EMERGING INFECTIONS PROGRAM (EIP)

HEALTHCARE-ASSOCIATED INFECTIONS PROGRAM - INNOVATIONS IN THE SURVEILLANCE OF MULTIDRUG-RESISTANT ORGANISMS AND HEALTHCARE-ASSOCIATED INFECTIONS

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ACTIVITY 1, ACTIVITY 2, AND ACTIVITY 3

Minnesota Department of Health

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I. Background and Need

A. Current Level of HAI Surveillance and Prevention Activities

Healthcare-associated infections (HAIs) are now considered one of the top 10 leading causes of death in the United States, representing a serious threat to patient safety. While this is clearly an emerging public health issue, defining effective intervention strategies and assuring adherence to evidence-based practices that reduce HAIs remain challenging. To date, there have been limited resources to develop and maintain effective community and statewide HAI prevention efforts within state health departments.

The Minnesota Department of Health (MDH) is a nationally recognized leader in healthcare reform and public health. Within MDH, the Acute Disease Investigation and Control Section (ADIC) has extensive experience with surveillance of emerging infectious diseases and antimicrobial resistance. Infection prevention and control has long been recognized by MDH as an important component of epidemiologic investigations in healthcare facilities and the community.

The backbone of the MDH disease surveillance is the strong partnership with the Minnesota healthcare community. In particular, MDH relies on infection preventionists as the designated disease reporters at each healthcare facility. MDH has conducted infection surveillance as one of the 10 Emerging Infections Program (EIP) Active Bacterial Core Surveillance (ABCs) sites since 1995. MDH performs multidrug resistant organism (MDRO) surveillance including population-based invasive methicillin-resistant Staphylococcus aureus (MRSA) surveillance in Ramsey (since 2004) and Hennepin (since 2008) Counties, sentinel site surveillance for all cases of MRSA (at 12 hospital laboratories since 2000), death and severe illness associated with community-associated S. aureus infection (since 2005), and surveillance for vancomycin-intermediate S. aureus (VISA) and vancomycin-resistant S. aureus (VRSA). Surveillance for Clostridium difficile infection (CDI) included six sentinel sites in 2007 and was expanded in 2009 to population-based surveillance in four Minnesota counties.

MDH has a long-standing history with the Association for Professionals in Infection Control and Epidemiology - Minnesota Chapter (APIC-MN). MDH has contributed by presenting at their annual conferences, teaching aspects of Basic Infection Control courses, serving as a consultant, and providing funding support through EIP. MDH staff are also active members of the North Central Chapter Infectious Diseases Society of America (NCCIDSA).

Minnesota’s current level of activity regarding HAI surveillance and prevention involves national, statewide, and facility-specific efforts. National efforts include meeting Centers for Medicare and Medicaid Services (CMS) requirements for reporting specific measures to StratisHealth, the Minnesota Quality Improvement Organization (QIO). Statewide reporting of HAI measures is conducted under Minnesota Statute 62J.82 (referred to as the Minnesota HAI Reporting Statute) that became effective January 1, 2009. This law requires reporting of National Quality Forum (NQF) HAI measures from all Minnesota acute care facilities to the Minnesota Hospital Association (MHA), a trade association representing Minnesota hospitals and health systems. The law requires MHA to make facility-specific measures available to the public on their website. An MDH-driven, but facility-specific, statewide HAI prevention initiative involves
the 2008 publication of the *MDH Recommendations for the Prevention and Control of MRSA in Acute Care Facilities*. This document contains nationally published guidelines and summarizes scientific literature from which each acute care facility in the state must develop a facility-specific MRSA prevention plan.

Through the ARRA funding opportunity, MDH will support targeted efforts to monitor and investigate the changing epidemiology of HAIs in the context of HAI prevention efforts. Project activities will be developed to be sustainable, utilize existing infrastructure, and enhance and expand current HAI prevention activities. MDH is applying for all proposed activities in this funding opportunity.

