

State Healthcare-Associated Infection Plan Template

CALIFORNIA
October 1, 2015

1. Enhance HAI Program Infrastructure

Successful HAI prevention requires close integration and collaboration with state and local infection prevention activities and systems.

Consistency and compatibility of HAI data collected across facilities will allow for greater success in reaching state and national goals. Please select areas for development or enhancement of state HAI surveillance, prevention, and control efforts.

Table 1: California Department of Public Health (CDPH) infrastructure for HAI surveillance, prevention, and control

Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Actual Date or Target Date for Implementation
☒	☐	<p>1. Establish statewide HAI prevention leadership through the formation of multidisciplinary group or state HAI advisory council</p> <p style="margin-left: 20px;">i. Collaborate with local and regional partners (e.g., state hospital associations, professional societies for infection control and healthcare epidemiology, academic organizations, laboratorians, and networks of acute care hospitals and long term care facilities).</p> <p>California has a legislatively-mandated HAI Advisory Committee charged with making recommendations to the California Department of Public Health (CDPH) for HAI prevention and reporting. The Committee was created by Senate Bill 739, Chapter 526, Statutes of 2006, and appointed by CDPH on July 1, 2007. HAI Advisory Committee meetings were held quarterly or more frequently from August 27, 2007 through 2008. In 2009, the HAI Advisory Committee was placed on hiatus pending official formation of the legislatively-mandated CDPH HAI Program and funding support necessary to convene Committee meetings. HAI Advisory Committee meetings resumed in May 2010 and continue on a quarterly (or more frequent) basis. In 2012, bylaws were adopted that formalized Committee structure and members; new Committee members were appointed by the CDPH Director in 2013. The Committee consists of a minimum of eight and a maximum of 24 voting members, excluding liaison and other non-voting members. At the present time, the Committee has 18 voting-</p>	August 27, 2007

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<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>members and six non-voting members. Categories of members (up to 3 each) are healthcare consumers, healthcare providers, hospital administration professionals, infection preventionists, representatives from integrated health systems, local health department officials, and physicians with specialties in infectious diseases (ID) or hospital epidemiologists. Non-voting liaison member representative groups including the California Hospital Association, California Medical Association, Infectious Disease Association of California, California Association for Professionals in Infection Control (APIC) Coordinating Council, California Nurses Association, California Association for Nurse Practitioners, California Academy of Physician’s Assistants, California Conference of Local Health Officers, California Association of Communicable Disease Controllers, and the California Quality Improvement Organization. Additional groups that do not have a currently appointed liaison member include American Association of Health Plans, Society of Healthcare Epidemiology, and Office of Statewide Planning and Health Department. Since its inception in 2007, the HAI Advisory committee has met a total of 40 times.</p> <p style="padding-left: 40px;">ii. Include hospital preparedness partners (e.g., hospital/healthcare coalitions funded through the ASPR Hospital Preparedness Program). Additional representation from accrediting and/or licensing agency with surveyor authority is ideal.</p> <p>CDPH supports a Joint Public Health Emergency Preparedness (PHEP) and Hospital Preparedness Program (HPP) Advisory Committee that represents the 58 local and six regional healthcare coalitions. CDPH will discuss the inclusion of hospital preparedness coalition partners into the HAI Advisory Committee at the November 12, 2015, meeting. Beginning in 2016, the HAI Advisory Committee will be represented by a hospital preparedness partner and an accrediting and/or licensing agency with surveyor authority.</p> <p style="padding-left: 40px;">iii. Engage HAI advisory committee in potential roles and activities to improve antibiotic use in the state (antibiotic stewardship)</p> <p>The HAI Advisory Committee established an Antimicrobial Stewardship Subcommittee in May 2010. In December 2013, the Committee recommended to CDPH a definition for hospital antimicrobial stewardship programs (ASP) and recommended CDPH form of an ASP collaborative to support hospitals in adopting ASP. To promulgate the ASP definition, CDPH</p>	<p style="text-align: right;">November 12, 2015</p> <p style="text-align: right;">May 27, 2010</p>

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		<p>launched the “Spotlight on Antimicrobial Stewardship Programs” project in April 2014. CDPH launched a statewide one-year ASP collaborative in January 2015 (described elsewhere); 150 hospitals joined and are participating in monthly webinars as a learning and action network. In February 2015, the HAI Advisory Committee recommended that CDPH publish an ASP toolkit with practical examples and tools for California hospitals to use in implementing the ASP definition elements. The CDPH ASP toolkit was published on the CDPH HAI Program website in April 2015.</p> <p>iii. Engage HAI advisory committee in activities to increase health department’s access to data and subsequently use those data in prevention efforts</p> <p>The HAI Advisory Committee began to discuss how mandated data were to be collected and reported at their first meeting in July 2007. The National Healthcare Safety Network (NHSN) was approved by the HAI Advisory Committee as the surveillance system for reporting to CDPH, and California hospitals were required to join the CDPH Group in NHSN. Hospitals began reporting mandated central line insertion practices (CLIP) data to NHSN in 2007. In 2008, legislation was passed expanding HAI public reporting requirements beginning July 1, 2009. The HAI Advisory Committee recommended hospitals also report to NHSN the new HAI required data. Hospitals began reporting to NHSN all central line-associated bloodstream infections (CLABSI), bloodstream infections due to methicillin-resistant <i>S. aureus</i> and vancomycin-resistant enterococcus (MRSA BSI and VRE BSI), and <i>C. difficile</i> infections (CDI) in April 2010; surgical site infection (SSI) reporting to NHSN began in April 2011. Every HAI Advisory Committee meeting from July 2007 through May 2013 included discussion of some aspect of HAI reporting, risk-adjustment, and/or data presentation in the CDPH public report. The HAI Advisory committee and CDPH played a significant role in developing the methodology for the reporting of influenza vaccination of healthcare providers, which subsequently became the NHSN reporting protocol launched for the 2012-2013 influenza season.</p> <p>Beginning with 2011 data, we are using reported HAI data to leverage prevention activities where needed. An HAI “data for action” strategy was implemented to identify hospitals with high HAI incidence and ensure they are responding to the need for improvement.</p>	<p>August 27, 2007</p>

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☒	☐	<p>Regionally-based CDPH HAI Program Liaison Infection Preventionists (IP) offer assistance and support to hospitals for local implementation of prevention action plans. Most recently, 112 hospitals were identified and targeted for high infection incidence based on 2013 data. All are collaborating with HAI Program Liaison IPs, who conduct onsite prevention assessments, and/or sharing documentation their process improvement activities for preventing infections. In February 2015, the HAI Advisory Committee recommended to CDPH a set of core prevention strategies that should be assessed as part of our data for action outreach visits.</p> <p style="padding-left: 40px;">iv. Identify specific HAI prevention targets consistent with HHS priorities</p> <p>At the April 18, 2013, meeting, the HAI Advisory Committee charged a subcommittee to update the state HAI plan, to include targeted HAI prevention recommendations for California hospitals. On February 12, 2015, the HAI Advisory Committee recommended to CDPH an updated state HAI prevention plan that includes target areas and prevention goals consistent with HHS priorities as described in the National Action Plan to Prevent Healthcare-associated Infections. Specific HAI prevention targets in the recommended state plan include CLABSI, CDI, SSI, catheter-associated urinary tract infections (CAUTI), ventilator-associated pneumonia (VAP), and influenza vaccination for healthcare providers. The California state HAI prevention plan was developed between July 2013 and July 2014 through a consensus process by a subcommittee of the HAI Advisory Committee and then ratified through a vote by the full HAI Advisory Committee to become a recommendation to CDPH. The process of developing the plan included review of national guidelines from organizations including the Centers for Disease Control and Prevention (CDC), Society for Healthcare Epidemiology of America, and the Association for Professionals in Infection Control and Epidemiology, as well as a review of recent studies in the field of healthcare infection prevention to supplement existing guidelines. The plan lists infection prevention interventions that represent the consensus minimum standard of care for California hospitals as determined by the Committee. The Plan is not meant to supersede any county, state, or federal regulations or requirements that call for additional measures and standards not specifically identified in the Plan.</p>	April 18, 2013

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		<p>The HAI Advisory Committee recommended that hospitals use the state HAI prevention plan as a self-assessment tool to ensure adoption of core HAI prevention practices. The HAI Advisory Committee also recommended that CDPH use the plan when providing guidance to hospitals as part of the current data for action initiative and infection prevention assessment visits.</p>	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>2. Establish an HAI surveillance prevention and control program</p> <p>i. Designate a State HAI Prevention Coordinator</p> <p>CDPH established a dedicated HAI medical officer position in 1993. In September 2007, a public health nurse was hired to serve as a resource for HAI-related activities, including new HAI reporting mandates, consultations, education, and the 2009 H1N1 pandemic response. State funding enabled CDPH to officially launch the HAI Program on December 8, 2009, with state civil service positions to support state HAI public reporting mandates. Funding from the American Recovery and Reinvestment Act of 2009 enabled CDPH to expand the HAI Program to include HAI prevention and outreach activities by developing a regionally-based Liaison IP program; this team was led by a new state-designated HAI prevention coordinator named in March 2010. The Chief of the HAI Program, Lynn Janssen, currently serves as the designated state HAI prevention coordinator, overseeing a staff of 35 (including state and CDC-funded positions).</p>	<p>December 8, 2009</p>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>ii. Develop dedicated, trained HAI staff with at least one FTE (or contracted equivalent) to oversee HAI activities areas (Integration, Collaboration, and Capacity Building; Reporting, Detection, Response, and Surveillance; Prevention; Evaluation, Oversight, Communication, and Infection Control)</p> <p>The CDPH HAI Program is currently comprised of 35 staff, with high-level expertise in healthcare epidemiology, infection prevention, and communications, to carry out HAI activities as described in California Health and Safety Code 1288.45-1288.9. Seventeen permanent state civil service positions are supported with a state special fund, which is percentage of provider licensing fees. Eighteen other positions are supported with time-limited state and federal contracts, grants, and cooperative agreements. The CDPH HAI</p>	<p>December 8, 2010</p>

