The Pennsylvania Health Care Cost Containment Council (PHC4), an independent Pennsylvania state government agency, is accepting grant applications for projects that demonstrate the utility of the MedMined Nosocomial Infection Marker™ and related infection prevention technologies in reducing the human and economic cost of hospital-acquired infections, currently used by two Pennsylvania Hospitals (Butler Hospital and Hamot Medical Center). MedMined, Inc. is a leading technology service provider headquartered in Birmingham, Alabama. PHC4 is accepting grant applications for projects that demonstrate the utility of the Nosocomial Infection Marker and related infection prevention technologies in reducing the burden of hospitals' PHC4 reporting and reducing the human and economic cost of HAI.

This funding opportunity is available to Pennsylvania acute care hospitals interested in using a comprehensive electronic approach to HAI surveillance to identify HAI hospital-wide, analyze the financial impact of HAI using the hospitals’ own cost accounting data and target specific infection prevention interventions.

**Purpose:** Based on 2004 data reported by Commonwealth hospitals, the Pennsylvania Health Care Cost Containment Council (PHC4) reported that 11,668 infections (HAI) were confirmed as hospital-acquired and reported by Pennsylvania hospitals. The hospitalizations in which these infections occurred were associated with 1,793 deaths, 205,000 extra days of hospitalization and $2 billion in additional hospital charges.¹ The purpose of this Project is to reduce unnecessary morbidity, mortality and cost associated with HAIs in Pennsylvania hospitals through technological innovation. Clinical and financial outcomes will be evaluated. Best practices in infection prevention and reporting will be demonstrated and disseminated. Individual patient identifiable data will remain confidential.

Beginning with hospital discharges as of January 2004, PHC4 began collecting HAI data based on each hospital's application of Centers for Disease Control (CDC) standard definitions for HAI. The original requirements were limited to catheter-associated urinary tract infections, central-line bloodstream infections, ventilator-associated pneumonia, and surgical site infections for orthopedic, neurovascular and cardiac procedures. As of January 2006, the requirement has broadened to include all hospital-acquired infections. This effort was in response to the Institute of Medicine's call to address medical errors, as well as PHC4’s legislative mandate to "facilitate the continuing provision of quality, cost-effective health services throughout the Commonwealth by providing current, accurate data and information to the purchasers and consumers of health care on both cost and quality of health care services..." (Act 14 of 2003).

The wide variation in data reported by hospitals in 2004 (For example, sixteen hospitals reported no HAI data for the last three months of 2004) indicated inconsistent application of CDC standard definitions. Moreover, hospitals have noted the burden of manual HAI identification. Because currently used HAI surveillance methods are applied inconsistently (making inter-hospital comparisons potentially unfair) and (consume valuable Infection Control resources better spent on reducing), a better method is needed.

The Nosocomial Infection Marker (NIM) is an electronic method of using hospital clinical data to identify all HAI (hospital-wide) that performs as well or better than Centers for Disease Control NNIS/NHSN methods.\textsuperscript{2} CDC study as well as the Medmined study should be cited. Its use is expected to provide a comprehensive and consistent means of reporting HAI.

Funding for the Project will come from three sources: grantors (currently PHC4 & the Highmark Foundation), MedMined and participating hospitals. MedMined will contribute 40% of total investment in discounted fees; hospitals will contribute according to a sliding scale off the discounted fees based on annual volume of admissions (see chart below); Grantors (currently PHC4 and the Highmark Foundation will contribute the balance of the discounted cost.

<table>
<thead>
<tr>
<th>Fee</th>
<th>Hospital Pays</th>
<th>PHC4 Pays</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-5,000</td>
<td>$45,000</td>
<td>9,000</td>
</tr>
<tr>
<td>5,001-10,000</td>
<td>$60,000</td>
<td>12,000</td>
</tr>
<tr>
<td>10,001-15,000</td>
<td>$90,000</td>
<td>18,000</td>
</tr>
<tr>
<td>15,001-20,000</td>
<td>$120,000</td>
<td>24,000</td>
</tr>
<tr>
<td>20,001-25,000</td>
<td>$150,000</td>
<td>30,000</td>
</tr>
<tr>
<td>25,001+</td>
<td>$165,000</td>
<td>33,000</td>
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</tbody>
</table>

Participating hospitals will benefit from a comprehensive service that combines leading-edge data mining and artificial intelligence technologies, clinical expert consultation and reporting, educational support, quarterly “best practices” meetings, automated HAI identification for PHC4 data submissions, and clinical and financial outcomes measurement to reduce the incidence of HAI. Specific benefits to participating hospitals include:

- Ongoing technical and clinical expertise to capture (real-time) existing laboratory and patient movement / census data and properly translate non-standardized data into uniform information amenable to population-wide analysis;
- Patented data mining/artificial intelligence analysis service that identifies specific opportunities for process improvement;
- Clinical support, education and training to ensure information translates to process changes;
- Electronic data reporting and analysis tools to make daily workflow more efficient;
- Use of NIM for internal and external HAI reporting;
- Measurement of clinical improvement and ongoing feedback to hospital staff;
- Measurement of financial return to allow ongoing assessment of return on investment; and
- Support for compliance with the Joint Commission on Accreditation of Healthcare Organizations (JCAHO) and state or federal requirements for reporting.

