘	✘	✘✘✘
San Francisco						
	California Pacific Medical Center, California West Campus Hospital	★			★	
	California Pacific Medical Center, Davies Campus Hospital	★				
	California Pacific Medical Center, Pacific Campus Hospital			✘		✘✘
	California Pacific Medical Center, St. Luke's Campus Hospital				★	
	Chinese Hospital					
	Kaiser Foundation Hospital, San Francisco	★		★	★	
	Laguna Honda Hospital & Rehabilitation Center					
	Saint Francis Memorial Hospital					
	St. Mary's Medical Center				★	
	UCSF Medical Center				✘	★
	UCSF Medical Center at Mission Bay			★		
	Zuckerberg San Francisco General Hospital and Trauma Center		★		★	✘✘
San Joaquin						
	Adventist Health Lodi Memorial					
	Dameron Hospital					
	Doctors Hospital of Manteca				✘	
	Kaiser Foundation Hospital, Manteca					
	San Joaquin General Hospital				★	
	St. Joseph's Medical Center Of Stockton	★				
	Sutter Tracy Community Hospital					
San Luis Obispo						
	French Hospital Medical Center					
	Marian Regional Medical Center, Arroyo Grande					
	Sierra Vista Regional Medical Center				★	
	Twin Cities Community Hospital					
San Mateo						
	Kaiser Foundation Hospital, Redwood City				★	
	Kaiser Foundation Hospital, South San Francisco				★	✘
	Menlo Park Surgical Hospital					
	Mills-Peninsula Medical Center				★	
	San Mateo Medical Center					
	Sequoia Hospital					
	Seton Medical Center					✘
Santa Barbara						
	Goleta Valley Cottage Hospital					
	Lompoc Valley Medical Center					
	Marian Regional Medical Center					
	Santa Barbara Cottage Hospital					✘✘
Santa Clara						

Appendix A. California Acute Care Hospitals with HAI Incidence Significantly ★Better, ✘Worse, or the Same as Compared with the National Baselines, 2017

County	Hospital	CLABSI	MRSA BSI	VRE BSI	CDI	SSI*
	El Camino Hospital				★	✘✘
	El Camino Hospital Los Gatos					
	Good Samaritan Hospital, San Jose	✘				✘✘✘
	Kaiser Foundation Hospital, San Jose					
	Kaiser Foundation Hospital, Santa Clara	★		★	★	
	Lucile Packard Children's Hospital Stanford				✘	
	Mission Oaks Hospital					
	O'Connor Hospital					
	Regional Medical Center of San Jose		✘		★	
	Santa Clara Valley Medical Center		★	★	★	✘✘✘
	St. Louise Regional Hospital					
	Stanford Health Care			✘		★
	Santa Cruz					
	Dominican Hospital					✘
	Sutter Maternity & Surgery Center of Santa Cruz					
	Watsonville Community Hospital					
	Shasta					
	Mercy Medical Center Redding	★				
	Patients' Hospital of Redding					
	Shasta Regional Medical Center					
	Solano					
	Kaiser Foundation Hospital and Rehab Center, Vallejo					✘✘
	Kaiser Foundation Hospital, Vacaville				★	✘
	Northbay Medical Center				★	✘
	Northbay Vacaville Hospital			✘	★	
	Sutter Solano Medical Center					
	Sonoma					
	Kaiser Foundation Hospital, Santa Rosa					✘✘
	Petaluma Valley Hospital					
	Santa Rosa Memorial Hospital				✘	
	Sonoma Developmental Center					
	Sonoma Valley Hospital				✘	
	Sonoma West Medical Center					
	Sutter Santa Rosa Regional Hospital					✘
	Stanislaus					
	Doctors Medical Center	★				✘
	Emanuel Medical Center	★				
	Kaiser Foundation Hospital, Modesto					✘
	Memorial Medical Center					★
	Oak Valley Hospital District					
	Stanislaus Surgical Hospital					
	Sutter					
	Sutter Surgical Hospital, North Valley					
	Tehama					
	St. Elizabeth Community Hospital					
	Tulare					

