

Commonwealth of Pennsylvania

Healthcare Associated Infection Plan - 2017

Introduction

The Commonwealth of Pennsylvania established their commitment to Healthcare-Associated Infection (HAI) prevention in 2004 when the Pennsylvania Cost Care Containment Council (PHC4) began collecting HAI data from all hospitals in the state and publicly reporting minimally-risk adjusted facility-specific information. The program was re-evaluated and expanded in 2007 with the passing of the Health Care-Associated Infection Prevention and Control Act (Act 52). This legislation replaced the PHC4 data collection approach with a requirement that all PA hospitals use CDC's National Healthcare Safety Network (NHSN) for the reporting of all HAI within their facilities. This nationally recognized standardized reporting methodology is currently utilized by 100% of hospitals. The Pennsylvania Department of Health publishes reports on this data annually.

The Pennsylvania Department of Health (PADOH), PHC4, and the Patient Safety Authority (PSA) coordinate all HAI prevention activities throughout the State. A multidisciplinary advisory group comprised of experts in infection prevention from around the state provides valuable expertise to the agencies to help guide the HAI prevention efforts.

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) has developed an Action Plan to help prevent Healthcare-associated Infections. The HHS Action Plan includes recommendations for surveillance, research, communication, and metrics for measuring progress toward national goals. Three overarching priorities have been identified:

- Progress toward 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

The state of Pennsylvania's HAI Prevention plan is organized using the HHS template. Each component delineates the collective efforts of state agencies, healthcare organizations, and healthcare providers, identifying the evidence-based infection prevention strategies being successfully implemented by institutions throughout PA in the ongoing effort to provide safe quality healthcare to our patients. The plan also provides a roadmap to assist healthcare facilities (hospitals, nursing homes, and ambulatory surgical centers) to meet the statutory requirements of Act 52 to reduce the incidence of HAIs.

The State HAI Action Plan template targets the following areas:

1. Enhance HAI Program Infrastructure
2. Surveillance, Detection, Reporting, and Response
3. Prevention
4. Evaluation, Oversight, and Communication

With new Ebola-related, infection control activities, the following two tables have been added to reflect those activities:

- 5. Infection Control Assessment and Response (Ebola-associated activity from FOA Supplement, CK14-1401PPHFSUPP15, Project A)
- 6. Targeted Healthcare Infection Prevention Programs (Ebola-associated activity from FOA Supplement, CK14-1401PPHFSUPP15, Project B)

Framework and Funding for Prevention of HAIs

CDC’s framework for the prevention of HAIs builds on a coordinated effort of federal, state, and partner organizations and is based on a collaborative public health approach that includes surveillance, outbreak response, infection control, research, training, education, and systematic implementation of prevention practices. Legislation in support of HAI prevention provides a unique opportunity to strengthen existing state capacity for prevention efforts.

1. Enhance HAI program infrastructure

Successful HAI prevention requires close integration and collaboration with state and local infection prevention activities and systems. Consistency and compatibility of HAI data collected across facilities will allow for greater success in reaching state and national goals.

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

Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
✓		1. Establish statewide HAI prevention leadership through the formation of multidisciplinary group or state HAI advisory council <ul style="list-style-type: none"> 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). ii. Engage HAI advisory committee in potential roles and activities to improve antibiotic use in the state (antibiotic stewardship) iii. Engage HAI advisory committee in activities to increase health department’s access to data and subsequently use those data in prevention efforts iv. Identify specific HAI prevention targets consistent with HHS priorities A statewide advisory group composed of infection control experts from around the state was developed to enhance regional and local understanding of HAI	Implemented in 2008 and ongoing

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✓	✓	<p>prevention activities. The Patient Safety Authority is responsible for appointing an advisory panel of healthcare associated infection control experts from around the state to assist with carrying out the requirements of Act 52 of 2007. Act 52 requires members that represent not-for-profit nursing homes, for-profit nursing homes, county nursing homes, and hospitals. There is also a representative from Pennsylvania Health Care Cost Containment Council.</p> <p>Proposed new HAI advisory panel members will include representatives from local health departments, organizations that work on healthcare associated infection prevention and patient safety projects as well as representatives from outpatient providers.</p> <p>The HAI Advisory Panel will consider establishing a sub-committee for antimicrobial stewardship. The Pennsylvania Department of Health (PADOH) and PSA will identify members and recruit volunteers. The sub-committee will build on existing regional work, successes of the Get Smart program, and support LTCFs in developing antimicrobial stewardship programs considering upcoming CMS responsibilities.</p> <p>PADOH has selected the following as the initial set of indicator infections for benchmarking purposes:</p> <ol style="list-style-type: none"> 1. Central Line Associated Bloodstream Infections (CLABSI) 2. Catheter-Associated Urinary Tract Infections (CAUTI) 3. Surgical Site Infection (SSI) Surveillance: <ol style="list-style-type: none"> a. Abdominal Hysterectomy b. Knee Prosthesis c. Hip Prosthesis d. Cardiac Surgery (CARD, CBGB, CBGC) e. Colon Procedures <p>This set of infections was selected to be consistent with HHS priorities, CMS requirements, and other national efforts to reflect the quality of infection control within the facility, and to allow all facilities to have at least one condition on which to be benchmarked.</p> <p>The HAI Advisory Panel was engaged to review the proposed revisions of HAI</p>	<p>Planned for 2017</p> <p>Planned for 2017</p> <p>Implemented in 2008. Colon procedures added in 2012.</p> <p>Report revisions reviewed in 2016.</p>

Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
✓		annual report and the creation of specialized reports, i.e. LabID event and ventilator-associated event (VAE) data. Additional discussions for the HAI Panel may include dialysis, outbreak response, and LTCF reporting (e.g., PA-PSRS and NHSN). The use of TAP reports to supplement existing benchmarking efforts will continue.	Additional review planned in 2017. Initiated TAP reports in 2016. Ongoing.
✓		<p>2. Establish an HAI surveillance prevention and control program</p> <ul style="list-style-type: none"> i. Designate a State HAI Prevention Coordinator ii. Develop dedicated, trained HAI staff with at least one FTE (or contracted equivalent) to oversee HAI activities areas (Integration, Collaboration, and Capacity Building; Reporting, Detection, Response, and Surveillance; Prevention; Evaluation, Oversight, Communication, and Infection Control). <p>Within the PADOH, the Bureau of Epidemiology (BOE) and the Office of Quality Assurance (OQA) created two sections with the main responsibility of addressing all issues related to Act 52 and to oversee the four major HAI activity areas (Integration, Collaboration, and Capacity Building; Reporting, Detection, Response and Surveillance; Prevention; Evaluation, Oversight and Communication). These two sections have been working together in the implementation phase of this new mandate since December of 2007.</p>	Implemented in 2007 and ongoing.
✓		The BOE created under the Division of Infectious Disease Epidemiology (IDE), the Healthcare Associated Infections and Antimicrobial Resistance (HAIAR) section, which is primarily responsible for HAI surveillance activities, outbreak detection and response, and prevention and evaluation.	Implemented in 2007 and ongoing.
✓		The OQA created the Healthcare Associated Infection Prevention (HAIP) section. HAIP is responsible for overseeing the program implementation and ensuring compliance with the requirements of <u>Act 52 of 2007</u> . HAIP provides consultation, technical assistance, and guidance to infection prevention staff at healthcare facilities as well as ensuring consistent application of the definitions for reporting and working with facilities to resolve reporting issues.	Implemented in 2007 and ongoing.
✓		In addition, the PADOH was awarded funding by the CDC under the	Implemented in

