

Ohio Healthcare-Associated Infection Prevention Plan

December 2009

Background

In response to the increasing concerns about the public health impact of healthcare-associated infections (HAIs), the US Department of Health and Human Services (HHS) developed an action plan to prevent healthcare-associated infections. The HHS Action Plan includes recommendations for surveillance, research, communication and metrics for measuring progress towards national goals. Three overarching priorities have been identified:

- Progress towards 5-year national prevention targets (e.g., 50-70% reduction in bloodstream infections);
- Improve use and quality of the metrics and supporting systems needed to assess progress towards meeting the targets; and
- Prioritization and broad implementation of current evidence-based prevention recommendations.

Support for HAI prevention has been enhanced through the American Recovery and Reinvestment Act (ARRA). Congress allocated \$40 million through the Centers for Disease Control and Prevention (CDC) to support state health department efforts to prevent HAIs by enhancing state capacity for HAI prevention, leverage the CDC's National Health Care Safety Network (NHSN) to assess progress and support the dissemination of the U.S. Department of Health and Human Services (HHS) evidence-based practices within healthcare facilities, and pursue state-based collaborative implementation strategies.

Introduction

Ohio is the seventh most populous state, home to 11.5 million residents in 88 counties that are served by 130 local health districts and 163 acute care hospitals. The majority of the 163 Ohio hospitals are part of one of the 40 healthcare systems. Ohio licenses over 39,000 physicians (MD and DO), about 219,000 nurses (RN and LPN) and 1,200 long-term care facilities. (Note: Ohio does not license hospitals.)

Healthcare-Associated Infections (HAIs), infections that occur during or as a consequence of healthcare, are a major public health concern in Ohio. Based on national estimates¹, HAIs affect 5 to 10 percent of Ohio hospitalized patients annually. For Ohio this translates into over 80 thousand infections, nearly 4 thousand deaths and adds \$180 to \$230 million to healthcare costs.

¹ McKibben, L., et.al., AJIC 205:33:4, 217-226.

Ohio Department of Health's legislative mandates to address healthcare-associated infections derive from Sub. H.B. 197 [effective November 13, 2006] and the Ohio Administrative Code (OAC). The OAC 3701-3-02-C-3 was revised in 2008 to explicitly include healthcare-associated outbreaks effective January 1, 2009. Accordingly, a confirmed or suspected healthcare-associated outbreak is required to be reported no later than the end of the next business day to the local public health department in whose jurisdiction the outbreak has occurred. If the increased incidence of disease is of major public health importance the suspected or confirmed outbreak is to be reported immediately. Preliminary data through December 28, for 2009 indicate Ohio reported 53 healthcare-associated outbreaks affecting 876 individuals.

The Ohio Department of Health (ODH) was awarded \$373,868 by the U.S. Department of Health and Human Services, Centers for Disease Control and Prevention (CDC), American Recovery and Reinvestment Act, (ARRA), Epidemiology and Laboratory Capacity for Infectious Diseases (ELC), Healthcare-Associated Infections - Building and Sustaining State Programs to Prevent Healthcare-associated Infections Grant.

Using these funds, Ohio will conduct the following activities:

Activity A (Coordination and Reporting of Ohio Healthcare-Associated Infection (HAI) Prevention Efforts), The Ohio Department of Health will develop the Ohio's Healthcare-Associated Infection Prevention Plan based on the U.S. Department of Health and Human Services (HHS) Action Plan to Prevent Healthcare-Associated Infections. ODH has an infection control consultant nurse on staff who is certified in infection control and who will serve as the state's HAI Prevention Plan Coordinator. ODH will compute Ohio's baseline measurements for at least two HHS prevention measure targets. The measures were selected based on recommendations by the multidisciplinary ODH Director's Advisory Committee on Emerging Infections.

The Ohio HAI Prevention Plan will be submitted to the Department of Health and Human Services by January 1, 2010.

Activity B (Detection and Reporting of Healthcare-Associated Infection Data - HAI Surveillance), ODH will create infrastructure for electronic laboratory reporting for up to 11 Ohio hospitals. Participating hospitals will map and successfully submit an acceptable standardized health level (HL) 7 message to the ODH HL7 gateway for *Clostridium difficile* and methicillin-resistant *Staphylococcus aureus* HAI measures. These hospitals will also map and successfully submit an acceptable standardized HL 7 message to the ODH HL7 gateway for Ohio reportable infectious conditions. ODH will implement automated electronic forwarding of HAI messages from the ODH HL7 gateway to the CDC NHSN and Ohio's hospital quality measure reporting system.

With increased funds, Ohio intends to build and improve our state and local health departments' workforce capacity to prevent and respond to HAIs through training and education about HAI prevention and control and by the institution of tools (e.g., National Healthcare Safety Network [NHSN] reporting in hospitals) that will assist infection preventionists to identify and respond to HAIs. Furthermore, this project will enhance Ohio's capacity for hospital electronic reporting for infectious diseases as well as HAI.

