

# Maryland Healthcare-Associated Infections Prevention Plan

February 2016

## Introduction

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Maryland has been a leader in collecting and publicly reporting information on health care quality measures that further the goals of promoting knowledgeable patient choices about health care providers and providing feedback to health care providers and policymakers to benchmark performance and inform quality improvement initiatives. The State's efforts are guided by a commitment to ensuring that care is safe, effective, patient-centered, timely, efficient, equitable, integrated, and affordable.

The *Maryland Healthcare-Associated Infections (HAI) Prevention Plan* has been updated by the Department of Health and Mental Hygiene (DHMH) Infectious Disease Epidemiology and Outbreak Response Bureau, and reviewed by the Maryland Health Care Commission (MHCC) and its HAI Advisory Committee. The Commission's HAI Advisory Committee guided the development of the initial plan and will provide on-going guidance in developing implementation strategies. (The members of the HAI Advisory Committee will be updated to include an emergency preparedness expert as a result of this plan update.)

The organizations collaborating in this planning initiative are described below:

**Maryland Health Care Commission.** The Maryland General Assembly established the MHCC in 1999 by merging the Health Care Access and Cost Commission and the Maryland Health Resources Planning Commission. MHCC is a public regulatory commission, located administratively within DHMH, with 15 Commissioners appointed by the Governor with the advice and consent of the Maryland Senate. Healthcare-associated infections are a priority activity of MHCC. The Maryland legislature adopted Senate Bill 135, *Hospitals-Comparable Evaluation System-Health Care-Associated Infection Information* in 2006. This law, which became effective July 1, 2006, required that the Hospital Performance Evaluation Guide developed by the MHCC be expanded to include HAI information from hospitals. The legislation specified that the system for reporting data must adhere to the current recommendations of the federal Centers for Disease Control and Prevention (CDC) regarding the public reporting of HAIs. MHCC's hospital quality measures data collection policy became aligned with CMS' Value Based Purchasing requirements as of January 2014. The Commission established the Maryland Health Care Quality Reports website to provide a comprehensive website for reporting performance information on

hospitals, long term care facilities, and health plans in December 2014. Hospital HAI data is publicly reported on this website: <https://www.marylandqmdc.org>.

**DHMH, Infectious Disease Epidemiology and Outbreak Response Bureau (IDEORB).** The DHMH IDEORB conducts surveillance for and investigates outbreaks and unusual cases of communicable diseases in Maryland's population, as well as implements infection prevention and control interventions to prevent infections, including healthcare-associated infections. There is broad expertise in infectious diseases within IDEORB, including physicians trained in infectious diseases, certified infection preventionists, and epidemiologists. Maryland is one of ten states that participate in the Emerging Infections Program (EIP), a population-based network of the CDC, USDA, FDA, academic institutions, public health and clinical laboratories, and state health departments to assess the public health impact of emerging infections and to evaluate methods for their prevention and control. Information about IDEORB is available at:  
[http://phpa.dhmh.maryland.gov/SitePages/infectious\\_disease.aspx](http://phpa.dhmh.maryland.gov/SitePages/infectious_disease.aspx)

## **Organization of the Plan**

The initial plan used the template developed by the Centers for Disease Control and Prevention (CDC) and targeted activities in four areas: (1) enhance HAI program infrastructure; (2) HAI surveillance, detection, reporting, and response; (3) prevention; and, (4) evaluation, oversight, and communications. This update focuses on new infection control activities, bolstering Ebola preparedness activities and funding, including two more areas: (5) Infection Control Assessment and Response; and, (6) targeted healthcare infection prevention programs. (The template checklist is provided in the following pages.) While the focus of the initial Plan was on acute care hospitals, activities in this update are included to expand the scope of prevention planning to include nursing homes, ambulatory surgical facilities, and other important health care providers.