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		Epidemiology and Laboratory Capacity (ELC) Program to support the HAI program infrastructure.	2016 and ongoing.
<p>✓</p> <p>✓</p> <p>✓</p>		<p>3. 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> <p>The BOE is responsible for the investigation of reportable communicable diseases, including those that are HAIs. IDE manages the Pennsylvania Electronic Disease Surveillance System (PA-NEDSS), which receives electronic laboratory reports via the HL7 format and key-entered disease reports and includes laboratory reports from the State Public Health Laboratory (PA BOL), as well as other hospital and commercial laboratories.</p> <p>The Division provides outbreak investigation support for any HAI report received via PA-NEDSS or any of the other electronic reporting systems (NHSN & PA-PSRS) thru its investigation sections.</p> <p>Pilot resistance mechanism testing at the state public health laboratory. Integrate regional capacity by developing policies and protocols for AR surveillance and outbreak response.</p>	<p>Implemented in 2003 and ongoing.</p> <p>Implemented prior to 2010 and ongoing.</p> <p>Planned for implementation in 2017 and ongoing.</p>
<p>✓</p>		<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 PADOH serves as the point of contact for HAI prevention activities conducted by the various government agencies and organizations throughout the State. PADOH, PSA, PHC4, and the HAI Advisory Panel will coordinate activities to pool resources appropriately, insure a coordinated effort, minimize redundancy and maximize efficiencies. The PADOH also works closely with: federal partners on HAI surveillance and investigation; other state agencies</p>	<p>Effective 2007 and ongoing.</p>

Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
		(Department of Human Services and the Department of State); local health departments to support capacity and investigations; and state licensing and certification divisions within the PADOH.	
<p>✓</p> <p>✓</p> <p>✓</p>		<p>5. Facilitate use of standards-based formats (e.g., Clinical Document Architecture, electronic messages) by healthcare facilities for purposes of electronic reporting of HAI data. Providing technical assistance or other incentives for implementations of standards-based reporting can help develop capacity for HAI surveillance and other types of public health surveillance, such as for conditions deemed reportable to state and local health agencies using electronic laboratory reporting (ELR). Facilitating use of standards-based solutions for external reporting also can strengthen relationships between healthcare facilities and regional nodes of healthcare information, such as Regional Health Information Organizations. (RHIOs) and Health Information Exchanges (HIEs). These relationships, in turn, can yield broader benefits for public health by consolidating electronic reporting through regional nodes.</p> <p>Act 52 requires reporting of 100% of HAIs through the NHSN reporting system for acute care facilities. The state provided resources to assist all acute care facilities with the enrollment process as well as establishing user groups for the PADOH, PSA, and PHC4 to view submitted data. PADOH also conducted extensive training and outreach programs for IPs around the state to initiate surveillance and reporting through NHSN.</p> <p>Act 52 require hospitals to determine if an electronic surveillance system (ESS) is feasible to support the surveillance and reporting process. Currently, 149 of 255 (58%) hospitals have an ESS.</p> <p>The PA-PSRS data reporting system was modified to add a module for nursing home reporting using nationally recognized standards based on CDC definitions and McGeer criteria for nursing home infections. Nursing Homes began electronically reporting healthcare associated infection data to PADOH and the PSA in July 2009. PSA conducted numerous regional training for nursing homes. In 2016, PSA developed online training resources for facilities on various infection prevention topics. PSA and PADOH conducted regional long-</p>	<p>Effective 2008.</p> <p>Completed and ongoing.</p> <p>Effective 2008. Completed and updated biennially.</p> <p>Completed 2009. Training continuously provided.</p>

Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
<p style="text-align: center;">✓</p> <p style="text-align: center;">✓</p> <p style="text-align: center;">✓</p>	<p style="text-align: center;">✓</p>	<p>term care meetings in the Spring of 2017 to educate nursing homes on antibiotic stewardship and the upcoming CMS requirements. Additional regional meetings will occur in 2018.</p> <p>In 2009 and 2010, PADOH provided mini-grants to hospitals and nursing homes to facilitate infection control and surveillance training to assist with Act 52 compliance.</p> <p>In 2014, HAIP assisted ambulatory surgical centers with the enrollment process and reporting of healthcare personnel influenza vaccination information to NHSN.</p> <p>HAIP continues to provide technical assistance to facilities daily.</p> <p>PADOH will explore the interest and ability of Pennsylvania hospitals to use of the NHSN AUR module.</p>	<p>Completed.</p> <p>Completed.</p> <p>Ongoing daily.</p> <p>Planned in 2017-2018.</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.

The HHS Action Plan identifies targets and metrics for five categories of HAIs and identified Ventilator-associated Pneumonia as an HAI under development for metrics and targets (Appendix 1):

- Central Line-associated Blood Stream Infections (CLABSI)
- *Clostridium difficile* Infections (CDI)
- Catheter-associated Urinary Tract Infections (CAUTI)
- Methicillin-resistant *Staphylococcus aureus* (MRSA) Infections
- Surgical Site Infections (SSI)
- Ventilator-associated Pneumonia

State capacity for investigating and responding to outbreaks and emerging infections among patients and healthcare providers is central to HAI prevention. Investigation of outbreaks helps identify preventable causes of infections including issues with the improper use or handling of medical devices; contamination of medical products; and unsafe clinical practices.

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

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

Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
		<ol style="list-style-type: none"> 1. Improve HAI outbreak detection and investigation <ol style="list-style-type: none"> i. Work with partners including CSTE, CDC, state legislatures, and providers across the healthcare continuum to improve outbreak reporting to state health departments ii. Establish protocols and provide training for health department staff to investigate outbreaks, clusters, or unusual cases of HAIs. 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 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) 	
✓		<p>The BOE is responsible for the investigation of reportable communicable diseases, including any HAI report. BOE manages PA-NEDSS, and has access to the information contained in NHSN & PA-PSRS. Staff members within the Division are responsible for the day to day investigation of reports received by way of any of its reporting systems, and constantly review reports in PA-NEDSS.</p>	Implemented prior to 2010 and ongoing.
✓		<p>The PADOH in collaboration with CSTE brought on board a fellow for a 2-year fellowship period to support HAI activities. The focus of the fellow’s activities was to:</p> <ol style="list-style-type: none"> 1. Collect and analyze data on MRSA/MDRO screening practices and data in PA acute care facilities 2. Conduct special analysis of PA NHSN data, 3. Conduct investigations of outbreaks or unusual disease patterns (e.g. outliers) being reported by PA facilities in NHSN 4. Conduct validation studies of data being reported in NHSN. An example of special analyses of NHSN data is assessment of reports 	Completed 2013.

Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
✓		<p>of gastrointestinal infections and their relationship to CDAD.</p> <ol style="list-style-type: none"> 5. Collect and analyze data on MRSA/MDRO screening practices and data in PA acute care facilities. 6. Conduct special analysis of PA NHSN data. 7. Conduct investigations of outbreaks or unusual disease patterns (e.g. outliers) being reported by PA facilities in NHSN. 8. Conduct validation studies of data being reported in NHSN. An example of special analyses of NHSN data is assessment of reports of gastrointestinal infections and their relationship to CDAD. <p>BOE is responsible for the investigation of HAI reports, including outbreaks, clusters or unusual cases of HAIs. BOE "Policies and Procedure Manual" provides appropriate protocols for the field staff to conduct disease investigations. All investigators are required to follow these procedures and new personnel are trained and supervised by senior investigators per department protocol. When a report is suspected to be HAI related, the investigations section notifies HAIP program staff to join the investigation as appropriate.</p>	BOE manual implemented in 2005 and revised as needed.
✓		<p>In the past several years, the Division has conducted several investigations of HAIs, including possible transplant associated infections, infections associated with exposure to cardiac surgery heater-cooler units, investigation of emerging multi-drug resistant organisms, and dialysis-associated hepatitis.</p>	
✓		<p>Providers are required to report communicable and non-communicable diseases through the Department's electronic reporting system PA-NEDSS. Law in accordance with 35 P.S. § 521.1 et seq. and 28 Pa. Code § 27.4 require reporting by Providers through PA-NEDSS.</p>	Implemented in 2003 and ongoing.
✓		<p>The PADOH staff has attended several training opportunities including hospital epidemiology courses, as well as national conferences focusing on HAI. The BOE also conducts its Quarterly Epidemiology meeting in which outbreak investigations of any communicable disease are discussed and presented to the group. The participants include staff from four different bureaus within the</p>	Implemented in 2007 and attended regularly.

