New York State Healthcare-Associated Infections Action Plan
January 1, 2010

Healthcare-associated infections (HAIs) are a major public health problem. According to the Centers for Disease Control and Prevention (CDC), there were an estimated 1.7 million healthcare-associated infections and 99,000 deaths from those infections in 2002. [1] A recent CDC report estimated the annual medical costs of healthcare-associated infections to U.S. hospitals to be between $28 and $45 billion, adjusted to 2007 dollars. [2] These monetary costs do not measure the effect of these infections on the patients, their family members, friends and colleagues. Their emotional, physical and personal costs are not quantifiable.

In July 2005, the Legislature passed and the Governor signed New York State Public Health Law §2819 (NYSPHL §2819) requiring hospitals to report select HAIs to the New York State Department of Health (NYSDOH). The legislation provided: time to develop the reporting system and train hospitals on its use; a "pilot phase" (2007) to standardize definitions, methods of surveillance and reporting; mandatory audits to validate the hospitals' infection data; and the responsibility to modify the system to ensure that the hospital-identified infection rates would be fair, accurate and reliable. New York State (NYS) selected the CDC's National Healthcare Safety Network (NHSN) for reporting and NYS was the first to use this system for mandatory reporting.

The Hospital-Acquired Infection (HAI) Reporting Program was established in April 2006. State funding and core staff recruitment occurred over the following year. NYSDOH, in collaboration with CDC NHSN staff, trained all acute care hospitals that performed the monitored surgical procedures or had intensive care units (ICUs), and provided support during the enrollment process that occurred between August and December 2006. Hospital reporting began January 1, 2007.

The Technical Advisory Workgroup (TAW) was established in May 2006 to provide guidance and expertise for the establishment, implementation, and evaluation of HAI reporting in New York. The workgroup consists of: physicians, nurses and public health professionals with expertise in infection prevention and control, hospital epidemiology and research. Representatives from the Healthcare Association of New York State (HANYS), Greater New York Hospital Association (GNYHA), Center for Medical Consumers, New York State Association for Professionals in Infection Control and Epidemiology (APIC), New York State APIC Coordinating Council (NYSACC) and Society for Healthcare Epidemiology of America (SHEA). The Workgroup meets in the spring and fall and has provided guidance on system development, education, training, selection of HAI reporting indicators, risk factors and risk adjustment, and development of the reporting format.

NYSPHL §2819 provided for the reporting of select HAIs during the 2007 pilot year. The initial starter set included central line-associated bloodstream infections (CLABSIs) and surgical site infections (SSIs) associated with coronary artery bypass procedures

and colon surgical procedures. In 2008, infections associated with hip replacement or revision surgery were added. All of the selected indicators continue to be monitored and reported.

On June 30, 2008, NYSDOH issued the Pilot Year Report for 2007 describing the development and implementation of the HAI reporting system, an assessment of the overall accuracy of the data submitted in the pilot phase, guidance for improving the accuracy of hospital acquired infection reporting, lessons learned, and next steps.[5] The Pilot Year 2007 Report is available at the following web site:
http://www.nyhealth.gov/nysdoh/hospital/reports/hospital_acquired_infections/2007/docs/hospital-acquired_infection-full_report.pdf

On June 19, 2009, the NYSDOH issued the HAI Report for 2008. Surgical site infection rates were compared using indirect adjustment for risk differences between NYS and national, by region within NYS and within NYS by hospital. CLABSI rates were compared by type of ICU and by birth weight for neonatal ICUs. The HAI Report for 2008 is available at the following web site:
http://www.health.state.ny.us/statistics/facilities/hospital/hospital_acquired_infections/2008/docs/hospital-acquired_infection.pdf

New York is among 51 states and territories who received funding through the American Recovery and Reinvestment Act (ARRA) to strengthen state capacity for HAI surveillance and prevention. This funding is being used to implement and evaluate the *Clostridium difficile* (CD) Laboratory Identified Event (lab ID event) reporting module of the NHSN (which began on July 1, 2009). The Department has funded and is continuing to support the CD prevention project in the greater New York City (NYC) metropolitan area. Therefore, we are uniquely qualified and able to evaluate the clinical relevance of the lab ID events and this new module in the NHSN.

NYS has been a leader in addressing HAIs by providing state funding to support the prevention of HAIs since 2006. HAI outbreaks have been monitored for more than 30 years, public reporting of HAIs in hospital inpatient settings has been in place since 2007, and in 2008, all HAI-related activities were consolidated in the newly formed Bureau of Healthcare-Associated Infections within the NYSDOH.

Following the U.S. Department of Health and Human Services (HHS) template, this document summarizes the NYS HAI Action Plan. The document is organized into the following areas:
1. Develop or Enhance HAI Program Infrastructure
2. Surveillance, Detection, Reporting, and Response
3. Prevention
4. Evaluation, Oversight and Communication

Each section summarizes the programs already underway and the plan for future directions over the next five years contingent upon available resources, future funding and competing priorities. Attachment 1 provides a summary of New York State metrics and prevention targets. Appendix 2 provides an explanation of the abbreviations contained in the Plan.

1. Develop or Enhance HAI program infrastructure

Successful HAI prevention requires close integration and collaboration with state and local infection prevention activities and systems. Consistency and compatibility of HAI data collected across facilities will allow for greater success in reaching state and national goals. Please select areas for development or enhancement of state HAI surveillance, prevention and control efforts.