## State HAI Plan Template

**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	☒	☐	<ol style="list-style-type: none"> <li>1. Establish statewide HAI prevention leadership through the formation of multidisciplinary group or state HAI advisory council               <ol style="list-style-type: none"> <li>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)</li> <li>ii. Include hospital preparedness partners.</li> <li>iii. Engage HAI advisory committee in potential roles and activities to improve antibiotic use in the state (antibiotic stewardship)</li> </ol> </li> <li>ii. Continue to track HAIs in acute care hospitals via NHSN.</li> </ol>	<p style="text-align: center;"><b>Implemented (2008)</b></p> <p style="text-align: center;"><b>Implemented (2015)</b> <b>April 1, 2016</b></p> <p style="text-align: center;"><b>On-going</b></p>
			<p><i>Other activities or descriptions (not required):</i></p> <p><b>Objective 1.0</b> By October 1, 2015, expand the HAI Advisory Committee to include hospital preparedness partners.</p> <p><b>Objective 1.1</b> On an on-going basis, HAI Advisory Committee members guide key components of the Maryland HAI Prevention Plan and implementation objectives.</p>	

Planning Level	Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
			<p><b>Objective 1.2</b> By April 1, 2016, DHMH will implement antibiotic stewardship activities as part of the promotion of specific HAI prevention targets for Maryland consistent with priorities established by the U.S. Department of Health and Human Services, currently: <a href="http://health.gov/hcq/pdfs/HAI-Targets.pdf">http://health.gov/hcq/pdfs/HAI-Targets.pdf</a>.</p> <p><b>Objective 1.3</b> On an on-going basis, DHMH will monitor and communicate progress in meeting HHS HAI prevention targets to the HAI Advisory Committee.</p>	
	☒	☐	2. Maintain an HAI surveillance prevention and control program	On-going
			<p><i>Other activities or descriptions (not required):</i></p> <p><b>Objective 2.1</b> Maintain staff required to support the Maryland HAI surveillance, prevention, and control program activities and public and quality reporting at both DHMH and MHCC.</p>	
	☒	☐	<p>3. DHMH will integrate laboratory activities with HAI surveillance, prevention and control efforts.</p> <p>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>	June 30, 2016
			<p><i>Other activities or descriptions (not required):</i></p> <p><b>Objective 3.0</b> DHMH will develop and maintain capacity to assist</p>	

Planning Level	Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
			<p>Maryland healthcare facilities with Electronic Laboratory Reporting (ELR), which will involve mapping of data elements, and recruiting hospital laboratories to participate in ELR.</p> <p><b>Objective 3.1</b> DHMH Laboratories Administration will maintain capacity to perform isolation, resistance testing and advanced molecular detection techniques relevant to HAI identification, investigation and monitoring.</p>	
Level II	☒	☐	<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>	<b>On-going</b>
			<p><i>Other activities or descriptions (not required):</i></p> <p><b>Objective 4.0</b> Identify additional stakeholders to add to the Advisory Committee as required to improve coordination and strengthen expertise, including kidney dialysis centers, outpatient settings, and hospital preparedness partners.</p> <p><b>Objective 4.1</b> DHMH will improve coordination among intergovernmental agencies that have an impact on healthcare-associated infections in the state.</p>	<b>As Required</b>
	☒	☐	<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</p>	<b>On-going</b>

Planning Level	Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
			<p>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><i>Other activities or descriptions (not required):</i>  <b>Objective 5.0</b> By June 30, 2016, DHMH will increase on-boarding of hospital transmission of reportable laboratory results via ELR to DHMH by 50%, including HAI-specific laboratory data.   <b>Objective 5.1</b> By April 1, 2016, DHMH will establish a mechanism for reporting antimicrobial resistance data to the DHMH NBS-MSS.</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>				