Activity C, which addresses the formation of a prevention collaborative among hospitals, was not funded in Ohio; however, ODH welcomes opportunities to participate in healthcare-associated infection prevention collaboratives in the future, as funding, staff and resources permit.

Healthcare-Associated Infection Prevention Plan

Ohio's healthcare-associated prevention plan follows the CDC framework which builds on a coordinated effort of federal, state and partner organizations. The framework is based on a collaborative public health approach that includes:

- 1. The development or enhancement of HAI program infrastructure**
- 2. Surveillance, detection, reporting, and response efforts**
- 3. Prevention initiatives**
- 4. Evaluation, oversight and communication protocols**

1. The development or enhancement of HAI program infrastructure

Healthcare-associated infection prevention infrastructure in Ohio is supported by Substitute House Bill 197 of the 126th General Assembly. A significant portion of this bill relates to the safety of Ohio's hospitalized patients, including data collection of specific measures to monitor select healthcare-associated infection rates.

The OAC 3701-3-02-C-3 was revised in 2008 to explicitly include healthcare-associated outbreaks effective January 1, 2009, and consequently strengthens the infrastructure of Ohio's HAI prevention plan.

The Ohio Department of Health Director's Advisory Committee on Emerging Infections has assumed a leadership role in the statewide effort to reduce HAI in acute care facilities across Ohio. This committee is a well established multidisciplinary group of individuals first brought together in the mid 1990s to address current and emerging infectious disease concerns. Membership includes representatives from the Infectious Diseases Society of Ohio, five Ohio Association for Professionals in Infection Control and Epidemiology (APIC) chapters, local public health departments, academia, the Ohio Hospital Association and the Ohio Nurses Association. For the purpose of developing a State healthcare-associated infection prevention plan, representation from KePRO, Ohio's quality improvement organization, and additional stakeholders interested in the reduction of HAIs have joined the committee.

2. Surveillance, detection, reporting, and response efforts

A September 2009 survey of Ohio's hospital infection preventionists identified methicillin-resistant *Staphylococcus aureus* (MRSA), *Clostridium difficile* (*C. difficile*) infections, surgical site infections and non-MRSA multi-drug resistant organisms (MDRO) as the top four concerns facing Ohio hospitals.

The Director's Advisory Committee on Emerging Infections shared the concern of the Ohio hospital infection preventionists and selected reduction of *C. difficile* infections and bacteremias due to methicillin-resistant *Staphylococcus aureus* (MRSA) as Ohio's two prevention targets, which are consistent with the priorities set by the Health and Human Services (HHS) Action Plan for the prevention of healthcare-associated infections.

3. Prevention initiatives

Successful HAI prevention planning requires close integration and collaboration with state and local infection prevention activities and systems. Education of our public health partners at the local level will improve and strengthen the infrastructure of the state HAI prevention plan. Educational opportunities featuring healthcare-associated infection prevention, outbreak recognition and investigation will be integrated into existing meetings held for local level public health epidemiologists, communicable disease nurses and health commissioners.

The Ohio State University (OSU) Prevention Epicenter and the Centers for Disease Control and Prevention (CDC) will partner with ODH to present the results of OSU's recently collected **Interventions to Control *C. difficile* in Acute Care Hospitals and Nursing Homes**. The Ohio Hospital Association (OHA), The Ohio State University Medical Center Epicenter and the Centers for Disease Control and Prevention (CDC) launched an 18-month project beginning February 2009 focusing on surveillance and reduction of *Clostridium difficile* infections. More than 50 Ohio hospitals are participating. The initiative focuses on implementing a statewide surveillance process using the new CDC *C. difficile* case definition and developing and implementing new evidence-based practices to assist in the reduction of *C. difficile* cases. The collaborative project will standardize how Ohio hospitals count *C. difficile* infections, ensuring consistency with CDC definitions and improving public reporting. Then the project will assess ways to prevent the spread of the infection, implementing proven methods within participating hospitals. After the pilot project reaches completion, the intent is to implement the effective practices identified throughout Ohio hospitals and even nationally to reduce *C. difficile* cases.

4. Evaluation, oversight and communication protocols

Program evaluation is an essential component of public health. Continuous evaluation and communication of best practices integrate science as a basis for decision-making and action for the prevention of HAIs. Evaluation and communication allow for learning and ongoing improvement to occur.

Evaluation activity of the two prevention targets will be discussed and determined during future meetings of the Director's Advisory Committee on Emerging Infections. After Ohio's HAI Prevention Plan has been developed, it will be posted on the ODH web site and disseminated through newsletters, meetings, media and the Ohio Public Health Communication System (OPHCS).

Ohio's Checklist for HAI Prevention Activities

Ohio adapted the CDC template for developing or enhancing state HAI prevention activities in the four areas identified above. For each section, Ohio chose elements which best support current or planned activities. Current activities are those in which the state is presently engaged and includes activities that are scheduled to begin using currently available resources. Planned activities represent future directions the state would like to move in to meet currently unmet needs, contingent on available resources and competing priorities. A section for additional activities is included to accommodate plans beyond the principal categories.