Table 1: 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	☒	☐	1. Establish statewide HAI prevention leadership through the formation of multidisciplinary group or state HAI advisory council. 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 (LTCFs)).	2006
	☒	☐	ii. Identify specific HAI prevention targets consistent with HHS priorities.	2009
			Other activities or descriptions (not required): 1-i: The NYS Technical Advisory Workgroup (TAW) began meeting in May 2006 and has met twice a year since then. Due to financial constraints, the late 2009 meeting was not held but Workgroup members have been involved in developing this State Plan. The Workgroup	

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			has been instrumental in selecting and evaluating infection indicators for public reporting. 1-ii: The NYS HAI indicators and prevention targets are consistent with HHS priorities: a. Surgical Site Infections (SSIs) associated with colon, coronary artery bypass graft, and hip replacement surgery b. Central-Line Associated Blood Stream Infections (CLABSI) in intensive care units (ICUs) c. *Clostridium difficile* infections as of July 1, 2009	
	☒	☐	2. Establish an HAI surveillance prevention and control program. i. Designate a State HAI Prevention Coordinator.	2006
	☒	☐	ii. Develop dedicated, trained HAI staff with at least one FTE (or contracted equivalent) to oversee the four major HAI activity areas (Integration, Collaboration, and Capacity Building; Reporting, Detection, Response and Surveillance; Prevention; Evaluation, Oversight and Communication).	2006
			Other activities or descriptions (not required): 2-ii: The Bureau of Healthcare-Associated Infections (BHAI) is comprised of two programs: a. HAI Reporting Program staff are highly skilled with either certification and training in infection prevention and control or data management, analysis and statistical skills. This program has 10 FTEs, including support staff. b. Healthcare Epidemiology and Infection Control (HEIC)	

Planning Level	Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
			Program staff are also highly skilled with expertise in HAI surveillance, outbreak investigation, and infection prevention guideline development. Staff are responsible for monitoring and providing consultation during outbreak investigations, overseeing the mandatory physician infection control training requirements, conducting epidemiologic investigations of Healthcare-Related Disease Transmission (HDT), and responding to Freedom of Information Law (FOIL) requests related to program activities. HEIC staff (4 FTEs) are funded through various grants that have undergone drastic funding cuts, resulting in the inability to fill vacated positions. Historically, this Program has been understaffed. Dedicated funding is desperately needed to sustain and expand infrastructure for HAI outbreak activities and infection prevention and control education, training and guidance development.	
	☒	☐	3. Integrate laboratory activities with HAI surveillance, prevention and control efforts. 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).	1999
			Other activities or descriptions (not required): NYS implemented an Electronic Clinical Laboratory Reporting System (ECLRS) in 1999. The laboratory reports are integrated with the Communicable Disease	

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			Electronic Surveillance System (CDESS) data to assist local health departments with case investigations or communicable disease outbreaks. ECLRS has the potential to be used to monitor the incidence of drug resistance throughout the state but would require a commitment of funding, time and personnel resources at the state and local level. New York State's Wadsworth Laboratory is an exemplary public health laboratory. Wadsworth provides support during outbreak investigations, however, additional resources are required to support expanded surveillance, prevention and control efforts in the future.	
Level II	☒	☐	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).	Ongoing since 2006.
			Other activities or descriptions (not required): NYSDOH staff routinely collaborate with peers within the Department such as the Bureau of Communicable Disease Control (BCDC); the Offices of Health Systems Management (OHSM) and Long Term Care (OLTC) (the licensing and regulatory side of the NYSDOH); the Office of Professional Medical Conduct (OPMC) and the NYS Education Department (NYSED) for oversight and enforcement of licensed professional's adherence to infection control practices. HAI Reporting and HEIC	

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			Program staff work closely with various hospital associations [GNYHA, HANYS and United Health Fund (UHF)] on collaborative HAI prevention projects. In 2007, the HDT Taskforce was formed. The Taskforce is an internal group that includes NYSDOH representatives from various disciplines in epidemiology, regulatory, medical misconduct, legal and public affairs, and executive level staff. The Taskforce reviews reports of suspected disease transmission and infection control breaches occurring in healthcare settings and guides the complicated process of investigation, coordination, and when necessary, patient notification. NYSDOH also utilizes a "Problem Alert" electronic communication system to inform departmental staff and local health departments of outbreaks and emerging public health issues.	
	☒	☐	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	2007

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			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.	
			Other activities or descriptions (not required): NYSDOH is now in the process of identifying solutions for an integrated Outbreak Management System (OMS) to more rapidly evaluate disease outbreaks. This will involve integrating other reporting systems [in particular the Clinical Laboratory Information Management System (CLIMS) at Wadsworth Laboratory] with ECLRS and CDESS to incorporate electronic communications capability for all relevant testing. A total of 14 IT consultants will be hired during 2009-2010 to: analyze and develop a plan for the NYSDOH Health Commerce System to support the exchange of data with RHIOs and other external partners, and support integration between ECLRS, CDESS and CLIMS; upgrade CLIMS to a newer version of HL7 standards for the exchange of laboratory test records; migrate various systems [including the Nosocomial Outbreak Reporting Application (NORA)] to Oracle and evaluate data systems' quality, timeliness and accuracy; create an Sexually Transmitted Disease Management Information System module within the CDESS application; and assess resource needs for the development of bi-directional data and information exchange between public health and clinical care settings	

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			for notifiable conditions. NYS was the first to use the NHSN for mandatory HAI reporting as of 1/1/2007. HAI Reporting Program staff provide guidance and technical assistance to hospitals on fulfilling state reporting requirements, however, they do not provide incentives to apply advanced IT solutions. The majority of NYS hospitals enter data manually into NHSN, and many do not have access to electronic medical records or data mining system that would facilitate surveillance of HAIs. The conversion to electronic medical records is being promoted by the NYSDOH's Office of Health Information Technology (OHIT). Outbreaks of HAIs (defined as a single case of a reportable condition acquired nosocomially or an increased incidence of infections) have been reportable to the NYSDOH since the 1960s or 1970s. Electronic reporting began in 2001, and all outbreak data has been collected or entered electronically since NORA was launched in 2005.	
Please also describe any additional activities, not listed above, that your state plans to undertake. Please include target dates for any new activities.				