**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	☒	☐	1. Improve HAI outbreak detection and investigation <ul style="list-style-type: none"> <li>i. Work with partners including CSTE, CDC, state legislatures, and providers across the healthcare continuum to improve outbreak reporting to state health departments</li> </ul>	On-going
	☒	☐	<ul style="list-style-type: none"> <li>ii. Establish protocols and provide training for health department staff to investigate outbreaks, clusters or unusual cases of HAIs.</li> </ul>	On-going
	☒	☐	<ul style="list-style-type: none"> <li>iii. 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</li> </ul>	On-going
	☒	☐	<ul style="list-style-type: none"> <li>iv. 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)</li> </ul>	On-going
			<p><i>Other activities or descriptions (not required):</i></p> <p><b><u>Objective 1.0</u> DHMH will maintain an on-going training program in infection prevention and control for long term care facility staff, DHMH Office of Health Care Quality surveyors, and local health department communicable disease staff, which will include training in outbreak identification, reporting and response.</b></p> <p><b><u>Objective 1.1</u> DHMH will maintain an annual training program for all local health department staff who may participate in outbreak</b></p>	

Planning Level	Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
			investigations, including sanitarians, nurses, and epidemiologists; and, the annual Infectious Disease Update for all local health department personnel to provide the latest information on communicable disease issues, including HAIs.	
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2. Enhance laboratory capacity for state and local detection and response to new and emerging HAI issues.	<b>On-going</b>
			<p><i>Other activities or descriptions (not required):</i></p> <p><b>Objective 2.0</b> DHMH will continue conducting HAI activities that have a significant laboratory component regarding characterization of antimicrobial resistance.</p> <p><b>Objective 2.1</b> By April 1, 2016, the Maryland State Public Health Laboratories Administration will have worked with DHMH IDEORB to create a plan and establish expertise for advanced molecular detection for the characterization and control of multidrug-resistant organisms in healthcare.</p>	
<b>Level II</b>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	3. Improve communication of HAI outbreaks and infection control breaches <ul style="list-style-type: none"> <li>i. Develop standard reporting criteria including, number, size and type of HAI outbreak for health departments</li> <li>ii. 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)</li> </ul>	<b>On-going</b>
	<input checked="" type="checkbox"/>	<input type="checkbox"/>		<b>On-going</b>
			<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
			<p><b>Objective 3.0</b> As part of planned statewide infection control assessments of healthcare facilities across the healthcare spectrum, DHMH will assess facility outbreak reporting and response capacity.</p> <p><b>Objective 3.1</b> DHMH will maintain and enhance capacity to communicate HAI-related information to healthcare facilities, including information regarding outbreak response in healthcare settings.</p>	
	<input checked="" type="checkbox"/>  <input checked="" type="checkbox"/> <input checked="" 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"/>	<p>4. The following prevention targets have been initiated for surveillance in support of the HHS HAI Action Plan</p> <ul style="list-style-type: none"> <li>i. Central Line-associated Bloodstream Infections (CLABSI)</li> <li>ii. <i>Clostridium difficile</i> Infections (CDI)</li> <li>iii. Catheter-associated Urinary Tract Infections (CAUTI)</li> <li>iv. Methicillin-resistant <i>Staphylococcus aureus</i> (MRSA) Infections</li> <li>v. Surgical Site Infections (SSI)</li> </ul>	<p><b>Implemented (July 1, 2008)</b></p> <p><b>July 1, 2013</b></p> <p><b>January 1, 2014</b></p> <p><b>January 1, 2014</b></p> <p><b>July 1, 2010</b></p>
			<p><i>Other activities or descriptions (not required):</i></p>	
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>5. Adopt national standards for data and technology to track HAIs (e.g., NHSN).</p> <ul style="list-style-type: none"> <li>i. Establish baseline measurements for prevention targets</li> <li>ii. Establish NEW baseline measurements for prevention targets aligned with CDC</li> </ul>	<p><b>July 1, 2009</b></p> <p><b>per CMS requirements</b></p>
			<p><i>Other activities or descriptions (not required):</i></p> <p><b>Objective 5.0.</b> MHCC will maintain use of the National Healthcare Safety Network (NHSN) system for collecting MHCC-designated reportable HAI</p>	