**B. Need for Creating, Expanding, and Sustaining an HAI Surveillance and Prevention Program**

A statewide coordinated approach to HAI prevention must be created to provide direction, coordination, and oversight in order to strengthen HAI surveillance and other prevention strategies statewide. The MDH will provide oversight and guidance to the expansion of existing initiatives in order to meet gaps, avoid duplication and provide a framework for the current fragmentation of HAI prevention initiatives. A statewide HAI prevention strategy that incorporates the use of the National Healthcare Safety Network (NHSN) as a surveillance methodology will provide sustainability to HAI prevention efforts. By assessing infection rates and compliance with prevention measures, progress can be charted and gaps can be identified. HAI data will be used to drive the development of HAI prevention initiatives in Minnesota.

A statewide sustainable HAI infection prevention and surveillance system will contribute to improved health and safety of patients. MDH will collaborate with existing and new partners to promote HAI surveillance and prevention initiatives. ARRA funding will be used to increase the informatics capacity of MDH and acute care facilities in order to support the implementation of measurable infection prevention initiatives. Furthermore, we aim to strengthen informatics capabilities to maximize the use of the electronic data mining practices with the ultimate goal of increasing efficiency to avoid duplicative data entry to allow more time to focus on HAI data analysis and prevention and control efforts. A train-the-trainer approach will be implemented where feasible to extend resources statewide and develop a cadre of professionals to provide ongoing training to address staff turn-over. Educational training will be formatted as self-study modules to increase accessibility of the material and decrease overhead costs going forward. Enrollment in NHSN as a sustainable HAI prevention tool will be encouraged statewide.

**II. Accomplishments and Proven Capacity**

**A. Current HAI Surveillance and Prevention Capacity**

Current HAI prevention activities include mandated HAI reporting, required MRSA infection prevention and control programs for acute care facilities, and organization-driven prevention initiatives. The Minnesota HAI Reporting Statute requires acute care hospitals to report defined measures quarterly to the MHA. These include three NQF measures: Ventilator Bundle Measures, Central Line Measures, and Surgical Site Infection Measures.
In addition to mandated HAI reporting, acute care facilities are required to report CMS measures to StratisHealth including: heart attack care (10 measures), heart failure (six measures), pneumonia (eight measures) and Surgical Care Improvement Project (SCIP) (eight measures).

The MDH Recommendations for the Prevention and Control of MRSA in Acute Care Facilities document requires all acute care facilities to conduct an annual MRSA risk assessment and develop a plan to prevent and control the transmission of MRSA within their facilities. These MDH Recommendations reflect a statewide HAI prevention effort, but are facility-specific based on the risk assessment and the facility patient population. Organization-specific HAI prevention initiatives, such as hand hygiene and bundle compliance, are adapted from published national initiatives such as the Institute for Healthcare Improvement's 100,000 Lives Campaign.

B. Previous Experience Entering into Formal Agreements

MDH has significant experience in entering into a range of contracts with experts including in areas of hospital adverse events reporting, unexplained deaths review, and syndromic surveillance. We have contracted with APIC-MN for 14 years to provide training to its members on surveillance and specifically on emerging infections. They provide time during their monthly meetings and space in their newsletter for MDH to provide updates, and MDH provides educational sessions at their annual conference. This relationship will continue with ongoing education regarding HAI detection, infection prevention control, and prompt reporting of suspect cases.

C. Previous Experience with HAI-related Issues in Non-acute Care Settings

We have extensive experience collaborating with and developing infection prevention materials for non-acute care settings.

1. Long-term Care Facilities

We have worked with long-term care facilities (LTCFs) to develop education and training materials to increase awareness of appropriate assessment and treatment of LTCF residents with urinary tract infection symptoms and to promote judicious antibiotic use in the LTCF population. Educational interventions developed by MDH include brochures, newsletter articles, self-study modules, pocket reference cards, and educational CD-ROMs. Topics covered include antibiotic resistance, urinary tract infection, C. difficile infection, vaccination, hand hygiene, and use of urinary catheters. The long-term objectives include decreases in rates of antibiotic-resistant organisms in LTCFs and decreases in complications of antibiotic misuse such as C. difficile infection.