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✓		<p>Department.</p> <p>During the investigation of communicable diseases, it is necessary for authorized representatives from the PADOH to examine hospital and medical records without the written consent of the individual concerned. The authority to examine records for these purposes is set forth in Article XXI of the Administrative Code of 1929, P.L. 177 <i>as amended</i>; the Disease Prevention and Control Law of 1955, the Act of April 23, 1956, P.L. 1510 <i>as amended</i>, and other applicable Department regulations.</p>	Effective and ongoing.
✓		<p>The Final Privacy Rule (45 CFR §§160.101 <i>et seq.</i> and 164.102 <i>et seq.</i>) (Rule), which was promulgated pursuant to the Administrative Simplification part of the Health Insurance Portability and Accountability Act (42 USCS §§ 1320d <i>et seq.</i>) (“HIPAA”) clearly states that covered entities may use or disclose protected health information without authorization if a use or disclosure is required by law (45 CFR §164.512(a)). The Rule also states that covered entities may disclose protected health information without an authorization to “A public health authority that is authorized by law to collect or receive such information for the purpose of preventing or controlling disease. . . including . . . the conduct of public health surveillance, public health investigations, and public health interventions . . .” (45 CFR § 164.512(b)). Departmental regulations also indicate that the results of individual case investigations are confidential and may not be disclosed, except as necessary to protect the public’s health.</p>	Effective 2002 and ongoing.
✓		<p>The Health Alert Network is part of the Pennsylvania Department of Health's Public Health Emergency Preparedness and Response Program and was established under a cooperative agreement with the U.S. Centers for Disease Control and Prevention (CDC).</p> <p>The PA Health Alert Network (PA HAN) serves as a communication network among state and local public health agencies, health care providers, hospitals and emergency management officials. The information provided on the PA HAN website is based upon</p>	Implemented in 2002 and ongoing.

Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
<p>✓</p> <p>✓</p>		<p>recommendations from the CDC and other health organizations. This network provides a mechanism for communication to disseminate knowledge and increase awareness through HAI-specific HANs.</p> <p>Training and capacity building for HAIAR program is ongoing.</p> <p>In addition, the PADOH was awarded funding by the CDC under the Epidemiology and Laboratory Capacity (ELC) Program for surveillance activities. These activities focus on appropriate antibiotic use, detection and response infrastructure, data validation, and improving laboratory capacity.</p>	<p>Ongoing.</p> <p>Implemented in 2016 and ongoing.</p>
<p>✓</p> <p>✓</p> <p>✓</p>		<p>2. Enhance laboratory capacity for state and local detection and response to new and emerging HAI issues.</p> <p>The BOE is responsible for the investigation of reportable communicable diseases, including any HAI reported. BOE manages the Pennsylvania Electronic Disease Surveillance System (PA-NEDSS), which receives electronic laboratory reports real-time thru the PA Electronic Laboratory Reporting (ELR) system which includes laboratory reports from the State Public Health Laboratory, as well as other private laboratories.</p> <p>The Bureau of Laboratories (BOL) of the PADOH, is the PA Public Health Laboratory and part of the Laboratory Response Network (LRN). BOL works in close collaboration with the BOE in the investigation of communicable diseases, including HAIs. The BOL is also responsible for regulating clinical laboratories in the Commonwealth, which includes providing adequate training and quality control assistance.</p> <p>BOL is currently developing the capacity to perform resistance mechanism testing for carbapenem-resistant enterobacteriaceae (CRE), an emerging HAI pathogen. Through the Antibiotic Resistance Laboratory Network, BOL and BOE are expanding regional capacity to respond to emerging HAI pathogens by developing policies and</p>	<p>Completed and ongoing.</p> <p>Implementation planned for 2017 and ongoing.</p>

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		<p>protocols for AR surveillance and outbreak response. The regional ARLN laboratory is providing surveillance for emerging pathogens including drug-resistant <i>Acinetobacter</i>, CRE, and <i>Candida auris</i> and timely outbreak surge capacity for testing CRE.</p>	
<p>✓</p> <p>✓</p> <p>✓</p>		<p>3. Improve communication of HAI outbreaks and infection control breaches</p> <ul style="list-style-type: none"> i. Develop standard reporting criteria including, number, size, and type of HAI outbreak for health departments and CDC 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) <p>Act 52 requires that all health care facilities conduct facility-wide surveillance and mandates the use of the NHSN for reporting facility HAIs. Providers are required to report communicable diseases through the Department’s electronic reporting system PA-NEDSS. Law in accordance with 35 P.S. § 521.1 et seq. and 28 Pa. Code § 27.4 require reporting by Providers through PA-NEDSS.</p> <p>All disease outbreaks or unusual expressions of disease are reportable in PA, including any that are health care associated. Cases of VRSA and VISA are reportable in PA.</p> <p>The BOE is responsible for the investigation of HAI reports, including outbreaks, clusters or unusual cases of HAIs. The IDE “Policies and Procedure Manual” provides appropriate protocols for the field staff to conduct disease investigations. PA has an integrated statewide surveillance system that is also used by the local county and municipal health departments. All investigators are required to follow these procedures and new personnel are trained and supervised by senior investigators per department protocol. BOE communicates with other bureaus, divisions, and/or state agencies as needed and according with the regulatory responsibility of each agency.</p>	<p>Act 52 effective in 2007.</p> <p>Effective 2002 and ongoing.</p> <p>BOE manual implemented in 2005 and revised as needed.</p>

Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
<p>✓</p> <p>✓</p> <p>✓</p> <p>✓</p> <p>✓</p>		<p>Templated investigation response, a standardized approach, patient notification, confirmation of gap mitigation, and standardized follow-up process helps interaction with partners (e.g., Dept. of State).</p> <p>A protocol was developed for the documentation and referral of breaches in infection control practices identified by state surveyors to state public health officials. This protocol is consistent with CMS Survey and Certification memorandum 14-36-All issued May 30, 2014 and revised on October 28, 2016.</p> <p>PADOH is migrating outbreak tracking to REDCap Cloud after evaluation of REDCap Project, Nintex Workflow on Sharepoint and its existing Excel based system. PADOH will modify an existing REDCap template, shared by TN, to meet its ongoing and future tracking needs.</p> <p>In addition, DOH has adopted the use of the CDC’s infection control assessment and response (ICAR) tools to assist with outbreak investigations.</p> <p>BOE has developed toolkits for response to influenza, norovirus, and invasive Group A <i>Streptococcus</i> outbreaks in long-term care facilities. Additional tools, protocols, and mechanisms for outbreak tracking and response will continue to be explored and implemented.</p>	<p>Implemented in 2012.</p> <p>Effective May 2014 and updated October 2016. Ongoing referrals to public health.</p> <p>Implemented 2017.</p> <p>Effective 2016.</p> <p>Implemented 2015 and ongoing.</p>
		<p>4. Identify at least 2 priority prevention targets for surveillance in support of the HHS HAI Action Plan.</p> <ul style="list-style-type: none"> i. Central Line-associated Bloodstream Infections (CLABSI) ii. <i>Clostridium difficile</i> Infections (CDI) iii. Catheter-associated Urinary Tract Infections (CAUTI) iv. Methicillin-resistant Staphylococcus aureus (MRSA) Infections 	

Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
✓		<ul style="list-style-type: none"> v. Surgical Site Infections (SSI) vi. Ventilator-associated Pneumonia (VAP) <p>Pennsylvania requires comprehensive surveillance and reporting for these infections. The PADOH, Patient Safety Authority (PSA), Hospital and Healthsystem Association of Pennsylvania (HAP), Quality Insights Quality Innovation Network (QI-QIN), Philadelphia Department of Public Health (PDPH), and Allegheny County Health Department provide opportunities for healthcare associated infection and patient safety projects and prevention collaborations to address these targets.</p>	Implemented in 2008 and ongoing.
✓		<p>5. Adopt national standards for data and technology to track HAIs (e.g., NHSN).</p> <ul style="list-style-type: none"> i. Develop metrics to measure progress towards national goals (align with targeted state goals). (See Appendix 1). ii. Establish baseline measurements for prevention targets <p>Act 52 requires reporting of 100% of HAIs through the NHSN reporting system for acute care facilities. Reporting began in February 2008. Nursing Homes began phased-in reporting into PA-PSRS June-July 2009.</p>	Completed and ongoing.
✓		<p>From 2009 to 2015, the PADOH, in consultation with CDC's DHQP, elected to report facility-specific HAIs using Standardized Infection Ratios rather than crude rates to compare facilities to state rates. After a state baseline was established each year, facility-level and statewide trends were included in the HAI Annual Report each year.</p>	Annual reports completed.
	✓	<p>PADOH will revisit and revise the HAI annual report based on the new CDC re-baseline. PADOH will also consider the creation of specialized reports for the future.</p>	Effective in 2017 for the 2016 annual report.
	✓	<p>PADOH will also explore resource requirements to develop consumer and technical reports as well as the ability to develop dynamic reports for end-users to customize reports for their needs.</p>	Beginning in 2017-2018.

