NEW MEXICO HEALTHCARE-ASSOCIATED INFECTIONS PREVENTION PLAN

Template for State Healthcare Associated Infections Plans

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 Prevent Healthcare-Associated Infections (HHS Action Plan). The HHS Action Plan includes recommendations for surveillance, research, communication and metrics for measuring progress towards national goals. Three overarching priorities have been identified:

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

In a concurrent development, the 2009 Omnibus bill requires states receiving Preventive Health and Health Services (PHHS) Block Grant funds to certify that they will submit a plan to reduce HAIs to the Secretary of Health and Human Services not later than January 1, 2010. In order to assist states in responding within the short timeline required by that language and to facilitate coordination with national HAI prevention efforts, the Centers for Disease Control and Prevention (CDC) has drafted a template to assist state planning efforts in the prevention of HAIs.

This template will help to ensure progress towards national prevention targets as described in the HHS Action Plan, wherein CDC is leading the implementation of recommendations on National Prevention Targets and Metrics and the implementation of priority prevention recommendations, while allowing flexibility to tailor the plan to each state's specific needs.

Initial emphasis for HAI prevention may focus on acute care, inpatient settings, yet the need for prevention activities for outpatient settings is recognized. State health departments are increasingly challenged by the needs to identify, respond to, and prevent HAI across the continuum of settings where healthcare is currently delivered. The public health model's population based perspective places health departments in a unique and important role in this area, particularly given shifts in healthcare delivery from acute care settings to ambulatory and long term care settings. In the non-hospital setting, infection control and oversight have been lacking and outbreaks –which can have a wide-ranging and substantial impact on affected communities-, are increasingly reported. At the same time, trends toward mandatory reporting of HAIs from hospitals reflect increased demand for accountability from the public.

The current template targets the following areas:

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

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. The framework is based on a collaborative public health approach that includes surveillance, outbreak response, research, training and education, and systematic implementation of prevention practices. Recent legislation in support of HAI prevention provides a unique opportunity to strengthen existing and expand state capacity for prevention efforts.

Support for HAI prevention has been enhanced through the American Recovery and Reinvestment Act (ARRA). Congress allocated $40 million through CDC to support state health department efforts to prevent HAIs by enhancing state capacity for HAI prevention, leverage CDC's National Health Care Safety Network to assess progress and support the dissemination of HHS evidence-based practices within healthcare facilities, and pursue state-based collaborative implementation strategies. In addition, the Center for Medicaid Services (CMS) will support expansion of State Survey Agency inspection capability of Ambulatory Surgery Centers nationwide through $10 million of ARRA funds. This template is intended to support the high level of reporting and accountability required of ARRA recipients.

Template for developing HAI plan

The following template provides choices for developing or enhancing state HAI prevention activities in the four areas identified above. States can choose to target different levels of HAI prevention efforts indicated by checking appropriate boxes. (Level I indicates basic elements to begin HAI prevention efforts, Level II for intermediate and Level III more mature efforts). This can serve as the state's HAI plan for submission. If your state has an existing plan, you may choose to incorporate that plan into the template below or submit the existing plan in place of the template provided.

For each section, please choose elements which best support current activities or planned activities. Current activities are those in which the state is presently engaged and includes activities that are scheduled to begin using currently available resources. Planned activities represent future directions the state would like to move in to meet currently unmet needs, contingent on available resources and competing priorities. A section for additional activities is included to accommodate plans beyond the principal categories.

1. Develop or Enhance HAI program infrastructure

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.

Please note that the following acronyms are used in the plan:

AHRQ	Agency for Healthcare Research and Quality
APIC	Association for Professionals in Infections Control and Epidemiology
CAUTI	Catheter Associated Urinary Tract Infection
CDC	Centers for Disease Control and Prevention
CDI	*Clostridium difficile* infection
CIC	Certified Infection Control
CLABSI	Central line-associated bloodstream infection
CME	Continuing Medical Education
CMS	Centers for Medicaid and Medicare Services
CSTE	Council of State and Territorial Epidemiologists
EIP	Emerging Infections Program
ELR	Electronic Laboratory Reporting
FTE	Full Time Equivalent
NMHA	NM Hospital Association
HAI	Healthcare-associated infection
HCW	Healthcare Worker
HHS	Health and Human Services
HICPAC	Healthcare Infection Control Practices Advisory Committee
HIE	Health Information Exchange
HIPAA	Health Insurance Portability and Accountability Act of 1996

HPC	Health Policy Commission
ICU	Intensive Care Unit
IP	Infection Preventionist
IHI	Institute for Health Improvement
LIMS	Laboratory Information Management System
LTAC	Long Term Acute Care
LTC	Long Term Care
MDRO	Multi-drug Resistant Organism
MRSA	Methicillin-resistant *Staphylococcus aureus*
NHSN	National Healthcare Safety Network
NMDOH	New Mexico Department of Health
NMHA	New Mexico Hospital Association
NM HAI AC	New Mexico Healthcare-associated Infections Advisory Committee
NMHIC	New Mexico Health Information Collaborative
NM IBIS	New Mexico Indicator Based Information System for Public Health
NMMRA	New Mexico Medical Review Association
PSO	Patient Safety Organization
PSQIA	Patient Safety and Quality Improvement Act
QIO	Quality Improvement Organization
SHEA	Society for Healthcare Epidemiology of America
SLD	Scientific Laboratory Division
UNM	University of New Mexico
VHA	Veterans Health Administration

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	X	☐	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]) The NM Healthcare-associated Infections (HAI) Advisory Council (NM HAI AC) was formed in February 2008 at the direction of the New Mexico Department of Health (NMDOH) Secretary to conduct a pilot study for public reporting of HAIs. The NM HAI AC includes representatives from: a) Consumers b) New Mexico chapter of Association for Professionals in Infections Control and Epidemiology (APIC) c) NM Hospital Association (NMHA) d) NM hospitals (including large urban and smaller rural settings) e) Health Policy Commission (HPC) f) New Mexico Medical Review Association (NMMRA) g) Local representation of Society for Healthcare Epidemiology of America (SHEA) h) New Mexico Department of Health (NMDOH)	Ongoing