Planning Level	Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
			<p>data sets, where appropriate, to compare Maryland’s HAI performance with the national performance and to provide consumers, payers and facilities with information about healthcare quality.</p> <p><b>Objective 5.1</b> MHCC will maintain HAI data reporting requirements for Maryland hospitals for Central Line-Associated Blood Stream Infections (CLABSI) using the National Healthcare Safety Network (NHSN) system and will publicly report CLABSI data.</p> <p><b>Objective 5.2</b> MHCC will maintain the collection and public reporting of data regarding Health Care Worker Influenza Vaccination in acute care hospitals and nursing homes.</p> <p><b>Objective 5.3</b> MHCC will maintain HAI data reporting requirements for Maryland hospitals for selected SSIs using the National Healthcare Safety Network (NHSN) system and will publicly report SSI data.</p> <p><b>Objective 5.4</b> MHCC will maintain HAI data reporting requirements for Maryland hospitals for Catheter-Associated Urinary Tract Infections (CAUTI) using the National Healthcare Safety Network (NHSN) system and will publicly report CAUTI data.</p> <p><b>Objective 5.5</b> MHCC will maintain HAI data reporting requirements for Maryland hospitals for <i>Clostridium difficile</i> Infections (CDI) LabID Events and MRSA bacteremia LabID Events using the National Healthcare Safety Network (NHSN) system.</p> <p><b>Objective 5.6</b> MHCC follows CMS VBP reporting requirements as of January 1, 2014 and will continue to do so.</p>	
	☒	☐	<p>6. Develop state surveillance training competencies</p> <p style="padding-left: 40px;">i. Conduct local training for appropriate use of surveillance systems (e.g., NHSN) including</p>	<b>On-going</b>

Planning Level	Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
			facility and group enrollment, data collection, management, and analysis	
			<p><i>Other activities or descriptions (not required):</i></p> <p><b>Objective 6.0.</b> DHMH will maintain ongoing training sessions of DHMH and local health department surveillance staff in the National Electronic Disease Surveillance System (NEDSS) for collecting data on reportable infectious diseases and conditions in Maryland.</p> <p><b>Objective 6.1.</b> MHCC will continue statewide training seminars, in partnership with the Maryland Hospital Association, the Metropolitan Washington and Baltimore Chapters of APIC, and other stakeholders, on use of the National Healthcare Safety Network (NHSN) modules as needed.</p> <p><b>Objective 6.2.</b> MHCC will maintain on-going participation in National Healthcare Safety Network (NHSN) State User’s Conference Calls.</p>	
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7. Develop tailored reports of data analyses for state or region prepared by state personnel	<b>On-going</b>
			<p><i>Other activities or descriptions (not required):</i></p> <p><b>Objective 7.0</b> MHCC will maintain a format for publicly reporting hospital-specific MHCC-designated reportable NHSN data on its Maryland Health Care Quality Reports website.</p> <p><b>Objective 7.1</b> MHCC will continue to evaluate the effectiveness of the format of publicly reported data for communicating to various stakeholders, including healthcare professionals and consumers.</p> <p><b>Objective 7.2</b> MHCC will evaluate the effectiveness of public reporting of data from other provider settings.</p>	

Planning Level	Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
Level III	<input checked="" type="checkbox"/>  <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>  <input checked="" type="checkbox"/>  <input checked="" 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>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> <ul style="list-style-type: none"> <li>i. Develop a validation plan</li> <li>ii. Pilot test validation methods in a sample of healthcare facilities</li> <li>iii. Modify validation plan and methods in accordance with findings from pilot project</li> <li>iv. Implement validation plan and methods in all healthcare facilities participating in HAI surveillance</li> <li>v. Analyze and report validation findings</li> <li>vi. Use validation findings to provide operational guidance for healthcare facilities that targets any data shortcomings detected</li> </ul>	On-going
				<p><i>Other activities or descriptions (not required):</i></p> <p><b>Objective 8.0</b> MHCC will maintain, evaluate, and update protocols for data quality review and validation of Maryland HAI data reported to the National Healthcare Safety Network (NHSN) system including CLABSI, SSI, CDI LabID, MRSA bacteremia LabID, and CAUTI data.</p> <p><b>Objective 8.1</b> MHCC will provide feedback to the HAI Advisory Committee regarding HAI data validation results and discuss NHSN user technical questions.</p>
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>9. Develop preparedness plans for improved response to HAI</p> <ul style="list-style-type: none"> <li>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</li> </ul>	On-going