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<p>✓</p> <p>✓</p> <p>✓</p>	<p>✓</p> <p>✓</p>	<p>Under Act 52, the PADOH was required to develop methods to measure progress hospitals were making in reducing the occurrence of HAIs and to identify hospitals that were not meeting benchmark reduction targets. Pursuant to this goal, the Department published a notice in the Pennsylvania Bulletin regarding the proposed methods used to accomplish these goals, and after a public comment period the methods were finalized and published in May 2012.</p> <p>The Department uses three types of HAIs for benchmarking purposes. These are catheter-associated urinary tract infections (CAUTIs), central-line associated bloodstream infections (CLABSIs), and selected surgical site infections (SSIs). The Department calculates two metrics for each of these benchmark categories. The first metric is the incidence rate of infection. For CAUTIs, this is the number of infections per 1,000 urinary catheter days. For CLABSIs, this is the number of infections per 1,000 central line days. For SSIs, this is the number of infections per 100 surgical procedures. The second metric used by the Department is the standardized infection ratio (SIR). The SIR consists of the number of infections observed (reported) by the hospital divided by the number of infections predicted to be reported by the hospital. The predicted number is a risk-adjusted calculation made by the Department based on statewide rates of HAIs. The methodology for risk adjustment and calculation of the predicted number of infections can be found in the annual HAI reports prepared by the Department as posted on its website. SIRs are produced for each hospital.</p> <p>HAIP provides a targeted assessment for prevention (TAP) report obtained through the Centers for Disease Control and Prevention's National Healthcare Safety Network (NHSN) to assist hospitals in determining where to target problem areas or focus additional prevention efforts.</p> <p>Infection data reported by nursing homes is included in the Patient Safety Authority's Annual Report. The creation of TAP-like reports for nursing homes will be explored.</p>	<p>Completed in 2012. This will be reviewed again in 2017-2018 based on the revised methods for the annual report.</p> <p>TAP reports implemented in 2016 and ongoing biannually. TAP assessments to begin in 2018.</p> <p>Planned for 2018.</p>

Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
<p>✓</p> <p>✓</p> <p>✓</p> <p>✓</p> <p>✓</p>		<p>6. Develop state surveillance training competencies</p> <p>i. Conduct local training for appropriate use of surveillance systems (e.g., NHSN) including facility and group enrollment, data collection, management, and analysis</p> <p>PADOH successfully assisted all hospitals (acute care, long-term acute care, rehab and freestanding psychiatric facilities) in enrolling in NHSN, and establishing user groups for the PADOH, PSA, and PHC4 to view submitted data. PADOH also conducted extensive training and outreach programs for IPs around the state to initiate surveillance and reporting through NHSN.</p> <p>The PADOH offered hospitals and nursing homes a mini-grant program to facilitate infection control and surveillance needs and training.</p> <p>HAIP and PSA continue to provide individualized technical assistance to facilities for NHSN and PA-PSRS reporting.</p> <p>HAIP also provides enrollment and reporting assistance to ambulatory surgical centers for the reporting of healthcare personnel influenza vaccination data in NHSN.</p> <p>Additional training opportunities are routinely provided by PSA, Quality Insights of Pennsylvania, and the Hospital and Healthsystem Association of Pennsylvania (HAP).</p>	<p>Completed.</p> <p>Completed in 2009 and 2010. Explored in 2017.</p> <p>Ongoing.</p> <p>Completed in 2013-2014. Support ongoing.</p> <p>Completed 2008-2017 and ongoing.</p>
<p>✓</p>		<p>7. Develop tailored reports of data analyses for state or region prepared by state personnel</p> <p>The PADOH developed an Annual Report that includes annual data comparison among hospitals. This report is available on the PADOH website. Historically, the PADOH, in consultation with CDC's DHQP, elected to report facility-specific HAIs using Standardized</p>	<p>Annual reports completed for 2008-2015.</p>

Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
✓	✓	<p>Infection Ratios rather than rates to compare facilities to state rates and to one another. Facility-level and statewide trends for the report year are included.</p> <p>PADOH will revisit and revise the HAI annual report based on the new CDC re-baseline. PADOH will also consider the creation of specialized reports for the future.</p> <p>PADOH will also explore resource requirements to develop consumer and technical reports as well as the ability to develop dynamic reports for end-users to customize reports for their needs.</p>	<p>Effective in 2017 for the 2016 annual report.</p> <p>Beginning in 2017-2018.</p>
✓		<p>8. Validate data entered into HAI surveillance (e.g., through healthcare records review, parallel database comparison) to measure accuracy and reliability of HAI data collection</p> <p>Data reported to the NHSN and PSRS are validated using several methods:</p> <ul style="list-style-type: none"> a. Point of entry checks: The NHSN and PSRS is a web-based data reporting and submission program that includes validation routines for many data elements, reducing common data entry errors. Hospitals and nursing homes can view, edit, and analyze their data at any time. b. Quarterly checks - each quarter, PADOH staff analyze the data from the NHSN and run it through a computerized data validation code. Data that are missing, unusual, inconsistent, or duplicate are identified and investigated by sending a quarterly data analysis and feedback report. This report is called the Data Integrity and Verification (DIV) report and consists of individualized reports sent to each hospital by the PADOH that identifies data quality issues that need to be investigated, verified, or resolved for each facility. The purpose of the DIV report is to ensure that the data supplied by the hospital, and the analysis that will be performed by PADOH, reflect as accurately as possible the HAI profile of that institution. These reports are distributed to respective hospitals for review and any appropriate action. 	<p>Implemented in 2009 and ongoing.</p>

Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
✓		<p>c. Nursing homes receive individualized DIV reports 4 times a year as well.</p> <p>i. Develop a validation plan PADOH conducted validation studies of data captured in NHSN to assess the validity of the information provided by healthcare institutions. Since PA requires facility-wide reporting using all components of the NHSN Patient Safety Module, it is in a unique position to conduct such validation studies since the volume of data from PA in NHSN exceeds that of virtually any other state. Additional validation studies may be conducted when resources are made available.</p>	Completed in 2011 and 2012.
✓		<p>ii. Pilot test validation methods in a sample of healthcare facilities The PADOH designed and implemented a hospital pilot validation study of selected facilities in 2010 and 2011. Additional validation studies may be conducted when resources are made available.</p>	Completed in 2011 and 2012.
✓		<p>iii. Modify validation plan and methods in accordance with findings from pilot project Additional validation studies will be revised based on findings and limitations identified in the pilot validation studies when resources are made available.</p>	Completed in 2011 and 2012.
✓		<p>iv. Implement validation plan and methods in all healthcare facilities participating in HAI surveillance Additional validation studies will be implemented based on findings and limitations identified in the pilot validation studies when resources are made available.</p>	Completed in 2011 and 2012.
✓		<p>v. Analyze and report validation findings Data collected from the validation study was analyzed and shared with hospitals via a webinar to review the findings. An evaluation of the sensitivity, specificity, and predictive value of the state's HAI</p>	Completed in 2011 and 2012.

Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
✓		<p>reporting program to capture HAIs was also provided.</p> <p>vi. Use validation findings to provide operational guidance for healthcare facilities that targets any data shortcomings detected</p> <p>The PADOH notifies facilities that are not meeting the identified benchmarks (above the 90th percentile). Facilities are required to develop and submit a plan of correction.</p>	Completed annually.
✓		<p>9. Develop preparedness plans for improved response to HAI</p> <p>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</p> <p>The BOE is responsible for the investigation of HAI reports, including outbreaks, clusters or unusual cases of HAIs. The IDE “Policies and Procedure Manual” provides appropriate protocols for the field staff to conduct disease investigations. PA has an integrated statewide surveillance system that is also used by the local county and municipal health departments. All investigators are required to follow these procedures and new personnel are trained and supervised by senior investigators per department protocol. BOE communicates with other bureaus, divisions, and/or state agencies as needed and according with the regulatory responsibility of each agency.</p> <p>A protocol was developed for the documentation and referral of breaches in infection control practices identified by state surveyors to state public health officials. This protocol is consistent with CMS Survey and Certification memorandum 14-36-All issued May 30, 2014 and revised on October 28, 2016.</p>	<p>BOE manual implemented in 2005 and revised as needed.</p> <p>Effective May 2014 and updated October 2016. Ongoing referrals to public health.</p>
		10. Collaborate with professional licensing organizations to identify and investigate complaints related to provider infection control	

Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
✓	✓	<p>practice in non-hospital settings and set standards for continuing education and training</p> <p>See above. PADOH has and will continue to investigate any complaints concerning inappropriate practices or unreported HAI, taking enforcement action under the Health Care Facilities Act as necessary which includes additional education and training as deemed appropriate.</p> <p>PADOH will contract with stakeholders to create and provide sustainable infection control, exercise and simulation training. PADOH will engaged the HAI Advisory Panel to explore opportunities for infection control continuing education as a requirement for licensure.</p>	<p>Effective May 2014 and updated October 2016. Ongoing referrals to public health.</p> <p>Planned in 2018.</p>
✓		<p>11. Adopt integration and interoperability standards for HAI information systems and data sources</p> <ul style="list-style-type: none"> i. Improve overall use of surveillance data to identify and prevent HAI outbreaks or transmission in HC settings (e.g., hepatitis B, hepatitis C, multi-drug resistant organisms (MDRO), and other reportable HAIs) across the spectrum of inpatient and outpatient healthcare settings ii. Promote definitional alignment and data element standardization needed to link HAI data across the nation. <p>BOE is responsible for the investigation of HAI reports, including outbreaks, clusters or unusual cases of HAIs. BOE “Policies and Procedure Manual” provides appropriate protocols for the field staff to conduct disease investigations. All investigators are required to follow these procedures and new personnel are trained and supervised by senior investigators per department protocol. When a report is suspected to be HAI related, the investigations section notifies HAIP program staff to join the investigation as appropriate. BOE manages PA-NEDSS, and has access to the information contained in NHSN & PA-PSRS. BOE is responsible for the day-to-day investigation of</p>	<p>BOE manual implemented in 2005 and revised as needed.</p>

Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
		<p>reports received by way of any of its reporting systems, and constantly review reports in PA-NEDSS.</p> <p>All hospitals are required to utilize the CDC NHSN methodology that is a nationally recognized and standardized reporting format for HAI surveillance activities. LTC facilities utilize nationally recognized standards based on CDC definitions and revised McGeer criteria for nursing home infections. All Laboratories are required to utilize HL7 messaging standards.</p>	
✓		<p>12. Enhance electronic reporting and information technology for healthcare facilities to reduce reporting burden and increase timeliness, efficiency, comprehensiveness, and reliability of the data.</p> <p>i. Report HAI data to the public</p> <p>Act 52 requires hospitals to report HAIs through the CDC’s NHSN reporting system. Reporting began in February 2008. Nursing Homes began phased-in infection reporting into PA-PSRS June-July 2009.</p> <p>In addition, acute care, long-term acute care and inpatient rehabilitation hospitals are required to report methicillin-resistant staphylococcus aureus (MRSA) and C. difficile LabID events to NHSN to comply with the U.S. Centers for Medicare and Medicaid Services (CMS) Medicare Hospital Inpatient Prospective Payment System requirements. For consistency with CMS data collection efforts and following consultation with the Patient Safety Authority and the HAI Advisory Panel, the Department is also requiring that MRSA and C. difficile LabID events be reported by these hospitals.</p> <p>Other hospital types (critical access, children’s and psychiatric) may elect to also report inpatient facility-wide continuous C. difficile and MRSA LabID events or may report data into the Multidrug-Resistant Organism and Clostridium difficile Infection (MDRO/CDI) Module by selecting either the infection surveillance or the LabID event protocols. Both are acceptable for critical access, children’s and</p>	Implemented in 2008 and ongoing.

Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
<p>✓</p> <p>✓</p> <p>✓</p>		<p>psychiatric hospitals. To follow the minimum required by either protocol, a hospital must select at least one pathogen in at least one location for monitoring, either via the infection surveillance or the LabID event requirements.</p> <p>Act 52 require hospitals to determine if an electronic surveillance system (ESS) is feasible to support the surveillance and reporting process. Currently, 149 of 255 (58%) hospitals have an ESS.</p> <p>PADOH HAI annual reports from 2009 to present are made available to the public on the PADOH website.</p> <p>Additional reports are available on the Pennsylvania Health Care Cost Containment Council (PHC4) website and the PSA website.</p>	<p>Effective 2008. Completed and updated biennially.</p> <p>Completed and ongoing.</p>
<p>✓</p>		<p>13. Make available risk-adjusted HAI data that enable state agencies to make comparisons between hospitals.</p> <p>PADOH HAI annual reports from 2009 to present are made available to the public on the PADOH website.</p>	<p>Completed and ongoing.</p>
<p>✓</p> <p>✓</p>	<p>✓</p>	<p>14. Enhance surveillance and detection of HAIs in nonhospital settings</p> <p>Nursing Homes began phased-in reporting into PA-PSRS June-July 2009. The data will be reported on a patient-specific basis into the PA Patient Safety Reporting System (PA-PSRS) as outlined in the most current version of the PA-PSRS manual.</p> <p>A protocol was developed for the documentation and referral of breaches in infection control practices identified by state surveyors to state public health officials. This protocol is consistent with CMS Survey and Certification memorandum 14-36-All issued May 30, 2014 and revised on October 28, 2016.</p>	<p>Implemented in 2009. Reporting requirements updated periodically.</p> <p>Effective May 2014 and updated October 2016. Ongoing referrals to public health. Effective 2016.</p>

Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
		ICAR assessments will be completed in outpatient settings (ASC, dialysis, dentist) during outbreak investigations and PADOH will look for opportunities to partner with stakeholders to conduct additional assessments and identify opportunities to enhance surveillance and detection of HAIs in these settings.	Additional OP ICARs in 2017-2018.

3. Prevention

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

Table 3: State planning for HAI prevention activities

Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
✓		<p>1. Implement HICPAC recommendations</p> <p>i. Develop strategies for implementation of HICPAC recommendations for at least 2 prevention targets specified by the state multidisciplinary group.</p> <p>Prior to 2015, Pennsylvania was one of 10 states selected by the Agency for Healthcare Research & Quality (AHRQ) to participate in a three-year patient safety in-service training initiative to reduce central-line associated blood stream infections in Intensive Care Units throughout the nation. AHRQ awarded the American Hospital Association’s Health Research & Education Trust (HRET) a contract to work with selected states around implementing the central line bundle using the John Hopkins Comprehensive Unit-Based Safety Program. PA was among the second cohort of states that will undertake the project that began in 2009.</p>	Completed in 2013.
✓		<p>PADOH established two regional collaboratives that implement prevention strategies to target conditions that are compatible with the HHS prevention targets. The prevention collaboratives were based in different parts of the state to assure that the HAI reduction programs are distributed across the Commonwealth. The collaboratives focused on Surgical Site Infections and <i>Clostridium difficile</i> and MRSA as their two prevention targets.</p> <p>The PADOH, Patient Safety Authority (PSA), Hospital and Healthsystem Association of Pennsylvania (HAP), Quality Insights Quality Innovation</p>	<p>Completed in 2013.</p> <p>Completed and ongoing.</p>

Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
✓		Network (QI-QIN), Philadelphia Department of Public Health (PDPH), and Allegheny County Health Department provide opportunities for healthcare associated infection and patient safety projects and prevention collaborations to address these targets.	
✓	✓	<p>2. Establish prevention working group under the state HAI advisory council to coordinate state HAI collaboratives</p> <p>i. Assemble expertise to consult, advise, and coach inpatient healthcare facilities involved in HAI prevention collaboratives</p> <p>Act 52 of 2007 requires the Patient Safety Authority to appoint an advisory panel of health care-associated infection control experts, including at least one representative of a not-for-profit nursing home, at least one representative of a for-profit nursing home, at least one representative of a county nursing home and at least two representatives of a hospital, one of which must be from a rural hospital, to assist in carrying out the requirements of the act.</p> <p>Membership and representation on the HAI Advisory Panel will be increased. In the future, the HAI Advisory Panel will be charged with providing guidance on a wider range prevention activities. This will include an antibiotic stewardship subcommittee of the HAI Advisory Panel.</p> <p>The PADOH, other state agencies, organizations, and local partners ensure that healthcare providers are made aware of projects, resources, guidance documents, collaborative and training opportunities.</p>	<p>Implemented in 2008. Members updated as needed.</p> <p>Planned for 2017.</p> <p>Completed and ongoing.</p>
		<p>3. Establish HAI collaboratives with at least 10 hospitals (this may require a multi-state or regional collaborative in low population density regions)</p> <p>i. Identify staff trained in project coordination, infection control, and collaborative coordination</p> <p>ii. Develop a communication strategy to facilitate peer-to-peer learning and sharing of best practices</p>	Completed

Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
✓		<p>iii. Establish and adhere to feedback from standardized outcome data to track progress</p> <p>Prior to 2014, the PADOH established two prevention collaboratives in different regions of the state. The objectives of this effort were to develop 2 collaborative projects with state academic institutions, multiple hospitals and other organizations from across the state to evaluate the effectiveness of different interventions to reduce targeted HAIs in participating facilities, and to obtain results of selected interventions showing at least a 10% reduction in the HHS-prevention targets as measured by data reported into NHSN.</p> <p>For sustainability, this work has been championed by the Hospital & Healthsystem Association of Pennsylvania (HAP) and the Quality Insights Organization (QIO) through the Hospital Engagement Network (HEN), the Hospital Improvement Innovation Network (HIIN), and Centers for Medicare and Medicaid Services (CMS) contracts.</p>	<p>Completed in 2013.</p> <p>Ongoing.</p>
✓		<p>4. Develop state HAI prevention training competencies</p> <p>i. Consider establishing requirements for education and training of healthcare professionals in HAI prevention (e.g., certification requirements, public education campaigns, and targeted provider education) or work with healthcare partners to establish best practices for training and certification</p> <p>PADOH and PSA conducted extensive training and outreach programs for IPs around the state to initiate surveillance and reporting through NHSN and PA-PSRS. Ongoing opportunities will be provided as funds are available.</p> <p>Recent trainings that have been offered:</p> <ul style="list-style-type: none"> • PSA online learning for nursing homes and hospitals • ELC Ebola & Hen/HIIN HAP webinars • PSA/DOH LTC Regional Meetings 	<p>Implemented in 2008 and ongoing.</p>
		5. Implement strategies for compliance to promote adherence to	

Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
✓		<p>HICPAC recommendations</p> <p>The PADOH, Patient Safety Authority (PSA), Hospital and Healthsystem Association of Pennsylvania (HAP), Quality Insights Quality Innovation Network (QI-QIN), Philadelphia Department of Public Health (PDPH), and Allegheny County Health Department provide opportunities for healthcare associated infection and patient safety projects and prevention collaborations to address these targets.</p> <p>i. Consider developing statutory or regulatory standards for healthcare infection control and prevention or work with healthcare partners to establish best practices to ensure adherence</p>	Implemented in 2008 and ongoing.
✓		<p>Act 52 requires reporting of 100% of HAIs through the NHSN reporting system for acute care facilities. Reporting began in February 2008. Nursing Homes began phased-in reporting into PA-PSRS June-July 2009.</p> <p>ii. Coordinate/liaise with regulation and oversight activities such as inpatient or outpatient facility licensing/accrediting bodies and professional licensing organizations to prevent HAIs</p>	Implemented in 2008 and ongoing.
✓		<p>The Office of Quality Assurance (OQA) is the state regulatory authority for health care facilities and the state survey agency for CMS conditions of participation of health care facilities. The OQA created the Healthcare Associated Infection Prevention (HAIP) section. HAIP is responsible for overseeing the program implementation and ensuring compliance with the requirements of <u>Act 52 of 2007</u>. HAIP provides consultation, technical assistance, and guidance to infection prevention staff at healthcare facilities as well as ensuring consistent application of the definitions for reporting and working with facilities to resolve reporting issues.</p> <p>iii. Improve regulatory oversight of hospitals, enhance surveyor training and tools, and add sources and uses of infection control data</p>	Implemented in 2007 and ongoing. Hospital addendum

Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
✓	<p>✓</p> <p>✓</p> <p>✓</p>	<p>HAIP developed an Act 52 Survey Addendum for Hospital and Nursing Home surveyors. Training opportunities and infection control resources are made available to surveyors.</p> <p>PADOH will pursue opportunities to work with home health and dialysis in the future.</p> <p>iv. Consider expanding regulation and oversight activities to currently unregulated settings where healthcare is delivered and work with healthcare partners to establish best practices to ensure adherence</p> <p>BOE has developed working partnerships with DOS to respond to infection control breach reports related to licensed providers in unregulated settings and plans to engage the HAI Advisory Panel to review opportunities to work with the Department of State on infection control competency at time of license renewal.</p> <p>BOE is developing tools for response to infection control breaches in a variety of settings and will share with local health departments.</p>	<p>effective 2012; Nursing home addendum effective 2016. Training and resources – ongoing.</p> <p>Planned in 2017-2018.</p> <p>Planned in 2017-2018.</p>
✓		<p>6. Enhance prevention infrastructure by increasing joint collaboratives with at least 20 hospitals (i.e. this may require a multi-state or regional collaborative in low population density regions)</p> <p>The PADOH, Patient Safety Authority (PSA), Hospital and Healthsystem Association of Pennsylvania (HAP), Quality Insights Quality Innovation Network (QI-QIN), Philadelphia Department of Public Health (PDPH), and Allegheny County Health Department provide opportunities for healthcare associated infection and patient safety projects and prevention collaborations.</p>	<p>Implemented in 2008 and ongoing.</p>

Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
✓		<p>7. Establish collaborative(s) to prevent HAIs in nonhospital settings (e.g., long term care, dialysis)</p> <p>Long term care facilities are required to report HAIs through the PA-PSRS system. Collaborative efforts will be developed based on the data analyzed from these reports for the development of future collaborative process improvements models for this patient care setting.</p> <p>The PADOH was awarded funding by the CDC under the ELC Infection Control Assessment and Response (ICAR) Program. This program focuses on assessing infection prevention practices and guiding quality improvement activities (e.g., by addressing identified gaps).</p> <p>The ICAR program includes an on-site assessment of infection control practices, policies, and training at the facility using the standardized ICAR tool. The assessment involves interviews or discussions with administrative, infection control, clinical, and environmental staff as well as observations conducted in patient care areas.</p> <p>Facilities that participate will receive constructive feedback in the form of select informal recommendations at the time of assessment and formal written feedback to follow. This feedback can be used to guide quality improvement activities at the facility, with the goal of improving patient outcomes.</p> <p>ICARs are being conducted in long term care facilities, dialysis centers, ambulatory surgical centers, and dental offices. Aggregate data from these assessments will be used to guide future prevention efforts.</p> <p>PADOH will collaborate with state partners as opportunities become available.</p>	<p>Implemented in 2009 and ongoing.</p> <p>Implemented in 2015 and ongoing.</p>