Appendix A. California Acute Care Hospitals with HAI Incidence Significantly ★Better, ✘Worse, or the Same as Compared with the National Baselines, 2017

County Hospital	CLABSI	MRSA BSI	VRE BSI	CDI	SSI*
Kaweah Delta Medical Center		✘			
Porterville Developmental Center					
Sierra View Medical Center	✘				
Tulare Regional Medical Center	✘				
Tuolumne					
Adventist Health Sonora					
Ventura					
Adventist Health Simi Valley					
Community Memorial Hospital, San Buenaventura				★	
Los Robles Hospital & Medical Center					✘✘✘✘
St Johns Pleasant Valley Hospital					
St Johns Regional Medical Center					✘
Thousand Oaks Surgical Hospital					
Ventura County Medical Center				★	
Ventura County Medical Center, Santa Paula Hospital					
Yolo					
Sutter Davis Hospital					✘
Woodland Memorial Hospital					
Yuba					
Rideout Memorial Hospital					✘

Larger ✘ symbol indicates HAI type significantly high in 2013-2016 and high again in 2017

**Number of ✘ in SSI column indicate the number of procedure types with high SSI*

Appendix B. California Hospitals with Surgical Site Infection (SSI) Incidence Significantly Better★ or Worse✗ than National Baselines, by Procedure Type and County, 2017

Appendix surgery

Orange	✗	Mission Hospital Regional Medical Center
San Diego	✗	Rady Children's Hospital, San Diego*
Santa Clara	✗	Good Samaritan Hospital, San Jose
	✗	Santa Clara Valley Medical Center
Sonoma	✗	Kaiser Foundation Hospital, Santa Rosa
Ventura	✗	St Johns Regional Medical Center

Bile duct, liver or pancreatic surgery

Los Angeles	✗	Kaiser Foundation Hospital, West LA
Orange	✗	Hoag Memorial Hospital Presbyterian
	✗	St. Joseph Hospital, Orange
Riverside	✗	Riverside Community Hospital
San Bernardino	✗	Loma Linda University Medical Center
San Francisco	✗	California Pacific Medical Center, Pacific Campus Hospital

Cardiac surgery

Los Angeles	✗	Children's Hospital Los Angeles*
Santa Clara	✗	Santa Clara Valley Medical Center

Cesarean section

Alameda	✗	Kaiser Foundation Hospital, San Leandro
Contra Costa	✗	Kaiser Foundation Hospital, Antioch
	✗	Kaiser Foundation Hospital, Walnut Creek
Kern	✗	Kern Medical Center
Los Angeles	★	Adventist Health White Memorial
	★	Citrus Valley Medical Center, QV Campus
Placer	✗	Kaiser Foundation Hospital, Roseville
Sacramento	✗	Kaiser Foundation Hospital, South Sacramento
	★	Sutter Medical Center, Sacramento
San Diego	✗	Sharp Mary Birch Hospital For Women And Newborns
Solano	✗	Northbay Medical Center
Sonoma	✗	Sutter Santa Rosa Regional Hospital
Ventura	✗	Los Robles Hospital & Medical Center
Yuba	✗	Rideout Memorial Hospital

Colon surgery

Humboldt	✗	St. Joseph Hospital, Eureka
Kern	★	Adventist Health Bakersfield
Los Angeles	✗	Northridge Hospital Medical Center
	★	Providence Saint Joseph Medical Center
Orange	★	Saddleback Memorial Medical Center
Placer	★	Kaiser Foundation Hospital, Roseville
Riverside	✗	Riverside University Health System, Medical Center
Sacramento	✗	Kaiser Foundation Hospital, South Sacramento
San Bernardino	★	Kaiser Foundation Hospital, Fontana
	✗	Loma Linda University Surgical Hospital
San Diego	✗	Sharp Memorial Hospital
San Francisco	✗	Zuckerberg San Francisco General Hospital and Trauma Center
Santa Clara	✗	Good Samaritan Hospital, San Jose
Yolo	✗	Sutter Davis Hospital

Appendix B. California Hospitals with Surgical Site Infection (SSI) Incidence Significantly Better★ or Worse✗ than National Baselines, by Procedure Type and County, 2017