1. Develop or enhance HAI program infrastructure

Table 1: State infrastructure planning for HAI surveillance, prevention and control

Planning Level	Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
Level I	☒	☐	<p>1. Establish statewide HAI prevention leadership through the formation of multidisciplinary group or state HAI advisory council</p> <p style="padding-left: 40px;">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 (LTCFs))</p> <p style="padding-left: 40px;">There are more than twenty-one groups and organizations focused on patient safety in Ohio. Most have at least one goal associated with HAIs. One of these groups is featured below.</p> <p style="padding-left: 40px;">The Ohio Department of Health Director’s Advisory Committee on Emerging Infections is a multidisciplinary group first brought together in the mid 1990s to address current and emerging infectious disease issues. Membership consists of representatives from the Infectious Disease Society of Ohio, five local chapters of the Association for Professionals in Infection</p>	<p>Q3 2009 On going</p>

Planning Level	Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>Control and Epidemiology (APIC), local public health departments, academia, the Ohio State University Prevention Epicenter and the Ohio Hospital Association. In addition, representatives from Ohio KePRO, which is the Ohio Medicare quality improvement organization, and additional stakeholders involved in the reduction of HAIs are included in the committee meetings. Quarterly meetings are held either via conference call or face-to-face depending on number of agenda items.</p> <p style="text-align: center;">Identify specific HAI prevention targets consistent with HHS priorities</p> <p>The Director's Advisory Committee on Emerging Infections identified two prevention targets consistent with HHS priorities: <i>Clostridium difficile</i> and methicillin-resistant <i>Staphylococcus aureus</i>.</p>	Q3 2009
	ii.		<i>Other activities or descriptions (not required):</i>	
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>2. Establish an HAI surveillance prevention and control program</p> <p style="text-align: center;">Designate a State HAI Prevention Coordinator</p> <p>Ohio has designated Jane Carmean, RN, BSN, CIC as the state's HAI Prevention Plan Coordinator. In her capacity as infectious disease control consultant, Ms. Carmean works with local health districts and healthcare facilities in responding to infectious</p>	Q3 2009

Planning Level	Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<p>disease issues and outbreaks with a special focus on HAIs. In her role as HAI Prevention Plan Coordinator, Ms. Carmean oversees the integration, collaboration and capacity building of HAI prevention.</p> <p style="text-align: center;">Develop dedicated, trained HAI staff with at least one FTE (or contracted equivalent) to oversee the four major HAI activity areas (Integration, Collaboration, and Capacity Building; Reporting, Detection, Response and Surveillance; Prevention; Evaluation, Oversight and Communication)</p> <p>ii. If funds become available, ODH would like to hire two nurse epidemiologists to address reporting, detection, data validation surveillance and prevention; 2 trained data abstractors who would reduce the burden of reporting and ensure data quality; a human services program consultant who would oversee tracking and evaluation and a public health communication specialist to address communication with an emphasis on putting the data in the hands of the person/persons in the facility who can affect outcome.</p> <p>Funding constraints do not allow the hiring of additional staff at this time.</p>	
			<i>Other activities or descriptions (not required):</i>	
			3. Integrate laboratory activities with HAI surveillance, prevention and control efforts.	

Planning Level	Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
	☒	☐	<p style="text-align: center;">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>i. ODH Laboratory (ODHL), Ohio’s reference laboratory, provides; identification of organisms of epidemiologic significance, testing, results, collection and transport, prevention and control, relative frequency of occurrence and catalogues and saves isolates. ODHL also provides pulsed-field gel electrophoresis (PFGE) testing to healthcare facilities to assist in the investigation of outbreaks. In recent months the number of organisms ODHL is able to identify has been reduced to balance the budget. If more funding were available, ODHL would be able to reinstate or expand testing.</p> <p>ODHL currently has the capability to perform Minimal Inhibitory Concentration (MIC) susceptibility testing; however, due to funding levels and other priorities ODHL does not perform susceptibility testing.</p> <p>Improve laboratory capacity to receive and send HL7 messaging of laboratory results.</p> <p>ODH is able to receive electronic laboratory reporting from facilities that can submit electronic files that conform to CDC’s HL7 Implementation Guide for electronic laboratory reporting to public health. ODH currently receives electronic files from 40 of Ohio’s 163 hospitals.</p>	On going

Planning Level	Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
	<input checked="" type="checkbox"/>		<p><i>Other activities or descriptions (not required):</i></p> <p>Ohio is receiving data submissions from hospitals twice a year per HB 197 reporting requirements. All Ohio hospitals submit the above measures via a secure electronic system. Data submission covers a 12 month period. All data can be viewed through the Ohio Hospital Compare Site at http://ohiohospitalcompare.ohio.gov/ Depending on availability of funds, Ohio proposes to receive electronic data feeds from hospitals on a daily basis as part of the ELC-HAI effort.</p>	On going
Level II	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<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 state HAI prevention plan will improve coordination by identifying infection control educational needs for staff in ODH's Division of Quality Assurance (DQA) with surveying and regulatory responsibilities. All of Ohio's acute care surveyors in the ODH Division of Quality (25 surveyors) will complete a questionnaire to prioritize topics for educational opportunities by the HAI Prevention Plan Coordinator. The questionnaire will be developed, implemented and analyzed.</p> <p>An education program will be designed to address the identified HAI needs and education of the surveyors will be completed.</p>	Q2 2010