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 (VAP)

Work is ongoing to identify optimal metrics and targets for VAP infection. However, detection and measurement with existing tools and methods can be combined with recognized prevention practices in states where an opportunity exists to pursue prevention activities on that topic.

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. Please choose items to include in your plan at the planning levels desired.

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[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

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 i. Work with partners including CSTE, CDC, state legislatures, and providers across the healthcare continuum to improve outbreak reporting to state health departments.	Ongoing for 30+ years
	☒	☐	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 healthcare settings (e.g., hepatitis B, hepatitis C, multi-drug resistant organisms (MDRO), and other reportable HAIs).	
			Other activities or descriptions (not required): 1-i: NYSDOH personnel are actively involved at the national level and serve (or have served) on numerous HSS, CDC, CSTE and APIC committees, councils and leadership positions involving communicable disease and healthcare-associated infection surveillance, prevention and control.	

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			1-ii: HAI outbreaks in licensed healthcare facilities have been reportable in NYS since the 1960s or 1970s. The NYSDOH receives approximately 1,000 HAI outbreak reports a year from acute and long term care facilities. In the 1990s, oversight and response to reported HAI outbreaks was transferred from regulatory to epidemiology staff. This reassured facilities that reporting was not intended to be punitive and allowed epidemiology to better intervene and make appropriate recommendations. For NYSDOH-regulated facilities, reporting is accomplished though a web-based application on the Commerce system. All facilities are required to have Commerce access and the proper accounts in order to report HAI outbreaks and other information. New guidelines were recently released (Guidelines for Investigating Cases of Possible Healthcare Transmission of Bloodborne Pathogens) in non-regulated settings. This document was developed in collaboration with local health departments and should facilitate identification and systematic follow-up of events. NYSDOH initiated training staff on conducting outbreak investigations in 1979. Policies, guidelines, and protocols to investigate reports of outbreaks in State-regulated facilities have been developed and are updated as needed. All State investigative staff are familiar with these protocols.	

Planning Level	Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
			The Guidelines for Investigating Cases of Possible Healthcare Transmission of Bloodborne Pathogens describe different levels of investigation based on data collected through routine case investigation, including specific actions to be taken for specific scenarios. There is a critical need for dedicated funding to support personnel, laboratory and non-personal services to develop a dedicated HAI outbreak investigation team. The current level of staffing is inadequate to appropriately respond to the number of outbreaks occurring. Also, existing investigative staff are funded through various federal grants which have faced drastic cuts in funding resulting in the inability to fill vacated positions or hire new staff. 1-iii: HAI outbreak reporting through NORA is conducted on a secure NYSDOH-managed system. Users are held to the same standards for confidentiality as for other communicable disease reporting. Local health departments have read-only access for facilities in their jurisdiction, but facilities are unable to view reporting other than their own. Facility-identifying data is not released except under Freedom of Information requests. Patient identity is protected information, and patient identifying data is never released. 1-iv: a. Suspected healthcare-related transmission of bloodborne pathogens guideline recommends monitoring surveillance data at the local and state levels to identify outbreaks and	

Planning Level	Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
			suspected transmission events. b. The HDT Taskforce (see Table 1: Section 4) reviews reports of suspected disease transmission and infection control breaches occurring in the healthcare setting and guides the complicated process of investigation, coordination, and when necessary, patient notification. c. A means of tracking electronically the healthcare settings where transmission may have occurred for bloodborne pathogens is planned. d. Scheduled trainings for infection preventionists in healthcare facilities on infection control and conducting outbreak investigations is desperately needed, however, this will only be possible if dedicated funding is allocated for this purpose.	
	☐	☒	2. Enhance laboratory capacity for state and local detection and response to new and emerging HAI issues.	2009-2010
			Other activities or descriptions (not required): Integration of ECLRS and NORA as part of NYSDOH's Outbreak Management System (see Table 1: Section 3). Funding and support are necessary to enhance laboratory capacity for HAI infection prevention and control.	
Level II	☒	☐	3. Improve communication of HAI outbreaks and infection control breaches i. Develop standard reporting criteria including, number, size and type of HAI outbreak for health departments and CDC	Ongoing with an electronic system in place since 2005.

Planning Level	Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
	☒	☐	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).	
			Other activities or descriptions (not required): 3-i: Reporting of HAI outbreaks is required in DOH-regulated facilities as discussed in Section 1 above. The definition of an outbreak is any case of a reportable communicable disease (listed in Section 2.1 of the State Sanitary Code) that was acquired in a healthcare facility or an increased incidence of HAIs (defined in Section 2.2 of the State Sanitary Code). An HAI outbreak in non-regulated facilities falls under general reporting requirements, including a report to both local and State health departments. HAIs occurring in non-regulated settings are reported as individual cases that are investigated according to the guideline. Because of the NYSDOH's direct involvement in regulated facilities and experience and expertise in this area, outbreaks are routinely reported to the NYSDOH through the existing NORA system or by phone. 3-ii: a. The HDT Taskforce meets on a biweekly basis to discuss reports and investigations of HAIs and infection control breaches. Frequent communication is maintained by state personnel with local and Federal partners.	