Coronary bypass with chest and donor incisions

Los Angeles	★	Kaiser Foundation Hospital, Los Angeles
Monterey	✗	Salinas Valley Memorial Hospital
Sacramento	★	Mercy General Hospital
San Bernardino	✗	Loma Linda University Medical Center
San Diego	✗	UC San Diego Health La Jolla - Jacobs Medical Center
San Francisco	✗	California Pacific Medical Center, Pacific Campus Hospital
Ventura	✗	Los Robles Hospital & Medical Center

Coronary bypass, chest incision only

Los Angeles	✗	Cedars-Sinai Medical Center
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Exploratory abdominal surgery (laparotomy)

El Dorado	✗	Marshall Medical Center
Los Angeles	✗	Kaiser Foundation Hospital, Los Angeles
	✗	LAC/Harbor UCLA Medical Center
	✗	Providence Saint John's Health Center
	✗	West Hills Hospital and Medical Center
Orange	✗	Fountain Valley Regional Hospital and Medical Center
	✗	Kaiser Foundation Hospital, Orange County, Irvine
Riverside	✗	Temecula Valley Hospital
Sacramento	✗	Kaiser Foundation Hospital, South Sacramento
Santa Barbara	✗	Santa Barbara Cottage Hospital
Solano	✗	Kaiser Foundation Hospital and Rehab Center, Vallejo
Sonoma	✗	Kaiser Foundation Hospital, Santa Rosa
Ventura	✗	Los Robles Hospital & Medical Center

Gallbladder surgery

Kern	✗	Mercy Southwest Hospital
Los Angeles	✗	Citrus Valley Medical Center, IC Campus
Orange	✗	Kaiser Foundation Hospital, Orange County
San Mateo	✗	Kaiser Foundation Hospital, South San Francisco
Santa Clara	✗	Good Samaritan Hospital, San Jose

Gastric surgery

Los Angeles	★	Cedars-Sinai Medical Center
	★	Keck Hospital of USC

Hip prosthesis

Los Angeles	✗	Kaiser Foundation Hospital, Downey
	✗	Kaiser Foundation Hospital, West LA
	★	Saint Vincent Medical Center
	✗	San Gabriel Valley Medical Center
Orange	✗	Fountain Valley Regional Hospital and Medical Center
Riverside	★	Eisenhower Medical Center
	✗	Hemet Valley Medical Center
	✗	Riverside Community Hospital
Sacramento	✗	Kaiser Foundation Hospital, South Sacramento
	✗	Methodist Hospital of Sacramento
San Diego	★	Kaiser Foundation Hospital Zion Medical Center
	✗	UC San Diego Health La Jolla - Jacobs Medical Center
Santa Clara	✗	El Camino Hospital
Solano	✗	Kaiser Foundation Hospital, Vacaville
Stanislaus	✗	Doctors Medical Center

✘ Kaiser Foundation Hospital, Modesto

Appendix B. California Hospitals with Surgical Site Infection (SSI) Incidence Significantly Better★ or Worse✘ than National Baselines, by Procedure Type and County, 2017

Hysterectomy, abdominal

Alameda	✘	Eden Medical Center
Contra Costa	✘	Contra Costa Regional Medical Center
Los Angeles	✘	Providence Holy Cross Medical Center
San Bernardino	✘	Loma Linda University Medical Center

Hysterectomy, vaginal

San Diego	✘	Scripps Memorial Hospital, La Jolla
Santa Barbara	✘	Santa Barbara Cottage Hospital

Kidney transplant

San Bernardino	✘	Loma Linda University Medical Center
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Knee prosthesis

Contra Costa	★	John Muir Medical Center, Walnut Creek Campus
Los Angeles	✘	Kaiser Foundation Hospital, West LA
	✘	Methodist Hospital of Southern California
Marin	✘	Marin General Hospital
Sacramento	✘	Kaiser Foundation Hospital, South Sacramento
San Bernardino	✘	Loma Linda University Medical Center East Campus Hospital
San Diego	✘	UC San Diego Health La Jolla - Jacobs Medical Center
Solano	✘	Kaiser Foundation Hospital and Rehab Center, Vallejo

