California Department of Public Health
Healthcare-Associated Infections Program Activities

2015 Hospital Quality Institute Conference
Thursday November 12, 2015

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Center for Health Care Quality
California Department of Public Health
Objectives

1. Describe CDPH HAI prevention program activities and plans
2. Recognize CDPH’s targeted approach to prevention activities

No Disclosures
Annual Report of HAI in California Hospitals

<table>
<thead>
<tr>
<th></th>
<th>No. of HAI Reported by California Hospitals in 2013</th>
<th>2013 California HAI Data Compared with National Baselines*</th>
</tr>
</thead>
<tbody>
<tr>
<td>CDI</td>
<td>10,553</td>
<td>↑ 5% since 2011</td>
</tr>
<tr>
<td>CLABSI</td>
<td>2836</td>
<td>↓ 48% since 2008</td>
</tr>
<tr>
<td>MRSA BSI</td>
<td>698</td>
<td>↓ 27% since 2011</td>
</tr>
<tr>
<td>VRE BSI</td>
<td>753</td>
<td><em>No national baseline</em></td>
</tr>
<tr>
<td>SSI – All Surgeries</td>
<td>3,940</td>
<td>↓ 44% since 2008</td>
</tr>
<tr>
<td>SSI – Colon Surgery</td>
<td>686</td>
<td>↓ 18% since 2008</td>
</tr>
<tr>
<td>SSI – Hysterectomy</td>
<td>152</td>
<td>↓ 28% since 2008</td>
</tr>
</tbody>
</table>

CDC 2013 HAI Progress Report
My Hospital's Infections

Search Hospital Name or City

Hospital Data | CDI | CLABSI | MRSA | VRE | SSI

San Francisco Bay Area
Los Angeles Area

LEGEND
- LOWER
- SAME
- HIGHER

Infection rates in each hospital are compared with the California average for CLABSI and VRE BSI and with the US national average for CDI, MRSA BSI and SSI. Lower is better.

- Not enough data for comparison.
- SSI: This hospital did not perform this surgery type in 2013.
- SSI: This hospital did not perform any of the 10 reportable surgery types in 2013.
- SSI: This hospital performed too few surgeries in 2013 to make a comparison.
### Results matching category of Diseases and Conditions

<table>
<thead>
<tr>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. <strong>West Nile Virus Cases, 2006-present</strong> Diseases and Conditions west nile virus, human cases</td>
</tr>
<tr>
<td>2. <strong>West Nile Virus Cases, 2006-present</strong> Diseases and Conditions west nile virus, human cases</td>
</tr>
<tr>
<td>3. <strong>Smoking Prevalence in Adults, 1984-2013</strong> Diseases and Conditions cigarettes, smoking, tobacco, adult, ... Adult smoking prevalence in California, males and females aged 18+, starting in 1984. Caution must be used w</td>
</tr>
<tr>
<td>4. <strong>West Nile Virus Cases, 2006-present, Los Angeles</strong> Diseases and Conditions west nile virus, human cases</td>
</tr>
<tr>
<td>5. <strong>WNV Cases by County Graph</strong> Diseases and Conditions west nile virus, human cases</td>
</tr>
<tr>
<td>6. <strong>Newborn Screened Disorders, 2009-2013</strong> Diseases and Conditions newborn screening, disorders, california, rusp</td>
</tr>
<tr>
<td>7. <strong>Asthma Emergency Department Visit Rates by County in 2012</strong> Diseases and Conditions asthma, let's get healthy california, ... This dataset contains counts and rates (per 10,000 residents) of asthma (ICD9-CM, 493.0-493.9) emergency d</td>
</tr>
<tr>
<td>8. <strong>Surgical Site Infections (SSIs) For 24 Operative Procedures, 2013</strong> Diseases and Conditions abdominal, aortic aneurysm, appendicitis, ... This table shows the Centers for Disease Control and Prevention National Healthcare Safety Network (NHSN) r</td>
</tr>
<tr>
<td>9. <strong>Newborn Screened Disorders by California Regions, 2009-2013</strong> Diseases and Conditions newborn screening, disorders, california, rusp</td>
</tr>
<tr>
<td>10. <strong>Smoking Prevalence in High School, 2001-2012</strong> Diseases and Conditions youth, cigarette, smoking, tobacco, The California Tobacco Control Program (CTCP) coordinates statewide tobacco control efforts and funds the C</td>
</tr>
</tbody>
</table>
Liaison Infection Preventionist (IP) Program

• Regionally-based Liaison IPs, highly experienced, certified in infection control and epidemiology (CIC)
• Assigned approximately 45 hospitals each
• Conduct monthly regional calls to connect with their area hospitals and relay updates from CDPH HAI Program
• Expanding to non-hospital settings in 2016
HAI Data for Action Strategy