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			b. NYSPHL §230-d requires reporting of certain adverse events occurring as a result of Office-Based Surgery (OBS) including any suspected transmission of blood borne pathogens. Also, the use of electronic Problem Alerts (described in Table 1-Section 4).	
	☒ ☒ ☐ ☐ ☒ ☐	☐ ☐ ☐ ☐ ☐ ☐	4. Identify at least 2 priority prevention targets for surveillance in support of the HHS HAI Action Plan i. Central Line-associated Bloodstream Infections (CLABSI) ii. *Clostridium difficile* Infections (CDI) iii. Catheter-associated Urinary Tract Infections (CAUTI) iv. Methicillin-resistant Staphylococcus aureus (MRSA) Infections v. Surgical Site Infections (SSI) vi. Ventilator-associated Pneumonia (VAP)	CLABSI-January 1, 2007 CDI - July 1, 2009 SSI - January 1, 2007
			Other activities or descriptions (not required): 4-i: The NYSDOH participated in a CLABSI prevention collaborative with GNYHA and UHF from 2005-2007, a 75% reduction in CLABSIs was demonstrated. 4-ii: *Clostridium difficile surveillance indicators are currently being evaluated and NYSDOH began funding a prevention collaborative targeting CDIs in 2007.* Although not part of mandated statewide HAI reporting, NYSDOH is supporting prevention projects targeted to reductions in catheter-associated urinary tract infections (CAUTI) and methicillin-resistant *Staphylococcus aureus* (MRSA). In 2007, NYSDOH funded a VAP prevention project which reported a 50 % reduction of VAPs.	

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	☒ ☒	☐ ☐	5. Adopt national standards for data and technology to track HAIs (e.g., NHSN). i. Develop metrics to measure progress towards national goals (align with targeted state goals). ii. Establish baseline measurements for prevention targets	January 1, 2007. January 1, 2007
			Other activities or descriptions (not required): New York State was the first state to use the NHSN for mandatory, public reporting of HAIs. We are committed to working with CDC and state partners to ensure the accuracy, integrity and use of the system (see Appendix 1 for NYS metrics).	
	☒	☐	6. Develop state surveillance training competencies i. Conduct local training for appropriate use of surveillance systems (e.g., NHSN) including facility and group enrollment, data collection, management, and analysis	2006
			Other activities or descriptions (not required): HAI Program staff conducted statewide trainings on enrollment and use of the NHSN. With the addition of new metrics, additional trainings are held as needed. Consultation and assistance is provided to new users. Data validation and audits are routinely conducted and training/education is performed based upon the findings.	
	☒	☐	7. Develop tailored reports of data analyses for state or region prepared by state personnel.	June 30, 2008 and annually
			Other activities or descriptions (not required): PHL §2819 mandates annual reports to the Governor, legislature and public.	

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			The pilot year 2007 aggregate report was issued June 30, 2008 and can be found at: http://www.health.state.ny.us/statistics/facilities/hospital/hospital_acquired_infections/2007/docs/hospital-acquired_infection-full_report.pdf. The first hospital-specific report was issued July 1, 2009 and can be found at: http://www.health.state.ny.us/statistics/facilities/hospital/hospital_acquired_infections/2008/docs/hospital-acquired_infection.pdf. These documents thoroughly describe program activities and data analyses.	
Level III	☒	☐	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.	2007 and is ongoing.
	☒	☐	i. Develop a validation plan	2007
	☒	☐	ii. Pilot test validation methods in a sample of healthcare facilities	2007
	☒	☐	iii. Modify validation plan and methods in accordance with findings from pilot project	Completed 2008
	☒	☐	iv. Implement validation plan and methods in all healthcare facilities participating in HAI surveillance	2007 to Present
	☒	☐	v. Analyze and report validation findings	2007 to Present
	☒	☐	vi. Use validation findings to provide operational guidance for healthcare facilities that targets any data shortcomings detected.	2008

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			Other activities or descriptions (not required): 8-iii/iv: Data reported in the NHSN are validated using several methods: monthly checks for internal data consistency (missing, unusual, duplicate entries), quarterly checks for external data consistency by comparing to data reported to the NYS Cardiac Surgery Reporting System (CSRS) and the Statewide Planning and Research Cooperative System (completeness of reporting infections and procedures). 8-vi: HAI Reporting Program staff provide ongoing guidance and technical assistance to facilities by phone and during annual on-site visits to each hospital (all facilities have been audited twice and the third year is underway). On-site visits include medical and laboratory record review, survey of surveillance practices, assessment of risk factors and evaluation of prevention strategies for each of the reporting indicators.	
	☒	☐	9. Develop preparedness plans for improved response to HAI. i. Define processes and tiered response criteria to handle increased reports of serious infection control breaches (e.g., syringe reuse), suspect cases/clusters, and outbreaks	2009
			Other activities or descriptions (not required): Ongoing funding is critically needed for oversight and monitoring of outbreaks in healthcare facilities. Currently, these activities are managed by the HEIC Program within the BHAI. This program does not have a stable, dedicated workforce; it is seriously understaffed and stretched to	

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			capacity. Protocols are defined in Program policy documents such as the 2009 Guidelines for Investigating Cases of Transmission of Bloodborne Pathogens. These guidelines include an algorithm to determine the level of investigation recommended for a given investigative scenario, dictating a tiered response to reports of suspected disease transmission or infection control breaches.	
	☒	☐	10. Collaborate with professional licensing organizations to identify and investigate complaints related to provider infection control practice in non-hospital settings, and to set standards for continuing education and training.	Ongoing since 1998
			Other activities or descriptions (not required): A. In 1992, NYS established a requirement for certain licensed professionals to complete training in infection prevention and control of bloodborne pathogen transmission in healthcare settings. HEIC Program staff are responsible for oversight of the training for all physicians, physician assistants, and specialist assistants (regardless of practice setting), and for updating the NYS infection control syllabus. The syllabus was recently updated to include injection safety, and all training providers were required to integrate this topic into their training as of August, 2008. B. In January, 2008, NYSDOH's Commissioner sent letters to all licensed physicians stressing the importance of infection control in all healthcare settings and providing basic guidance and resources for providers to implement proper infection control programs. C. NYSDOH is funding the NYS Society of Anesthesiologists to develop a web-based video infection	