Planning Level	Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
	X	☐	ii. Identify specific HAI prevention targets consistent with HHS priorities The NM HAI AC guided a pilot of HAI surveillance and reporting to the National Healthcare Safety Network (NHSN): six hospitals collected information in adult intensive care units (ICUs) on two indicators from July 1, 2008 - May 31, 2009. These were: 1) central line-associated bloodstream infections (CLABSIs) in adult ICUs; 2) influenza vaccination rates of healthcare workers (HCWs). The NM HAI AC will expand surveillance for CLABSIs to adult and/or pediatric ICUs and influenza vaccination of HCWs to as many hospitals statewide as possible.	Ongoing
			Other activities or descriptions (not required): The NM HAI AC intends to work even more closely with representatives from the NMDOH Division of Health Improvement (Health Facility Licensing and Certification). There has been a representative on the NM HAI AC from this group; however, they have committed to more active participation as we move forward. The NM HAI AC also plans to explore the potential value of including major NM clinical laboratories (e.g. TriCore Reference Laboratories and S.E.D. Medical Laboratories) and representatives from long term care facilities when future prevention targets include those settings.	
	X	☐	2. Establish an HAI surveillance prevention and control program i. Designate a State HAI Prevention Coordinator The NM HAI AC Facilitator, Joan Baumbach, will be the NM HAI Prevention Coordinator. Joan Baumbach, MD, MPH, MS, is the	

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	☐	X	Infectious Disease Epidemiology Bureau Chief at NMDOH and led the 'House Joint Memorial 67 Task Force' in 2007 that prepared a report on the 'Feasibility of Conducting Surveillance for Healthcare-Associated Infections in New Mexico' which led to the formation of the NM HAI AC. 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) Plans are currently under way to create four full time equivalent (FTE) positions at NMDOH to dedicate their time to guidance of the state HAI program. Paperwork to create the positions is being submitted: one program manager, one physician, one nurse and one epidemiologist. In addition, 0.5 FTE Infection Preventionist (IP) is currently working on the initiative as a contractor to NMDOH.	Feb 1, 2010
			Other activities or descriptions (not required):	
	☐	X	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	

Planning Level	Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
			where appropriate (e.g., outbreak investigation support, HL7 messaging of laboratory results) The NM HAI AC will begin communications with the large diagnostic clinical laboratories and the state public health laboratory to make them aware of the NM HAI Prevention Plan and to look for opportunities to integrate ongoing laboratory activities and to work toward improvement of laboratory capacity. The discussions will involve keeping track of current projects and activities, such as electronic laboratory reporting, that could be leveraged for HAI surveillance, prevention and control efforts. Resources might be pursued (if and when available) for additional activities (e.g., expanded antimicrobial sensitivity testing and expanded molecular typing capabilities such as pulsed-field gel electrophoresis [PFGE] for HAI pathogens).	March 1, 2010 and ongoing
			Other activities or descriptions (not required):	
Level II	X	☐	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) In New Mexico, the state survey agency (i.e., Division of Health Improvement [DHI]) resides within NMDOH and contracts with the Centers for Medicaid and Medicare Services (CMS). DHI plans to review a minimum of one year of complaints (from the public and healthcare	Letters to all Boards by April 1, 2010 and ongoing

Planning Level	Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
			provider community) that relate in any way to infections (from the total of approximately 3,600 calls received annually). The NM HAI AC plans to establish communication with professional boards (e.g., nursing, medicine, pharmacy, osteopathy) to see what kinds of reports they receive and on what level--if any--complaints potentially related to healthcare-associated infections can be shared.	discussions for remainder of calendar year
			Other activities or descriptions (not required): • Conduct an assessment of infection control surveillance, capacity, and risk in the facilities surveyed by various state agencies. • Consider development of a standardized transfer form for patients transferred between different facilities to communicate isolation status for multi-drug resistant organism (MDRO) and reporting of infections of indwelling devices after transfer. • Consider development of a point prevalence survey for review of infections in long-term care (modeled after the Veterans Health Administration [VHA] Community Living Centers infection surveillance taskforce (Prevalence of nursing home-associated infections in the Department of Veterans Affairs nursing home care units, 13 February 2008 Linda Tsan, Chester Davis, Robert Langberg, Christa Hojlo, John Pierce, Michael Miller, Robert Gaynes, Cynthia Gibert, Ona Montgomery, Suzanne Bradley, Chesley Richards, Linda Danko, Gary Roselle. AJIC: American Journal of Infection Control	December 2010 Study other states' tools and begin development of New Mexico form by March 2011 As this would require significant human resources to undertake, the HAI AC will keep this item as a 'parking lot' issue with commitment to

Planning Level	Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
			April 2008 (Vol. 36, Issue 3, Pages 173-179).	implementation dependent on ability to perform
	X	☐	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. NMDOH is partnering with New Mexico's Health Information Exchange (HIE), the New Mexico Health Information Collaborative (NMHIC), to allow them to serve as the primary agent for electronic notifiable condition data reporting in New Mexico. NMHIC currently has signed agreements with the two major clinical reference laboratories in the state and three major healthcare systems that represent 11 hospitals and numerous outpatient clinics. By contracting with NMHIC as the NMDOH agent for notifiable condition reporting, the following is expected: 1) streamlined outreach processes and bringing on additional reporters more quickly; 2) building on existing and future investments in HIE infrastructure; 3) reduced in-house resources necessary to establish	Ongoing

Planning Level	Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
			electronic reporting. NMHIC will filter and standardize data streams from all hospitals, clinics and laboratories participating in the HIE. This filtered and standardized data will be stored in a data warehouse that NMDOH epidemiologists will be able to query and, when appropriate, will be transmitted to surveillance systems within NMDOH. Initially reporting will be established for emergency department visit and clinical laboratory report data. The system will be designed to allow for reporting of additional data, such as case report data, in the future. The NM HAI Prevention Coordinator is a member of the eReporting Steering Committee at NMDOH; this committee develops and approves deliverables as they relate to the above-mentioned working relationship with NMHIC. The NM HAI Prevention Coordinator acts as liaison for the NM HAI initiative with NMHIC.	
			Other activities or descriptions (not required): Explore specifics of the most effective way to collaborate with New Mexico's health information exchange, the New Mexico Health Information Collaborative (NMHIC).	
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.

[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	
	X	☐	i. Work with partners including CSTE, CDC, state legislatures, and providers across the healthcare continuum to improve outbreak reporting to state health departments The HAI AC has ongoing working relationships with the Council of State and Territorial Epidemiologists (CSTE), Centers for Disease Control and Prevention (CDC), the New Mexico State Legislature (particularly the Health and Human Services Committee) and will continue to look for opportunities to work on improved outbreak reporting to NMDOH.	Ongoing
	☐	X	ii. Establish protocols and provide training for health department staff to investigate outbreaks, clusters or unusual cases of HAIs. Add a chapter to the NMDOH Communicable Disease Manual on healthcare-associated infections and augment operations to address the approach in the chapter, to include pathogen-specific guidance. In addition, NMDOH will review individual CLABSIs entered into NHSN as well as all the data as it may relate to potential clusters: protocol will need to be developed for how individual cases that warrant action as well as potential outbreaks are identified and investigated. In addition to developing and implementing that protocol, NMDOH will: a)	Development during 2010 and full implementation January 1, 2011