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		<p>Program operates using a performance management strategy based on the balanced scorecard methodology. In addition to the program chief and two administrative staff, the CDPH HAI Program is comprised of the following:</p> <ul style="list-style-type: none"> • HAI Epidemiology Unit – PhD-level supervisor, 5 research scientists/epidemiologists, a programmer, 2 data managers • HAI Liaison IP Program – supervisor IP, 6 regionally-based IPs, and 4 specialist IPs for dialysis, LTAC/subacute care, smaller volume hospitals, and Ebola preparedness/program performance • HAI Antimicrobial Resistance Program – ID/EIS-trained physician supervisor, 4 HAI prevention coordinator/epidemiologists, part-time IP, and a Cal-EIS fellow • HAI Communications Team – 2 web/communications specialists and a nurse content expert • HAI Outbreaks Team - co-lead by 2 physician medical officers, with the assistance of another part-time physician medical officer (former HAI Program chief) 	
☒	☐	<p>3. Integrate laboratory activities with HAI surveillance, prevention, and control efforts.</p> <p style="margin-left: 20px;">i. Improve laboratory capacity to confirm emerging resistance in HAI pathogens and perform typing where appropriate (e.g., outbreak investigation support, HL7 messaging of laboratory results)</p> <p>In June 2015, CDPH began development of a California Antimicrobial Resistance Laboratory Network Assessment survey, in collaboration with academic partners at the University of California Los Angeles, Davis, and Irvine, to determine capabilities and resources of clinical and public health laboratories, and measure antimicrobial resistant (AR) pathogen prevalence across the state. The survey will be distributed to hospital and public health laboratory directors in October 2015. CDPH will use information gathered from the survey to convene, on an ongoing basis, a network of laboratories that will voluntarily report AR pathogen data and submit epidemiologically concerning isolates to public health laboratories for resistance mechanism and genetic relatedness testing beginning in 2016.</p>	June 1, 2015
☒	☐	<p>4. Improve coordination among government agencies or organizations that share responsibility for assuring or overseeing HAI surveillance, prevention, and control (e.g., State Survey agencies, Communicable Disease Control, state licensing boards)</p> <p>The HAI Program was established within the CDPH Center for Healthcare Quality, which also</p>	December 8, 2009

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		<p>oversees the Licensing and Certification (L&C) Division, the state survey agency. Although HAI reporting requirements are mandatory, the HAI Program is considered the non-regulatory arm of the Center. Coordination issues are discussed and clarified during weekly meetings between the HAI Program Chief, L&C Branch Chiefs, and Center leadership. HAI Liaison IPs are establishing relationships with regional L&C District Offices and will serve as a resource on infection prevention and control issues as needed, in collaboration with L&C medical consultant infection preventionists.</p> <p>Licensed healthcare facilities (hospitals and long-term care (LTC) facilities) are required to report unusual occurrences and outbreaks to local health departments and L&C. The CDPH HAI Program provides technical assistance to L&C on HAI-related issues upon request. The CDPH HAI Program also provides technical assistance and support as needed to local health departments on HAI outbreaks and prevention and control activities.</p> <p>The CDPH Division of Communicable Disease Control (DCDC) is responsible for statewide surveillance for reportable diseases such as acute viral hepatitis and legionellosis. CDPH DCDC notifies the CDPH HAI Program if reportable diseases or unusual occurrences are healthcare-associated. Procedures have been established so that DCDC provides weekly surveillance reports on Influenza outbreaks in healthcare facilities during influenza season. DCDC reviews all acute viral hepatitis B or C cases weekly and notifies the HAI Program immediately if cases are suspected of being associated with healthcare exposures. Since June 2015, DCDC provides the HAI Program with weekly surveillance data on suspect cases of healthcare-associated legionella.</p> <p>In California, there are approximately 800 outpatient surgery centers. Most are not licensed by CDPH L&C. Rather, the state Medical Board is responsible for medical licensure of physicians (who own and operate the centers) and maintains a record of outpatient surgery centers. By December 2015, the CDPH HAI Program plans to meet formally with the Executive Director of the Medical Board to discuss how best to collaborate and promote awareness of HAI prevention measures to healthcare professionals in outpatient settings and discuss procedures for reporting when serious infection control breaches with disease transmission have occurred.</p>	

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☒	☐	<p>5. Facilitate use of standards-based formats (e.g., Clinical Document Architecture, electronic messages) by healthcare facilities for purposes of electronic reporting of HAI data. Providing technical assistance or other incentives for implementations of standards-based reporting can help develop capacity for HAI surveillance and other types of public health surveillance, such as for conditions deemed reportable to state and local health agencies using electronic laboratory reporting (ELR). Facilitating use of standards-based solutions for external reporting also can strengthen relationships between healthcare facilities and regional nodes of healthcare information, such as Regional Health Information Organizations (RHIOs) and Health Information Exchanges (HIEs). These relationships, in turn, can yield broader benefits for public health by consolidating electronic reporting through regional nodes.</p> <p>The CDPH HAI Program supports, encourages, and facilitates the use of standards-based formats for HAI reporting. We are working with the CDC Division of Healthcare Quality Promotion to obtain the list of California hospitals using Clinical Document Architecture (CDA) electronic reporting to meet California HAI reporting mandates. We are actively promoting the adoption of the NHSN Antimicrobial Use and Resistance (AUR) module, which can only be implemented by transmitting CDA messages electronically to NHSN, and are assisting hospitals with the implementation of this option. The HAI Program distributed an Antimicrobial Use and Health Informatics Capabilities Survey to hospitals in July 2015 to assess capacity and readiness for electronic reporting of antimicrobial utilization. By identifying facilities that have elements in place to begin creating CDA, and are already exchanging electronic information with entities like health information exchanges and public health agencies, CDPH will work with hospitals to enroll in the AUR module. Plans are in development to further advance other HAI electronic reporting and will be discussed at an upcoming HAI Advisory Committee meeting.</p>	June 1, 2015

2. Surveillance, Detection, Reporting, and Response

Timely and accurate monitoring remains necessary to gauge progress towards HAI elimination. Public health surveillance has been defined as the ongoing, systematic collection, analysis, and interpretation of data essential to the planning, implementation, and evaluation of public health practice, and timely dissemination to those responsible for prevention and control. Increased participation in systems such as the National Healthcare Safety Network (NHSN) has been demonstrated to promote HAI reduction. This, combined with improvements to simplify and enhance data collection, and improve dissemination of results to healthcare providers and the public are essential steps toward increasing HAI prevention capacity.

Table 2: California Department of Public Health (CDPH) HAI surveillance, detection, reporting, and response plans

Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Actual Date or Target Date for Implementation
☒	☐	<p>1. Improve HAI outbreak detection and investigation</p> <p>II. Work with partners including CSTE, CDC, state legislatures, and providers across the healthcare continuum to improve outbreak reporting to state health departments</p> <p>CDPH has been working with key partners to enhance outbreak detection and investigation even before the HAI Program was authorized in December 2009. Since a dedicated HAI physician position was established in 1993, CDPH has been working with Council of State and Territorial Epidemiologists (CSTE), CDC, state legislatures, and providers across the healthcare continuum to improve outbreak reporting to state health departments. After determining that the most effective method for increasing outbreak reporting is to provide assistance to providers attempting to manage the outbreak, the availability of CDPH assistance for HAI outbreaks was publicized throughout the state, and guidelines for managing specific outbreaks developed and distributed by CDPH to healthcare facilities, local health departments, healthcare providers and other government agencies, including other state health departments through CSTE. Efforts continue to improve and enhance outbreak detection, reporting, and response.</p>	December 8, 2009
☒	☐	<p>III. Establish protocols and provide training for health department staff to investigate outbreaks, clusters, or unusual cases of HAIs.</p> <p>The CDPH HAI Program has been establishing protocols and providing training to health department staff to investigate outbreaks since a dedicated HAI physician position was established in 1993. This capacity was expanded significantly following the establishment of the</p>	December 8, 2009

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<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>HAI Program in early 2010.</p> <p>Through state funds, and more recently CDC Ebola Supplemental funding, CDPH supports an HAI outbreaks team aimed to improve local health department capacity to investigate outbreaks, clusters, or unusual cases of HAIs. The CDPH HAI Program provides technical assistance to local health departments on outbreaks with onsite assistance as needed. The CDPH HAI Program provides monthly updates to local health department communicable disease (CD) controllers and bimonthly updates to the local health officers CD subcommittee, on HAI-related issues, including guidance on outbreak investigations. The CDPH HAI Program also provides technical assistance to CD workgroups to develop strategies for local public health investigation and control of HAI such as clusters of multi-drug resistant organisms (MDRO) and healthcare-associated legionella, and provides in-person and webinar-based training for local health department staff.</p> <p>Local health departments are at the frontline of public health; however, most do not have staff with infection control expertise. Hospitals have dedicated infection prevention staff and programs and rarely ask local health departments to be directly involved in investigations of hospital outbreaks. However, LTC facilities have fewer resources. The CDPH HAI Program has a plan to help further develop local health department capacity to assist long-term care (LTC) facilities with HAI outbreaks, which includes webinars on the nuts of bolts of infection control and management of common outbreaks in LTC facilities, and toolkits to guide and assess outbreak control and prevention in LTC facilities. Examples include control of CDI outbreaks in LTC facilities and prevention and control of MDROs in LTC facilities.</p> <p>IV. Develop mechanisms to protect facility/provider/patient identity when investigating incidents and potential outbreaks during the initial evaluation phase, where possible, to promote reporting of outbreaks</p> <p>CDPH does not release identifying information during an investigation. The CDPH HAI Program provides technical assistance to local health departments as needed to investigate incidents and potential outbreaks. The assistance provided, without threat of citations, encourages facilities to report outbreaks to local health departments. Upon confirmation of an outbreak, licensed</p>	December 8, 2009

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☒	☐	<p>healthcare facilities must report to their local CDPH L&C District Office.</p> <p>V. Improve overall use of surveillance data to identify and prevent HAI outbreaks or transmission in HC settings (e.g., hepatitis B, hepatitis C, multi-drug resistant organisms (MDRO), and other reportable HAIs)</p> <p>The CDPH HAI Program works closely with the CDPH Division of Communicable Disease Control (DCDC), the state public health program responsible for surveillance for acute hepatitis B and C cases and other reportable diseases and conditions. CDPH DCDC reviews surveillance data and case reports of reportable disease on a weekly or more frequent basis. The HAI Program is notified immediately by DCDC and/or the local health department when there is suspected transmission of disease in a healthcare setting. MDROs are not reportable diseases; however the incidence of MDROs is increasing in California. Hospitals are encouraged to report unusual occurrences of MDROs, defined as an increase above baseline, to local health departments. Except for the Los Angeles County Department of Public Health, which has a robust infection control program, local health departments typically request assistance from the CDPH HAI Program to assist with MDRO investigations.</p> <p>NHSN has been required for all California hospitals for surveillance of a broad range of HAIs since 2010 but has been used by CDPH only for analysis and publication of annual incidence rates and standardized infection ratios (SIR). We will examine use of a periodic analysis using statistical control process charts to identify possible outbreaks or emerging trends from NHSN data in real-time; we will begin with CDI data. A response plan including investigations by local health jurisdictions with the assistance of HAI Program Liaison IPs and epidemiologists and enhanced laboratory identification of pathogens based on this enhanced surveillance will be explored.</p>	December 8, 2009
☒	☐	<p>2. Enhance laboratory capacity for state and local detection and response to new and emerging HAI issues.</p> <p>CDPH is collaborating with academic partners from the University of California Los Angeles to design, implement, and analyze results from the California Antimicrobial Resistance Laboratory Network Assessment survey, which will be distributed statewide to all clinical and public health</p>	June 1, 2015