- Third year of performing outreach to hospitals with high HAI incidence as indicated in the annual public report
- 112 hospitals* with statistically high infection incidence in 2013 identified and prioritized
  - *Clostridium difficile* infection - 62 hospitals
  - CLABSI - 28 hospitals
  - Surgical site infections – 26 hospitals
  - MRSA/VRE bloodstream infections – 27 hospitals

*Some hospitals had more than one infection type with high incidence
Liaison IP Visits to Improve Surveillance and Reporting

• 3-year validation plan, approved by HAI Advisory Committee

• In 2014 HAI Program Liaison IPs performed onsite data validation of reported CLABSI, SSI, CDI and MRSA/VRE BSI in 234 hospitals
  • 86 hospitals identified with case-finding less than 85% for CDI or MRSA/VRE BSI or failed to identify/report one or more CLABSI

• In 2015, Liaison IPs will perform follow-up visits
  • On-site assistance to review surveillance methods
  • Provide guidance on use of self-validation toolkits
Onsite Infection Control Assessments with Feedback / Follow-up

October – March 2016

- 60 high HAI incidence hospitals, 2014
- 80 LTC facilities identified by L&C offices*
- 68 Outpatient hemodialysis clinics
- 30 Outpatient facilities at risk for unsafe injection practices*

*excluding LA County
California Campaign to Prevent Bloodstream Infections in Hemodialysis Patients

• 514 outpatient hemodialysis centers in California

• HAI Program staff include a full-time Dialysis Liaison IP and part-time nurse consultant

• Five-year plan to provide onsite assessments and strategies to prevent bloodstream infections
  • One-day assessments of adherence to CDC prevention strategies with same day feedback
  • Webinars, website, and a one-day infection prevention class
Antimicrobial Resistance: A Substantial and Increasing Problem in California

- **260,000 illnesses** and nearly **3,000 deaths** in CA each year

- *Clostridium difficile* infections (CDI)
  - 10,553 hospital onset-CDI reported by CA hospitals in 2013
  - 5% increase since 2011

- **Carbapenem-resistant Enterobacteriaceae (CRE)**
  - Regional variation, with higher prevalence in southern CA in 2012
  - Recent outbreaks in northern CA suggest potential emergence in previously lower prevalence areas
Core Actions to Address Antimicrobial Resistance

- Improve antimicrobial prescribing through antimicrobial stewardship
- Preventing infections and transmission of antimicrobial resistant pathogens
- Tracking antimicrobial resistance patterns

Our HAI Program has activities in each of these core areas
California ASP Collaborative

- Provide a forum to support California hospitals to develop or enhance ASPs
  - Promote patient safety
  - Decrease CDI and antimicrobial resistance
- Facilitate compliance with CA Senate Bill 1311
- One-year project launched in January 2015
150 California Hospitals Are Participating in 2015 ASP Collaborative

<table>
<thead>
<tr>
<th>Hospital Type</th>
<th>No. (%)</th>
</tr>
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<tbody>
<tr>
<td>Community</td>
<td>122 (81)</td>
</tr>
<tr>
<td>Major Teaching</td>
<td>5 (3)</td>
</tr>
<tr>
<td>Pediatrics</td>
<td>8 (5)</td>
</tr>
<tr>
<td>Long Term Acute Care</td>
<td>9 (6)</td>
</tr>
<tr>
<td>Critical Access</td>
<td>7 (5)</td>
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Legend
- ASP Hospital
Developing a Model Regional Approach to Antimicrobial Resistance and CDI Prevention

Objectives:

1. Assess and improve hospital and LTC facility adherence to infection prevention practices
   - Contact precautions
   - Hand hygiene
   - Environmental cleaning

2. Implement/enhance antimicrobial stewardship program with particular attention to CDI

3. Monitor inter-facility transfer to maintain AR/CDI patients on precautions throughout continuum of care
   - Inter-facility Transfer Program
Orange County CDI Prevention Collaborative

Facilities Enrolled – Kick-off Meeting held June 29, 2015

• 17 General Acute Care Hospitals
• 3 Long-Term Acute Care Hospitals
• 20 Skilled Nursing Facilities (SNF)

HAI Program staff providing:

• Online educational webinars, trainings, onsite visits and consultations
• A forum for sharing of tools and resources among facilities
• Assistance with NHSN enrollment and training for SNF to enable CDI surveillance
Identifying Target Area for the Next Regional CDI Prevention Collaborative

Legend
- Sacramento Metro Counties
- ASP Hospital

Prevalence by County*
- 0.0 - 1.1
- 1.2 - 2.9
- 3.0 - 4.5
- 4.6 - 7.0
- 7.1 - 10.2