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			control training course for anesthesiology professionals focusing on safe injection practices. Once completed, this course will serve as a model for broader educational initiatives statewide. D. HAI outbreak reporting requirements extend to all DOH-regulated facilities, including nursing homes (who report via NORA), dialysis centers, ambulatory surgical centers, home health agencies, and adult homes. Additionally, HEIC Program staff maintain frequent communication with sister state agencies that run healthcare facilities and group institutions, such as the Office for Mental Retardation and Developmental Disabilities (OMRDD) and Office of Mental Health (OMH). The 2009 investigative guideline is intended for use outside of the DOH-regulated setting, where state and local authorities (through the HDT Executive Review Team) collaborate to investigate HAIs and infection control breaches.	
	☐	☒	11. Adopt integration and interoperability standards for HAI information systems and data sources. 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.	Beginning in 2009-2010
	☒	☐	ii. Promote definitional alignment and data element	Implemented NHSN

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			standardization needed to link HAI data across the nation.	reporting on January 1, 2007
			Other activities or descriptions (not required): 11-i: Redesign NORA for acute and long term care facility outbreak reporting. Also, use of other reporting systems as part of the NYSDOH's new Outbreak Management System which integrates state communicable disease and laboratory reporting systems. 11-ii: All NYS acute care hospitals that perform the targeted procedures use the NHSN to report HAI data.	
	☒	☐	12. Enhance electronic reporting and information technology for healthcare facilities to reduce reporting burden and increase timeliness, efficiency, comprehensiveness, and reliability of the data. i. Report HAI data to the public.	2008 and annually thereafter.
			Other activities or descriptions (not required): As discussed in Table 1: Section 5, NYS hospitals enter data via the NHSN manually, and many do not have access to electronic medical records or data mining systems that would facilitate surveillance of HAIs. This critical effort requires dedicated resources at the healthcare facility level. NYSDOH is using ARRA funds to evaluate the *Clostridium difficile* infection (CDI) proxy indicator. If this indicator is reliable, it will significantly increase the timeliness, efficiency, comprehensiveness and reliability of the data.	
	☒	☐	13. Make available risk-adjusted HAI data that enables	2008 and annually

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			state agencies to make comparisons between hospitals.	
			Other activities or descriptions (not required): NYSDOH has been evaluating risk factors and the current NHSN risk adjustment strategy. This information has been used to improve risk adjustment and fairly compare hospitals in the public reports. The following modifications have been made: 1. Colon surgery - None of the additional risk factors studied improved the NHSN risk adjustment model. 2. Coronary Artery Bypass Graft surgery – For chest site infections, additional variables from the Cardiac Surgery Reporting System (CSRS) improved the risk adjustment model by 27%. The following indicators from CSRS were used in addition to the NHSN risk score: a) Diabetes b) Body Mass Index (BMI) – relationship between weight and height c) End Stage Renal Failure (ESRD) d) Gender e) History of Chronic Obstructive Pulmonary Disease (COPD) f) Medicaid recipient 3. Coronary Artery Bypass Graft surgery – For donor (artery or vein) site infections, additional variables from the CSRS improved the risk adjustment model by 19%. The following indicators from CSRS were used in addition to the NHSN risk score: a) BMI b) History of Congestive Heart Failure (CHF) c) Gender	

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			d) Age group e) Emergency or trauma patient f) History of Chronic Obstructive Pulmonary Disease (COPD) 4. Hip replacement or revision – The following information that was already reported into the NHSN improved the risk adjustment model by 5% and was used in addition to the NHSN risk score: a) Initial surgery or revision b) Total hip replacement or partial hip replacement	
	☒	☐	14. Enhance surveillance and detection of HAIs in nonhospital settings.	July 2007
			Other activities or descriptions (not required): In non-hospital settings, HAI events and breaches are evaluated by the HDT intradepartmental task force involving epidemiology, legal, professional medical conduct, regulatory, and executive staff. These reports may come from state surveyors, public complaint lines, local health departments, facilities, healthcare providers or the media. On July 20, 2007 new legislation went into effect requiring enhanced safety standards for office-based surgery (OBS) procedures. As of July 14, 2009, all facilities performing OBS were required to be in compliance with the new law (i.e., obtain and maintain accreditation from an entity approved by NYSDOH and report adverse events including patient deaths and unplanned hospital admissions within one business day). Effective September 2, 2008, the definition of adverse events was expanded to	

Planning Level	Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
			include suspected and confirmed bloodborne pathogen transmission in OBS settings.	

Please also describe any additional activities, not listed above, that your state plans to undertake. Please include target dates for any new activities:

As part of the development of the OMS system described in Table 1: Section 5, a redesign of NORA will be undertaken to allow more efficient data collection and analysis, integration with other electronic reporting systems (i.e., ECLRS, CDESS), and comparison with other HAI data (i.e., collected through the NHSN). This process is scheduled to begin in early 2010.

3. Prevention

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

Table 3: State planning for HAI prevention activities

Planning Level	Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
Level I	☒	☐	1. Implement HICPAC recommendations. i. Develop strategies for implementation of HICPAC recommendations for at least two prevention targets specified by the state multidisciplinary group.	2007 to Present
			Other activities or descriptions (not required): Since 2007, NYS has funded various prevention projects in and outside ICUs aimed at reducing HAIs. These projects are described in detail in the 2008 NYS HAI Report. A list is provided here for quick reference: a. 2007 – A one week infection control training course for novice infection preventionists which included HICPAC guidelines. b. 2007 – ICU Ventilator-Associated Pneumonia prevention project. c. 2007 – *Clostridium difficile* Infection Prevention d. 2008 – ICU MRSA e. 2008 – ICU Multidrug-Resistant Organism surveillance and transmission studies.	