In 2000, MDH developed and published Guidelines for the Prevention of Antimicrobial-resistant Microorganisms in Long-term Care Facilities. This document includes recommendations for the prevention and control of antimicrobial resistant organisms specific to the long-term care setting (at www.health.state.mn.us/divs/idepc/dtopics/infectioncontrol/ltcguideline.html).
2. Hemodialysis Settings

Three vancomycin-intermediate *Staphylococcus aureus* (VISA) cases were reported to MDH in the summer of 2008. The increase in VISA cases was concerning with 1 case being a hemodialysis patient residing in the community. Subsequently, we formally presented information to the largest private hemodialysis provider in Minnesota regarding methicillin resistant *Staphylococcus aureus* (MRSA)/VISA epidemiology and infection prevention issues. Objectives of the presentation included defining staphylococcal infections, MRSA, VISA; highlighting risk factors for MRSA/staphylococcal infections or colonization; and describing MRSA/staphylococcal/VISA infection prevention and control measures for hemodialysis settings. Through this experience, we recognized the lack of infection prevention and control knowledge in the hemodialysis setting.

3. Childcare

We have collaborated with local public health agencies to develop infection prevention materials. One example is the development of the *Hennepin County Daycare Manual on Infectious Diseases* (the current edition was expanded to include school-aged children). This is a tool that is used widely throughout Minnesota and the United States.

4. Ambulatory Care

In collaboration with APIC-MN, MDH developed resources for pandemic influenza planning in ambulatory care facilities called the *Ambulatory Care Clinic Tool Kit*. This toolkit contains material for the clinic management team to use in planning for and responding to infection control aspects of an influenza pandemic. It contains policies, fact sheets, templates, and checklists that can be adapted to fit the facility. The information can be integrated with the clinic's emergency management plan.

Print materials, developed to support the efforts of clinicians in ambulatory care to promote judicious antibiotic use when treating patients with upper respiratory infections and otitis media, continue to be distributed. New print materials over this past year have focused on appropriate management of staphylococcal skin and soft tissue infections. These materials are available in English, Hmong, Somali, and Spanish and can be downloaded or ordered online via the Minnesota Antibiotic Resistance Collaborative (MARC) and MDH websites.

D. Ability to Respond Quickly to ARRA Requirements

In anticipation of a quick initiation, we will begin to recruit applicants upon completion of this application process. Position descriptions and contracts will be drafted in advance. Job postings will be drafted for posting immediately upon receipt of the award notification.

III. Project Work Plan

MDH is applying for all Activities (1, 2, and 3) described in this funding opportunity.
Timeline of Activities

<table>
<thead>
<tr>
<th>EIP HAI Activity</th>
<th>Timeline</th>
</tr>
</thead>
<tbody>
<tr>
<td>Post position descriptions for HAI staff</td>
<td>September 2009</td>
</tr>
<tr>
<td>Hire new HAI staff and execute contract with StratisHealth</td>
<td>September 2009</td>
</tr>
<tr>
<td>Recruit facilities to participate in NHSN</td>
<td>Ongoing: 9/1/2009 - 12/31/2011</td>
</tr>
<tr>
<td>Quarterly report due to CDC</td>
<td>10/10/2009</td>
</tr>
<tr>
<td>HACO-MRSA study protocol submitted to MDH IRB</td>
<td>1/01/2010</td>
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<tr>
<td>Initiate CRE surveillance with isolate collection</td>
<td>1/01/2010</td>
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<tr>
<td>Quarterly report due to CDC</td>
<td>1/10/2010</td>
</tr>
<tr>
<td>Quarterly report due to CDC</td>
<td>4/10/2010</td>
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<tr>
<td>HAI point prevalence study (1-2 hospitals, one day)</td>
<td>mid-2010</td>
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<tr>
<td>Quarterly report due to CDC</td>
<td>7/10/2010</td>
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<tr>
<td>Quarterly report due to CDC</td>
<td>10/10/2010</td>
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<tr>
<td>Enrolled facilities start reporting data to NHSN</td>
<td>1/01/2011</td>
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<tr>
<td>Quarterly report due to CDC</td>
<td>1/10/2011</td>
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<tr>
<td>Quarterly report due to CDC</td>
<td>4/10/2011</td>
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<tr>
<td>Quarterly report due to CDC</td>
<td>7/10/2011</td>
</tr>
<tr>
<td>HAI point prevalence study (most MN hospitals, one month)</td>
<td>mid-2011</td>
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<tr>
<td>Quarterly report due to CDC</td>
<td>10/10/2011</td>
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<tr>
<td>Quarterly report due to CDC</td>
<td>1/10/2012</td>
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Activity 1. Evaluating MRSA HAIs in Non-hospital Settings

A. Project Objectives and Work Plan

Invasive MRSA is well described in hospital settings but there is a gap in knowledge regarding the burden of invasive MRSA infection that occurs among patients with healthcare-associated risk factors (history of hospitalization, dialysis, surgery, percutaneous device or indwelling catheter, long-term care facility residence) with onset of infection in the community (healthcare-associated community-onset [HACO] MRSA) - for instance, among long-term care facility residents, dialysis patients residing in community settings, or long-term acute care facility patients.