Planning Level	Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
			<p>Southwest Ohio's APIC Chapter 26 will pilot a DQA presentation in Jan. 2010. After revision of the pilot, Ohio's four other local APIC chapters will have the opportunity to invite the DQA to present at their local meetings to help facilitate open discussion regarding the regulatory requirements of the contracting regulatory agency (CMS).</p>	
			<p><i>Other activities or descriptions (not required):</i></p> <p>The APIC chapters meet four to six times a year. The HAI prevention plan coordinator will attend one meeting a year for each chapter to engage stakeholders in HAI activities and present up-to-date information about statewide HAI evidence based best practices for prevention and control. ODH has proposed to include local public health representatives at APIC meetings to share information, network and form a basis to enhance understanding and opportunities to work together.</p>	
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<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</p>	<p>Q2 2010</p>

Planning Level	Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
			<p>relationships, in turn, can yield broader benefits for public health by consolidating electronic reporting through regional nodes.</p> <p>ODH has issued a request for proposals (RFP) to Ohio hospitals to develop/expand ELR reporting of the two HAI measures selected to be reported by the Director’s Advisory Committee on Emerging Infections and all infectious diseases reportable in Ohio.</p> <p>ODH anticipates four to eight awards of \$20,000-\$40,000 to assist hospital systems in their ELR efforts. The four to eight awards will represent up to 11 hospitals.</p>	
			<p><i>Other activities or descriptions (not required):</i></p>	
<p>Please also describe any additional activities, not listed above, that your state plans to undertake. Please include target dates for any new activities.</p>				

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.¹ 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.

¹ Thacker SB, Berkelman RL. Public health surveillance in the United States. *Epidemiology Rev* 1988;10:164-90.

Table 2: State planning for surveillance, detection, reporting, and response for HAIs

Planning Level	Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
Level I	☒	☐	<p>1. Improve HAI outbreak detection and investigation</p> <p style="padding-left: 40px;">Work with partners including CSTE, CDC, state legislatures, and providers across the healthcare continuum to improve outbreak reporting to state health departments</p> <p style="padding-left: 40px;">The ODH OAC Committee on Infectious Diseases conducts monthly meetings to review and propose, when needed, changes to the infectious disease reporting rules.</p> <p style="padding-left: 40px;">i. ODH will improve outbreak reporting and offer educational presentations to all five Ohio APIC chapters regarding HAI infection control measures for Ohio’s mandated HB 197, which went into effect for Ohio’s 163 acute care hospitals in October 2009.</p> <p style="padding-left: 40px;">The presentation will include identification of reportable</p>	<p>Q4 2009 On going</p>

Planning Level	Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>conditions in Ohio, application of standard case definitions and outbreak reporting tools. Local public health communicable disease nurses and epidemiologist will be invited to participate in these sessions.</p> <p>ODH conducted the first educational presentation in March 2010. Presentations for Ohio's remaining APIC chapters have been scheduled.</p> <p style="text-align: center;">Establish protocols and provide training for health department staff to investigate outbreaks, clusters or unusual cases of HAIs.</p> <p>Protocols for the public health outbreak investigation of HAI clusters or unusual cases are in place. Healthcare-associated outbreaks are investigated by local health department and facility staff with technical support from the Ohio Department of Health. Epidemiologists and nurses from local health departments participate in the outbreak investigations and attend quarterly public health epidemiology meetings. Educational offerings on the topic of HAIs will be presented at least quarterly during the grant cycle at these epidemiology meetings.</p> <p>Ohio has developed an Infectious Disease Control Manual which includes HAI guidance. It is updated annually and is available on ODH's website.</p> <p>Other educational opportunities to present healthcare-associated infection prevention and control information to public health</p>	<p>Q3 2010</p>

Planning Level	Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
			<p style="text-align: center;">HAIs)</p> <p>ODH will explore having a public health intern or public health prevention specialist conduct a review of surveillance data, specifically hepatitis B and C to assess for HAI outbreaks or transmission in healthcare settings.</p> <p>Guidelines will be reviewed to see if further recommendations need to be made to healthcare facilities to aid in preventing future disease transmission.</p> <p>Apply for public health prevention specialist to assist in implementing the Ohio HAI prevention plan.</p> <p>Partner with one of Ohio’s Schools of Public Health and recruit a student intern to collect HAI data and perform data cleaning and analysis on HAI data.</p>	
	☒		<p><i>Other activities or descriptions (not required):</i> Ohio Department of Health, in partnership with the Ohio State University Medical Center’s Division of Infectious Disease and its CDC-funded Prevention Epicenter and the Centers for Disease Control and Prevention, is engaged in an opportunity to map out a process in acute care and community hospitals for the detection, confirmation, and reporting of healthcare-associated norovirus outbreaks. Local public health will play a pivotal role in this project as healthcare-associated outbreaks are investigated by local health, with technical support from the Ohio Department of Health. Educational materials will be developed and presented to local health department communicable disease nurses and epidemiologists, as well as hospital infection preventionists.</p>	Q 4 2010