Planning Level	Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
			encourage reporting by facilities of potential cases, clusters and outbreaks that might need investigation; b) use validation activities to build detection tools; c) study other state tools/approaches.	
	X		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	
			The current mechanisms to protect facility/provider/patient identities are included in the Public Health Service Act (if the information is reported through the NHSN system), Health Insurance Portability and Accountability Act **(**HIPAA) Privacy Rule provisions, and in New Mexico Statutory and Administrative Code Provisions. When NMDOH personnel (Infectious Disease Epidemiology Bureau) begin investigations of potential outbreaks in facilities monitored by the state survey agency within the Department (i.e., DHI), they inform DHI of the investigation; however, DHI does not conduct a survey unless a formal complaint is offered.	Ongoing
	☐	X	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)	

Planning Level	Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
			NMDOH will review all current case report forms for the human communicable diseases that could be healthcare acquired that are reportable by state regulations to see if potential questions should be added: this will be done to help identify specific reports as healthcare-associated and to obtain other related information that could be helpful in that context.	July 1, 2010
			Other activities or descriptions (not required): New Mexico does not currently have a formalized mandatory reporting system specific to healthcare-associated infections, nor are mechanisms or protocols in place for the reporting of outbreaks or breaches in healthcare facilities. The NM Administrative Code (7.4.3.12) does require emergency reporting of "other illnesses or conditions of public health significance"; however, healthcare-associated infections are not addressed specifically. The NM HAI AC plans on initiating discussions regarding the development of an outbreak communication system for exchanging this type of information from healthcare entities to governmental entities. These discussions will include considerations of the legal basis for the sharing of outbreak/breach information, specifically the statutory authority, and if rule promulgation will be necessary. Confidentiality concerns will also be reviewed and discussed, including a consideration of state confidentiality laws and HIPAA Privacy Rule provisions. Current New Mexico statutory and administrative regulations may provide partial mechanisms for protecting facility, provider,	

Planning Level	Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
			and patient identities that may be reported or discovered during an investigation of incidents or potential outbreaks. These confidentiality provisions may need to be broadened however. Accordingly, the NM HAI AC plans to conduct a legal review of current protections and conduct a collaborative process to see if there is any need for additional statutory provisions.	
	X	☐	2. Enhance laboratory capacity for state and local detection and response to new and emerging HAI issues. While no specific activities are planned, New Mexico will look for opportunities to enhance capacity at the NMDOH Scientific Laboratory Division (SLD)—the state public health laboratory—for example, to obtain funding to include antimicrobial susceptibility testing, expand molecular diagnostic capabilities, and other laboratory capacity as it relates to detection to emerging HAI issues. In addition, the New Mexico HAI initiative will work with the largest state-based laboratories (e.g., TriCore and S.E.D.) to understand their capacities as it relates to HAI issues and to actively involve them in building capacity within the state to detect and respond to HAI issues.	Begin January 2010 and ongoing
			Other activities or descriptions (not required): Work with the joint data repository of TriCore Reference Laboratories (the largest clinical diagnostic laboratory in NM) and all VHA data: these data are available through Research at the University of New Mexico (UNM) see link: http://hsc.unm.edu/research/ctsc/warehouse.shtml) to 'mine' for data about emerging resistance patterns and clusters and to	

Planning Level	Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
			develop clinician education regarding MDRO through development of regional and facility-level antibiograms and other laboratory-based guidance.	
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	
	☐	X	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) DHI already shares information gleaned from their citations in their licensed facilities (de-identified). Building on this model, NMDOH could gather information and recommendations gained from breaches identified and outbreaks investigated and share them with state licensing boards and healthcare provider organizations. Mechanisms for sharing this information and recommendations will likely include: a) websites and newsletters (e.g., NMDOH, licensing boards, and professional organizations); b) regularly scheduled meetings of the above-mentioned groups; c) venues for presentation (e.g., hospital Grand Rounds, conferences).	Start March 2010 and ongoing

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): Educate licensed facilities that an HAI outbreak is reportable under the licensing regulations ('facility self reporting' of unusual occurrences that could endanger the health and safety of staff and/or patients).	
	X ☐ ☐ ☐	☐ ☐ ☐ X	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 The NM HAI AC will determine which indicators hospitals should collect and report information about. When the NHSN system is utilized for data collection, participating hospitals will confer rights to the data submitted to NHSN to the designated staff at NMDOH for analysis and public reporting purposes. The NM HAI AC selected CLABSIs in ICU settings as the priority target for 2009-2010 reporting. CLABSIs were selected by the NM HAI AC after a number of potential indicators (including the Health and Human Services [HHS] proposed targets) were assessed applying specified criteria: consideration of impact on the NM population was a part of that assessment (e.g., burden, severity and cost of infections). Beginning in January 2010, and	Ongoing Select second indicator (possibly MRSA) January 2010 and implement at the earliest January 2011

Planning Level	Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
			at least annually thereafter, the NM HAI AC will identify additional indicators to potentially be monitored and reported by participating healthcare facilities. Based on New Mexico legislation (Senate Bill 408 passed in 2008), the NM HAI AC is directed to consider additional prevention targets for public reporting. The NM HAI AC plans to align its goals and indicators with the HHS "Action Plan to Reduce Healthcare-Associated Infections" and associated metrics. As a result of previous collaborative initiatives, some New Mexico hospitals are currently preparing to report or are already reporting MRSA infections to NHSN. However, before adding any additional targets, NM HAI AC will review available information and data to determine the scope of the problem related to the indicator and improvement opportunities for New Mexico. The following factors will be taken into consideration when reviewing potential indicators: • Recommendations by national consensus guidelines • Accurate and consistent definition for the indicator • Ability for data to be conveyed in consumer-friendly fashion • Availability of data for comparisons • Ability for indicator to be reviewed across continuum of healthcare services • Strength of evidence for methods to achieve effective reduction or elimination of the indicator • Endorsement of the indicator and prevention methods by groups such as National Quality Forum • Lack of redundancy with other forms of public reporting for the indicator or processes • Identified local need	

Planning Level	Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
	☐ ☐	☐ ☐	v. Surgical Site Infections (SSI) vi. Ventilator-associated Pneumonia (VAP)	
			Other activities or descriptions (not required): Healthcare worker (HCW) influenza vaccination rates were chosen in 2009 as a second prevention target related to HAIs that would allow all acute care facilities (and eventually non-acute care) to participate in the measure. HCW vaccination rates represented a potentially significant opportunity for improvement based on Joint Commission national goals of 43% seasonal vaccination for HCWs at that time.	
	X		5. Adopt national standards for data and technology to track HAIs (e.g., NHSN). The NHSN system will be used for collecting and tracking data on the CLABSI indicator. In the 2009-2010 vaccination season, facilities will collect data using definitions that are aligned with the NHSN reporting system, and will report this data to the New Mexico HAI initiative through simple New Mexico-designed electronic mechanisms. NHSN will be considered in upcoming influenza seasons as the data tracking tool for HCW influenza vaccinations. However, the NM HAI AC Technical Issues Workgroup evaluated NHSN for reporting HCW influenza vaccinations during the current season and advised against its use at this time.	Ongoing