From 2005 to 2008, invasive MRSA data from Ramsey and Hennepin (added in 2007) Counties show that 85% (418/492) of invasive bloodstream infection cases were HACO-MRSA. Of these infections, 73% (306/418) had been hospitalized, 48% (202/418) had LTCF exposure, 37% (155/418) had surgery, 16% (66/418) received hemodialysis in the prior year, and 17% (72/418) had an invasive device.

With collaboration and guidance from the EIP ABCs MRSA Pathogen Committee, we will participate in evaluating MRSA bloodstream infections in non-hospital settings. We will likely focus the evaluation on HACO-MRSA cases reported as having chronic kidney failure requiring chronic hemodialysis treatment. The nature of the patients, services administered, and staff
training levels in hemodialysis centers results in a unique setting with the potential for increased risk of infectious disease transmission. Eligible cases will be ascertained using the current ABCs invasive MRSA surveillance system and will involve necessary follow-up data collection at hemodialysis centers in Ramsey and Hennepin Counties following methodology determined by the MRSA Pathogen Committee.

One aim of the evaluation will be to describe factors that occur in the time period following hospital discharge that increase the risk of invasive MRSA infection. Another aim will be to use the analysis results to guide development of infection prevention recommendations and strategies intended to reduce the risk of infection.

To complete Activity 1, MDH will perform the following activities:

1. Participate in protocol development with the EIP ABCs MRSA Pathogen Committee, obtain necessary administrative approvals from all participating institutions, and complete necessary data collection.
2. Obtain necessary approvals to gain access to medical records for eligible cases.
3. Submit de-identified data to CDC in accordance with a common protocol.

B. Current and Proposed New Staff

Current MDH Staff

Ruth Lynfield, M.D (in-kind support), State Epidemiologist and Medical Director of the Infectious Disease Epidemiology, Prevention and Control Division, is board-certified in pediatric infectious disease. Dr. Lynfield provides primary oversight to ABCs, serves on the MRSA Pathogen Committee, and provides guidance to numerous projects and studies related to infections and antimicrobial resistance, including those in LTCFs. She serves on the IDSA Antibiotic Resistance Working Group and the National and Global Public Health Committee, and chairs the Minnesota Antibiotic Resistance Collaborative.

Richard Danila, Ph.D., M.P.H. (in-kind support) is the ADIC Manager and the Deputy State Epidemiologist and provides oversight to infection prevention activities.

Lindsey Lesher, M.P.H., epidemiologist, coordinates MRSA and other staphylococcal surveillance projects. She conducts surveillance and analyzes MRSA trends. Ms. Lesher will assist on the new HAI activities including HACO-MRSA surveillance, and will be trained and gain skills in NHSN and strengthen her expertise in HAI surveillance and prevention.

New Positions to be Created

Epidemiologist, Intermediate MDH will hire an Epidemiologist, Intermediate (at 0.5 FTE or a greater percentage FTE for less of the Cooperative Agreement period) to conduct data collection and perform data analysis for the HACO-MRSA evaluation.
Student Paraprofessional
MDH will hire one Student Paraprofessional (at 0.35 FTE) to assist with data collection and data management.

C. Reports to be Prepared and Disseminated

Summary reports will be written using data from the HACO-MRSA analyses conducted. Summary reports will be disseminated to dialysis centers in Minnesota. An e-mail listserv will be created to facilitate communication among hemodialysis centers. Infection prevention in dialysis centers needs to be strengthened and these activities will provide opportunities to highlight the importance and need for infection prevention and control in these settings. MDH will create a webpage for infection prevention and control specific to hemodialysis settings and will include current recommendations, literature, prevention and control tools, and additional resources. Content will target multiple audiences including healthcare providers, administrators, staff, and patients associated with hemodialysis settings. Additionally, a summary report will be included annually in the MDH Disease Control Newsletter which is distributed to healthcare providers throughout the state.