Planning Level	Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>2. Enhance laboratory capacity for state and local detection and response to new and emerging HAI issues.</p> <p>Pulsed-Field Gel Electrophoresis (PFGE) on MRSA isolates from confirmed or suspect clusters is performed by the Ohio Department of Health Laboratory (ODHL).</p> <p>ODHL has a draft protocol for performing PFGE on <i>C. difficile</i>, but lacks funding for further development. Additional supplies, such as media and reagents would be needed to complete development and implementation.</p> <p>If additional funds were available, ODHL would like to expand testing to include Arbitrarily Primed – PCR (AP-PCR) which can be used for <i>C. difficile</i> outbreak identification.</p> <p>ODHL would need to develop expertise in the confirmatory protocols for Vancomycin-Resistant <i>Staphylococcus aureus</i> and Vancomycin Intermediate-Resistant <i>Staphylococcus aureus</i> (VRSA/VISA). Due to the low level of occurrence of VRSA/VISA organisms within the State, ODHL does not routinely perform PFGE of these isolates.</p>	<p>On going</p>
			<p><i>Other activities or descriptions (not required):</i></p> <p>ODHL currently has the capability to perform Minimal Inhibitory Concentration (MIC) susceptibility testing however; due to funding levels and other priorities, ODHL does not</p>	

Planning Level	Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
			perform susceptibility testing.	
Level II	☒	☐	<p>3. Improve communication of HAI outbreaks and infection control breaches</p> <p style="padding-left: 40px;">i. Develop standard reporting criteria including, number, size and type of HAI outbreak for health departments and CDC</p> <p>ODH has developed standard reporting criteria and shared these with local health partners and healthcare providers. Reporting guidance for all reportable infectious diseases, including outbreaks, is kept current in the Infectious Disease Control Manual, which is available on the ODH website.</p>	On going
	☒	☐	<p style="padding-left: 40px;">Establish mechanisms or protocols for exchanging information about outbreaks or breaches among state and local governmental partners (e.g., State Survey agencies, Communicable Disease Control, state licensing boards)</p> <p>ii. ODH has an internal protocol for communicating information regarding outbreaks or infection control breaches detected in the course of routine public health business with Division of Quality partners.</p> <p>Currently, ODH has procedures for how outbreaks are communicated with our partners, through the electronic Ohio</p>	Q1 2010

Planning Level	Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
			<p>Disease Reporting System (ODRS). Infection control breaches in and of themselves are not reportable events in Ohio, but are identified and addressed through outbreak investigation.</p> <p>Ohio has made providing access to NHSN data to ODH as a group member a requirement for hospitals receiving funding through the HAI grant.</p> <p>The Director's Advisory Committee on Emerging Infections met to discuss initiatives associated with the American Recovery and Reinvestment Act pertaining to Healthcare-Associated Infections and will continue to meet quarterly or as needed. This committee will provide input as ODH refines our policies and procedures for communicating information about the chosen HAI priority targets and educating our LHD partners and healthcare facilities about the reporting requirements for infectious diseases, especially healthcare-associated outbreaks.</p> <p>During the education sessions and interactions with the local APIC chapters and local public health partners, ODH will include reporting rules regarding HAI conditions. The first educational presentation was given to an Ohio APIC chapter in March 2010. Additional presentations for the remaining four APIC chapters have been scheduled.</p>	
			<i>Other activities or descriptions (not required):</i>	

Planning Level	Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> iv. <input type="checkbox"/> <input type="checkbox"/>	<p>regarding CAUTI when time, staffing and resource permit.</p> <p>Methicillin-resistant <i>Staphylococcus aureus</i></p> <p>Methicillin-resistant <i>Staphylococcus aureus</i> bacteremia with laboratory confirmation will be reported. There are no baseline reporting rates for MRSA in Ohio.</p> <p>Hospitals in Ohio will strive to reduce the healthcare MRSA bacteremia Lab ID event Standardized Incidence Rate (SIR) by at least 25% from baseline or to zero.</p> <p>Surgical Site Infections (SSI) Ventilator-associated Pneumonia (VAP)</p>	Q1 2010
			<i>Other activities or descriptions (not required):</i>	
	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<input type="checkbox"/> v: vi. <input type="checkbox"/> i.	<p>5. Adopt national standards for data and technology to track HAIs (e.g., NHSN).</p> <p>Develop metrics to measure progress towards national goals (align with targeted state goals). (See Appendix 1).</p> <p>Participation in NHSN will be a requirement for hospitals receiving funds for ELR.</p> <p>Establish baseline measurements for prevention targets.</p> <p>Baseline measurements will be established via the collection of data required for HB 197 which started</p>	<p>Q2 2010</p> <p>On going</p>