Planning Level	Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
			f.. 2008 – Non ICU CLABSI g. 2008 – ICU blood stream infections (Chlorhexidine bathing) h. 2008 - NICU CLABSI	
	☒	☐	2. Establish prevention working group under the state HAI advisory council to coordinate state HAI collaboratives i. Assemble expertise to consult, advise, and coach inpatient healthcare facilities involved in HAI prevention collaboratives.	2006
			Other activities or descriptions (not required): Since many of the NYSDOH Technical Advisory Workgroup members are eligible to apply for funding, this group is not involved in the selection of prevention projects. The NYSDOH solicits applications through competitive state funding opportunities and single/sole source procurements. HAI program staff members (technical and administrative) develop requests for proposals or requests for applications, evaluate and rank submissions, and select prevention projects for funding. Technical and administrative staff members have been critical to support this function. Any expansion of these efforts will require additional staff. HAI Reporting Program staff members actively participate in prevention collaboratives. They serve on steering committees, provide guidance and expertise on infection prevention issues, participate in selection of process and outcome indicators and are involved in analysis and	

Planning Level	Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
			reporting of data. Regional and central office HAI Reporting Program staff members monitor the progress of the collaboratives and ensure compliance with project deliverables.	
	☒	☐	3. Establish HAI collaboratives with at least 10 hospitals (i.e., this may require a multi-state or regional collaborative in low population density regions). i. Identify staff trained in project coordination, infection control, and collaborative coordination.	2007-2010
	☒	☐	ii. Develop a communication strategy to facilitate peer-to-peer learning and sharing of best practices.	2007
	☒	☐	iii. Establish and adhere to feedback of a clear and standardized outcome data to track progress.	2007
	☒	☐	iv: Establish collaborative prevention projects	2007
			Other activities or descriptions (not required): The HAI Reporting Program has been able to recruit and retain staff with explicit and exceptional training and experience in infection prevention and control. The HAI Prevention Projects funded by the NYSDOH all involved face-to-face meetings, routine teleconferences and site visits to facilities participating in the project. The HAI Reporting Program would like to expand successful interventions throughout the state, hold regional workshops and/or statewide conferences to share lessons	

Planning Level	Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
			learned, and participate in national meetings and conferences. This is not possible given the current fiscal situation in NYS and restrictions on staff member travel. These efforts will be resumed when/if funding is available. The following projects have had more than 10 participating facilities: a. GNYHA-UHF *Clostridium difficile* Prevention Project (42 hospitals) b. HANYS Ventilator-Associated Pneumonia Prevention Project 2007-2008 (46 hospitals) c. Weill Medical College Regional Perinatal Center CLABSI Prevention Collaborative 2008-2010 (18 Regional Perinatal Centers)	
	☒	☐	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.	1994
			Other activities or descriptions (not required): In 1992, PHL §230-a directed NYSDOH to promulgate rules and regulations describing scientifically accepted barrier precautions and infection control practices as standards of professional medical conduct for persons licensed under Education Law §131 and §131-b.	

Planning Level	Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
			PHL §239 requires physicians, physicians assistants and special assistants to complete approved course work or training in infection control and barrier precautions including engineering and work practice controls to prevent the transmission of HIV or HBV in the course of professional practice.	
			Education Law §6505-b mandates licensed healthcare professionals (dentists, dental hygienists, registered nurses, licensed practical nurses, podiatrist and optometrist) to attest every four years to infection control blood-borne pathogen prevention competencies.	
			Mandatory infection control training has been required initially and every four years since 1994 for the professionals listed in the two preceding paragraphs.	
			In 2007, NYSDOH funded a one week infection control training course for novice infection preventionists (through NYSACC). The need for the program exceeded space constraints and available funding. Additional funding to continue this program is sorely needed.	
			In 2009-2010, NYSDOH is funding the development of an infection control course for anesthesia professionals focusing on safe injection practices.	
Level II	☒	☐	5. Implement strategies for compliance to promote adherence to HICPAC recommendations. i. Consider developing statutory or regulatory standards for healthcare infection control and prevention or work with	Since HICPAC established guidelines

Planning Level	Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
			healthcare partners to establish best practices to ensure adherence.	
	☒	☐	ii. Coordinate/liaise with regulation and oversight activities such as inpatient or outpatient facility licensing/accrediting bodies and professional licensing organizations to prevent HAIs.	
	☒	☐	iii. Improve regulatory oversight of hospitals, enhancing surveyor training and tools, and adding sources and uses of infection control data.	
	☒	☒	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.	
			Other activities or descriptions (not required): See Section 4 above describing mandatory infection prevention and control training for licensed healthcare professionals HAI Reporting Program and HEIC Staff work closely with OHSM and OPMC on infection related regulatory issues and actively participate in investigations of professional misconduct. Staff provide ongoing consultation and education of OHSM surveyors. Although NYSDOH does not regulate private practice settings, as of July 2009, NYS requires accreditation of	