*Per 1000 Hospital Admissions

California ASP Collaborative Hospitals and 2013 Community-onset CDI Prevalence
Carbapenem-resistant Enterobacteriaceae (CRE)

- One of 3 bacteria identified by CDC as an urgent threat
- CRE are resistant to the carbapenem class of antibiotics
  Carbapenems often used to treat infections caused by bacteria that are resistant to other kinds of antibiotics
- Invasive CRE infections result in up to 50% mortality
- CRE are highly transmissible in healthcare settings
  CRE resistance can be transferred between different bacterial species
Regional Prevalence of CRE *Klebsiella* Species, 2012

Proportion of CRE *Klebsiella*

- 0%
- 0.01-1.99%
- 2.00-2.99%
- 3.00-3.99%
- 6.01-7.00%
California Injection Safety Program

California

News & Events

Injection Safety is Everyone’s Responsibility

The Centers for Disease Control and Prevention (CDC) estimate that in recent years, unsafe injection practices have affected more than 150,000 patients in the United States, including 11,500 in California. CDC recommends that healthcare providers NEVER administer medications from the same syringe to more than one patient, even if the needle is changed. It is your right to know that your provider will use a new syringe and needle every time.

The California One & Only Campaign encourages healthcare organizations and individuals to promote public awareness of safe injection practices. To become a member of the California One & Only campaign, click here.

Hepatitis B and C Outbreaks in California

CDC summarized 44 healthcare-associated outbreaks of hepatitis B and C in non-hospital settings from 2008-2014. Six of the outbreaks occurred in California; 2700 people were notified of possible exposure and 27 patients were found to be infected. The outbreaks occurred in two skilled nursing facilities, two assisted living facilities, a pain management clinic, and an outpatient dialysis clinic.

Unsafe injection practices that resulted in these infections included reusing syringes, contaminated multi-dose medication vials, and single-dose vials used for more than one patient.

USE AN INJECTION SAFETY CHECKLIST

It is every patient’s right to receive a safe injection. Are healthcare workers always following safe injection practices at YOUR facility? Safe injection practices are a set of measures that define how to give injections in a safe manner for patients and healthcare providers. The California One & Only Campaign encourages healthcare workers to review and use the Injection Safety Checklist to assess their practices. The checklist, developed by CDC and the Safe Injection Practices Coalition, includes nine observations to help healthcare workers ensure they are adhering to safe injection practices during the care of patients. To download and share the Injection Safety Checklist, click here.

WHEN IN DOUBT, THROW IT OUT!
CDPH HAI Program Role in Outbreak Investigations

- Subject matter experts in infection prevention and control
- Provide consultation and support to local public health agencies
- Coordinate with CDC content experts for up-to-date guidance and recommendations
- Coordinate outbreak investigations that cross local health jurisdiction boundaries
- Provide guidance and recommendations to CDPH L&C and other regulatory agencies
**HAI Outbreak Investigations / Consultations**

July 1, 2014 – June 30, 2015

- Total investigations / consultations: 50

<table>
<thead>
<tr>
<th>By pathogen:</th>
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<tbody>
<tr>
<td><em>Legionella</em> species</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td><em>Klebsiella</em> species</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>Hepatitis B Virus</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td><em>C. difficile</em> infection</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td><em>S. aureus</em></td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Hepatitis C Virus</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>13</td>
<td></td>
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<table>
<thead>
<tr>
<th>By facility type:</th>
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<tbody>
<tr>
<td>Acute Care Hospitals</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>NICU</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Skilled Nursing Facilities</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>Dialysis Centers</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Ambulatory Surgery Centers</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>LTAC Hospitals</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>5</td>
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Summary

- The CDPH HAI Program is committed to reducing HAI in California
  - Using Data for Action to prioritize and focus on hospitals with continued high HAI incidence
  - A regional approach is being modeled for AR; CDI prevention is a high priority
  - External input is sought from the HAI Advisory Committee and others to enhance our efforts
Robust website with a goal to communicate with patients, providers, and facilities in an effort to decrease healthcare associated infections: [www.cdph.ca.gov/hai](http://www.cdph.ca.gov/hai)

<table>
<thead>
<tr>
<th>What You Can Do To Prevent HAI</th>
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<tbody>
<tr>
<td>Me And My Family</td>
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<tr>
<td>Healthcare Providers</td>
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<tr>
<td>Public Health Partners</td>
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<tr>
<td>HAI Committee &amp; Laws</td>
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<tr>
<td>My Hospital’s Infections Map</td>
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<tr>
<td>Annual HAI Report</td>
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