Planning Level	Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
			<p>HAI data will be reviewed, analyzed and summarized in a monograph and will be provided to our local health department partners, infection preventionists, hospital administrators and other partners in the state.</p> <p>Repeat annually and include trends.</p>	<p>Q2 2011</p> <p>Annually thereafter</p>
			<p><i>Other activities or descriptions (not required):</i></p>	
<p>Level III</p>	<p><input type="checkbox"/></p> <p><input type="checkbox"/></p>	<p><input checked="" type="checkbox"/></p> <p>8.</p> <p><input checked="" type="checkbox"/></p>	<p>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>Ohio Department of Health realizes the importance of validating healthcare infection data. Ohio HB 197, which was passed by legislature, mandates validation of healthcare data collected from acute care facilities.</p> <p>Develop a validation plan</p> <p>Bureau of Infectious Disease Epidemiology and Surveillance (BIDES) staff with support from CDC DHQP and the Ohio Hospital Association will develop a validation plan based on a stratified random sample of Ohio NHSN participants. It will</p>	<p>Q3 2010</p> <p>Q3 2010</p>

Planning Level	Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<p>include exploring opportunities for utilizing unfunded sources to assist in the data collection.</p> <p>Pilot test validation methods in a sample of healthcare facilities</p> <p>BIDES will select 5 hospitals with at least 6 months experience collecting NHSN data. Ten consecutive charts with MRSA bacteremia and 10 charts with new onset <i>C. difficile</i> will be reviewed by 2 independent reviewers one of whom will be certified in infection control. Sensitivity, specificity, positive and negative predictive values will be calculated. See: http://www.cdc.gov/HAI/recoveryact/PDF/Oct09/10-1245(2)CRebmann_Validation_studiesELC.pdf . Charts with discrepancies will be reviewed to determine the reason for discrepancies.</p>	Q4 2010
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Modify validation plan and methods in accordance with findings from pilot project	Q1 2011
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Implement validation plan and methods in all healthcare facilities participating in HAI surveillance	Q2 2011
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Analyze and report validation findings	Q4 2011
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Use validation findings to provide operational guidance for healthcare facilities that targets any data shortcomings detected	Q4 2011
		iv.	<i>Other activities or descriptions (not required):</i>	

Planning Level	Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
	<input checked="" type="checkbox"/>	<input type="checkbox"/> i.	<p>9. Develop preparedness plans for improved response to HAI</p> <p style="padding-left: 40px;">Define processes and tiered response criteria to handle increased reports of serious infection control breaches (e.g., syringe reuse), suspect cases/clusters, and outbreaks</p> <p style="padding-left: 40px;">Preparedness plans for improved response to HAI reporting will be a product of a workgroup within the Division of Prevention in collaboration with the Division of Quality. Epidemiologists and communicable disease nurses from local public health will also be invited to be a part of this workgroup.</p>	Q2 2010
			<i>Other activities or descriptions (not required):</i>	
	<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 to set standards for continuing education and training</p> <p style="padding-left: 40px;">ODH will convene an internal workgroup comprised of regulatory compliance staff, Division of Quality Assurance (DQA) (who investigate complaints in healthcare facilities and who have surveying or regulatory authority over facilities) and the epidemiologists and nurses who investigate reportable disease cases or outbreaks in the Division of Prevention to develop a protocol for exchanging information between the two divisions regarding outbreaks or infection control breaches</p>	Q1 2010

Planning Level	Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
			<p>detected in the course of routine public health business. The Ohio HAI Prevention Plan Coordinator will work with healthcare provider organizations (e.g. Ohio APIC chapters, Ohio Nursing Association, Ohio State Medical Association) about the need to include HAI prevention education in upcoming educational events or materials.</p> <p>Non-hospital ambulatory surgical centers and dialysis centers will be the focus of infection control collaboration with DQA because Ohio licenses these facilities; whereas, it does not license hospitals.</p> <p>The Ohio State University (OSU) Prevention Epicenter is seeking to partner with ODH to present the results of OSU's recent collaborative efforts to scientifically monitor MRSA in Ohio.</p> <p>Scientific data will be presented by OSU to Ohio's public health staff at the annual Public Health Combined Meeting.</p>	<p>Q3 2010</p> <p>Q2 2010</p>
			<i>Other activities or descriptions (not required):</i>	
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<p>11. Adopt integration and interoperability standards for HAI information systems and data sources</p> <p style="padding-left: 40px;">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</p>	Q4 2010