Planning Level	Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
			<p><i>Other activities or descriptions (not required):</i></p> <p><b>Objective 9.0</b> DHMH will continue to monitor various surveillance systems and investigate reports of serious infection control breaches, including providing recommendations for improved practices.</p>	
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	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	<b>On-going</b>
			<p><i>Other activities or descriptions (not required):</i></p> <p><b>Objective 10.0</b> DHMH IDEORB will continue to collaborate with the DHMH Office of Health Care Quality to investigate complaints related to provider infection control practice in non-hospital settings, including providing recommendations for improved practices.</p> <p><b>Objective 10.1</b> DHMH will maintain an on-going training program in infection prevention and control for long term care facility staff, DHMH Office of Health Care Quality surveyors, and local health department communicable disease staff.</p>	
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>11. Adopt integration and interoperability standards for HAI information systems and data sources</p> <p style="margin-left: 40px;">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</p>	<b>April 1, 2016</b>

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: right;">settings</p> <p>ii. Promote definitional alignment and data element standardization needed to link HAI data across the nation.</p>	<b>On-going</b>
			<p><i>Other activities or descriptions (not required):</i></p> <p><b>Objective 11.0</b> By April 1, 2016, DHMH will explore existing sources of HAI data across the healthcare spectrum and improve use of the data to identify, analyze, and prevent HAI outbreaks or transmission in healthcare settings.</p> <p><b>Objective 11.1</b> Maryland will continue to align HAI definitions and reporting requirements with CDC, CMS, and CSTE standards.</p>	
	<input type="checkbox"/>	<input checked="" 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>	<b>As available</b>
			<p><i>Other activities or descriptions (not required):</i></p> <p><b>Objective 12.0</b> As capability becomes available in facility EMR systems, Maryland will promote the use of electronic reporting to NHSN and other state surveillance systems to reduce reporting burden.</p>	
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>13. Make available risk-adjusted HAI data that enables state agencies to make comparisons between hospitals.</p>	<b>October 2010</b>
			<p><i>Other activities or descriptions (not required):</i></p>	

Planning Level	Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
			<p><b><u>Objective 13.0</u></b> MHCC will maintain and regularly update public reporting of HAI data adhering to CDC standards for comparing hospitals in the Maryland Health Care Quality Reports website.</p> <p><b><u>Objective 13.1</u></b> MHCC will update public reporting of HAIs on at least an annual basis to provide current information to consumers and health care professionals.</p>	
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	14. Enhance surveillance and detection of HAIs in nonhospital settings	<b>On-going</b>
			<p><i>Other activities or descriptions (not required):</i></p> <p><b><u>Objective 14.0</u></b> DHMH will maintain surveillance for <i>Clostridium difficile</i> and Carbapenem-Resistant Enterobacteriaceae through Maryland infectious disease reporting requirements and programs, which includes infections in nonhospital settings.</p> <p><b><u>Objective 14.1</u></b> DHMH will include non-acute care representation in prevention collaboratives, such as the MDRO Collaborative.</p> <p><b><u>Objective 14.2</u></b> The HAI Advisory Committee will make recommendations about public reporting of HAIs identified in non-hospital settings, such as long-term care facilities, dialysis centers, and other healthcare settings.</p>	
Please also describe any additional activities, not listed above, that your state plans to undertake. Please include target dates for any new activities.				