Laminectomy

San Francisco	★	UCSF Medical Center
Santa Clara	✘	Santa Clara Valley Medical Center
Santa Cruz	✘	Dominican Hospital

Open reduction of fracture

Los Angeles	✘	Adventist Health Glendale
	★	Huntington Memorial Hospital
	★	LAC+USC Medical Center
Orange	✘	Fountain Valley Regional Hospital and Medical Center
	✘	Hoag Memorial Hospital Presbyterian
Sacramento	✘	Mercy San Juan Medical Center
	✘	Sutter Medical Center, Sacramento
San Diego	✘	Palomar Medical Center
	✘	Scripps Mercy Hospital
San Mateo	✘	Seton Medical Center
Santa Clara	★	Stanford Health Care

Pacemaker surgery

Riverside	✘	Riverside Community Hospital
Santa Clara	✘	El Camino Hospital
Ventura	✘	Los Robles Hospital & Medical Center

Rectal surgery

Alameda	✘	Kaiser Foundation Hospital, Oakland/Richmond
Los Angeles	★	City of Hope Helford Clinical Research Hospital
San Diego	✘	Scripps Mercy Hospital

Appendix B. California Hospitals with Surgical Site Infection (SSI) Incidence Significantly Better★ or Worse✗ than National Baselines, by Procedure Type and County, 2017

Small bowel surgery

Alameda	★	Alta Bates Summit Medical Center
Los Angeles	★	City of Hope Helford Clinical Research Hospital
	★	Huntington Memorial Hospital
	★	Kaiser Foundation Hospital, South Bay
Placer	✗	Kaiser Foundation Hospital, Roseville
Riverside	★	Southwest Healthcare System, Wildomar
San Diego	★	Scripps Green Hospital
	✗	Sharp Coronado Hospital and Healthcare Center
Stanislaus	★	Memorial Medical Center

Spinal fusion

Los Angeles	★	Huntington Memorial Hospital
	✗	PIH Health Hospital, Whittier
	★	Torrance Memorial Medical Center
Orange	✗	Hoag Orthopedic Institute
Sacramento	★	Sutter Medical Center, Sacramento
San Francisco	✗	Zuckerberg San Francisco General Hospital

Thoracic surgery

Sacramento	✗	University of California Davis Medical Center
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Appendix C. California Long-Term Acute Care (LTAC) Hospitals with HAI Incidence Significantly Better (★), Worse (✖), or Same as the National Baselines, 2017

County Hospital	CLABSI	MRSA BSI	VRE BSI	CDI
Alameda				
Kindred Hospital, San Francisco Bay Area				
Los Angeles				
Barlow Respiratory Hospital				★
Kindred Hospital, Baldwin Park				
Kindred Hospital, La Mirada	✖			✖
Kindred Hospital, Los Angeles	✖	✖		✖
Kindred Hospital, San Gabriel Valley				
Kindred Hospital, South Bay	✖		✖	✖
Monrovia Memorial Hospital				
Promise Hospital of East Los Angeles, East L.A Campus				
Promise Hospital of East Los Angeles, Suburban Campus	★		✖	
Marin				
Kentfield Hospital				✖
Orange				
Kindred Hospital, Brea				
Kindred Hospital, Santa Ana				✖
Kindred Hospital, Westminster	✖	✖		
Riverside				
Kindred Hospital, Riverside				✖
Sacramento				
Vibra Hospital of Sacramento				
San Bernardino				
Kindred Hospital, Ontario				
Kindred Hospital, Rancho				
San Diego				
Kindred Hospital, San Diego				
Vibra Hospital of San Diego	✖			
San Francisco				
Kentfield Hospital San Francisco	✖			
Shasta				
Vibra Hospital of Northern California	★			
Stanislaus				
Central Valley Specialty Hospital	✖		★	✖

Appendix D. California Critical Access Hospitals with HAI Incidence the Same as National Baselines, 2017 (None were Significantly Better (★) or Worse (✖) than National Baselines)