Planning Level	Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p style="text-align: center;">outpatient healthcare settings</p> <p>Ohio has a strong commitment to improve data quality and make data driven decisions using the best available information possible. It is one of 30 Beta test sites for the Public Health Accreditation Board (PHAB). Continuous improvement, integration and interoperability of surveillance define Ohio's approach to prevention and control of all infectious diseases, including HAIs.</p> <p style="text-align: center;">Promote definitional alignment and data element standardization needed to link HAI data across the nation.</p> <p>Ohio will use CDC, CSTE and NHSN definitions where not in conflict with Ohio law.</p>	Q1 2010 On going
	ii.		<i>Other activities or descriptions (not required):</i>	
	<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 style="text-align: center;">i. Report HAI data to the public</p> <p>Ohio healthcare consumers will be able to access HAI-specific data on the ODH web site starting January 2010. The website will allow consumers to choose and compare hospitals across measures and measure sets.</p>	Q1 2010

Planning Level	Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
			<i>Other activities or descriptions (not required):</i>	
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<p>13. Make available risk-adjusted HAI data that enables state agencies to make comparisons between hospitals.</p> <p>Only a small portion of Ohio’s current data is risk adjusted. ODH will explore the feasibility of making risk-adjusted data available as funding and resources permit.</p>	Undetermined
			<i>Other activities or descriptions (not required):</i>	
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<p>14. Enhance surveillance and detection of HAIs in non-hospital settings</p> <p>Currently, non-hospital settings are held to the same rules of reporting as acute care facilities.</p> <p>Ohio will develop a toolkit for HAIs and place it on the ODH website as funding and resources permit.</p> <p>ODH will explore the feasibility of developing enhanced surveillance and HAI detection in non-hospital settings as funding and resources permit.</p>	On going
			<i>Other activities or descriptions (not required):</i>	
Please also describe any additional activities, not listed above, that your state plans to undertake. Please include target dates for any new activities.				

3. Prevention

State implementation of HHS Healthcare Infection Control Practices Advisory Committee (HICPAC) recommendations is a critical step towards the elimination of HAIs. CDC with HICPAC has 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 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: State planning for HAI prevention activities

Planning Level	Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
Level I	☒	☐	<p>1. Implement HICPAC recommendations.</p> <p style="padding-left: 40px;">Develop strategies for implementation of HICPAC recommendations for at least 2 prevention targets specified by the state multidisciplinary group.</p> <p style="padding-left: 40px;">Strategies for implementation of HICPAC recommendations for the two prevention targets consistent with HHS priorities and adopted by the Directors' Advisory Committee on Emerging Infections, which includes the reporting of all laboratory-identified methicillin-resistant <i>Staphylococcus aureus</i> bacteremias and laboratory-identified healthcare-associated <i>C. difficile</i> infections will be discussed and determined during the forthcoming meetings.</p> <p style="padding-left: 40px;">Ohio Hospital Association (OHA), in partnership with the Ohio State University Medical Center's Division of Infectious</p>	On going

Planning Level	Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
			<p>Diseases and its CDC-funded Prevention Epicenter and the Centers for Disease Control and Prevention (CDC), initiated a statewide pilot program to address the surveillance and control of <i>C. difficile</i> infections in acute care facilities within the state of Ohio.</p> <p>The intended outcome of the statewide pilot is to quantify <i>C. difficile</i> rates in Ohio using 2008 CDC/NHSN surveillance definitions and engage in a performance improvement project (PIP) for single unit or whole facility to adopt a tiered evidence-based strategy to decrease healthcare-associated <i>C. difficile</i> infection rates.</p> <p>Target date for implementation of the strategies will be determined by the committee during the second quarter of 2010.</p>	
			<p><i>Other activities or descriptions (not required):</i></p>	
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<p>2. Establish prevention working group under the state HAI advisory council to coordinate state HAI collaboratives</p> <p style="padding-left: 40px;">Assemble expertise to consult, advise, and coach inpatient healthcare facilities involved in HAI prevention collaboratives</p> <p>The Ohio Patient Safety Institute (OPSI) is an organization dedicated to improving patient safety in Ohio. The Institute is a subsidiary of the Ohio Health Council, which was founded by the Ohio Hospital Association, the Ohio State Medical Association, and the Ohio Osteopathic Association. Through</p>	<p>Undetermined</p>

i.

Planning Level	Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
			<p>this collaboration, OPSI has the ability to work with over 180 hospitals and 9,000 physicians in Ohio to improve patient safety for all Ohioans.</p> <p>Ohio was not funded for CDC sponsored prevention collaborative efforts, but is interested in identifying potential prevention collaboration projects with interested healthcare facilities, the OSU Epicenter and the Ohio Hospital Association as resources and time permit.</p>	
			<i>Other activities or descriptions (not required):</i>	
	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<p>3. Establish HAI collaboratives with at least 10 hospitals (i.e. this may require a multi-state or regional collaborative in low population density regions)</p> <p>Identify staff trained in project coordination, infection control, and collaborative coordination Develop a communication strategy to facilitate peer-to-peer learning and sharing of best practices Establish and adhere to feedback of a clear and standardized outcome data to track progress</p>	
			<p><i>Other activities or descriptions (not required):</i></p> <p>To be explored with Ohio healthcare partners. Currently no funding is available.</p>	
	<input type="checkbox"/>	ii. <input checked="" type="checkbox"/> iii.	<p>4. Develop state HAI prevention training competencies</p> <p>Consider establishing requirements for education and training of healthcare professionals in HAI</p>	Undetermined