Planning Level	Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
	☐	X	i. Develop metrics to measure progress towards national goals (align with targeted state goals). (See Appendix 1). The NM HAI AC will establish the state goal for the CLABSI target by January 2011, after one year of baseline data for the participating facilities is available through NHSN. To align with the HHS national five year goal of 50% reduction in CLABSI, the NM HAI AC proposes to adopt an annual CLABSI reduction goal of 10% per year, as determined by applying the standardized incidence ratio (SIR) metric. The HCW influenza vaccination target will be established in May 2010, when final reporting of HCW vaccination rates is provided to the state by participating hospitals. The Joint Commission goal for national HCW immunizations is >43%. This goal will be considered the lowest for developing the state goal for HCW vaccinations.	January 2011
	☐	X	ii. Establish baseline measurements for prevention targets Participating facilities will report CLABSI data to NHSN from January through December 2010. This data will represent the baseline measurement to establish the prevention target, and will be publicly reported the first time in aggregate. By July 1, 2011, the data will be identified and reported by facility name. HCW vaccination rates will be reported for the period of Sept 1, 2009 to March 31, 2010 as a baseline to establish targets, and will also be publicly reported in aggregate until July 1, 2011 when it will be reported by facility. Note that the NHSN group from which the baseline will be derived includes the six pilot hospitals that	Collect one year (calendar 2010) of CLABSI data to establish baseline and one year of HCW influenza vaccination data Sept. through March 2010

Planning Level	Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
			have already instituted CLABSI reduction quality prevention measures which will influence the baseline measurement as well as progress toward the state goal.	
			Other activities or descriptions (not required):	
	X	☐	6. Develop state surveillance training competencies Last training to assist new facilities with NHSN enrollment was held on September 25, 2009: this was offered both in person and web-enabled at the same time to accommodate the entire State.	Ongoing
			Other activities or descriptions (not required): • Development of "NHSN Users Guide" for facilities participating in HAI reporting in NM (made available August 2009) • Training sessions (goal of minimum of biannually) to assist facilities enrolling in NHSN (began Sept 2009): education will include in-person training as well as web-enabled learning sessions • 'HAI Reporting in NM' day-long conference (Feb 11, 2010) to include NHSN surveillance definitions, HAI case studies, questions and answers: will be assisted by CDC staff – invitation has been extended and accepted • Monthly teleconferences ('HAI Reporting in NM' group) to address problems, provide support, answer questions and assist with specific tasks: enrollment; surveillance; data entry; data analysis; quality improvements to reduce	Started July 1, 2008 and is ongoing

Planning Level	Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
			HAI o Task list distributed prior to each teleconference in order to assist participants with monthly requirements • Creation of positive blood culture case scenarios to ascertain hospitals' understanding of NHSN surveillance definitions (began Dec 2008, ongoing)	
	☐	X	7. Develop tailored reports of data analyses for state or region prepared by state personnel Per Senate Bill 408 "The advisory committee shall determine the content, format, venue and frequency of regular reports to the public. Public reports shall be published no later than July 1, 2011 and periodically thereafter." The NM HAI AC Public Reporting/Risk Communication Work Group will be instrumental in helping to plan for and disseminate tailored reports, not only to the public and specific populations within the state, but also to other stakeholders (e.g., elected officials) and personnel within facilities involved in surveillance, prevention and control of HAIs. The Work Group has not yet developed a written plan with time tables for dissemination of reports; therefore, a time range is proposed for implementation.	July 1, 2010-July 1, 2011
			Other activities or descriptions (not required):	

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Level III	☐	X	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	
	☐	X	i. Develop a validation plan	Jan. – June 2010
	☐	X	ii. Pilot test validation methods in a sample of healthcare facilities	July – Sept. 2010
	☐	X	iii. Modify validation plan and methods in accordance with findings from pilot project	Oct. – Nov. 2010
	☐	X	iv. Implement validation plan and methods in all healthcare facilities participating in HAI surveillance	Dec. – April 2011
	☐	X	v. Analyze and report validation findings	May – June (analyze) July 1, 2011 (release report)
	☐	X	vi. Use validation findings to provide operational guidance for healthcare facilities that targets any data shortcomings detected	July – Dec 2011
			Other activities or descriptions (not required): Current activities: • Continue to review all entered CLABSI events with facility Infection Preventionist (IP) and NMDOH Certified Infection Control (CIC) Infection Preventionist • Use the NM CLABSI worksheet for hospitals to help determine whether a positive blood culture meets NSHN	

Planning Level	Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
			CLABSI definitions • Continue monthly quality checks for entered CLABSI denominator data • Consider using the 'Surveillance Methods Questionnaire' with new hospitals: this was developed during pilot for participating facilities to ascertain how each performed CLABSI surveillance • Information from Surveillance Methods Questionnaire was used to develop 'Essential Components of CLABSI Surveillance' that will be offered to all new hospitals (note: this is included in NHSN Users' Guide) • Provide "Quick Help Guide" to assist in using NHSN analysis functions New activities: • Review other states' validation tools (e.g., Connecticut, New York, Washington) • Coordinate with NM Emerging Infections Program (EIP) NHSN network and national HAI EIP network activities as they relate to validation	
	☐	X	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 Define agencies that might be receiving such reports and how they are received and handled: make them aware of the NM HAI Prevention Plan and begin to coordinate across agencies.	March 2011

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):	
	☐	X	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 The NM HAI AC will explore potential mechanisms to share complaints and deficiencies between the state licensing and survey agency and with boards of nursing and medicine, and will include input from the New Mexico Healthcare Association, among others. This work will focus on the recognition and implementation of a 'just culture' approach in ongoing efforts to reconcile absence of blame with accountability as it relates to incidents in hospital and non-hospital settings, as appropriate. Recognition of the ongoing work for HAI improvement in the state through collaborative learning opportunities will be considered in complaint investigations. We propose the continued adoption of the Agency for Healthcare Research and Quality (AHRQ) Resident Safety Culture Survey in long-term care settings to provide additional insight into the perceptions of the staff for reporting and responding to incidents of potential harm. This work will be headed by the state quality improvement organization (QIO)—New Mexico Medical Review Association (NMMRA)—until August 2011, as an	When we select an indicator appropriate for non-hospital settings, collaboration with licensing organizations will begin