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		laboratory directors in October, 2015. The goal of this survey is to enable the CDPH HAI Program to identify and map antimicrobial resistance laboratory testing capabilities and practices, as well as obtain AR pathogen prevalence data from clinical laboratories. In January, 2015, CDPH will use the responses from this survey to recruit and establish a network of laboratories to convene via webinar on a quarterly basis to share and discuss AR data and trends, to potentially serve as central and/or regional reference testing laboratories, and to submit epidemiologically concerning isolates for resistance mechanism and genetic relatedness testing when appropriate.	
<input type="checkbox"/> <input checked="" type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>	<p>3. Improve communication of HAI outbreaks and infection control breaches</p> <p>i. Develop standard reporting criteria including, number, size, and type of HAI outbreak for health departments and CDC</p> <p>All outbreaks and breaches (identified as “unusual occurrences”) in licensed healthcare facilities are required by regulation to be reported to both CDPH and to local health departments, using a standard definition of an outbreak, regardless of size and type. Local health departments are responsible for investigating outbreaks and are required to report the findings of their investigations to CDPH using a detailed standard electronic form. The CDPH HAI Program reviews HAI outbreaks reported electronically and as reported directly by local health departments seeking consultation. The CDPH HAI Program notifies the CDC Division of Healthcare Quality Promotion of each outbreak by email and supplies additional information upon request.</p> <p>ii. Establish mechanisms or protocols for exchanging information about HAI outbreaks or breaches among state and local governmental partners (e.g., State Survey agencies, Communicable Disease Control, state licensing boards)</p> <p>In December 2009, the CDPH HAI Program was authorized and established within the Center for Healthcare Quality along with the state survey agency, the L&C Program. This alignment provides optimal opportunities to exchange information, including immediate notification of outbreaks and breaches in licensed healthcare facilities.</p> <p>The California electronic disease reporting system, CalREDIE, provides the basic means of exchanging information about individual cases and outbreaks of HAIs among local health</p>	<p>December 9, 2009</p> <p>December 9, 2009</p>

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		<p>departments and CDPH. CDPH provides a guidance document for local health departments for managing select communicable diseases, which includes reporting HAI cases and outbreaks to the CDPH HAI Program within a specified time period. CDPH conducts a secure weekly tele-video conference with CDPH communicable disease programs and local health departments to discuss any issue of interest or concern, and provides a weekly electronic brief of select items of interest that is distributed to CDPH personnel, local health departments, infection preventionists and infectious disease physicians. CDPH maintain an electronic infection control listserv to distribute alerts and other information. State licensing boards are routinely notified by CDPH of cases and breaches involving licensed practitioners.</p>	
<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<p>4. Identify at least 2 priority prevention targets for surveillance in support of the HHS HAI Action Plan</p> <ul style="list-style-type: none"> i. Central Line-associated Bloodstream Infections (CLABSI) ii. <i>Clostridium difficile</i> Infections (CDI) iii. Catheter-associated Urinary Tract Infections (CAUTI) iv. Methicillin-resistant <i>Staphylococcus aureus</i> (MRSA) Infections v. Surgical Site Infections (SSI) vi. Ventilator-associated Pneumonia (VAP) <p>HAI surveillance and reporting by California hospitals is mandated by Health & Safety Code 1288.45-1288.9. California general acute care hospitals are required to report for all inpatient locations, to CDPH via NHSN, the total inpatient days, total central line days, and the following HAIs: CLABSI by location, and facility-wide CDI, MRSA BSI, and VRE BSI. In addition, hospitals are required to report 29 procedure categories, consisting of deep incisional/organ space surgeries, and any subsequent SSIs. Hospitals must also report supporting information required for statistical risk adjustments such as bed size, number of admissions, CDI and MRSA admission prevalence, teaching status, and CDI testing type, plus surgical patient-level data including duration of surgery and wound classification. These priority prevention targets for surveillance in California, CLABSI, CDI, MRSA BSI, VRE BSI, and SSI, were adopted by the HAI Program at the time of authorization in December 2009 and endorsed by the HAI Advisory Committee.</p>	<p>December 8, 2009</p>
		<p>5. Adopt national standards for data and technology to track HAIs (e.g., NHSN).</p>	

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<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>i. Develop metrics to measure progress towards national goals (align with targeted state goals). (See Appendix 1).</p> <p>Since 2012, CDPH publishes HAI data reported by California hospitals with metrics that allow comparisons of California HAI incidence to national comparison data. The CDPH HAI Program will use the re-baselining of 2015 NHSN data to establish new targeted goals as recommended by the HAI Advisory Committee. On February 12, 2015, the HAI Advisory Committee recommended state HAI prevention metrics that align with national goals:</p> <table border="1" data-bbox="537 548 1682 816"> <thead> <tr> <th></th> <th>CLABSI</th> <th>CAUTI</th> <th>CDI</th> <th>MRSA BSI</th> <th>SSI</th> </tr> </thead> <tbody> <tr> <td>Baseline SIR</td> <td>1.0</td> <td>1.0</td> <td>1.0</td> <td>1.0</td> <td>1.0</td> </tr> <tr> <td>Baseline Years</td> <td>2006-2008</td> <td>2009</td> <td>2010-2011</td> <td>2010-2011</td> <td>2006-2008</td> </tr> <tr> <td>Source</td> <td>CDC</td> <td>CDC</td> <td>CDC</td> <td>CDC</td> <td>CDC</td> </tr> <tr> <td>2013 Goal SIR</td> <td>.50</td> <td>.75</td> <td>.70</td> <td>.75</td> <td>.75</td> </tr> <tr> <td>2020 Target SIR</td> <td>50% reduction from 2015 baseline</td> <td>25% reduction from 2015 baseline</td> <td>30% reduction from 2015 baseline</td> <td>50% reduction from 2015 baseline</td> <td>30% reduction from 2015 baseline</td> </tr> </tbody> </table>		CLABSI	CAUTI	CDI	MRSA BSI	SSI	Baseline SIR	1.0	1.0	1.0	1.0	1.0	Baseline Years	2006-2008	2009	2010-2011	2010-2011	2006-2008	Source	CDC	CDC	CDC	CDC	CDC	2013 Goal SIR	.50	.75	.70	.75	.75	2020 Target SIR	50% reduction from 2015 baseline	25% reduction from 2015 baseline	30% reduction from 2015 baseline	50% reduction from 2015 baseline	30% reduction from 2015 baseline	<p>August 1, 2013</p>
	CLABSI	CAUTI	CDI	MRSA BSI	SSI																																		
Baseline SIR	1.0	1.0	1.0	1.0	1.0																																		
Baseline Years	2006-2008	2009	2010-2011	2010-2011	2006-2008																																		
Source	CDC	CDC	CDC	CDC	CDC																																		
2013 Goal SIR	.50	.75	.70	.75	.75																																		
2020 Target SIR	50% reduction from 2015 baseline	25% reduction from 2015 baseline	30% reduction from 2015 baseline	50% reduction from 2015 baseline	30% reduction from 2015 baseline																																		
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>ii. Establish baseline measurements for prevention targets</p> <p>CDPH has been collecting the HAI data reported by California hospitals through NHSN since 2010. The baselines used to measure HAI prevention progress include the annual state average rates for various hospital categories (e.g. community, teaching, pediatric), and the national 2006-2008 and 2010-2011 baseline data from which hospital-specific risk-adjusted SIRs are derived. NHSN is planning to use 2015 national HAI data as a new baseline, beginning in 2016. Additionally, beginning in 2015, California hospitals are encouraged to use the 'Targeted Assessment for Prevention' (TAP) reports generated by NHSN to calculate the number of infections that a facility must prevent in order to meet national and state HAI reduction goals.</p>	<p>April 1, 2010</p>																																				
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>6. Develop state surveillance training competencies</p> <p>i. Conduct local training for appropriate use of surveillance systems (e.g., NHSN) including facility and group enrollment, data collection, management, and analysis</p> <p>In 2008, prior to authorization of the HAI Program, a CDPH public health nurse traveled to all 13 APIC chapters, corporate hospital groups, and other professional groups to provide education</p>	<p>October 1, 2008</p>																																				

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		<p>about new CDPH reporting requirements using NHSN and describe how to join the CDPH group in NHSN. To prepare hospitals for surveillance and reporting of CLABSI, MRSA BSI, VRE BSI, and CDI, that began April 1, 2010, CDPH held webinar-based training sessions. In 2010, HAI Program Liaison IPs visited 100% of California hospitals (n=400) to assist with NHSN enrollment, reporting plans, surveillance, data collection, entry and analysis, and collected information on hospital infection prevention program infrastructure and practices. Since then, many presentations have been done to improve surveillance, and use surveillance data for prevention. In 2012, CDPH HAI Liaison IPs presented an educational program, entitled 'Using NHSN Data for Improved Surveillance and Prevention;' it was presented in 18 cities across the state. From 2013-2015 distance learning classes, entitled 'Using Data Analysis for HAI Prevention,' have been offered each year in five sessions, including introduction to NHSN, SSI, CLABSI, MDRO, and, the latest, TAP reports.</p>	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>7. Develop tailored reports of data analyses for state or region prepared by state personnel The CDPH HAI Program annually prepares California HAI public reports that summarize hospital-onset CLABSI, CDI, MRSA BSI, VRE BSI, and SSI reported via NHSN by all California general acute care hospitals. CLABSI data are presented as both hospital-wide SIRs and location-specific incidence density rates. CLABSI rates are reported by patient care location (intensive care units and patient care wards) with the percent change from the prior year. Hospital-specific comparisons of CLABSI rates to California pooled mean rates, by patient care location, are provided. For CDI and MRSA BSI, hospital-specific rates and confidence intervals are separately reported for long-term (LTAC) and rehabilitation acute care hospitals, with comparisons to the California pooled mean rates for MSRA BSI. Hospital-specific SIRs, confidence intervals, and comparisons to national baselines (i.e., higher, lower, or no different) are available and reported for CLABSI, CDI, and MRSA BSI. Such risk-adjusted SIRs provide more accurate and fair comparisons of hospitals' infections. For VRE BSI (for which risk adjustment is not available), hospital-specific rates and confidence intervals are reported with comparisons made to the California pooled mean rate stratified by hospital type; specifically, community, critical access, major teaching, pediatric, LTAC, rehabilitation, or prison hospitals. For SSI, hospital-specific risk-adjusted SIRs, confidence intervals, and comparisons to national baseline are reported for 24 different surgical procedures, while hospital-specific SSI infection counts are reported for the</p>	<p>December 28, 2010</p>

Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Actual Date or Target Date for Implementation
		<p>five surgical procedures for which risk adjustment is not available. Beginning with the 2014 public report data, hospitals are sorted and presented by county.</p> <p>Annual hospital HAI data are published on the CDPH HAI Program webpage at http://www.cdph.ca.gov/programs/hai/Pages/HAIReportsAndPrevention.aspx. In addition to over 90 tables displaying the data and comparisons described above, the annual HAI public report is also comprised of ‘Technical Notes,’ documents containing information on data sources, definitions, quality assurance, and statistical analyses, as well as a ‘Key Findings’ document that summarizes important results, public health actions, and recommendation messages for the preventing HAI. The appendices of the ‘Key Findings’ document includes information on validation activities, hospitals with incomplete reporting, hospitals with SIRs or rates that have significantly improved from the prior year, and hospitals targeted for public health outreach due to high HAI incidence.</p> <p>Beginning with the 2013 data, data files from the HAI Program’s annual public report are made available to the public via the CDPH ‘Open Data Portal’ website. The public may also directly view and interact with California’s latest annual HAI data via the HAI Program’s online “My Hospital’s Infections Map” at http://gis-apps.cdph.ca.gov/HAI/map/</p>	
<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>	<p>8. Validate data entered into HAI surveillance (e.g., through healthcare records review, parallel database comparison) to measure accuracy and reliability of HAI data collection</p> <p>i. Develop a validation plan</p> <p>The CDPH HAI Program is performing validation as approved by the HAI Advisory Committee in a three-year validation plan. Validation in 2013 focused on six core surveillance practices to which all hospitals were to attest their performance, including 1) reviewing all positive blood cultures; 2) all locations are mapped correctly into NHSN; 3) all positive C. difficile tests and MRSA/VRE blood cultures are being reported; 4) surgical site infections (SSI) are identified using multiple surveillance methods; 5) all 29 mandated procedure categories performed by the hospital are reported; and 6) final quality assurance/quality control (QA/QC) reports from HAI Program are reviewed. In 2014, 345 hospitals participated in a validation to help them assess</p>	<p>July 1, 2013</p>

Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Actual Date or Target Date for Implementation
☒	☐	<p>and improve case-finding for SSI following colon surgeries, CLABSI, MRSA BSI, VRE BSI, and CDI. In 2015, all hospitals are expected to participate in SSI validation using a self-directed workbook. Hospitals will complete the validation and report their results via online survey to the CDPH HAI Program. The goal of validation is to assist hospitals in recognizing best practices in surveillance, correct errors, use complete data to focus prevention efforts, and ultimately reduce incidence of infection.</p> <p style="text-align: center;">ii. Pilot test validation methods in a sample of healthcare facilities</p> <p>In 2011, one year after the initiation of California hospitals reporting HAI via NHSN, validation for CLABSI, CDI, and MRSA/VRE BSI was conducted in 100 volunteer hospitals. CDPH HAI Program Liaison IPs spent one day performing validation onsite at each hospitals. Validation findings (sensitivity, specificity, positive predictive value) were shared with the hospital staff and leaders at the end of the day. In May 2012, the CDPH HAI Program presented aggregate results to all California hospitals via a webinar, and best practices for surveillance identified by the validation project.</p> <p>In 2013, 47 acute care hospitals participated in validation of SSI following colon and abdominal hysterectomy procedures introducing the use of ICD-9 ‘flag’ codes to identify records for review. Hospitals produced a list of colon and abdominal hysterectomy procedures performed over a two quarter period of 2013. They then screened this list of procedures to identify a subset that were flagged by ICD diagnosis codes known to possibly indicate SSI in the post-operative period. Use of the ICD-9 flag codes improved case finding or sensitivity. Results indicated identification of 50.2% colon SSI using traditional surveillance methods versus to 87.9% identification using ICD flag codes. Use of flag codes for abdominal hysterectomy SSI increased sensitivity from 68.4% using traditional methods to 78.3%. In 2014, aggregate SSI pilot validation results and best practices for identifying and reporting HAI were shared via webinar with all California hospitals.</p>	April 1, 2011
☒	☐	<p style="text-align: center;">iii. Modify validation plan and methods in accordance with findings from pilot project</p> <p>Data from the 2011 CLABSI validation pilot project demonstrated an aggregate sensitivity of 62%, and the 2013 SSI validation pilot project demonstrated case-finding sensitivity of 50.2% for</p>	July 1, 2013

Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Actual Date or Target Date for Implementation
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>identifying colon SSI, and 68.4% for identifying abdominal hysterectomy SSI. The 3-year validation plan was designed to incorporate lessons learned from these pilot projects, and enabled us to target aspects of HAI surveillance and reporting found to be most problematic among California hospitals during the pilot validations. For 2014 validation, onsite, external data validation was performed for 234 larger volume hospitals where both CLABSI and SSI surveillance methods were validated. We provided education on best methods for reviewing positive blood cultures. SSI validation methods incorporated the use of ICD-9 flag codes as a tool to improve case finding of COLO SSI. Smaller volume hospitals were led through a comprehensive internal validation process that sought to evaluate nearly identical metrics as the external validation process. The methods used for the smaller volume hospitals did not require a hospital visit from a CDPH HAI Program staff member, instead relying upon on a workbook developed by the HAI Program that led hospitals through a systematic review of their HAI data. This process was well-received by hospitals and resulted in the identification of previously unreported HAIs. Building on the strengths and efficiency of this internal review methodology, 2015 SSI validation is employing a workbook-based, internal validation process to identify previously unreported SSIs using ICD-9 flag codes and assess the accuracy of key SSI denominator data elements important for accurate calculation of the SSI SIR. All hospitals are invited and expected to participate in the 2015 SSI validation.</p> <p style="text-align: center;">iv. Implement validation plan and methods in all healthcare facilities participating in HAI surveillance</p> <p>The CDPH HAI Program 2013 validation by attestation included participation from 297 of 385 (77%) hospitals throughout the state of California. Hospitals were asked to respond ‘yes’ or ‘no’ to six questions regarding HAI surveillance: 1) All positive blood cultures are reviewed to identify or rule out CLABSI (100%); 2) All ICU and wards are mapped correctly for comparing data (99%); 3) All positive non-duplicate CDI toxin tests and MRSA VRE BSI blood cultures are identified and reported (99%); 4) Multiple surveillance methods are used to identify SSI (96%); 5) All required inpatient surgeries are reported (96%); 6) Quality Assurance/Control reports generated by the HAI Program are reviewed and corrections made if needed (93%).</p> <p>The HAI Program’s 2014 validation process included participation from 345 of 382 (90.3%)</p>	<p>July 1, 2013</p>

Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Actual Date or Target Date for Implementation
☒	☐	<p>hospitals throughout California. Validation was comprehensive and evaluated surveillance practices across all HAI types. Among larger volume hospitals (N=234), 634 new HAIs were discovered during onsite validation, representing a 12.1% increase in the number of HAIs reported above baseline. Similarly, internal validation of smaller volume hospitals (N=111) resulted in a 9.6% (87 HAIs) increase in the number of HAIs reported.</p> <p>v. Analyze and report validation findings The CDPH HAI Program analyzed data from the 2011 100-hospital pilot validation project to assess understanding of NHSN reporting and surveillance protocols; results were first presented back to the 100 participating hospitals in May 2012. We conducted educational ‘roadshows’ in 18 cities to present the findings and re-educate hospital staff based on surveillance and reporting gaps. The same model was used following the 2013 SSI validation pilot. Beginning with the 2013 HAI public report, an appendix showed the validation by attestation responses provided by California hospitals. Hospitals that did not participate were highlighted in red. For the 2014 public report, hospitals that did not participate in validation will be listed in an appendix as well as highlighted in red in the HAI data tables.</p>	January 1, 2012
☒	☐	<p>vi. Use validation findings to provide operational guidance for healthcare facilities that targets any data shortcomings detected Data from validation have been used to provide education to strengthen knowledge of HAI surveillance and reporting protocols. Targeting specific hospitals with ‘low’ performance began with the 2014 validation that focused on case finding; 86 hospitals that failed to identify and report a CLABSI (from the 20-record quarter-1 sample), and /or had less than 85% and ≥ 2 missed cases of MRSA/VRE BSI or CDI, were targeted for re-validation in 2015. CDPH will continue to visit the hospitals that fail to achieve an 85% minimum threshold. A similar follow-up strategy will be initiated following 2015 SSI validation.</p>	May 15, 2012
☒	☐	<p>9. Develop preparedness plans for improved response to HAI i. Define processes and tiered response criteria to handle increased reports of serious infection control breaches (e.g., syringe reuse), suspect cases/clusters, and outbreaks CDPH responds to individual reports of infection control breaches, suspect cases or clusters, and</p>	December 8, 2009

Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Actual Date or Target Date for Implementation
		<p>outbreaks by reviewing available information, recommending collection of additional information, and/or recommending corrective action, as appropriate. CDPH notifies healthcare facilities at risk of similar events on the need for surveillance and reporting, and notifies CDC of the event(s). Following identification of multiple events with similar causes, CDPH issues alerts through various mechanisms to notify facilities at risk and recommend preventive measures. For example, CDPH issued alerts for reprocessing endoscopes in 2003, 2004, and 2007, and issued an alert for an increased number of outbreaks of viral gastroenteritis in long-term care facilities in 2003. The CDPH HAI Program follows CDC guidance on Recommended Steps for Investigating Single Cases of Hepatitis B Virus (HBV) or Hepatitis C Virus (HCV) that are Suspected to be Related to Healthcare Delivery</p>	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>10. Collaborate with professional licensing organizations to identify and investigate complaints related to provider infection control practice in non-hospital settings and set standards for continuing education and training</p> <p>The CDPH HAI Program receives data from CDPH L&C regarding surveys that identified infection control deficiencies in non-hospital settings. The HAI Program Liaison IPs are collaborating with L&C district offices to develop strategic relationships and assist with infection control education of L&C surveyors. In November 2015, all 13 L&C district offices will be visited by a HAI Liaison IP to educate the office leadership about the HAI Program and forge avenues of collaboration between the HAI Program and L&C. L&C Health Facilities Evaluator Nurses will continue to be encouraged to attend basic infection prevention education that is offered on an ongoing basis by the HAI Program.</p>	<p>February 1, 2015</p>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>11. Adopt integration and interoperability standards for HAI information systems and data sources</p> <p>i. Improve overall use of surveillance data to identify and prevent HAI outbreaks or transmission in HC settings (e.g., hepatitis B, hepatitis C, multi-drug resistant organisms (MDRO), and other reportable HAIs) across the spectrum of inpatient and outpatient healthcare settings</p> <p>As described in Section 1.4, the CDPH HAI Program routinely uses surveillance data to identify and detect transmission of viral hepatitis in healthcare settings. The HAI Program also analyzes reported CDI data to identify hospitals with high rates of healthcare facility associated CDI, and</p>	<p>December 8, 2009</p>

Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Actual Date or Target Date for Implementation
<input type="checkbox"/>	<input type="checkbox"/>	<p>identifies regions with high prevalence of community-onset CDI, in order to target and convene acute and long-term care facilities with shared patient populations to engage in CDI prevention. Skilled nursing facilities engaged in these collaborative efforts are being supported to enroll in NHSN to collect and track CDI in their facilities.</p> <p>ii. Promote definitional alignment and data element standardization needed to link HAI data across the nation.</p> <p>NHSN is the standard for reporting HAI data, including federally-mandated HAI reporting. California mandated HAI reporting also requires that hospitals use NHSN, in order to maintain standardization. The CDPH HAI Program provides assistance to reporting facilities and has conducted data validation to ensure that NHSN protocols and definitions are followed. The CDPH HAI Program works with CDC and the CSTE HAI subcommittee to improve existing and develop new definitions and standardize data elements used in the surveillance and reporting of HAI nationwide.</p>	December 8, 2009
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>12. Enhance electronic reporting and information technology for healthcare facilities to reduce reporting burden and increase timeliness, efficiency, comprehensiveness, and reliability of the data</p> <p>i. Report HAI data to the public</p> <p>On December 28, 2010, the CDPH HAI Program published the first California hospital HAI public report, with data from January 2009-March 2010. Starting April 1, 2010, all California-licensed general acute care hospitals were required to report HAI data using the web-based NHSN and provide to CDPH permission to access these data. On January 6, 2012, CDPH published the second report of California HAI data collected via NHSN from April 2010-March 2011. Subsequently, CDPH publishes an annual California hospital HAI report for calendar year data from 2011, 2012, and 2013. The 2014 HAI public report will mark the sixth year CDPH will publish California hospital HAI data and the fifth year using data reported by hospitals using NHSN. All of these public reports are accessible to the public on the HAI Program website http://www.cdph.ca.gov/programs/hai/Pages/HAIReportsAndPrevention.aspx.</p> <p>The CDPH "My Hospital's Infections" HAI interactive map is on its fourth iteration. The Map was</p>	December 28, 2010

Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Actual Date or Target Date for Implementation
		<p>created to help simplify complex epidemiological findings for the general consumer. Each version of the map is being enhanced based on feedback received from public focus groups. The first version of the map was created in 2012 and presented hospital-specific SSI findings from four surgical site procedures. The latest version, released in March 2015, allows users to track 10 SSI procedures, CLABSI in 39 patient care locations, CDI, MRSA BSI and VRE BSI. Today with a single click, users can access a unique hospital profile that contains all findings for all the infection types on a single page. The Map development process is spearheaded by HAI Program staff with support from CDPH Information Technology Division Services. All Map work is conducted in-house at CDPH.</p>	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>13. Make available risk-adjusted HAI data that enable state agencies to make comparisons between hospitals.</p> <p>The CDPH HAI Program publicly reports hospital-specific CLABSI, CDI, and MRSA BSI SIRs for general acute care hospitals, other than long-term and rehabilitation acute care hospitals, using NHSN risk adjustment models. This NHSN SIR compares the number of hospital-onset incident cases with the predicted number that is derived from the national baseline data. For CLABSI, the SIR is adjusted for patient care location. For CDI, the SIR is adjusted for the significant risk factors of CDI test type, community-onset admission prevalence rate, facility bed-size, and medical school affiliation. For MRSA BSI, the SIR is adjusted for the significant risk factors of admission prevalence rate, facility bed-size, and medical school affiliation. For SSI, every patient undergoing a procedure has a calculated risk for SSI. CDPH uses NHSN's complex admission/re-admission (A/R) risk-adjusted SIR model, specific to each surgical procedure category. This model adjusts for individual patient risk factors (e.g. diabetes, height, and weight), and ultimately yields a hospital's predicted infection count for inpatient procedures and primary infections detected upon admission or readmission to the same hospital. That is, based on a hospital's surgical patient population, the expected number of SSIs is calculated by adding up all patient risk probabilities. For some HAIs, for which risk adjustment models are not available, stratified rates are instead publicly reported. For example, CLABSI rates are calculated grouped by patient care locations; these patient care settings generally reflect the severity of illness and type of care and are a proxy (substitute) measure for severity of illness among patients.</p>	<p>January 6, 2012</p>

Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Actual Date or Target Date for Implementation
		<p>Because risk adjustment models like the NHSN SSI Complex A/R model include patient-level risk factors, SIRs can be compared between hospitals for each procedure. However for other HAIs, comparisons of SIRs across hospitals should be conducted with caution because the models used for risk adjustment include only facility-level risk factors (and not patient-level risk factors). Similarly, while stratifying by hospital categories makes rates more comparable, comparisons should be made with caution because such stratification cannot control for all patient-level factors than can affect HAI incidence.</p> <p>The CDPH HAI Program will continue to use NHSN risk adjustment models to produce SIRs for public reporting and for use as a metric of HAI prevention progress. For the future, the HAI Program is interested in developing state-level risk adjustment models that include relevant patient-level risk factors.</p>	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>14. Enhance surveillance and detection of HAIs in nonhospital settings</p> <p>In September 2013, 60 LTC facilities volunteered for a prevention assessment conducted by one of our CDPH HAI Program Liaison IPs. The one-day assessment included review of facility policy and practices and observations of infection prevention practices. LTC facility staff was presented with a 'Review of Findings' at the end of the day with both qualitative and quantitative feedback, including percent adherence to the prevention practices observed. Recommendations for improvement and focus for infection prevention activities were left with the facility. Aggregate data were shared with those who participated via webinar.</p> <p>In 2015, LTC facilities in the CDPH HAI Program-convened Orange County CDI prevention collaborative are enrolling in NHSN and will begin performing surveillance for CDI. Lessons learned in assisting Orange County LTC facilities to initiate NHSN surveillance and reporting will be rolled out to all 1200 California skilled nursing facilities in 2016 with encouragement to participate. Support for LTC facility participation in standardized HAI surveillance and reporting will be discussed at an upcoming HAI Advisory Committee meeting.</p> <p>In 2016, the CDPH HAI Program will continue to conduct infection control assessments at outpatient hemodialysis centers. This program started in 2015 with visits to 48 centers and will add 60 more clinics in both 2016 and 2017. The California Safe Injection Practices Coalition</p>	<p>September 1, 2013</p>

Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Actual Date or Target Date for Implementation
		<p>partners and the One and Only Campaign members, will identify at-risk outpatient healthcare facilities to be targeted for assessments. Regionally-based Liaison IPs will then begin onsite infection control consultations utilizing the CDC Infection Control Out-Patient Assessment Tool, with 30 assessments anticipated in 2016 and 2017. In addition the HAI Program will offer training on utilizing an infection control assessment tool for ambulatory surgery centers. This program will begin in fall 2015 with 120 participants anticipated and will continue in 2016 and 2017 with an additional 60 centers anticipated each year.</p>	

3. Prevention

State implementation of HHS Healthcare Infection Control Practices Advisory Committee (HICPAC) recommendations is a critical step toward the elimination of HAIs. CDC and HICPAC have developed evidence-based HAI prevention guidelines cited in the HHS Action Plan for implementation. These guidelines are translated into practice and implemented by multiple groups in hospital settings for the prevention of HAIs. CDC guidelines have also served as the basis for the Centers for Medicare and Medicaid Services (CMS) Surgical Care Improvement Project. These evidence-based recommendations have also been incorporated into Joint Commission standards for accreditation of U.S. hospitals and have been endorsed by the National Quality Forum. Please select areas for development or enhancement of state HAI prevention efforts.

Table 3: California Department of Public Health (CDPH) HAI prevention activities plan

Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Actual Date or Target Date for Implementation
☒	☐	<p>1. Implement HICPAC recommendations</p> <p style="padding-left: 20px;">i. Develop strategies for implementation of HICPAC recommendations for at least 2 prevention targets specified by the state multidisciplinary group.</p> <p>On February 12, 2015, the HAI Advisory Committee recommended to CDPH an updated state HAI prevention plan that targets HAI and prevention goals consistent with HHS priorities as described in the ‘National Action Plan to Prevent Healthcare-associated Infections.’ The HAI Advisory Committee made specific recommendations for the prevention of CLABSI, CDI, SSI, CAUTI, ventilator-associated pneumonia (VAP), and influenza vaccination for healthcare providers. The HAI Advisory Committee recommended strategies for prevention that align with HICPAC recommendations, specifically.</p> <p>CLABSI Prevention Strategies:</p> <ol style="list-style-type: none"> 1. Follow CDC core strategies for CLABSI prevention. 2. Implement a root cause analysis or other review process when CLABSI occur. 3. Adopt a central line maintenance bundle. 4. Monitor adherence to a central line maintenance bundle on a regular basis, with emphasis on a) Daily review of line necessity and prompt removal of CVC, b) accessing the line using “scrub-the-hub” practices, and c) care of catheter site, including dressing practices. 5. If hospitals continue to have elevated CLABSI rates after initial efforts at mitigation, consider utilizing CLIP forms in all hospital locations where lines are inserted, 	February 12, 2015

Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Actual Date or Target Date for Implementation
		<p>including the OR and interventional radiology.</p> <p>CDI Prevention Strategies:</p> <ol style="list-style-type: none"> 1. Follow CDC core strategies for CLABSI prevention. 2. Use Contact Precautions for the duration of diarrhea. 3. Perform hand hygiene before and from going from dirty to clean tasks and after care of the patient on contact precautions. 4. Clean and disinfect equipment and the environment daily. 5. Use laboratory-based alert systems for immediate notification of positive test results. 6. Educate healthcare workers, housekeeping, administration, patients and families about the prevention of CDI. 7. Presumptively isolate patients with diarrhea pending confirmation of CDI diagnosis. 8. Implement an antimicrobial stewardship program. 9. Establish hand hygiene adherence monitoring and assess hand hygiene adherence regularly. 10. Implement CDC supplemental prevention strategies when CDI rates remain high, including: a) consider collecting unit-based CDI rates; b) extend use of contact precautions beyond duration of symptoms (e.g. 48 hours or hospital stay); c)implement hand washing with antimicrobial soap and water before exiting the room of CDI patient; d) implement universal glove use on units with high CDI rates; e) use sodium hypochlorite (bleach) solutions for environmental cleaning; f) track the use of antibiotics associated with CDI; and g) consider establishing a nurse driven protocol (in accordance with CMS Interpretive Guidelines) for ordering C. difficile testing and initiating presumptive contact isolation for patients with diarrhea. <p>CAUTI Prevention Strategies:</p> <ol style="list-style-type: none"> 1. Insertion and maintenance of urinary catheters should be performed consistent with guidelines published by CDC and HICPAC. 2. Follow the HICPAC list of appropriate indications for placement of urinary catheters. 3. The rationale for continued use of a urinary catheter should be documented every day. Urinary catheters that do not meet the criteria for necessary use should be 	

Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Actual Date or Target Date for Implementation
		<p>removed.</p> <ol style="list-style-type: none"> 4. Measure compliance with daily necessity to continue use of urinary catheter. 5. Provide data feedback of CAUTI rates and daily review of necessity of urinary catheters to nursing units on a regular basis. 6. Consider establishing a nurse-driven protocol (in accordance with CMS Interpretive Guidelines) for discontinuation of unnecessary urinary catheters. <p>SSI Prevention Strategies:</p> <ol style="list-style-type: none"> 1. Perform timely administration of appropriate antimicrobial prophylaxis in accordance with evidence-based standards and guidelines. 2. Treat remote infections whenever possible before elective operations. 3. Avoid hair removal at the operative site unless it will interfere with the operation; do not use a razor. 4. Use appropriate antiseptic agent and technique for skin preparation. 5. Keep doors closed during invasive procedures to minimize traffic in procedural areas 6. Maintain immediate postoperative normothermia. 7. Protect primary closure incisions with sterile dressing. 8. Control blood glucose level during the immediate post-operative period for cardiac surgeries. 9. Discontinue antibiotics according to evidence-based standards and guidelines. 10. When SSI are identified, notify the surgical team as soon as possible to perform case review to identify probable causes. 11. Feedback surgeon and surgical service-specific SSI data to providers on a regular basis 12. Prior to procedure, use time-out to confirm details of the procedure and to ensure that all required equipment is ready and present in room. 13. Implement supplemental prevention strategies when SSI incidence is high, including <ol style="list-style-type: none"> a) perform nasal screening and decolonization for Staphylococcus aureus carriers for select procedures (i.e., cardiac, orthopedic, neurosurgery procedures with implants); b) screen preoperative blood glucose levels and maintain appropriate glucose control; c) re-dose antibiotics at appropriate intervals in procedures with longer durations in accordance to national guidelines; d) dose-adjust antimicrobial 	

Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Actual Date or Target Date for Implementation
		<p>prophylaxis for obese patients; and e) use at least 50% fraction of inspired oxygen intraoperatively and immediately postoperatively.</p> <p>VAP Prevention Strategy: Follow prevention strategies as outlined in the Institute for Healthcare Improvement ventilator bundle, the 2003 HICPAC 'Guidelines for Preventing Healthcare-Associated Pneumonia, 2003,' and SHEA/IDSA practice recommendations.</p> <p>Horizontal Infection Prevention Implementation Strategies:</p> <ol style="list-style-type: none"> 1. Perform daily bathing of all hospitalized patients. 2. Provide daily oral care for all hospitalized patients. 3. Consider daily chlorhexidine gluconate bathing for selected patient populations. <p>Influenza Vaccination for Healthcare Providers (HCP) Strategy: To increase Influenza vaccination rates among HCP, implement local policies requiring mandatory yearly Influenza vaccination for all HCP.</p>	
□	☒	<p>2. Establish prevention working group under the state HAI advisory council to coordinate state HAI collaboratives</p> <ol style="list-style-type: none"> i. Assemble expertise to consult, advise, and coach inpatient healthcare facilities involved in HAI prevention collaboratives <p>The state-mandated HAI Advisory Committee and all subcommittees follow requirements of the Bagley-Keene Open Meeting Act to ensure transparency and increase public participation. Meeting notices and agenda items must be published ten days prior to meetings, and all meetings are open to public participation. HAI Program staff support the work of the Committee and all subcommittees to ensure compliance with open meeting requirements. Because all meetings are open to members of the general public, only HAI data that have been published or de-identified can be discussed at Committee meetings and with Committee members. In 2016, CDPH will request the HAI Advisory Committee consider formation of a subcommittee tasked to evaluate the gaps and recommend improvements to California hospital Ebola preparedness. They will be given the de-identified gap analyses</p>	February 11, 2016

Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Actual Date or Target Date for Implementation
		<p>from the Ebola hospital infection control preparedness assessments and asked to develop recommendations for training and other needs. Similarly, the HAI Advisory Committee will be provided aggregate and/or de-identified data from the hospital, skilled nursing facility, dialysis center, and outpatient clinic onsite prevention assessments performed by CDPH HAI Program Liaison IPs, and asked to perform a gap analysis and make recommendations for CDPH outreach and education.</p>	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>3. Establish HAI collaboratives with at least 10 hospitals (this may require a multi-state or regional collaborative in low population density regions)</p> <p>i. Identify staff trained in project coordination, infection control, and collaborative coordination</p> <p>California hospitals have a long history of participation in HAI prevention collaboratives, preceding the formation of the CDPH HAI Program in December 2009. In January-February 2010, the CDPH HAI Program hired nine Liaison IPs with high levels of experience in infection control and prevention, program management, and project coordination. From 2010 to 2015, the CDPH HAI Program Liaison IP and/r AR team have supported multiple HAI prevention collaboratives involving 10 or more hospitals, including</p> <ul style="list-style-type: none"> • Small, rural, critical access hospital collaborative • Prison hospital /hospital jail wards collaborative • Long-term acute care hospital collaborative • CUSP – Stop CAUTI collaboratives • Antimicrobial Stewardship Programs collaborative • Orange County Regional CDI prevention collaborative 	<p>January 3, 2010</p>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>ii. Develop a communication strategy to facilitate peer-to-peer learning and sharing of best practices</p> <p>Because California is such a large state, the CDPH HAI Program developed a statewide communication strategy for supporting collaboratives via webinar and conference calls, with high success as demonstrated by continued participation among voluntary healthcare facilities.</p>	<p>September 1, 2010</p>

Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Actual Date or Target Date for Implementation
☒	☐	<p>The HAI Program is currently in the ninth month of convening and supporting a 12-month ASP Collaborative with 150 (35%) of 429 California hospitals participating. The Collaborative is structured as a learning and action network, with a series of monthly webinar sessions alternating between educational presentations addressing core topic areas of ASP presented by expert physician and pharmacists, and structured panel discussion sessions.</p> <p>As part of developing a model for regional CDI prevention, the CDPH HAI Program partnered with Orange County public health to convene a network of 40 Orange County acute care, long-term acute care and skilled nursing facilities with a shared patient population to engage in a collaborative from June 2015-May 2016. Activities include quarterly in-person meetings to discuss practical aspects of core CDI prevention strategies including antimicrobial stewardship and environmental cleaning, and on-site observational assessments by HAI Program Liaison IPs to examine CDI prevention practices and develop an action plan with explicit goals of improving adherence monitoring of core CDI prevention activities.</p> <p style="padding-left: 40px;">iii. Establish and adhere to feedback from standardized outcome data to track progress</p> <p>In 2012, 21 LTAC hospitals participating in a prevention collaborative had onsite infection prevention assessments completed by CDPH HAI Program Liaison IPs and developed follow-up action plans for improvement. Progress is tracked via LTAC hospital-reported HAI data. California hospitals participating in the ‘On the CUSP: Stop CAUTI’ used data to assess their sustainability of CAUTI rate reduction. In 2013, 47 hospitals participated in ‘Data for Prevention’ site visits with follow up process improvement plans based on standardized NHSN HAI outcome data and continue to track progress . In 2015, the Orange County CDI prevention collaborative hospitals and LTC facilities are using standardized outcome data to track progress. LTC facilities are being enrolled in NHSN to perform surveillance for and report CDI. By analyzing rates of community-onset CDI, the CDPH HAI Program has identified the Sacramento metro area as the next target for another regional CDI prevention collaborative, for which recruitment will begin in January 2016.</p>	November 1, 2012
		4. Develop state HAI prevention training competencies	

Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Actual Date or Target Date for Implementation
☒	☐	<p>i. Consider establishing requirements for education and training of healthcare professionals in HAI prevention (e.g., certification requirements, public education campaigns, and targeted provider education) or work with healthcare partners to establish best practices for training and certification</p> <p>California Senate Bill 158 (2008) established an HAI prevention training requirement for hospital epidemiologists, infection control committee chairs, physicians, and other licensed healthcare providers. Per Health and Safety Code 1288.95: (a) No later than January 1, 2010, a physician designated as a hospital epidemiologist or infection surveillance, prevention, and control committee chairperson shall participate in a continuing medical education (CME) training program offered by the federal Centers for Disease Control and Prevention (CDC) and the Society for Healthcare Epidemiologists of America, or other recognized professional organization. The CME program shall be specific to infection surveillance, prevention, and control. Documentation of attendance shall be placed in the physician's credentialing file. (b) Beginning January 2010, all staff and contract physicians and all other licensed independent contractors, including, but not limited to, nurse practitioners and physician assistants, shall be trained in methods to prevent transmission of HAI, including, but not limited to, MRSA and Clostridium difficile infection.</p> <p>In 2011, the CDPH HAI Program introduced a free 2-day 'Basics of Infection Prevention Course' to address the high attrition rate of infection preventionists (IP) in California hospitals. Since 2011, 1178 hospital IPs and others have attended the 2-day IP Basics course offered twice a year in northern and southern California. The course focuses on prevention of HAI and provides information on core prevention strategies for the most common types of HAI, as well as other topics necessary to perform the job of a hospital IP. In 2012, the CDPH HAI Program helped to develop and launch a 2-day LTC Infection Prevention course in collaboration with the California Association of Healthcare Facilities. This course is offered in northern and southern California twice a year with roughly 100-150 attendees at each session (200-300 attendees/year)</p> <p>Since 2010, the CDPH HAI Program has provided education on a variety of core HAI prevention topics. In 2011, Liaison IPs began to provide roadshow classes held throughout</p>	January 1, 2010

Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Actual Date or Target Date for Implementation
		<p>California, including 20 3-hour classes on NHSN SSI surveillance and the SSI SIR (2011) and 20 classes on validation findings from the 100-hospital pilot and lessons learned for improving HAI surveillance (2012). Since 2012, 25 hands-on distance classes have been presented for hospital IPs remotely logged into NHSN while following webinars presented by CDPH HAI Program staff. In addition, as part of the data for action site visits CDPH HAI Program Liaison IPs perform prevention assessments and provide one-on-one teaching to facilities about HAI core prevention strategies, infection surveillance and data validation.</p> <p>Ongoing classroom-based training provided by the CDPH HAI Program include</p> <ul style="list-style-type: none"> • 2-day Basics of Infection Prevention course <ul style="list-style-type: none"> ○ 2011, 12 classes; 2012, 9 classes; 2013; 4 classes; 2014, 4 classes; 2015, 4 classes ○ Number educated: 1178 • Validation review of findings and using findings to improve surveillance <ul style="list-style-type: none"> ○ 2012, 18 classes; 2013, 3 classes; 2014, 2 classes; 2015, 1 class • ‘Using data for prevention’ series <ul style="list-style-type: none"> ○ 2012, 12 classes; 2013, 4 classes; 2014, 4 classes, 2015, 5 classes 	
☒	☐	<p>5. Implement strategies for compliance to promote adherence to HICPAC recommendations</p> <p>i. Consider developing statutory or regulatory standards for healthcare infection control and prevention or work with healthcare partners to establish best practices to ensure adherence</p> <p>California laws and regulations establish requirements for infection control and prevention in alignment with CDC and HICPAC recommendations and guidelines. Following are two examples from state statute.</p> <ul style="list-style-type: none"> • Health & Safety Code 1255.8: (a) (4) “Health-care-associated infection,” “health-facility-acquired infection,” or “HAI” means a health-care-associated infection as defined by the National Healthcare Safety Network of the federal Centers for Disease Control and Prevention, unless the department adopts a definition consistent with the recommendations of the committee or its successor. • Health & Safety Code 1288.8: (a) By January 1, 2008, the department shall take all of the following actions to protect against HAI in general acute care hospitals statewide: 	December 8, 2009

Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Actual Date or Target Date for Implementation
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>(2) Revise existing and adopt new administrative regulations, as necessary, to incorporate current <i>federal Centers for Disease Control and Prevention (CDC) guidelines and standards for HAI prevention</i>. (b) On and after January 1, 2008, each general acute care hospital shall implement and annually report to the department on <i>its implementation of infection surveillance and infection prevention process measures that have been recommended by the federal Centers for Disease Control and Prevention Healthcare Infection Control Practices Advisory Committee</i>, as suitable for a mandatory public reporting program. Initially, these process measures shall include the <i>CDC guidelines for central line insertion practices, surgical antimicrobial prophylaxis, and influenza vaccination of patients and healthcare personnel</i>.</p> <p>ii. Coordinate/liaise with regulation and oversight activities such as inpatient or outpatient facility licensing/accrediting bodies and professional licensing organizations to prevent HAIs</p> <p>The California HAI Program is part of the CDPH Center for Health Care Quality. CDPH L&C and the HAI Program share the same Deputy Director. The shared governance allows opportunities for collaboration between departments and sharing of information.</p>	December 8, 2009
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<p>iii. Improve regulatory oversight of hospitals, enhance surveyor training and tools, and add sources and uses of infection control data</p> <p>CDPH HAI physician and public health nurses began training L&C surveyor staff in 1996; formal training was provided as part of the week-long survey training class in 2009 as required by law:</p> <ul style="list-style-type: none"> • Health & Safety Code 1288.8. (a) By January 1, 2008, the department shall take all of the following actions to protect against HAI in general acute care hospitals statewide: (1) Implement an HAI surveillance and prevention program designed to assess the department's resource needs, <i>educate health facility evaluator nurses in HAI</i>, and educate department staff on methods of implementing recommendations for disease prevention. <p>In 2009, a series of four webinars was presented to L&C surveyors on the basic principles of</p>	December 8, 2009

Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Actual Date or Target Date for Implementation
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<p>disease transmission and prevention, epidemiology of H1N1, and the role of surveyors to ensure hospitals were following promulgated guidelines for the prevention of H1N1 and other HAI.</p> <p>The shared governance between L&C and the HAI Program allows for prompt identification of facilities that have been noted to have infection control deficiencies. The HAI Program can then target those identified facilities for HAI prevention intervention.</p> <p>iv. Consider expanding regulation and oversight activities to currently unregulated settings where healthcare is delivered and work with healthcare partners to establish best practices to ensure adherence</p> <p>With the award of CDC Ebola Supplemental funding in 2015, CDPH HAI Program activities will be able to be expanded to outpatient settings. Input for targeting our outreach is being sought from the HAI Advisory Committee and other partners and stakeholders.</p>	January 1, 2016
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>6. Enhance prevention infrastructure by increasing joint collaboratives with at least 20 hospitals (i.e. this may require a multi-state or regional collaborative in low population density regions)</p> <p>All collaboratives described in Section 3.3 above had/have more than 20 participating hospitals. The current ASP collaborative has 150 participating hospitals, and the Orange County CDI collaborative has 40 participating hospitals and LTC facilities.</p>	September 1, 2010
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>7. Establish collaborative(s) to prevent HAIs in nonhospital settings (e.g., long term care, dialysis)</p> <p>In May 2015, the CDPH HAI Program launched a campaign to reduce bloodstream infection in hemodialysis patients, working in collaboration with the CMS-funded ESRD networks. There are over 500 outpatient dialysis clinics statewide. The CDPH HAI Program works with the Networks to select clinics. HAI Program dialysis Liaison IPs perform onsite prevention assessments at outpatient dialysis facility visits with emphasis on prevention of bloodstream infections. Direct observations of prevention practices are performed and infection prevention and control policies and education materials are reviewed. Just-in-time training is</p>	May 1, 2015

Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Actual Date or Target Date for Implementation
		<p>provided to facility staff as necessary. Assistance with NHSN is offered and how to perform process measure surveillance and use of data to drive prevention activities is also discussed. A summary of the findings and gaps is provided at the end of the visit with recommendations based on CDC guidelines and evidence-based practice. As of September 2015, 31 dialysis facilities have been visited. Formal six month follow-up will begin January 2016. Data are being analyzed to identify trends in gaps to construct a one-day class for dialysis center personnel.</p> <p>The CDPH HAI Program regional CDI prevention collaborative in Orange County has convened a network of 40 Orange County facilities, including 17 general acute care hospitals, 3 LTAC hospitals, and 20 skilled nursing facilities. The activities of the collaborative include quarterly in-person meetings to discuss practical aspects of core CDI prevention strategies including antimicrobial stewardship and environmental cleaning, with break-out sessions specifically for skilled nursing facility participants to discuss application of these strategies in the long-term care setting. The next regional CDI prevention collaborative targeting the Sacramento metro area will similarly engage skilled nursing facilities.</p>	

4. Evaluation and Communication

Program evaluation is an essential organizational practice in public health. Continuous evaluation and communication of findings integrates science as a basis for decision-making and action for the prevention of HAIs. Evaluation and communication allows for learning and ongoing improvement. Routine, practical evaluations can inform strategies for the prevention and control of HAIs. Please select areas for development or enhancement of state HAI prevention efforts.

Table 4: California Department of Public Health (CDPH) HAI communication and evaluation planning

Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Actual Date or Target Date for Implementation
<input checked="" type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input checked="" type="checkbox"/>	<p>1. Conduct needs assessment and/or evaluation of the state HAI program to learn how to increase impact</p> <ul style="list-style-type: none"> i. Establish evaluation activity to measure progress toward targets and ii. Establish systems for refining approaches based on data gathered <p>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. However, 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. To leverage prevention activities where needed, the CDPH HAI Program developed and implemented an HAI data for action strategy to identify and contact hospitals with high HAI incidence to ensure they are aware of and responding to the need for improvement. Regionally-based CDPH HAI Program Liaison IPs offer assistance to targeted hospitals, and help develop local prevention action plans.</p> <p>CDPH, in collaboration with CDC, is considering methodology to assess longitudinal trends in HAI incidence, which will include comparing HAI data from multiple time points, in addition to the methodology currently in use by CDC and CDPH that compares incidence from two time points. Additional outcome metrics that may increase meaningfulness of the data will also be considered, including calculations of ‘infections prevented’ and ‘lives saved,’ in partnership with CDC and the California HAI Advisory Committee.</p>	<p>July 1, 2013</p>

<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>2. Develop and implement a communication plan about the state’s HAI program and about progress to meet public and private stakeholders needs</p> <p style="padding-left: 20px;">i. Disseminate state priorities for HAI prevention to healthcare organizations, professional provider organizations, governmental agencies, non-profit public health organizations, and the public</p> <p>The CDPH HAI Program implemented a communication plan, with primary focus on developing and maintaining a robust website and engaging in a public outreach strategy. The CDPH HAI Programs website went live in August 2010. During the first year, HAI Program staff created 15 webpages. Since then, the HAI Program has published 120 pages and uploaded 1,089 documents. Last spring, the CDPH HAI Program convened a workgroup to enhance the site. The new HAI home page is easier to use and has more pictures to facilitate interactions between users and content. The website’s structure is efficient in content and is organized by domain, each of which can be easily accessed by user’s interest. Since the inception, the website has been viewed 1,156,763 times, or three times more than any other CDPH web destination.</p> <p>In 2015, the CDPH HAI Program developed and launched an HAI public outreach campaign aimed to increase public knowledge of HAI prevention and make the information easily accessible to users through social media. In conjunction with the CDPH Office of Public Affairs (OPA), the HAI Program is utilizing existing CDPH social media platforms, specifically, Facebook, Twitter and YouTube, to provide infection prevention messages to the general public who might not otherwise access HAI information. The HAI Program projects sending 99 messages, postings, and videos before December 31, 2015.</p> <p>To communicate on an ongoing basis with hospital infection prevention programs, since 2011 HAI Program Liaison IPs conduct monthly regional calls throughout California. These calls are aimed to keep hospital IPs abreast of current issues in HAI prevention and control. Topics for the calls include updates from CDPH and NHSN, emerging diseases (e.g. MDRO, measles, Ebola,) public reporting, HAI prevention strategies, data validation, current educational offerings and CDC/FDA health alerts and advisories. Calls offer an opportunity for questions and discussion. We continue</p>	<p>March 1, 2010</p>

		to have 50-60% hospitals represented on the monthly calls; all hospitals receive the detailed monthly call agenda/summary.	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>3. Provide consumers access to useful healthcare quality measures</p> <p>Disseminate HAI data to the public</p> <p>The CDPH HAI Program published the first California hospital HAI public report on December 28, 2011. Timeline:</p> <ul style="list-style-type: none"> • January 2009-March 2010 HAI data – published December 28, 2010 • April 2010-March 2011 HAI data - published January 6, 2012 • 2011 HAI data - published August 2012 • 2012 HAI data - published November 2013 • 2013 HAI data - published March 2015 • 2014 HAI data – (To be determined) <p>The public report for 2014 will mark the sixth year CDPH publishes California hospital HAI data and the fifth year using data reported by hospitals using NHSN. All of these public reports are accessible to the public on the HAI Program website at http://www.cdph.ca.gov/programs/hai/Pages/HAIReportsAndPrevention.aspx</p>	December 28, 2010
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>4. Guide patient safety initiatives</p> <p>i. Identify priorities and provide input to partners to help guide patient safety initiatives and research aimed at reducing HAIs</p> <p>CDPH seeks external input to identify priorities and guide patient safety initiatives. In 2013, CDPH reconstituted the HAI Advisory Committee under a new set of bylaws. The Committee now consists of a minimum of eight and a maximum of twenty-four voting members, excluding liaison and other non-voting members. At the present time, the Committee has 18 voting-members and six non-voting members. Among the categories of membership, the Committee now has hospital preparedness partners, healthcare consumers, healthcare providers, hospital administration professionals, infections control professionals, integrated health system representatives, local health department officials, physicians, infectious disease or hospital epidemiology. Among the Liaison Representative group (non-voting), we have the California Hospital Association, California Medical Association, Infectious Disease Association of California, California APIC Coordinating Council, California Nurses Association, California Association for Nurse Practitioners, California</p>	December 8, 2009

		<p>Academy of Physician’s Assistants, California Conference of Local Health Officers, California Association of Communicable Disease Controllers, and California Quality Improvement Organization.</p> <p>With the endorsement of the HAI Advisory Committee, the CDPH HAI Program also uses a targeted approach to HAI prevention. The CDPH HAI Program data for action strategy identifies facilities that have a higher than expected rate of infection. The identified facilities are then strongly encouraged to invite consultation by the regional HAI Program Liaison IP. HAI Liaison IPs utilize targeted assessment tools, which incorporate both core and supplemental evidence based practices, and perform adherence monitoring to evaluate infection prevention practices, and then offer written recommendations to the hospital for mitigation to prevent the targeted infection.</p>	
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Healthcare Infection Control and Response (Ebola-associated activities)

The techniques and practice on which infection control protocols are based form the backbone of infectious disease containment for pathogens that are otherwise amplified and accelerated in healthcare settings. Investments in a more robust infection control infrastructure will prevent many HAIs transmitted to, and among, patients and health care workers.