**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	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1. Implemented HICPAC recommendations. <ul style="list-style-type: none"> <li>i. Developed strategies for implementation of HICPAC recommendations for at least 2 prevention targets (CLABSI and SSI) specified by the state multidisciplinary group.</li> </ul>	<b>October 1, 2010</b>
			<i>Other activities or descriptions (not required):</i>  <b>Objective 1.1 Maryland will continue to promote strategies for implementation of HICPAC recommendations.</b>	
	<input type="checkbox"/>	<input type="checkbox"/>	2. Establish prevention working group under the state HAI advisory council to coordinate state HAI collaboratives <ul style="list-style-type: none"> <li>i. Assemble expertise to consult, advise, and coach inpatient healthcare facilities involved in HAI prevention collaboratives</li> </ul>	<b>Not included in the current Maryland HAI Prevention Plan</b>
			<i>Other activities or descriptions (not required):</i>  <b>Existing and future Maryland collaboratives will report progress to the HAI Advisory Committee.</b>	
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	3. Establish HAI collaboratives with at least 10 hospitals (this may require a multi-state or regional collaborative in low population density regions) <ul style="list-style-type: none"> <li>i. Identify staff trained in project coordination, infection control, and collaborative</li> </ul>	<b>Implemented 2009</b>



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"/>	coordination	<b>Implemented 2009</b>
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	ii. Develop a communication strategy to facilitate peer-to-peer learning and sharing of best practices	<b>Implemented 2010</b>
			iii. Establish and adhere to feedback from standardized outcome data to track progress	
			<i>Other activities or descriptions (not required):</i>  <b>Objective 3.0 By January 1, 2016, DHMH will initiate the planning and design phase of a Maryland Antibiotic Stewardship Collaborative.</b>	
	<input type="checkbox"/>	<input type="checkbox"/>	4. Develop state HAI prevention training competencies 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	<b>Not included in the current Maryland HAI Prevention Plan</b>
			<i>Other activities or descriptions (not required):</i>	
<b>Level II</b>	<input type="checkbox"/>	<input type="checkbox"/>	5. Implement strategies for compliance to promote adherence to HICPAC recommendations  i. Consider developing statutory or regulatory standards for healthcare infection control and	<b>Not Included in the initial Maryland HAI Prevention Plan</b>

Planning Level	Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
	<input type="checkbox"/>	<input type="checkbox"/>	prevention or work with healthcare partners to establish best practices to ensure adherence	
	<input type="checkbox"/>	<input type="checkbox"/>	ii. Coordinate/liaise with regulation and oversight activities such as inpatient or outpatient facility licensing/accrediting bodies and professional licensing organizations to prevent HAIs	
	<input type="checkbox"/>	<input type="checkbox"/>	iii. Improve regulatory oversight of hospitals, enhancing surveyor training and tools, and adding sources and uses of infection control data	
	<input type="checkbox"/>	<input type="checkbox"/>	iv. 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	
			<i>Other activities or descriptions (not required):</i>	
			<b>This work activity is not included in the initial Maryland HAI Prevention Plan. However, DHMH will maintain providing input to the development of Maryland regulations related to infection control, and maintain training of regulatory surveyor staff in infection prevention and control compliance.</b>	
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	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)	<b>January 2017</b>
			<i>Other activities or descriptions (not required):</i>	
			<b>Objective 6.0 DHMH will work with our designated Quality</b>	

Planning Level	Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
			<p><b>Improvement Organization to encourage participation in collaboratives.</b></p> <p><b><u>Objective 6.1</u> By January 1, 2017, DHMH will expand activities of the Maryland Antibiotic Stewardship Collaborative.</b></p>	
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7. Establish collaborative to prevent HAIs in nonhospital settings (e.g., long term care, dialysis)	<b>Implemented</b>
			<p><i>Other activities or descriptions (not required):</i></p> <p><b><u>Objective 7.0</u> Ensure that existing and future collaboratives will include nonhospital settings.</b></p>	
Please also describe any additional activities, not listed above, that your state plans to undertake. Please include target dates for any new activities.				