D. Web-based Tools to be Developed

An e-mail listserv will be created to facilitate communication among hemodialysis centers. We will create a webpage for infection prevention and control specific to hemodialysis settings and will include current recommendations, literature, prevention and control tools, and additional resources. Content will target multiple audiences including healthcare providers, administrators, staff, and patients associated with hemodialysis settings.

E. Staff Responsibilities and Training

We will hire an epidemiologist to conduct data collection and perform data analysis for the HACO-MRSA evaluation. We will hire a student paraprofessional to assist with HACO-MRSA data collection and data management. Training will be provided to the new epidemiologist and student worker via CDC training sessions and from current MDH staff working on the ABCs invasive MRSA project. Training will include epidemiological surveillance skills and infection prevention methods for HAIs.

F. NHSN Surveillance

NHSN will be promoted for use in hemodialysis and acute care facilities. The NHSN dialysis module will be promoted in hemodialysis centers in Ramsey and Hennepin Counties. Contact will be made utilizing an MDH list of licensed centers. Centers will be contacted directly to introduce objectives and provide an overview of NHSN surveillance. Additionally, new CMS rules regarding infection prevention will be highlighted. Conference calls for dialysis centers, facilitated by MDH, will also be held to discuss logistics of diagnostics and systematic querying patients for infection information. Additionally, to strengthen infection prevention and control efforts, educational materials will be developed based on current guidelines and published literature.
G. Complementary Non-duplicative Efforts

The work in Activity 1 will complement and not duplicate efforts as there are no statewide MRSA HAI prevention initiatives in non-acute care settings. Additionally, invasive HACO-MRSA analyses have not been conducted in non-acute care settings in Minnesota.

Activity 2. Innovations in Surveillance through NHSN

A. Project Objectives and Work Plan

1. HAI Surveillance and Prevention Staff and Training

One full-time equivalent Clinical Nurse Specialist will be hired to oversee the EIP HAI activities. The candidate will be an experienced infection preventionist certified in infection control. The position responsibilities will include working closely with StratisHealth, Minnesota's QIO, on enrolling and training acute care facilities in NHSN. The coordinator will receive training through CDC EIP HAI surveillance training sessions, regular APIC-MN meetings, and working closely with Jane Harper, MDH infection control specialist. Additionally, a bacteriologist laboratory specialist will be hired to characterize submitted pathogens associated with emerging antimicrobial-resistance such as carbapenem-resistant *Enterobacteriaceae*. Training will be provided by Public Health Laboratory staff on current testing methods.

MDH will contract with StratisHealth to assist hospitals with enrollment in NHSN, and to provide NHSN training to identified staff in these facilities. StratisHealth has recent experience performing these duties with two Minnesota hospitals as part of its QIO responsibilities.

2. Establishing MDH EIP as a NHSN Group User

We will promote the use of specific NHSN modules for reporting HAI data. MDH will work with StratisHealth to recruit facilities in the EIP catchment area. MDH will attain the CDC Digital Certificate for NHSN and request Group User status from all participating NHSN facilities in Minnesota. The EIP HAI coordinator will coordinate a network of participating NHSN reporting facilities in the EIP catchment area. Site-specific data will be analyzed.

3. Promoting NHSN and Determination of Catchment Area

We will participate via EIP Steering Committee and/or appropriate EIP network workgroups to determine the catchment area and the specific focus of the data to be reported.

We will contract with StratisHealth to recruit and enroll healthcare facilities in NHSN. StratisHealth has facilitated enrollment of Minnesota hospitals in NHSN. They have developed timelines and work plans that break down the enrollment process into incremental action steps that are achievable given competing priorities of infection preventionists.