4. Evaluation and Communication

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

Table 4: State HAI communication and evaluation planning

Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
✓	✓	<p>1. Conduct needs assessment and/or evaluation of the state HAI program to learn how to increase impact</p> <ul style="list-style-type: none"> i. Establish evaluation activity to measure progress toward targets and ii. Establish systems for refining approaches based on data gathered <p>Needs assessments are routinely conducted to identify gaps and drive action for future activities. The following are examples of these assessments:</p> <ul style="list-style-type: none"> • Assessment/survey was conducted in 2016 for hospitals. Aggregate results will drive educational opportunities (both focused and general) and technical assistance over the next two years. • Assessment/survey for antimicrobial stewardship in long term care. • PSA Annual Survey (hospitals and nursing homes) addresses various infection control and patient safety areas. • NHSN Annual Survey data • Planned survey of hospitals to address progress towards and barriers to implementing reporting through the NHSN AUR modules. 	<p>Completed 2016.</p> <p>Completed in 2016.</p> <p>Completed annually within applications.</p> <p>Planned 2017-2018.</p>
		<p>2. Develop and implement a communication plan about the state's HAI program and about progress to meet public and private stakeholders needs</p> <ul style="list-style-type: none"> i. Disseminate state priorities for HAI prevention to healthcare 	

✓		<p>organizations, professional provider organizations, governmental agencies, non-profit public health organizations, and the public</p> <p>The PADOH developed an Annual Report that includes annual data comparison among hospitals. This report is available on the PADOH website. The report includes data reported to NHSN on the benchmarks identified by Pennsylvania.</p> <p>Historically, the PADOH, in consultation with CDC’s DHQP, elected to report facility-specific HAIs using Standardized Infection Ratios rather than rates to compare facilities to state rates and to one another. Facility-level and statewide trends for the report year are included.</p> <p>PADOH will revisit and revise the HAI annual report based on the new CDC re-baseline. PADOH will also consider the creation of specialized reports for the future (CRE, c difficile, etc.).</p> <p>PADOH will also explore resource requirements to develop consumer and technical reports as well as the ability to develop dynamic reports for end-users to customize reports for their needs.</p> <p>The communication plan will be reviewed and revised as needed and implemented at least annually.</p> <p>Infection data reported by nursing homes and patient safety data reported by hospitals and ambulatory surgical centers is included in the Patient Safety Authority’s Annual Report.</p>	<p>Implemented in 2009. Completed and ongoing.</p> <p>Annual reports completed.</p> <p>Effective in 2017 for the 2016 annual report.</p> <p>Beginning in 2017-2018.</p> <p>Ongoing.</p> <p>Implemented in 2009. Completed and ongoing.</p>
✓		<p>3. Provide consumers access to useful healthcare quality measures</p> <p>i. Disseminate HAI data to the public</p> <p>The PADOH developed an Annual Report that includes annual data comparison among hospitals. This report is available on the PADOH website. The report includes data reported to NHSN on the benchmarks identified by Pennsylvania.</p>	<p>Annual reports completed for 2008-2015.</p>
✓		<p>Historically, the PADOH, in consultation with CDC’s DHQP, elected to report facility-specific HAIs using Standardized Infection Ratios rather</p>	

<p>✓</p> <p>✓</p> <p>✓</p> <p>✓</p>	<p>✓</p>	<p>than rates to compare facilities to state rates and to one another. Facility-level and statewide trends for the report year are included.</p> <p>PADOH will revisit and revise the HAI annual report based on the new CDC re-baseline. PADOH will also consider the creation of specialized reports for the future (CRE, c difficile, etc.).</p> <p>PADOH will also explore resource requirements to develop consumer and technical reports as well as the ability to develop dynamic reports for end-users to customize reports for their needs.</p> <p>The communication plan will be reviewed and revised as needed and implemented at least annually.</p> <p>The HAI website will continually be reviewed and enhanced.</p> <p>Infection data reported by nursing homes and patient safety data reported by hospitals and ambulatory surgical centers is included in the Patient Safety Authority’s Annual Report.</p>	<p>Effective in 2017 for the 2016 annual report.</p> <p>Beginning in 2017-2018.</p> <p>Completed in 2017 and ongoing.</p> <p>Implemented in 2010 and ongoing.</p>
<p>✓</p> <p>✓</p>	<p>✓</p>	<p>4. Guide patient safety initiatives</p> <p>i. Identify priorities and provide input to partners to help guide patient safety initiatives and research aimed at reducing HAIs</p> <p>The PADOH and Patient Safety Authority will continue to work collaboratively with other state and private entities to help guide patient safety initiatives.</p> <p>The results of needs assessments and the Infection Control and Response Assessment (ICARs) program will help to prioritize future initiatives.</p> <p>Chapter 4 of The Medical Care Availability and Reduction of Error (MCARE) Act, 40 P.S. § 1303.403(a)(8) Infection Control Plan states that a health care facility shall have “a procedure for distribution of advisories issued under section 405(b)(4) so as to ensure easy access in each health care facility for all administrative staff, medical personnel and health care workers.”</p> <p>The Pennsylvania Patient Safety Authority (PSA) as per section</p>	<p>Implemented in 2002 and provided continuously.</p> <p>Planned for 2017-2018.</p> <p>Provided in the PSA Library.</p>

		405(b)(4) issues advisories to health care facilities. The PSA Pennsylvania Patient Safety Advisory Library provides important patient safety information.	
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Healthcare Infection Control and Response (Ebola-associated activities)

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

Table 5: Infection Control Assessment and Response

Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
✓		<ol style="list-style-type: none"> 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 <p>Pennsylvania Department of Health, in conjunction with the Pennsylvania Department of Human Services, conducted an extensive review to identify licensed facilities and the regulations that apply to them. The Department maintains a database of administrator and infection control contacts (if available) for licensed facilities such as acute care hospitals, long term care facilities and ambulatory surgical centers.</p>	<p>Database initiated in 2007. Inventory completed in 2016.</p>
	✓	<p>Use NPI database and Healthcare Workforce Survey to identify outpatient facilities that are unlicensed or regulated by PADOH or DHS. Conduct outreach and survey facilities to identify infection control points of contact and their level of training.</p>	<p>Planned for 2018 and forward.</p>

✓		<p>3. Assess readiness of Ebola-designated facilities within the state</p> <ul style="list-style-type: none"> i. Use CDC readiness assessment tool and determine gaps in infection control ii. Address gaps (mitigate gaps) iii. Conduct follow-up assessments <p>The Pennsylvania Department of Health developed a two-tiered CONOPS that designates frontline healthcare facilities (identify, isolate, inform) and Ebola Treatment Centers (ETCs). By January of 2015, approximately 97% of all travelers arriving in Pennsylvania from West Africa were registered at an address within 90 minutes of a designated ETC. Since then, PADOH has engaged 4 additional hospitals across the state to become ETCs. PADOH led multiple multi-agency technical assistance site visits to these facilities, observed full-scale exercises and reviewed plans using the CDC readiness assessment tool. A 5th ETC was designated in January 2017 and the remaining 3 facilities (total of 8) are anticipated to be ready by March 2018.</p>	Implemented in 2015. Ongoing site visits and assistance.
✓		<p>4. Assess outbreak reporting and response in healthcare facilities</p> <ul style="list-style-type: none"> i. Use standard assessment tool and determine gaps in outbreak reporting and response ii. Address gaps (mitigate gaps) iii. Track HAI outbreak response and outcome <p>PADOH developed standardized assessment and recommendation tools for outpatient investigations. PADOH has developed templates for recommendation letters, tables of selected deficiencies and patient notification letters. Recently, we have adopted CDC ICAR tools to assess and mitigate infection control concerns in some outbreak situations.</p>	Implemented in 2015 and updated as needed.
✓		<p>PADOH is migrating outbreak tracking to REDCap Cloud after evaluation of REDCap Project, Nintex Workflow on SharePoint and its existing Excel based system. PADOH will modify an existing REDCap template, shared by TN, to meet its ongoing and future tracking needs.</p>	Implemented in 2017.