Planning Level	Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
			extension of its Ninth Scope of Work requirements for CMS. Non-hospital settings will be considered in all appropriate prevention targets starting in 2011, with the aim of establishing standards of care and appropriate educational objectives across the continuum. Healthcare Infection Control Practices Advisory Committee [HICPAC] priorities will be incorporated into setting standards for continued education and training.	
			Other activities or descriptions (not required): In 2008-09, the New Mexico Methicillin-resistant *Staphylococcus aureus* (MRSA) Collaborative included representatives from non-hospital settings including residential treatment, long term acute care hospitals and long term care facilities, with the aim of developing mentoring relationships between local hospitals' infection prevention staff and other institutional settings for continuing education. This methodology will be continued where possible for new improvement targets.	
	X	☐	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	

Planning Level	Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
	☐	☐	The NM HAI AC will continue to stay apprised of the NMDOH eReporting project and work directly with NMHIC (New Mexico's HIE) if indicated to take advantage of advancements that could provide value for HAI surveillance, prevention and control purposes. ii. Promote definitional alignment and data element standardization needed to link HAI data across the nation.	Ongoing
			Other activities or descriptions (not required):	
	X	☐	12. Enhance electronic reporting and information technology for healthcare facilities to reduce reporting burden and increase timeliness, efficiency, comprehensiveness, and reliability of the data New Mexico has adopted NHSN as the key mechanism for this activity. The NM HAI AC will look for opportunities to link NHSN with other current ongoing initiatives, such as electronic laboratory reporting (ELR), to further enhance systems statewide. New Mexico is a NEDSS (National Electronic Disease Surveillance System) Base System (NBS) state and, as such, looks for opportunities to link the state system (New Mexico Electronic Disease Surveillance System or NM-EDSS)	Ongoing

Planning Level	Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
	X	☐	with NHSN. i. Report HAI data to the public Per Senate Bill 408 "The advisory committee shall determine the content, format, venue and frequency of regular reports to the public. Public reports shall be published no later than July 1, 2011 and periodically thereafter."	July 1, 2011
			Other activities or descriptions (not required):	
	☐	X	13. Make available risk-adjusted HAI data that enables state agencies to make comparisons between hospitals. NMDOH will be doing hospital-specific analyses and comparing NHSN rates; however, hospital-specific rates will not be disseminated to the public until July 1, 2011.	July 1, 2011
			Other activities or descriptions (not required): NMDOH is receiving HL7 2.3.1 ELR messages from Laboratory Corporation of America. During the next year NMDOH plans to implement ELR reporting from at least one other major national reference laboratory (ARUP Laboratories, Mayo Medical Laboratories or Qwest Diagnostics) and will also work with NMHIC to receive ELR messages from two New Mexico	

Planning Level	Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
			laboratories, TriCore Reference Laboratories and Holy Cross Hospital. TriCore is one of the largest clinical reference laboratories in New Mexico and a high volume reporter, representing nearly a third of all notifiable condition laboratory reports received by some programs. The NMDOH Scientific Laboratory Division (SLD) is in the process of implementing a new laboratory information management system (LIMS) that is capable of sending ELR messages. While SLD LIMS implementation is still in progress, the Department continues to work to lay the groundwork for ELR messaging from SLD. All opportunities to leverage and possibly integrate ELR activities with HAI activities will be sought.	
	☐	X	14. Enhance surveillance and detection of HAIs in nonhospital settings The NM HAI AC proposes to sensitize state surveyors to be observant of HAI prevention standards during long term acute care (LTAC) and long term care (LTC) surveys. Patterns of certain HAI (e.g., MRSA, *Clostridium difficile* infection [CDI]) may possibly be detected through QIO access to Medicare inpatient claims data, using the 'present on admission' billing qualifiers as a proxy. The ultimate goal is to include routine surveillance and reporting of HAI in eligible non-hospital settings using NHSN; however, the timeline for how quickly these activities can be implemented in non-hospital settings is not known for New Mexico at this time.	Start communication activities in non-hospital settings July 1, 2010 and ongoing with first assessment activity possibly being point prevalence survey by July 1 2011
			Other activities or descriptions (not required):	

Planning Level	Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
Please also describe any additional activities, not listed above, that your state plans to undertake. Please include target dates for any new activities.				

3. Prevention

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

Table 3: State planning for HAI prevention activities

Planning Level	Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
Level I	☐	X	1. Implement HICPAC recommendations. i. Develop strategies for implementation of HICPAC recommendations for at least 2 prevention targets specified by the state multidisciplinary group. The NM HAI AC will contract with the state QIO to develop, coordinate and implement evidence-based HAI prevention initiatives using a multicenter approach where appropriate to include non-hospital institutional care settings. These initiatives will be aligned with the prevention targets selected by the NM HAI AC for data collection and reporting. Following the initial (baseline) data collection period for the selected indicators, leadership of the prevention coalition/s will convene a group of facilities committed to testing, refining and adopting the HICPAC recommendations using the Institute for Health Improvement (IHI) model for improvement methodologies. When possible, local collaborative efforts will align and join with larger national initiatives to address	June 2010

Planning Level	Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
			similar practices. The NM HAI AC will endorse and issue 'standards of care' related to HAI reduction that have been tested and refined during the collaborative learning experiences. The adherence to standards may then be monitored as a set of process measures, using either NHSN or other process tracking tools.	
			Other activities or descriptions (not required):	
	☐	X	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 A prevention work group, or Collaborative Steering Committee, will be established to include experts in quality improvement and collaborative implementation, one or more infectious disease physician specialists, trade association representatives (acute and long term care), NM Association for Professionals in Infections Control and Epidemiology (APIC) representation, and others as indicated by the focus of the collaborative(s). This work group will consist of both NM HAI AC members and non-members who can provide expert coaching and support.	February 2010
			Other activities or descriptions (not required):	

Planning Level	Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
	☐	X	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 In addition to the expertise identified for the HAI collaborative steering committee, staff at each of the recruited facilities will be identified who have both formal and informal roles and can act as internal coaches and change agents. Part of the recruitment effort will be the appointment of an effective team by facility leadership.	March 2010
	☐	X	ii. Develop a communication strategy to facilitate peer-to-peer learning and sharing of best practices A minimum of one face-to-face group learning sessions of key representatives from recruited facilities will be held in 2010 and 2011. The Collaborative Steering Committee and staff will also conduct at least two remote learning or webinar trainings with participating facilities for each of those years as well. Monthly conference calls will provide for participant interactions and sharing, and Collaborative quarterly progress reports of tested, adopted or abandoned intervention practices will be collected, aggregated and disseminated through calls, learning sessions and other modes. For ongoing informal sharing, the Collaborative staff will promote and monitor an active email listserv for participants. Specific members of the Steering Committee and staff will also conduct one or more	June 2010