Table 5: California Department of Public Health (CDPH) Infection Control Assessment and Response

Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Actual Date or Target Date for Implementation
<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>	<p>1. Create an inventory of all healthcare settings in state. List must include at least one infection control point of contact at the facility</p> <p>2. Identify current regulatory/licensing oversight authorities for each healthcare facility and explore ways to expand oversight</p> <p>CDPH has a web-based application, ELMS, that captures health providers' applications, licenses, and State enforcement actions and can be queried by facility, entity, and other criteria to generate reports. ELMS will be a major source for generating an inventory of all healthcare settings in California. The CDPH HAI Program will also use data from NHSN and CalREDIE, the statewide electronic database for disease reporting and surveillance. The HAI Program will work with local health departments to compile additional information by county. MS Access, SAS, and ArcGIS will be used to map and maintain a sustainable database of healthcare facility information. The process will be automated when possible to ensure ease and speed of maintenance. This inventory will contain data on over 2,000 California healthcare facilities, and include at least one infection control point of contact per facility and current regulatory and licensing authorities for each facility.</p>	September 1, 2015
<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<p>3. Assess readiness of Ebola-designated facilities within the state</p> <ul style="list-style-type: none"> i. Use CDC readiness assessment tool and determine gaps in infection control ii. Address gaps (mitigate gaps) iii. Conduct follow-up assessments 	November 17, 2014

		<p>In October 2014, the University of California healthcare system offered five geographically dispersed hospitals willing to serve as California’s Ebola treatment hospitals; Kaiser Permanente offered three additional Ebola treatment hospitals. In November-December 2014, the CDC Rapid Ebola Preparedness Team collaborated with the CDPH HAI Program to conduct site visits at these eight hospitals to assess infection control and patient management capacity. HAI Program Liaison IPs continue to conduct follow-up consultations and site visits to ensure mitigation of identified gaps.</p> <p>In coordination with local public health, CDPH is developing a statewide plan to identify and perform site visits for Ebola assessment hospitals able to manage symptomatic returning travelers identified as low risk. In January 2015, among California’s 58 counties, local health officials suggested 44 hospitals within their jurisdictions that were prepared or preparing to become Ebola assessment hospitals; CDPH will prioritize up to 18 hospitals based on geographical need and offer site visits by HAI Program Liaison IPs to assess Ebola readiness, identify gaps in infection control, offer expert consultation, and provide follow-up to ensure mitigation. Using the CDC tool, HAI Program teams will collaborate with hospital executive, managerial, IP, emergency preparedness, and healthcare provider staff to conduct a comprehensive assessment and determine gaps in infection control readiness of each assessment hospital. The visits will include assessment of physical infrastructure and layout, review of policy and procedures including training, observation of staff competency with personal protective equipment (PPE) use, and on-the-spot feedback.</p>	
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<p>4. Assess outbreak reporting and response in healthcare facilities</p> <ul style="list-style-type: none"> i. Use standard assessment tool and determine gaps in outbreak reporting and response ii. Address gaps (mitigate gaps) iii. Track HAI outbreak response and outcome <p>Using CDC's assessment tool, CDPH will assess California hospitals and long-term care facilities to determine their knowledge of and capacity to detect, report, and respond to potential outbreaks. California regulations require healthcare facilities to report outbreaks and unusual occurrences (including infection control breaches)</p>	<p>October 1, 2015 (Pending receipt of CDC tool)</p>

		<p>both to the local health department and to the CDPH L&C Program. Local health departments notify the CDPH HAI Program by phone and/or via CalREDIE, a web-based, PHIN-compliant disease reporting and surveillance system. L&C also notifies the HAI Program of reported outbreaks via situation alerts. For outbreak response, the HAI Program and local health departments provide epidemiologic assistance and management advice to healthcare facilities, while L&C provides regulatory oversight as appropriate. The CDPH HAI Program has a plan for educating local health departments about HAI, infection control, and identifying and managing outbreaks and ensuring outbreak investigation lessons learned are shared with local health departments and at-risk healthcare facilities. The HAI Program will continue to review L&C notifications (situation alerts) to ensure that all relevant information is captured and, if needed, work collaboratively to develop an updated template for improved reporting.</p>	
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Table 6: California Department of Public Health (CDPH) Targeted Healthcare Infection Prevention Programs

Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<p>1. Expand infection control assessments</p> <ul style="list-style-type: none"> i. Expand assessments to other additional facilities and other healthcare settings and determine gaps in infection control ii. Address gaps (mitigate gaps) iii. Conduct follow-up assessments <p>Initiated in January 2010, the CDPH HAI Program has a strong commitment and track record in performing onsite assessments to help hospitals and other healthcare facilities identify gaps in their performance and recommending strategies and actions for preventing HAIs. This has been possible only through continued grant/contract support to maintain an expert, experienced, regionally-based team of liaison IPs. CDC Domestic Ebola Supplemental funding, aimed at expanding and strengthening statewide infection control capacity, allowed CDPH to transition this existing program to become the CDC-supported 'Infection Control</p>	October 1, 2015

	<p>Assessment and Promotion’ program, maintaining this valuable resource through March 2018 and allowing expanded outreach to non-hospital healthcare settings.</p> <p>To use HAI data to leverage prevention activities where needed, CDPH implemented an HAI data for action strategy to identify and contact hospitals with high HAI incidence. CDPH sent targeted hospitals a letter and offered a prevention assessment onsite visit by a member of our regionally-based HAI Liaison IP team. Liaison IPs perform tailored assessments specific to the HAI problem, which included 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. Hospitals previously targeted are reminded and expected to provide updates on the infection prevention strategies they committed to during past consultations. From the 2012 and 2013 reported data, CDPH identified 116 and 112 hospitals (55 hospitals in both) with high HAI incidence and targeted them for consultation and targeted infection prevention assessments.</p> <p>In addition to targeted assessments at hospitals with significantly high infection incidence, the CDPH HAI Program is planning for or currently performing assessments in ambulatory care, long-term care, outpatient clinics and outpatient dialysis. HAI Liaison IPs perform site visits that use a combination of interviews (with facility leaders, clinical staff, and infection control and prevention staff, and other providers) and tracer methodology to ascertain gaps in infection control practice and procedures. Our assessment tools incorporate CDC recommendations (core and supplemental prevention strategies). We provide a written summary of gaps to each facility prior to exit, and discuss opportunities for improvement. This feedback guides the facility's selection of targets for improvement.</p> <p>In October 2015, the CDPH HAI Program will distribute to all 400 California hospitals the CDC ‘Hospital IC Assessment Tool’ to allow a self-evaluation; hospitals will be asked to indicate their willingness to have a visit with a CDPH HAI Program Liaison IP, or if in Los Angeles County, referred to the Los Angeles County Department of Public Health’s Healthcare Outreach Unit. Follow-up telephone and onsite consultations by regionally-based Liaison IPs will be provided within one year of the</p>	
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		<p>initial assessments of participating facilities. Consultations will focus on the infection control gaps identified at initial assessment. Targeted gaps may include device-associated HAIs, hand hygiene, pathogen transmission, environmental cleaning, outbreak management and employee exposures. Training will be provided on the use of assessment tools to confirm and document the mitigation of gaps the facility targets for improvement. Additionally, the consultations will provide training on the use of performance improvement methodology and concepts for sustaining improvements. This will assure the facilities have capacity to monitor progress over time, and also result in sustainable changes in practices.</p>	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<p>2. Increase infection control competency and practice in all healthcare settings through training</p> <p>i. Incorporate general infection control knowledge and practice assessments of competency into state licensing board requirements, credentialing, and continuing education requirements for clinical care providers (e.g., medical license, admitting privileges) and/or licensing/accreditation requirements for healthcare facilities.</p> <p>ii. Develop a sustainable training program based on CDC guidance and technical assistance to perform training, prioritizing on-site train-the-trainer programs in key domains of infection control, including the incorporation of hands on evaluations and competency assessments of best practices and a system to monitor ongoing compliance and competency.</p> <p>California's size, diversity, and variety of urban and rural settings pose significant challenges in providing access to infection control education for healthcare professionals. The CDPH HAI Program has created an infrastructure to address the need for relevant, accessible infection control education. Increased demand exists for qualified IPs due to legislation, reporting requirements, and attrition. CDPH HAI Program Liaison IPs have addressed these challenges with 2-day infection prevention courses offered free-of-charge since 2011. From 2011-2014, CDPH educated 1088 attendees from hospital infection prevention programs, quality programs, and other care providers, and 1880 attendees from long-term care facilities. Collaborative, onsite and webinar-based education addressing infection control gaps identified from data review and facility assessments have contributed</p>	<p>October 1, 2015</p>
<input type="checkbox"/>	<input checked="" type="checkbox"/>		

		to significant reductions in reported HAIs. Continued work and improved communication are needed in all healthcare settings to ensure sustainable infection prevention education programs exist to meet growing learning needs.	
<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<p>3. Enhance surveillance capacity to improve situational awareness, describe emerging threats, and target onsite assessments to implement prevention programs</p> <ul style="list-style-type: none"> i. Build capacity to analyze data reported by facilities in a defined region to allow for a comprehensive assessment of potential healthcare-associated infection threats, and communicate results with healthcare facilities. ii. Work with CDC to guide analytic direction and identify facilities for prioritized assessments/response iii. Improve outbreak reporting capacity by developing an infrastructure that includes clear definitions of infectious threats of epidemiologic importance that are communicated to facilities iv. Implement a response plan to address potential emerging threats identified by using enhanced surveillance <p>CDPH has access to HAI data reported by 394 hospitals through NHSN as required by the state mandates. Annual reports include risk-adjusted rates and SIRs posted on our website and findings displayed on an interactive HAI map, which includes hospital-specific HAI profiles. Hospitals with statistically high rates compared with the state average rates or high number of infections compared with the predicted numbers based on the national baseline are targeted for outreach by our data for action strategy.</p> <p>The CDPH HAI Program is working with CDC to develop an analysis strategy for assessing HAI trends over time in a method that will evaluate individual hospital HAI prevention progress. Trend analysis for 2012-2014 will indicate whether each hospital demonstrated statistically higher or lower rates of infection from year to year. Also, the hospital's rate or SIR with its 95% confidence interval will be displayed on a graph. Graphs of time trends may be included in the hospital profiles displayed on the CDPH website interactive map beginning in 2016.</p> <ul style="list-style-type: none"> v. CalREDIE is a web-based electronic reporting system fully integrated with 	October 1, 2015

		<p>electronic laboratory reporting and used by all local health jurisdictions, to report outbreaks identified occurring in health facilities and sentinel cases (e.g., hepatitis, legionellosis) identified as healthcare-associated. NHSN has been required for all California hospitals for surveillance of a broad range of HAIs since 2010 but has been used by CDPH only for analysis and publication of annual rates. Analysis on a periodic basis using statistical control process charts will be examined to identify possible outbreaks or emerging trends. A response plan to address potential emerging threats identified by using enhanced surveillance will be developed based on recommendations by the HAI Advisory Committee and other stakeholders.</p>	
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