MDH, in collaboration with StratisHealth, will initially recruit acute care facilities in the Minneapolis-St. Paul Metropolitan area to participate in NHSN. MDH, in collaboration with StratisHealth, will promote the use of the Multidrug-Resistant Organism (MDRO) and
4. Hospital-wide HAI Prevalence Survey

We will participate in promoting the implementation of a hospital-wide HAI prevalence survey in accordance with a multi-site protocol developed by the EIP Network. This evaluation will be conducted to describe the full spectrum of HAI across all patient care areas for one day in the United States. This evaluation will be one method to assess the accuracy and relevance of HAI data reported to NHSN. We will participate in protocol development, facility recruitment, leading training sessions with facilities, conducting an expanded pilot survey in mid-2010, and a full point prevalence survey conducted over 1 month in 2011. We will work closely with APIC-MN to coordinate and encourage participation in the full point prevalence study in 2011.

5. Assess the Role and Potential for Interruption of Inter-facility Transfer of MDROs and CDI between Healthcare Facilities

We will assess the role and potential for interruption of inter-facility transfer of MDROs and C. difficile infection between healthcare facilities using a common methodology developed through the EIP Steering Committee and/or EIP network workgroups. The EIP HAI coordinator will work with HAI prevention collaboratives outside of EIP to identify and address potential overlap such as MHA and StratisHealth.

6. Improve NHSN Reporting and Operations User Experience

We will collaborate with CDC to improve NHSN reporting and operations user experience for facilities and state health departments. We will perform studies to evaluate alternative (i.e., simplified but valid) ways to conduct data acquisition, analysis, and dissemination of data such as validation of HAI data, numerator and denominator estimates, and simplification of NHSN reporting methodologies. Information obtained from the evaluation will be used to develop a model for NHSN reporting and operations that can be used by non-EIP state health departments.

7. Establish a Mechanism for Collecting and Submitting Pathogens Associated with Emerging Antimicrobial Resistance

We will establish a mechanism for collecting and submitting and characterizing pathogens associated with emerging antimicrobial resistance and evaluate this mechanism. This activity could include surveillance for carbapenem-resistant Enterobacteriaceae (CRE) infection at identified acute care facilities.

B. Current and Proposed New Staff

Current MDH Staff

Ruth Lynfield, M.D. will provide consultation and oversight for these activities. She will serve on the EIP HAI and pathogen specific committees and participate in protocol development and study design.
Richard Danila, Ph.D., M.P.H. will provide oversight for infection prevention activities.

Jane Harper, B.S.N., M.S., C.I.C. (in-kind support), infection control specialist, provides consultation to hospital, LTCF and ambulatory care infection preventionists as part of MRSA and VISA/VRSA surveillance and HAI prevention strategies. Ms. Harper works in the Infection Control and Antibiotic Resistance Unit in ADIC, and oversees annual revision of the MDH MRSA Recommendations. She has coordinated the MDH Judicious Antibiotic Use Program since 2000. Ms. Harper will coordinate the new HAI activities, and will be trained and gain skills in NHSN and strengthen her expertise in HAI surveillance and prevention.

**New Positions to be Created**

**Clinical Nurse Specialist**
A Clinical Nurse Specialist (1.0 FTE) will be hired to coordinate the EIP HAI activities. The candidate will be an experienced infection preventionist certified in infection control with knowledge of HAI surveillance.

**Bacteriologist Laboratory Specialist**
A Bacteriologist Laboratory Specialist (at 0.50 FTE) will be hired to work in the Public Health Laboratory. Organisms suspected of being a CRE by clinical laboratories will be tested by real-time PCR for the presence of the blaKPC and for carbapenemase production using the Modified Hodge Test. Organisms identified as CRE will be characterized by pulsed-field gel electrophoresis (PFGE) and sequencing of the blaKPC gene. MDH will collaborate with CDC researchers to develop standardized testing of CRE organisms.

**State Program Administrator, Intermediate**
We will hire one State Program Administrator, Intermediate (at 0.50 FTE) to manage budgets, track costs, and produce and submit ARRA quarterly reports.

**C. Reports to be Prepared and Disseminated**

We will provide periodic communication updates for the network of participating NHSN reporting facilities in the EIP catchment area. Updates will include newly released information from CDC regarding NHSN. Additionally, MDH will develop a listserv for Minnesota NHSN users to provide a venue specifically for communication surrounding NHSN usage.

Aggregate results from the point prevalence studies will be disseminated to infection preventionists in Minnesota. Data from the 2010 study will be used to recruit facilities in the 2011 study.