Planning Level	Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
			<p>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>Explore Healthy People 2020 goals with the Ohio Nursing Board, Ohio Hospital Association and Ohio Medical Board to align curriculum with infection control and prevention best practices as time and resources permit.</p>	
			<i>Other activities or descriptions (not required):</i>	
Level II	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<p>5. Implement strategies for compliance to promote adherence to HICPAC recommendations</p> <p style="padding-left: 40px;">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>A recent ODH survey of Ohio’s hospital infection preventionists showed over 90% of Ohio hospitals currently follow CDC best practice recommendations and NHSN criteria to determine HAI.</p> <p>i.</p> <p>ODH does not have regulatory authority over Ohio hospitals in their entirety. As such, developing mandates for the standards for healthcare infection control and methods of data collection would require legal review and legislative action.</p>	Undetermined

Planning Level	Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
	<input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> iii. <input type="checkbox"/>	<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 Improve regulatory oversight of hospitals, enhancing surveyor training and tools, and adding sources and uses of infection control data</p> <p>The Division of Quality within ODH is the contracting agency for the Center for Medicare and Medicaid (CMS). In this capacity, there is opportunity to improve regulatory oversight of hospitals, enhance surveyor training and act as a resource in matters related to infection control with assistance from ODH colleagues. This is accomplished through day to day onsite consultation, educational presentations and strengthening ties through communication and outreach.</p> <p>Consider expanding regulation and oversight activities to currently unregulated settings where healthcare is delivered or work with healthcare partners to establish best practices to ensure adherence</p>	On going
			<i>Other activities or descriptions (not required):</i>	
	<input type="checkbox"/>	<input type="checkbox"/> iv.	Enhance prevention infrastructure by increasing joint collaboratives with at least 20 hospitals (i.e. this may require a multi-state or	

Planning Level	Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
			<p>regional collaborative in low population density regions)</p> <p>Funding for State sponsored collaborative efforts are not available at this time, but Ohio would be interested in collaborative efforts as resources and time permit.</p>	
			<i>Other activities or descriptions (not required):</i>	
	<input checked="" type="checkbox"/>	<input type="checkbox"/> 7.	<p>Establish collaborative to prevent HAIs in non-hospital settings (e.g., long term care, dialysis)</p> <p>ODH's Bureau of Disease Investigation and Surveillance is exploring application of the Positive Deviance Model of behavior change for infection prevention and empowerment of direct patient care providers. This initiative would first be piloted with a dialysis center in the hope of expanding to other healthcare settings in Ohio.</p>	Q3 2010
			<i>Other activities or descriptions (not required):</i>	
Please also describe any additional activities, not listed above, that your state plans to undertake. Please include target dates for any new activities.				

4. Evaluation and Communications

Program evaluation is an essential organizational practice in public health. Continuous evaluation and communication of practice 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 to occur. 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: State HAI communication and evaluation planning

Planning Level	Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
Level I	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>1. Conduct needs assessment and/or evaluation of the state HAI program to learn how to increase impact</p> <p style="padding-left: 40px;">Establish evaluation activity to measure progress towards targets</p> <p style="padding-left: 40px;">A needs assessment will be developed and provided for review to the Director's Advisory Committee on Emerging Infections.</p>	Q3 2010
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<p style="padding-left: 40px;">i. Establish systems for refining approaches based on data gathered</p> <p style="padding-left: 40px;">ii. Target outliers (low and high rates) will be identified. Processes used by outliers will be compared. An evaluation activity to measure progress for the two prevention targets will be discussed and determined during the forthcoming meetings of the Director's Advisory Committee on Emerging Infections.</p>	Undetermined
			<i>Other activities or descriptions (not required):</i>	

	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>2. Develop and implement a communication plan about the state's HAI program and progress to meet public and private stakeholders needs</p> <p>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>Committee members will discuss dissemination of the HAI prevention activities and propose best methods to reach healthcare partners and interested citizens.</p>	<p>Q2 2010 On going</p>
			<i>Other activities or descriptions (not required):</i>	
Level II	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>3. Provide consumers access to useful healthcare quality measures</p> <p>A consumer-friendly website will be fully accessible for those seeking useful healthcare quality measures reported by all acute care hospitals in Ohio.</p>	<p>Q1 2010</p>
			<i>Other activities or descriptions (not required):</i>	
Level III	<input type="checkbox"/>	<input type="checkbox"/>	<p>Identify priorities and provide input to partners to help guide patient safety initiatives and research aimed at reducing HAIs</p>	
	4.		<i>Other activities or descriptions (not required):</i>	
<p>Please also describe any additional activities, not listed above, that your state plans to undertake. Please include target dates for any new activities.</p>				