Table 6: Targeted Healthcare Infection Prevention Programs

Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
✓		<p>1. Expand infection control assessments</p> <ul style="list-style-type: none"> i. Expand assessments to other additional facilities and other healthcare settings and determine gaps in infection control ii. Address gaps (mitigate gaps) iii. Conduct follow-up assessments <p>PADOH, and contracted staff, will conduct > 60 LTCF and > 15 acute care ICAR assessments by March 31, 2018. PADOH will conduct additional ICAR assessments in other outpatient settings (ASC, dialysis, dentist) during outbreak investigations and look for opportunities to partner with stakeholders to conduct additional assessments.</p>	Implemented in 2015 and ongoing.
	✓	<p>2. Increase infection control competency and practice in all healthcare settings through training</p> <ul style="list-style-type: none"> i. Incorporate general infection control knowledge and practice assessments of competency into state licensing board requirements, credentialing, and continuing education requirements for clinical care providers (e.g., medical license, admitting privileges) and/or licensing/accreditation requirements for healthcare facilities. 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>PADOH will contract with stakeholders to create and provide sustainable infection control, exercise and simulation training. PADOH will engaged the HAI Advisory Panel to explore opportunities for infection control continuing education as a requirement for licensure.</p>	Planned 2017-2018.

		<p>3. Enhance surveillance capacity to improve situational awareness, describe emerging threats, and target onsite assessments to implement prevention programs</p> <ul style="list-style-type: none"> i. Build capacity to analyze data reported by facilities in a defined region to allow for a comprehensive assessment of potential healthcare-associated infection threats, and communicate results with healthcare facilities. ii. Work with CDC to guide analytic direction and identify facilities for prioritized assessments/response iii. Improve outbreak reporting capacity by developing an infrastructure that includes clear definitions of infectious threats of epidemiologic importance that are communicated to facilities iv. Implement a response plan to address potential emerging threats identified by using enhanced surveillance 	
	✓	<p>PADOH will collaborate with stakeholders, including local jurisdictions, to report existing HAI data. The focus of these reports will be to provide actionable data.</p>	Planned 2017-2018.
✓		<p>PADOH will simplify its existing HAI annual report and publish special reports on specific topics. PADOH will begin using CDC calculated SIRs rather than SIRs based on its own modeling. PADOH will also begin reporting the standardized utilization ratio (SUR).</p>	Planned 2017-2018.
✓		<p>A policy and procedure was developed for the referral of breaches in infection control practices identified by state surveyors to state public health officials. This protocol is consistent with CMS Survey and Certification memorandum 14-36-All issued May 30, 2014 and revised on October 28, 2016.</p>	Effective May 2014 and updated October 2016. Ongoing referrals to public health.
✓		<p>PADOH has prioritized hospital engagement based on TAP report results.</p>	TAP reports implemented in 2016 and ongoing biannually.
	✓	<p>PADOH will work with PSA to explore options for prioritizing engagement of facilities based on PA-PSRS data (e.g., high rates of C. diff or norovirus).</p>	Planned for 2017-2018.

✓		<p>The PA Health Alert Network (PA HAN) serves as a communication network among state and local public health agencies, health care providers, hospitals and emergency management officials. The information provided on the PA HAN website is based upon recommendations from the CDC and other health organizations. This network provides a mechanism for communication to disseminate knowledge and increase awareness through HAI-specific HANs.</p>	Implemented in 2002 and ongoing.
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Appendix 1

The HHS Action plan identifies metrics and 5-year national prevention targets. These metrics and prevention targets were developed by representatives from various federal agencies, the Healthcare Infection Control Practices Advisory Committee (HICPAC), professional and scientific organizations, researchers, and other stakeholders. The group of experts was charged with identifying potential targets and metrics for six categories of healthcare-associated infections:

- Central Line-associated Bloodstream Infections (CLABSI)
- Clostridium difficile Infections (CDI)
- Catheter-associated Urinary Tract Infections (CAUTI)
- Methicillin-resistant Staphylococcus aureus (MRSA) Infections
- Surgical Site Infections (SSI)
- Ventilator-associated Pneumonia (VAP)

Following the development of draft metrics as part of the HHS Action Plan in January 2009, HHS solicited comments from stakeholders for review.

Stakeholder feedback and revisions to the original draft Metrics

Comments on the initial draft metrics published as part of the HHS Action Plan in January 2009 were reviewed and incorporated into revised metrics. While comments ranged from high level strategic observations to technical measurement details, commenters encouraged established baselines, both at the national and local level, use of standardized definitions and methods, engagement with the National Quality Forum, raised concerns regarding the use of a national targets for payment or accreditation purposes and of the validity of proposed measures, and would like to have both a target rate and a percent reduction for all metrics. Furthermore, commenters emphasized the need for flexibility in the metrics, to accommodate advances in electronic reporting and information technology and for advances in prevention of HAIs, in particular ventilator-associated pneumonia.

To address comments received on the Action Plan Metrics and Targets, proposed metrics have been updated to include source of metric data, baselines, and which agency would coordinate the measure. To respond to the requests for percentage reduction in HAIs in addition to HAI rates, a new type of metric, the standardized infection ratio (SIR), is being proposed. Below is a detailed technical description of the SIR.

Below is a table of the revised metrics described in the HHS Action plan. Please select items or add additional items for state planning efforts.

Metric Number and Label	Original HAI Elimination Metric	HAI Comparison Metric	Measurement System	National Baseline Established (State Baselines Established)	National 5-Year Prevention Target	Coordinator of Measurement System	Is the metric NQF endorsed?
1. CLABSI 1	CLABSIs per 1000 device days by ICU and other locations	CLABSI SIR	CDC NHSN Device-Associated Module	2006-2008 (proposed 2009, in consultation with states)	Reduce the CLABSI SIR by at least 50% from baseline or to zero in ICU and other locations	CDC	Yes*
3b. C diff 2 (new)		<i>C. difficile</i> SIR	CDC NHSN MDRO/CDAD Module LabID [‡]	2009-2010	Reduce the facility-wide healthcare facility-onset <i>C. difficile</i> LabID event SIR by at least 30% from baseline or to zero	CDC	No
4. CAUTI 2	# of symptomatic UTI per 1,000 urinary catheter days	CAUTI SIR	CDC NHSN Device-Associated Module	2009 for ICUs and other locations 2009 for other hospital units (proposed 2009, in consultation with states)	Reduce the CAUTI SIR by at least 25% from baseline or to zero in ICU and other locations	CDC	Yes*
5b. MRSA 2 (new)		MRSA bacteremia SIR	CDC NHSN MDRO/CDAD Module LabID [‡]	2009-2010	Reduce the facility-wide healthcare facility-onset MRSA bacteremia LabID event SIR by at least 25% from baseline or to zero	CDC	No

Metric Number and Label	Original HAI Elimination Metric	HAI Comparison Metric	Measurement System	National Baseline Established (State Baselines Established)	National 5-Year Prevention Target	Coordinator of Measurement System	Is the metric NQF endorsed?
6. SSI 1	Deep incision and organ space infection rates using NHSN definitions (SCIP procedures)	SSI SIR	CDC NHSN Procedure-Associated Module	2006-2008 (proposed 2009, in consultation with states)	Reduce the admission and readmission SSI [§] SIR by at least 25% from baseline or to zero	CDC	Yes [¶]
8. HCW Flu vaccination Hospital			CDC NHSN Healthcare personnel safety module		Healthy People 2020 Goal of ≥90%	CDC	Yes
9. CRE LabID event			CDC NHSN MDRO/CDAD Module LabID [‡]	*list 2009 and 2015 re-baseline		CDC	No

* NHSN SIR metric is derived from NQF-endorsed metric data

† NHSN does not collect information on daily review of line necessity, which is part of the NQF

‡ LabID, events reported through laboratory detection methods that produce proxy measures for infection surveillance

§ Inclusion of SSI events detected on admission and readmission reduces potential bias introduced by variability in post-discharge surveillance efforts

¶ The NQF-endorsed metric includes deep wound and organ space SSIs only which are included the target.