Planning Level	Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
			office-based surgery practices involved with moderate or higher levels of sedation. Periodic issuance of written infection control guidance on the NYSDOH's Health Provider Network. In January, 2008 the NYSDOH and NYC Department of Health and Mental Hygiene Commissioners sent a letter to the FDA recommending they no longer allow the manufacture and distribution of multidose vials (MDVs). In 2009, NYSDOH conducted a study to determine the feasibility and impact of eliminating the use of MDVs. The report of the study findings along with recommendations is under development, and will be released in early 2010.	
	☒	☐	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.	2007-2010
			Other activities or descriptions (not required): The following projects have had more than 20 participating facilities: a. GNYHA-UHF *Clostridium difficile* Prevention Project (42 hospitals) b. HANYS Ventilator-Associated Pneumonia Prevention Project 2007-2008 (46 hospitals)	
	☒	☒	7. Establish collaborative to prevent HAIs in nonhospital settings (e.g., long term care, dialysis).	2009-2010

Planning Level	Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
			Other activities or descriptions (not required): NYSDOH is currently funding an Antimicrobial Stewardship Collaborative in three hospitals and affiliated nursing homes. After the evaluation of the *Clostridium difficile* prevention project findings in the hospital-based project, NYSDOH hopes to expand best practices to long-term care facilities. If a sustained source of funding is identified, NYSDOH would expand successful prevention efforts throughout the hospital community and develop prevention initiatives in long term care and ambulatory settings [particularly endoscopy clinics and End Stage Renal Disease (ESRD) facilities].	

4. Evaluation and Communications

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

Table 4: State HAI communication and evaluation planning

Planning Level	Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
Level I	☒	☒	1. Conduct needs assessment and/or evaluation of the state HAI program to learn how to increase impact. i. Establish evaluation activity to measure progress towards targets.	2006 and 2010
	☒	☐	ii. Establish systems for refining approaches based on data gathered.	2007
	☒	☐	iii. Consult semi-annually with Technical Advisory Workgroup.	Ongoing since 2006
			Other activities or descriptions (not required): Each HAI reporting indicator is monitored for accuracy, completeness and trends. NYSDOH staff assist in the evaluation of increased rates of infection or reported outbreaks and provides consultation. Guidelines are developed and disseminated by Bureau staff (HAI and HEIC).	

		The Technical Advisory Workgroup members provide insight and expertise on prevention strategies for evaluation and targeting prevention efforts.	
	☒	☐	2. Develop and implement a communication plan about the state's HAI program and progress to meet public and private stakeholders' needs. i. Disseminate state priorities for HAI prevention to healthcare organizations, professional provider organizations, governmental agencies, non-profit public health organizations, and the public.	Annually since 2008
			Other activities or descriptions (not required): The HAI annual report provides an overview of HAI program activities and the hospital-specific infection rates. Guidelines are developed and disseminated to healthcare facilities electronically and made available on the NYSDOH website. The Commissioner disseminates infection prevention recommendations to healthcare providers via direct mailings and email distribution systems. Professional organizations and associations frequently assist in disseminating information.	
Level II	☒	☒	3. Provide consumers access to useful healthcare quality measures.	HAIs since 2008
			Other activities or descriptions (not required): The NYSDOH has a "Hospital Profile" available to the public that presents hospital-specific data from CMS quality measures, the NYSDOH Cardiac Surgery Reporting System, State surveys and citations, etc. The HAI Reporting Program will be integrating the hospital-specific infection data into the hospital profile.	

			Currently, the HAI report is made available in its entirety on the public web site and press conferences are held at the time of the release of the reports.	
	☒	☐	4. Identify priorities and provide input to partners to help guide patient safety initiatives and research aimed at reducing HAIs.	2007
Level III			*Other activities or descriptions (not required):* NYSDOH began funding multi-facility, prevention collaboratives to reduce the incidence of select HAIs (see Table 3: Section 3). In light of the current fiscal climate in NYS, ongoing funding will be needed to sustain and expand current efforts.	
Please also describe any additional activities, not listed above, that your state plans to undertake. Please include target dates for any new activities.				

Appendix 1: New York State Metrics and Prevention Targets

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 following table lists the HHS Action Plan metrics, indicates the metrics that NYS has selected to monitor, and lists additional NYS indicators and targets.

Metric Number and Label	HAI Comparison Metric	Measurement System	National Baseline Established (State Baselines Established)	5-Year Prevention Target	Used by NYS?
1. CLABSI 1	CLABSI SIR	CDC NHSN Device-Associated Module	2006-2007 (2007)	Reduce the CLABSI SIR by at least 50% from baseline or to zero in ICU and other locations	Yes
NYS 1a	CLABSI Rate in Coronary ICUs	NHSN	(2007)	Reduce by 50% from baseline	Yes
NYS 1b	CLABSI Rate in Cardiothoracic ICUs	NHSN	(2007)	Reduce by 50% from baseline	Yes
NYS 1c	CLABSI Rate in Medical ICUs	NHSN	(2007)	Reduce by 50% from baseline	Yes
NYS 1d	CLABSI Rate in Medical Surgical Teaching ICUs	NHSN	(2007)	Reduce by 50% from baseline	Yes
NYS 1e	CLABSI Rate in Medical Surgical Non Teaching ICUs	NHSN	(2007)	Reduce by 50% from baseline	Yes
NYS 1f	CLABSI Rate in Surgical ICUs	NHSN	(2007)	Reduce by 50% from baseline	Yes
NYS 1g	CLABSI Rate in Neurosurgical ICUs	NHSN	(2007)	Reduce by 50% from baseline	Yes
NYS 1h	CLABSI Rate in Pediatric ICUs	NHSN	(2007)	Reduce by 50% from baseline	Yes
NYS 1i	CLABSI Rate in Neonatal ICUs (by type of NICU)	NHSN	(2007)	Reduce by 50% from baseline	Yes
NYS 1j	UCABSI Rate in Neonatal ICUs (by type of NICU)	NHSN	(2007)	Reduce by 50% from baseline	Yes
2. CLIP 1 (formerly CLABSI 4)	CLIP Adherence percentage	CDC NHSN CLIP in Device-Associated Module	2009 (proposed 2009, in consultation with states)	100% adherence with central line bundle	No
3a. C diff 1	Hospitalizations with *C. difficile* per 1000 patient discharges	Hospital discharge data	2008 (proposed 2008, in consultation with states)	At least 30% reduction in hospitalizations with *C. difficile* per 1000 patient discharges	No