**D. Web-based Tools to be Developed**

MDH will develop a listserv for Minnesota NHSN users to provide a venue specifically for communication surrounding NHSN usage. As electronic data uploading capabilities are announced by CDC, MDH will disseminate this information to all infection preventionists in Minnesota to encourage participation in NHSN.
We will develop a webpage to provide information regarding the HAI point-prevalence study. Information will include point-prevalence protocols, training materials including webinars and presentations from MDH and CDC, and frequently asked questions. Nationally published results from CDC will be available on the webpage and disseminated via email to infection preventionists.

E. Staff Responsibilities and Training

One FTE Clinical Nurse Specialist will be hired to oversee the EIP HAI activities. The candidate will be an experienced infection preventionist certified in infection control. The position responsibilities will include working closely with StratisHealth which has experience in providing implementation and training of NHSN to acute care hospitals. The coordinator will receive training through CDC EIP HAI surveillance training sessions, regular APIC-MN meetings, and working closely with MDH ADIC staff.

A Bacteriologist Laboratory Specialist (at 0.50 FTE) will be retained or hired to work in the Public Health Laboratory to characterize submitted pathogens associated with emerging antimicrobial-resistance such as carbapenem-resistant Enterobacteriaceae. Training will be provided by Public Health Laboratory staff on current testing methods.

MDH will hire a State Program Administrator, Intermediate to manage budgets, track costs, and produce and submit ARRA quarterly reports per protocol. The state program administrator will be trained by current MDH staff.

F. NHSN Surveillance

NHSN is not widely used in Minnesota for HAI reporting primarily because Minnesota currently has mandated HAI reporting on specific NQF measures, which does not use NHSN (Section IIA). With this funding opportunity, MDH plans to increase participation in NHSN in acute care facilities and hemodialysis centers in the EIP catchment area.

G. Complementary Non-duplicative Efforts

The current HAI reporting system in Minnesota focuses on infection prevention process measures (except for surgical site infection for vaginal hysterectomy and total knee arthroplasty), not infection rates. Increasing the use of NHSN would enhance and expand the current surveillance system by providing additional measures on which to report, such as C. difficile and allowing facilities to use analyzed data to benchmark progress. Two advantages of using NHSN are that the system is sustainable and maintained by one entity and that it provides a nationally, systematic approach to HAI data collection and analysis.

Activity 3. Track, Measure, and Report Programmatic and Fiscal Activity and Economic Impact as Required by ARRA and OMB

A. Project Work Plan

MDH will include ARRA-funded activities in the annual progress and Financial Status Reports.
MDH will follow procedures, systems, templates and other support resources for reporting as they are developed by OMB, HHS, and CDC. Specifically, not later than 10 days after the end of each calendar quarter, starting with the quarter in which the EIP ARRA supplemental award is issued, MDH will submit quarterly reports to CDC and HHS that will be posted for public access. Quarterly reports will contain all specified information including 1) the total amount of ARRA funds under this award, 2) the amount of ARRA funds received under this award that were obligated and expended for projects and activities, 3) the amount of unobligated ARRA funds under this award, 4) a detailed list of all projects and activities for which ARRA funds under this award were obligated and expended, and 5) detailed information on any sub-awards (contracts) made by the recipient to include the data elements required to comply with the Federal Accountability and Transparency Act of 2006 (Public Law 109-282). Additionally, MDH will provide information on the output and outcome measures in Appendix A of this Funding Announcement.

**B. Performance Measures and Evaluation Plan**

We will include ARRA-funded activities in the annual progress and Financial Status Reports. MDH has electronic financial systems in place that permit us to easily track the status of funds (e.g., obligated, expended, unobligated). MDH will follow procedures, systems, templates and other support resources for reporting as they are developed by OMB, HHS, and CDC. Specifically, not later than 10 days after the end of each calendar quarter, starting with the quarter in which the EIP ARRA supplemental award is issued, MDH will submit quarterly reports to CDC and HHS that will be posted for public access. The Evaluation Plan will follow specific performance measures (See Attachment 5).

**IV. List of Attachments**

1. Curricula vitae
2. Organizational Chart
3. Letters of Support
4. Indirect Costs Rate Agreement
5. Table: Performance Measures