**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 type="checkbox"/>  <input type="checkbox"/>	<input checked="" type="checkbox"/>  <input checked="" type="checkbox"/>	1. Conduct needs assessment and/or evaluation of the state HAI program to learn how to increase impact <ul style="list-style-type: none"> <li>i. Establish evaluation activity to measure progress towards targets and</li> <li>ii. Establish systems for refining approaches based on data gathered</li> </ul>	<b>August 31, 2016</b>  <b>August 31, 2017</b>
			<i>Other activities or descriptions (not required):</i>  <b>Objective 1.0</b> By August 31, 2016, DHMH will develop an inventory of State-level HAI programs; identify gaps in existing infection prevention and control programs; and, recommend strategies to increase impact, where appropriate.  <b>Objective 1.1</b> MHCC will continue to update and revise its annual survey of infection preventionists.  <b>Objective 1.2</b> On an as needed basis, update and revise the Maryland HAI Prevention Plan based on stakeholder feedback.	
			2. Develop and implement a communication plan about the state’s HAI program and progress to meet public and private	

	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>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>	<b>On-going</b>
			<p><i>Other activities or descriptions (not required):</i></p> <p><b>Objective 2.0</b> MHCC will maintain a webpage to provide information to health care providers, policymakers, and the public on HAI prevention planning activities.</p> <p><b>Objective 2.1</b> Maryland will review the CDC’s annual HAI Progress Report on a state and national level which communicates information on HAI prevention activities, the status of data collection initiatives, and other key activities.</p>	
<b>Level II</b>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>3. Provide consumers access to useful healthcare quality measures</p> <p>i. Disseminate HAI data to the public</p>	<b>Implemented</b>
			<p><i>Other activities or descriptions (not required):</i></p> <p><b>Objective 3.0</b> MHCC will maintain and regularly update public reporting of hospital quality measures on the Maryland Health Care Quality Reports website to report HAI process and outcome measures.</p>	
<b>Level III</b>	<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>	<b>On-going</b>
			<p><i>Other activities or descriptions (not required):</i></p>	

		<p><b>Objective 4.0</b> DHMH will work with key stakeholders to seek funding to implement priority patient safety initiatives and research aimed at reducing HAIs.</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>			

### 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: Infection Control Assessment and Response**

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 type="checkbox"/>          <input type="checkbox"/>	1. Create an inventory of all healthcare settings in state. List must include at least one infection control point of contact at the facility          2. Identify current regulatory/licensing oversight authorities for each healthcare facility and explore ways to expand oversight	<b>April 1, 2016</b>          <b>April 1, 2016</b>
		<p><i>Other activities or descriptions:</i></p> <p><b><u>Objective 1.0</u> By April 1, 2016, DHMH will develop an inventory of healthcare facilities from all healthcare settings in Maryland; include infection control contact and HAI-related data available from each facility.</b></p> <p><b><u>Objective 1.1</u> By April 1, 2016, DHMH will identify current regulatory/licensing oversight authorities for each healthcare facility and explore ways to expand oversight.</b></p>	

		<b>Objective 1.2</b> DHMH will update and revise healthcare facility inventory annually.	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	3. Assess readiness of Ebola-designated facilities within the state <ul style="list-style-type: none"> <li>i. Use CDC readiness assessment tool and determine gaps in infection control</li> <li>ii. Address gaps (mitigate gaps)</li> <li>iii. Conduct follow-up assessments</li> </ul>	<b>October 1, 2015</b> <b>January 1, 2016</b> <b>April 1, 2016</b>
		<i>Other activities or descriptions:</i>  <b>Objective 3.0</b> By October 1, 2015, DHMH will conduct initial assessments of all designated Ebola Treatment Centers and Ebola Assessment Hospitals in Maryland using a CDC readiness assessment tool to determine gaps in infection control.  <b>Objective 3.1</b> By January 1, 2016, DHMH will create mitigation plans with hospitals to address identified infection control gaps.  <b>Objective 3.2</b> By April 1, 2016, DHMH will conduct follow-up assessments to confirm mitigation of identified gaps.	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	4. Assess outbreak reporting and response in healthcare facilities <ul style="list-style-type: none"> <li>i. Use standard assessment tool and determine gaps in outbreak reporting and response</li> <li>ii. Address gaps (mitigate gaps)</li> <li>iii. Track HAI outbreak response and outcome</li> </ul>	<b>Begin 2016</b> <b>From</b> <b>assessment:</b> <b>90 days</b> <b>6 months</b>
		<i>Other activities or descriptions:</i>	