Planning Level	Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
			on-site visits at participating hospitals, which will include a continuing medical education (CME) event, an assessment of progress with the internal team and the senior leadership.	
	☐	X	iii. Establish and adhere to feedback of a clear and standardized outcome data to track progress Outcome data will be derived from the NHSN reporting system when possible, or from other data tools developed for these purposes when NHSN is not available or feasible. Participant individual and aggregated data, state and/or national benchmark data and established Collaborative goals will be included in periodic feedback reports provided to participating facilities.	January 2010
			Other activities or descriptions (not required):	
	☐	X	4. Develop state HAI prevention training competencies Training competencies will be developed for those working in HAI prevention (e.g., NMDOH employees, IPs, physicians leading infection control committees, others at the facility level). Leverage/coordinate on-site audits and trainings already taking place (e.g., NMDOH DHI, NMMRA) for delivery of training based on those competencies.	July 2010

Planning Level	Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
	☐	X	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 Develop a training workgroup composed of NM HAI AC members who will decide if additional representation is indicated (e.g., Board of Nursing) to explore best practices and potential requirements for training. This could include requirements for NHSN competency.	July 2010
			Other activities or descriptions (not required):	
Level II			5. Implement strategies for compliance to promote adherence to HICPAC recommendations	
	☐	X	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 Include this item on the list of activities to be overseen by the NM HAI AC and worked on by a subgroup of that committee to include legal counsel.	July 2011
	☐	X	ii. Coordinate/liaise with regulation and oversight activities such as inpatient or	

Planning Level	Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
			outpatient facility licensing/accrediting bodies and professional licensing organizations to prevent HAIs	
			Utilize the state-developed targets and the HHS prioritized modules to encourage implementation at the bedside. Stay abreast of those priorities and incorporate any changes/updates as they develop. Develop written guidelines that facilities can use and incorporate those into trainings provided to and by those with oversight and regulatory responsibilities and authority.	July 2011
	☐	X	iii. Improve regulatory oversight of hospitals, enhancing surveyor training and tools, and adding sources and uses of infection control data	
			Categorize all federal and state regulations as they relate to infection control in facilities over which NMDOH DHI has regulatory responsibility and authority. Apply that information to all facilities overseen by DHI by type (including all non-long term care medical facilities and all long term care facilities which currently include adult residential, day care, developmental disability, family care, boarding and half way homes as well as skilled nursing and nursing facilities and intermediate care facilities for the mentally retarded).	July 2011
	☐	X	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	

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): The NM HAI AC plans on initiating discussions regarding the expansion of regulation and oversight activities to unregulated settings. These discussions will include considerations of the statutory authority for such expansion and whether rule promulgation will be necessary.	July 2010
	☐	X	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) New Mexico is a largely rural state with only 37 acute care facilities. Of these, 14 have greater than 100 beds (up to 450 beds), and 15 have fewer than 50 beds. There are an additional six critical access hospitals with fewer than 25 beds. The state has 3 long term acute care facilities and 68 Medicare-certified nursing homes. Upon selection of appropriate HAI measures for public reporting that apply to a larger pool of acute care facilities, or apply to non-acute care settings, the Collaborative staff will recruit eligible facilities to participate in these Collaborative(s). Because many of the infection control and prevention best practices and process interventions have commonality across multiple HAI targets and across settings, these Collaboratives will evolve scope and membership.	July 2011
			Other activities or descriptions (not required): As national/regional Collaboratives or other initiatives are launched,	

Planning Level	Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
			the NM HAI Collaborative Steering Committee will determine the best course for aligning and synergizing resources with these initiatives. The NM HAI AC members are also affiliated with other national groups interested in HAI. The NM HAI AC will assure sharing of information and resources, and alignments with these groups.	
	☐	X	7. Establish collaborative to prevent HAIs in nonhospital settings (e.g., long term care, dialysis) Based on previous experience in working across healthcare settings on patient care issues, the Collaborative staff plans to incorporate the non-hospital settings into the HAI Collaborative(s) as appropriate: surveillance indicators such as MRSA, *Clostridium difficile* infection (CDI) or catheter associated urinary tract infection (CAUTI) may be included in LTC, LTAC facilities or other residential settings as eligible. Process changes for HAIs that have unique implementation challenges in specific non-hospital settings will be approached by developing 'Mini-Collaboratives' to address these issues, within the context of the larger collaborative work.	July 2011
			Other activities or descriptions (not required):	
Please also describe any additional activities, not listed above, that your state plans to undertake. Please include target dates for any new activities.				

4. Evaluation and Communications

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

Table 4: State HAI communication and evaluation planning

Planning Level	Check Items Underway	Check Items Planned	Items Planned for Implementation (or currently underway)	Target Dates for Implementation
Level I	☐	X	1. Conduct needs assessment and/or evaluation of the state HAI program to learn how to increase impact New Mexico has not had a state HAI program per se to date; therefore, with this plan, the HAI initiative--with its growing infrastructure--will work toward development of a program and will use this plan as one to build upon and modify as indicated over time. New Mexico has the advantage of being part of the national Emerging Infections Program (EIP) and, as such, looks forward to developing evaluation activities in that context.	July 2011
	☐	X	i. Establish evaluation activity to measure progress towards targets and Starting in July 2010, the HAI AC will develop an approach to establish a written evaluation plan to measure progress toward targets established in this plan and likely additional targets that evolve over time. Implementation of evaluation plan will begin January 2011.	January 2011

	☐	X	ii. Establish systems for refining approaches based on data gathered Starting in July 2010, the HAI AC will develop an approach to establish a written plan for evaluation of the data gathered and how approaches will be modified based on that evaluation. Implementation of the resultant recommended modifications will begin January 2011.	January 2011
			Other activities or descriptions (not required):	
	☐	X	2. Develop and implement a communication plan about the state's HAI program and progress to meet public and private stakeholders needs Mechanisms through which the plan will be developed and implemented will include ongoing work of the NM HAI AC Public Reporting/Risk Communication Work Group that will include leadership from NMDOH with participation from hospital public information officers, NMDOH webmaster, representation from the prevention coalition, to name a few.	Development of Plan: Feb. - April 2010
	☐	X	i. Disseminate state priorities for HAI prevention to healthcare organizations, professional provider organizations, governmental agencies, non-profit public health organizations, and the public	