County Hospital	CLABSI	MRSA BSI	VRE BSI	CDI
Butte				
Orchard Hospital				
Calaveras				
Mark Twain Medical Center				
Glenn				
Glenn Medical Center				
Humboldt				
Jerold Phelps Community Hospital				
Redwood Memorial Hospital				
Inyo				
Northern Inyo Hospital				
Southern Inyo Hospital				
Kern				
Adventist Health Tehachapi Valley				
Kern Valley Healthcare District				
Ridgecrest Regional Hospital				
Lake				
Adventist Health Clearlake				
Sutter Lakeside Hospital				
Lassen				
Banner Lassen Medical Center				
Los Angeles				
Catalina Island Medical Center				
Mariposa				
John C. Fremont Healthcare District				
Mendocino				
Adventist Health Howard Memorial				
Mendocino Coast District Hospital				
Modoc				
Modoc Medical Center				
Surprise Valley Community Hospital				
Mono				
Mammoth Hospital				
Nevada				
Tahoe Forest Hospital				
Plumas				
Eastern Plumas Hospital, Portola Campus				
Plumas District Hospital				
Seneca District Hospital				
San Bernardino				
Bear Valley Community Hospital				

Appendix D. California Critical Access Hospitals with HAI Incidence the Same as National Baselines, 2017 (None were Significantly Better (★) or Worse (✖) than National Baselines)

County Hospital	CLABSI	MRSA BSI	VRE BSI	CDI
Colorado River Medical Center				
Mountains Community Hospital				
Santa Barbara				
Santa Ynez Valley Cottage Hospital				
Shasta				
Mayers Memorial Hospital				
Siskiyou				
Fairchild Medical Center				
Mercy Medical Center Mt. Shasta				
Sonoma				
Healdsburg District Hospital				
Trinity				
Trinity Hospital				
Ventura				
Ojai Valley Community Hospital				

Appendix E. California Acute Care Rehabilitation Hospitals and Units with HAI Incidence Significantly ★Better, ✘Worse, or the Same as Compared with the National Baselines, 2017

County	Rehabilitation Hospital or Unit	CLABSI	MRSA BSI	VRE BSI	CDI
Alameda					
	Alta Bates Summit Medical Center, Rehabilitation Unit				
	Fairmont Hospital				
Butte					
	Enloe Rehabilitation Center				
Contra Costa					
	John Muir Medical Center, Walnut Creek Campus, Rehabilitation Unit				
Del Norte County					
	Sutter Coast Hospital, Rehabilitation Unit				
Fresno					
	Community Regional Medical Center, Rehabilitation Unit				
	San Joaquin Valley Rehabilitation Hospital				★
Humboldt					
	The General Hospital				
Kern					
	Healthsouth Bakersfield Rehabilitation Hospital				
Los Angeles					
	Adventist Health Glendale, Rehabilitation Unit				
	Adventist Health White Memorial, Rehabilitation Unit				
	Alhambra Hospital Medical Center, Rehabilitation Unit				
	California Rehabilitation Institute				
	Casa Colina Hospital				✘
	Centinela Hospital Medical Center, Rehabilitation Unit				
	Citrus Valley Medical Center, QV Campus, Rehabilitation Unit				
	Garfield Medical Center, Rehabilitation Unit				
	Glendale Memorial Hospital and Health Center, Rehabilitation Unit				
	Henry Mayo Newhall Hospital, Rehabilitation Unit				
	Hollywood Presbyterian Medical Center, Rehabilitation Unit				
	Huntington Memorial Hospital, Rehabilitation Unit				
	Keck Hospital of USC, Rehabilitation Unit				★
	LAC/Rancho Los Amigos National Rehabilitation Center, Rehabilitation Unit				
	Long Beach Memorial Medical Center, Rehabilitation Unit				
	Methodist Hospital of Southern California, Rehabilitation Unit				
	Northridge Hospital Medical Center, Rehabilitation Unit				

Appendix E. California Acute Care Rehabilitation Hospitals and Units with HAI Incidence Significantly ★Better, ✘Worse, or the Same as Compared with the National Baselines, 2017