	<p><b><u>Objective 4.0</u></b> In 2016, DHMH will use a standard assessment tool to determine gaps in outbreak reporting and response in various healthcare facilities and settings.</p> <p><b><u>Objective 4.1</u></b> Within 90 days of assessment, DHMH will create mitigation plans with facilities to address identified infection control gaps.</p> <p><b><u>Objective 4.2</u></b> Concurrently with assessments, DHMH will track HAI outbreak responses and outcomes.</p>	
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**Table 6: Targeted Healthcare Infection Prevention Programs**

Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
<input type="checkbox"/>  <input type="checkbox"/> <input type="checkbox"/>	<input checked="" type="checkbox"/>  <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	1. Expand infection control assessments <ul style="list-style-type: none"> <li>i. Expand assessments to other additional facilities and other healthcare settings and determine gaps in infection control</li> <li>ii. Address gaps (mitigate gaps)</li> <li>iii. Conduct follow-up assessments</li> </ul>	<b>Begin 2016 From assessment: 90 days 6 months</b>
		<i>Other activities or descriptions:</i>  <b><u>Objective 1.0</u></b> In 2016, DHMH will conduct initial assessments of other additional acute care facilities and other healthcare settings using a CDC readiness	

		<p><b>assessment tool to determine gaps in infection control.</b></p> <p><b><u>Objective 1.1</u> Within 90 days of assessment, DHMH will create mitigation plans with facilities to address identified infection control gaps.</b></p> <p><b><u>Objective 1.2</u> Within 6 months of initial assessment, DHMH will conduct follow-up assessments to confirm mitigation of identified gaps.</b></p>	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>2. Increase infection control competency and practice in all healthcare settings through training</p> <p>i. Explore 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><b>On-going</b></p>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<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><b>December 31, 2016</b></p>
		<p><i>Other activities or descriptions:</i></p> <p><b><u>Objective 2.0</u> DHMH will continue ongoing work with partners to expand infection control oversight and utilize and strengthen current Maryland regulations to ensure infection control oversight capacity in</b></p>	

		<p><b>Maryland healthcare facilities.</b></p> <p><b><u>Objective 2.1</u> By the end of 2016, DHMH will develop a sustainable training program.</b></p>	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>3. Enhance surveillance capacity to improve situational awareness, describe emerging threats, and target onsite assessments to implement prevention programs</p> <p>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.</p>	<p><b>On-going</b></p>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<p>ii. Work with CDC and MHCC’s HAI Advisory Committee to guide analytic direction and identify facilities for prioritized assessments/response</p>	<p><b>Begin 2016</b></p>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>iii. Improve outbreak reporting capacity by developing an infrastructure that includes clear definitions of infectious threats of epidemiologic importance that are communicated to facilities</p>	<p><b>On-going</b></p>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>iv. Implement a response plan to address potential emerging threats identified by using enhanced surveillance</p>	<p><b>On-going, As needed</b></p>
		<p><i>Other activities or descriptions:</i></p> <p><b><u>Objective 3.0</u> DHMH will 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.</b></p> <p><b><u>Objective 3.1</u> DHMH will work with CDC to guide analytic direction and identify facilities for prioritized assessments/response.</b></p>	

	<p><b><u>Objective 3.2</u> DHMH will improve outbreak reporting capacity by developing an infrastructure that includes clear definitions of infectious threats of epidemiologic importance that are communicated to facilities.</b></p> <p><b><u>Objective 3.3</u> DHMH will implement a response plan to address potential emerging threats identified by using enhanced surveillance.</b></p>	
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