			Modalities for dissemination of information will include: a) news releases to the general public and all elected officials via current NMDOH protocols; b) NM HAI webpage on the NMDOH website with links to other sites highlighting the work including NMHA, NMMRA, NMDOH Indicator Based Information System for Public Health (NM-IBIS); d) directly through NMHA mechanisms (e.g., meetings, newsletters); e) marketing campaign including broadcast TV and radio depending on funding; f) audio and video on web (depending on funding); g) public service announcements with targeted messages for hospitals and other select groups. The plan will be developed by the NM HAI AC Communications Workgroup with input from the NM HAI AC as well as from results of focus group sessions with select populations (e.g., monolingual Spanish speaking, tribal and pueblo communities, public from northern and southern NM).	Implementation May 2010-Dec. 2011
			Other activities or descriptions (not required): NMDOH hosts a website entitled Indicator Based Information System for Public Health (NM-IBIS) which provides access to public health datasets and information on New Mexico's priority health issues. It includes: a) news and updates; b) resources and help; c) health status indicators that include brief, up-to-date reports, graphs and community reports; d) custom dataset queries that include user-defined queries, data tables and graphs. Healthcare-associated infections will be included in NM-IBIS, particularly as facility-specific information becomes available. The NM HAI AC will review and update its operating guidelines and evaluate if there is a need to promulgate rules about how the AC operates, bearing in mind how best it can meet stakeholders needs.	July 1, 2011 Assessment complete by June 1, 2010 and implementation schedule

				dependent on conclusions
			The NM HAI AC will set up a process for transparency to educate additional stakeholders (e.g., media, additional healthcare facilities, NM Foundation for Open Government) and to receive their input.	Begin discussions at February 2010 AC meeting and have implemented process by January 2011
			The NM HAI AC will study approaches (legal and otherwise) that other states have taken to balance transparency with protection of the public and institutions: the information obtained will be used to help make policy recommendations for New Mexico.	Begin to plan for the assessment February 2010 and start the evaluation June 2010 and continue throughout the calendar year.
Level II	☐	X	3. Provide consumers access to useful healthcare quality measures	
			Other activities or descriptions (not required): Facility-specific information at the state and national levels on quality of care is available for several settings (e.g., nursing health, home health and hospitals). The NM HAI AC will align its public reporting plan with national, state and local initiatives to assure that overlapping data reporting is consistent-- and not contradictory--so as to render the information complementary and useful for consumers. Examples of national, state and local level initiatives with which the state prevention plan will align itself	July 1, 2011

			include: the Hospital Compare and Nursing Home Compare and the Advancing Excellence in America's Nursing Homes websites; the NM Hospital Association website that compares quality of care for the Centers for Medicaid and Medicare Services (CMS) core measures and for hospital charges; a local quality reporting project in Bernalillo County, New Mexico, funded by the Robert Wood Johnson Foundation, that focuses on the reporting of quality of care measures for specific hospitals, health plans and physician groups. The NM HAI AC will be careful to evaluate and link to other sources of meaningful quality measure information for consumers. Ongoing efforts of the NM HAI AC to involve consumer advisory groups in determining best practices and methods for providing quality of care information will continue. Results of NHSN data entry by participating facilities and lessons learned from the prevention collaborative work will be compiled in ways designed to be useful to consumers: focus groups will help the NM HAI AC to determine what consumers would find useful and ways in which they would like for the information to be delivered.	
Level III	X	☐	4. Identify priorities and provide input to partners to help guide patient safety initiatives and research aimed at reducing HAIs The NM HAI AC will identify and make recommendations regarding state priorities for policy decisions, licensing and certification decisions, and will also set future prevention targets for the state. Activities will include: • Training in surveillance, prevention and control of healthcare-associated infections • Development and dissemination of appropriate public reports of HAI surveillance findings • Assessment of consumer needs and work towards solutions to	Ongoing

			decrease HAI adverse events • Alignment with federal requirements and state quality improvement organization work in patient safety to minimize duplication of efforts and work burden on facilities • Alignment with local and national HAI surveillance systems as they are implemented • Provision of information of our experiences aimed at reduction of HAIs (i.e., results of interventions and sustainment of improvement) to national partners (e.g., CDC and through NHSN data submission) and local partners as we add indicators • Exploration of affiliation or alliance with a Patient Safety Organization (PSO): The NM HAI AC has been in the process of reviewing and considering the benefits of being involved with, and possibly reporting data to, a regional PSO certified under the federal Patient Safety and Quality Improvement Act (PSQIA). In addition to receiving federal guidance on patient safety initiatives, one of the primary benefits of using a PSO as a data collection system is the confidentiality and privilege protections afforded by such a system. The NM HAI AC is concerned about the fact that HAI data has been routinely underreported due to the fear of civil liability, disciplinary or licensure action, or other harm to professional reputation. Studies have shown that reporting statutes containing confidentiality and privilege protections result in higher rates of reporting. Since PSOs have the strongest confidentiality and privilege protections under the PSQIA and related regulations, the NM HAI AC is interested in exploring PSOs as a data reporting alternative. • Provision of information of our experiences aimed at reduction of HAIs (i.e., results of interventions and sustainment of improvement) to national and local partners	

		Other activities or descriptions (not required): All NM HAI activities will align with the NM Emerging Infections Program (NM EIP) National Healthcare Safety Network (NHSN) network—and the larger EIP national network—on all activities, particularly as they relate to research aimed at reducing HAIs.	
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.

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.

To address concerns regarding validity, HHS is providing funding, utilizing Recovery Act of 2009 funds, to CDC to support states in validating NHSN-related measures and to support reporting on HHS metrics through NHSN. Also, most of the reporting metrics outlined here have already

been endorsed by NQF and for population-based national measures on MRSA and *C. difficile*, work to develop hospital level measures will be conducted in the next year utilizing HHS support to CDC through funds available in the Recovery Act.

Finally, to address concerns regarding flexibility in accommodating new measures, reviewing progress on current measures, and incorporating new sources of measure data (e.g., electronic data, administrative data) or new measures, HHS and its constituent agencies will commit to an annual review and update of the HHS Action Plan Targets and Metrics.

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*
2. CLIP 1 (formerly CLABSI 4)	Central line bundle compliance	CLIP Adherence percentage	CDC NHSN CLIP in Device-Associated Module	2009 (proposed 2009, in consultation with states)	100% adherence with central line bundle	CDC	Yes†
3a. C diff 1	Case rate per patient days; administrative/discharge data for ICD-9 CM coded *Clostridium difficile* Infections	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	AHRQ	No
3b. C diff 2 (new)		*C. difficile* SIR	CDC NHSN MDRO/CDAD Module LabID‡	2009-2010	Reduce the facility-wide healthcare facility-onset *C. difficile* LabID event SIR by at least 30% 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?
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*
5a. MRSA 1	Incidence rate (number per 100,000 persons) of invasive MRSA infections	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	CDC	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	CDC	No
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¶
7. SCIP 1 (formerly SSI 2)	Adherence to SCIP/NQF infection process measures	SCIP Adherence percentage	CMS SCIP	To be determined by CMS	At least 95% adherence to process measures to prevent surgical site infections	CMS	Yes

* 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.