County	Rehabilitation Hospital or Unit	CLABSI	MRSA BSI	VRE BSI	CDI
	Palmdale Regional Medical Center, Rehabilitation Unit				
	PIH Health Hospital, Whittier, Rehabilitation Unit				
	Providence Holy Cross Medical Center, Rehabilitation Unit				
	Providence Little Company of Mary Medical Center San Pedro, Rehabilitation Unit				
	Providence Saint Joseph Medical Center, Rehabilitation Unit				
	Saint Vincent Medical Center, Rehabilitation Unit				
	Southern California Hospital at Culver City, Rehabilitation Unit				
Monterey					
	Community Hospital of The Monterey Peninsula, Rehabilitation Unit				
	Natividad Medical Center, Rehabilitation Unit				
Napa					
	Queen of the Valley Medical Center, Rehabilitation Unit				
Orange					
	Healthsouth Tustin Rehabilitation Hospital				
	Mission Hospital Regional Medical Center, Rehabilitation Unit				
	St. Jude Medical Center, Rehabilitation Unit				★
	University of California Irvine Medical Center, Rehabilitation Unit				
Placer					
	Sutter Roseville Medical Center, Rehabilitation Unit				
Riverside					
	Desert Regional Medical Center, Rehabilitation Unit				
	Eisenhower Medical Center, Rehabilitation Unit				
Sacramento					
	Mercy General Hospital, Rehabilitation Unit				
	University of California Davis Medical Center, Rehabilitation Unit				
San Bernardino					
	Ballard Rehabilitation Hospital				
	Loma Linda University Medical Center East Campus Hospital, Rehabilitation Unit				
	Totally Kids Rehabilitation Hospital				
San Diego					
	Alvarado Hospital Medical Center, Rehabilitation Unit				
	Grossmont Hospital, Rehabilitation Unit				
	Palomar Health Downtown Campus, Rehabilitation Unit				

Appendix E. California Acute Care Rehabilitation Hospitals and Units with HAI Incidence Significantly ★Better, ✘Worse, or the Same as Compared with the National Baselines, 2017

County	Rehabilitation Hospital or Unit	CLABSI	MRSA BSI	VRE BSI	CDI
	Paradise Valley Hospital, Rehabilitation Unit				
	Scripps Memorial Hospital, Encinitas, Rehabilitation Unit				
	Sharp Memorial Hospital, Rehabilitation Unit, Rehabilitation Unit				
	Tri-City Medical Center, Rehabilitation Unit				
San Francisco					
	California Pacific Medical Center, Davies Campus Hospital, Rehabilitation Unit				
	Laguna Honda Hospital & Rehabilitation Center, Rehabilitation Unit				
	Saint Francis Memorial Hospital, Rehabilitation Unit				
	St. Mary's Medical Center, Rehabilitation Unit				
San Joaquin					
	Adventist Health Lodi Memorial, Rehabilitation Unit				
San Luis Obispo					
	Marian Regional Medical Center, Arroyo Grande, Rehabilitation Unit				
Santa Barbara					
	Santa Barbara Cottage Hospital, Rehabilitation Unit				
Santa Clara					
	El Camino Hospital Los Gatos, Rehabilitation Unit				
	Mission Oaks Hospital, Rehabilitation Unit				
	Santa Clara Valley Medical Center, Rehabilitation Unit				
Santa Cruz					
	Dominican Hospital, Rehabilitation Unit				
Solano					
	Kaiser Foundation Hospital and Rehabilitation Center, Vallejo, Rehabilitation Unit				★
Sonoma					
	Santa Rosa Memorial Hospital, Rehabilitation Unit				
Stanislaus					
	HealthSouth Rehabilitation Hospital of Modesto				
Tulare					
	Kaweah Delta Medical Center, Rehabilitation Unit, Rehabilitation Unit				
Ventura					
	Los Robles Hospital & Medical Center, East Campus				
	Los Robles Hospital & Medical Center, East Campus, Rehabilitation Unit				
	St John's Regional Medical Center, Rehabilitation Unit				★