Metric Number and Label	HAI Comparison Metric	Measurement System	National Baseline Established (State Baselines Established)	5-Year Prevention Target	Used by NYS?
3b. C diff 2 (new)	*C. difficile* SIR	CDC NHSN MDRO/CDAD Module LabID[‡]	2009-2010 (2009)	Reduce the facility-wide healthcare facility-onset *C. difficile* LabID event SIR by at least 30% from baseline or to zero	Currently being evaluated for public reporting
4. CAUTI 2	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	No
5a. MRSA 1	MRSA Incidence rate	CDC EIP/ABCs	2007-2008 (for non-EIP states, MRSA metric to be developed in collaboration with EIP states)	At least a 50% reduction in incidence of healthcare-associated invasive MRSA infections	No
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	No
6. SSI 1	SSI SIR	CDC NHSN Procedure-Associated Module	2006-2007	Reduce the admission and readmission SSI[§] SIR by at least 25% from baseline or to zero	No

Metric Number and Label	HAI Comparison Metric	Measurement System	National Baseline Established (State Baselines Established)	5-Year Prevention Target	Used by NYS?
NYS 6a	Colon SSI Rate	NHSN	(2007)	Reduce by 25% from baseline	Yes
NYS 6b	CABG chest SSI Rate	NHSN	(2007)	Reduce by 25% from baseline	Yes
NYS 6c	CABG donor site SSI Rate	NHSN	(2007)	Reduce by 25% from baseline	Yes
NYS 6d	Hip replacement SSI Rate	NHSN	(2008)	Reduce by 25% from baseline	Yes
7. SCIP 1 (formerly SSI 2)	SCIP Adherence percentage	CMS SCIP	To be determined by CMS	At least 95% adherence to process measures to prevent surgical site infections	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.

All comparisons of NYS metrics to national data will use NHSN definitions and risk adjustors for consistency. All intrastate comparisons will use NYS modifications of the NHSN criteria. These are: For SSI, intrastate comparisons exclude infections identified using post-discharge surveillance and not resulting in hospital admissions. Also, for CABG SSI, additional risk adjustors are used. For CLABSI, intrastate comparisons exclude clinical sepsis and untreated events with single contaminated specimen. See NYS 2008 HAI Report for more information.

Appendix 2: Abbreviations

APIC - Association for Professionals in Infection Control
ARRA – American Recovery and Reinvestment Act
BCDC- Bureau of Communicable Disease Control
BHAI – Bureau of Healthcare-Associated Infections
BMI – Body Mass Index
BSI – Bloodstream Infection
CABG – Coronary Artery Bypass Graft Surgery
CAUTI – Catheter-Associated Urinary Tract Infections
CD – *Clostridium difficile*
CDC – Centers for Disease Control and Prevention
CDESS – Communicable Disease Electronic Surveillance System
CDI – *Clostridium difficile* Infections
CHF – Congestive Heart Failure
CLABSI – Central Line-Associated Bloodstream Infection
CLIMS – Clinical Laboratory Information Management System
CLIP – Central Line Insertion Practices
CMS – Center for Medicare and Medicaid Services
COPD – Chronic Obstructive Pulmonary Disease
CSRS – Cardiac Surgery Reporting System[4]
CSTE – Council of State and Territorial Epidemiologist
DOH – New York State Department of Health
ECLRS – Electronic Clinical Laboratory Reporting System
ELR – Electronic Laboratory Reporting
ESRD – End Stage Renal Disease
FOIL – Freedom of Information Law
FTE – Full-Time Equivalent
GNYHA – Greater New York Hospital Association
HAI – Hospital-Acquired Infection
HANYS – Healthcare Association of New York State
HBV – Hepatitis B Virus
HDT – Healthcare-Related Disease Transmission
HEIC – Healthcare Epidemiology and Infection Control
HHS- U.S. Department of Health and Human Services
HICPAC – Healthcare Infection Control Practices Advisory Committee
HIEs – Health Information Exchanges

HIV – Human Immunodeficiency Virus
ICU – Intensive Care Unit
LTCFs – Long Term Care Facilities
MDRO – Multi-Drug Resistant Organism
MDVs – Multidose Vials
MRSA – Methicillin-Resistant *Staphylococcus aureus*
NICU – Neonatal Intensive Care Unit
NHSN – National Healthcare Safety Network
NORA – Nosocomial Outbreak Reporting Application
NYC – New York City
NYS – New York State
NYSACC – New York State Association for Professionals in Infection Control and Epidemiology Coordinating Council
NYSDOH – New York State Department of Health
NYSED – New York State Education Department
OBS – Office-Based Surgery
OHIT – Office of Health Information Technology
OHSM – Office of Health Systems Managements
OLTC – Office of Long Term Care
OMH – Office of Mental Health
OMRDD – Office of Mental Retardation and Developmental Disabilities
OMS – Outbreak Management System
OPMC – Office of Professional Medical Conduct
RHIOs – Regional Health Information Organizations
SCIP – Surgical Care Improvement Project
SHEA – Society for Healthcare Epidemiology of America
SIR – Standardized Infection Ratio
SSI – Surgical Site Infection
TAW – Technical Advisory Workgroup
UCABSI – Umbilical Catheter-Associated Blood Stream Infection
UHF – United Health Fund
VAP – Ventilator-Associated Pneumonia