Understanding the Relationship between HAI Rate and SIR Comparison Metrics

The Original HAI Elimination Metrics listed above are very useful for performing evaluations. Several of these metrics are based on the science employed in the NHSN. For example, metric #1 (CLABSI 1) for CLABSI events measures the number of CLABSI events per 1000 device (central line) days by ICU and other locations. While national aggregate CLABSI data are published in the annual NHSN Reports these rates must be stratified by types of locations to be risk-adjusted. This scientifically sound risk-adjustment strategy creates a practical challenge to summarizing this information nationally, regionally or even for an individual healthcare facility. For instance, when comparing CLABSI rates, there may be quite a number of different types of locations for which a CLABSI rate could be reported. Given CLABSI rates among 15 different types of locations, one may observe many different combinations of patterns of temporal changes. This raises the need for a way to combine CLABSI rate data across location types.

A standardized infection ratio (SIR) is identical in concept to a standardized mortality ratio and can be used as an indirect standardization method for summarizing HAI experience across any number of stratified groups of data. To illustrate the method for calculating an SIR and understand how it could be used as an HAI comparison metric, the following example data are displayed below:

Risk Group Stratifier	**Observed CLABSI Rates**			**NHSN CLABSI Rates for 2008 (Standard Population)**		
Location Type	**#CLABSI**	**#Central line-days**	**CLABSI rate***	**#CLABSI**	**#Central line-days**	**CLABSI rate***
ICU	170	100,000	1.7	1200	600,000	2.0
WARD	58	58,000	1.0	600	400,000	1.5

$$\text{SIR} = \frac{\text{observed}}{\text{expected}} = \frac{170+58}{100000\times\left(\frac{2}{1000}\right)+58{,}000\times\left(\frac{1.5}{1000}\right)} = \frac{228}{200+87} = \frac{228}{287} = 0.79 \qquad 95\%\text{CI} = (0.628, 0.989)$$

*defined as the number of CLABSIs per 1000 central line-days

In the table above, there are two strata to illustrate risk-adjustment by location type for which national data exist from NHSN. The SIR calculation is based on dividing the total number of observed CLABSI events by an "expected" number using the CLABSI rates from the standard population. This "expected" number is calculated by multiplying the national CLABSI rate from the standard population by the observed number of central line-days for each stratum which can also be understood as a prediction or projection. If the observed data represented a follow-up period such as 2009 one would state that an SIR of 0.79 implies that there was a 21% reduction in CLABSIs overall for the nation, region or facility.

The SIR concept and calculation is completely based on the underlying CLABSI rate data that exist across a potentially large group of strata. Thus, the SIR provides a single metric for performing comparisons rather than attempting to perform multiple comparisons across many strata which makes the task

cumbersome. Given the underlying CLABSI rate data, one retains the option to perform comparisons within a particular set of strata where observed rates may differ significantly from the standard populations. These types of more detailed comparisons could be very useful and necessary for identifying areas for more focused prevention efforts.

The National 5-year prevention target for metric #1 could be implemented using the concept of an SIR equal to 0.25 as the goal. That is, an SIR value based on the observed CLABSI rate data at the 5-year mark could be calculated using NHSN CLABSI rate data stratified by location type as the baseline to assess whether the 75% reduction goal was met. There are statistical methods that allow for calculation of confidence intervals, hypothesis testing and graphical presentation using this HAI summary comparison metric called the SIR.

The SIR concept and calculation can be applied equitably to other HAI metrics list above. This is especially true for HAI metrics for which national data are available and reasonably precise using a measurement system such as the NHSN. The SIR calculation methods differ in the risk group stratification only. To better understand metric #6 (SSI 1) see the following example data and SIR calculation:

Risk Group Stratifiers		**Observed SSI Rates**			**NHSN SSI Rates for 2008 (Standard Population)**		
Procedure Code	**Risk Index Category**	**#SSI†**	**#procedures**	**SSI rate***	**#SSI†**	**#procedures**	**SSI rate***
CBGB	1	315	12,600	2.5	2100	70,000	3.0
CBGB	2,3	210	7000	3.0	1000	20,000	5.0
HPRO	1	111	7400	1.5	1020	60,000	1.7

$$\text{SIR} = \frac{\text{observed}}{\text{expected}} = \frac{315+210+111}{12600\times\left(\frac{3.0}{100}\right)+7000\times\left(\frac{5.0}{100}\right)+7400\left(\frac{1.7}{100}\right)} = \frac{636}{378+350+125.8} = \frac{636}{853.8} = 0.74 \qquad 95\%\text{CI} = (0.649, 0.851)$$

† SSI, surgical site infection

* defined as the number of deep incision or organ space SSIs per 100 procedures

This example uses SSI rate data stratified by procedure and risk index category. Nevertheless, an SIR can be calculated using the same calculation process as for CLABSI data except using different risk group stratifiers for these example data. The SIR for this set of observed data is 0.74 which indicates there's a 26% reduction in the number of SSI events based on the baseline NHSN SSI rates as representing the standard population. Once again, these data can reflect the national picture at the 5-year mark and the SIR can serve as metric that summarizes the SSI experience into a single comparison.

There are clear advantages to reporting and comparing a single number for prevention assessment. However, since the SIR calculations are based on standard HAI rates among individual risk groups there is the ability to perform more detailed comparisons within any individual risk group should the need arise. Furthermore, the process for determining the best risk-adjustment for any HAI rate data is flexible and always based on more detailed risk factor analyses that provide ample scientific rigor supporting any SIR calculations. The extent to which any HAI rate data can be risk-adjusted is obviously related to the detail and volume of data that exist in a given measurement system.

In addition to the simplicity of the SIR concept and the advantages listed above, it's important to note another benefit of using an SIR comparison metric for HAI data. If there was need at any level of aggregation (national, regional, facility-wide, etc.) to combine the SIR values across mutually-exclusive data one could do so. The below table demonstrates how the example data from the previous two metric settings could be summarized.

	Observed HAIs			**Expected HAIs**		
HAI Metric	**#CLABSI**	**#SSI†**	**#Combined HAI**	**#CLABSI**	**#SSI†**	**#Combined HAI**
CLABSI 1	228			287		
SSI 1		636			853.8	
Combined HAI			228 + 636 = 864			287+853.8 = 1140.8

$$\text{SIR} = \frac{\text{observed}}{\text{expected}} = \frac{228+636}{287+853.8} = \frac{864}{1140.8} = 0.76 \qquad 95\%\text{CI} = (0.673, 0.849)$$

† SSI, surgical site infection