Grant recipients will demonstrate:

- Changes in the incidence of HAI during the Project period;
- Impact on length of stay, direct/variable cost and profitability;
- Time requirements of electronic HAI identification versus manual HAI identification; and

• Consistency and accuracy of electronic HAI identification and reporting.

This Demonstration Project will occur over approximately 16 months beginning with the date of approval of the grant applications, which would be approximately April 1, 2006 and will include a three month implementation period (per hospital) and a minimum twelve month active MedMined service period within each participating hospital. The Project-wide impact (using aggregate de-identified data and no individual patient identifiable information) will be analyzed by MedMined in collaboration with PHC4 staff and hospital grantees.

Requirements:

Eligible applicants are Pennsylvania acute care hospitals who are in compliance with all PHC4 reporting requirements; who are willing to submit directly to PHC4 the required Hospital Acquired Infection (field 21(b) ) data through the MedMined software; with sufficient demonstrable skills, experience, infrastructure and capacity to successfully complete the Project using available resources; and with the capacity to make the financial commitment necessary to install and utilize this system. Hospitals that are awarded grants must be willing to share the analysis and results of reductions in hospital acquired infections with PHC4 and HF.

Additional Requirements:

1. Service Contract Execution

Grantees must execute a “Reducing Hospital Acquired Infections with Electronic Surveillance Demonstration Project” contract with MedMined within thirty days after receipt of the Grant Award notice.

2. Prompt IT Installation

Hospital’s information technology team shall coordinate with MedMined technical team to complete the following:

   a) Within five (5) business days of execution of the “Reducing Hospital Acquired Infections with Electronic Surveillance Demonstration Project” contract between the hospital and MedMined, hospital’s contract manager shall arrange a conference call between MedMined’s implementation team and Hospital’s designated information technology project manager.

   b) Within five (5) business days after the Kickoff Conference, MedMined shall ship a data capture server to a person designated in the Kickoff Conference. Within five (5) business days of receipt of the data capture server, hospital’s information technology staff shall, with the remote assistance of MedMined, use commercially reasonable efforts to install the data capture server and provide MedMined secure remote access to the data capture server for implementation and support.

   c) Within twenty (20) business days of data capture server installation, initiate real-time transfer to the data capture server of HL7 (all Lab Results and Lab Orders and ADT messages) messages and an HIS census report at least every six hours.

   d) Concurrent with (c), provide MedMined a laboratory test code catalog.

2. Clinical Participation
a) Infection Control Practitioners (5 max) will attend MedMined University (Birmingham, AL) at MedMined’s expense within a reasonable time after implementation is completed. MedMined University is typically conducted over a two-day period.

b) Infection Control Practitioners will respond to the applicability of the monthly Data Mining Surveillance reports using the "pattern evaluation forms" within thirty (30) days of receipt.

c) Infection Control staff will participate in monthly pattern conference calls with MedMined clinical staff.

d) Infection Control Practitioners will maintain active utilization of the online tool (VSI).

e) Hospital will use the NIM as the basis for HAI reporting to PHC4.

3. Executive Participation

Hospital agrees to cooperate with a financial analysis to quantify for the hospital the impact of HAI at its facility, to wit: within a reasonable time upon request, hospital agrees to provide MedMined, as to each admission over the study period, the following – medical record number, admit date, length of stay, DRG, variable/direct cost, fixed/indirect cost, actual payments (revenue) and payer. The results of the hospital-specific financial study will be shared only with that hospital. Aggregate financial analysis (of all facilities’ data combined in a de-identified way) will be shared with PHC4 and HF to compute the cost justification for electronic surveillance.

Application / Project Information: There will be two (optional) online information sessions for potential applicants:

February 23, 2006
Second online information session for potential applicants:
Time: 10:00 AM Eastern time
Call-in information: 1-866-269-3239
Link to join meeting:
https://medmined.webex.com/medmined/onstage/g.php?d=551130243&t=a

February 28, 2006
Third online information session for potential applicants:
Time: 1:00 PM Eastern time
Meeting Information:
Online Link: https://medmined.webex.com/medmined/onstage/g.php?d=551150622&t=a
Call-in information: 1-866-269-3239
Meeting Number: 551150622
Attendee ID: ##
Meeting password: prevention

March 3, 2006
Fourth online information session for potential applicants:
Time: 10:00 AM Eastern time
Meeting Information:
Online Link: https://medmined.webex.com/medmined/onstage/g.php?d=554128753&t=a
Call-in information: 1-866-269-3239
Meeting Number: 554128753
Attendee ID: ##
Meeting Password: prevention
Technical assistance is available to all eligible hospitals for program planning and support in completing this application. Hospitals should direct all requests for technical assistance to:

Jason Hopper  
MedMined, Inc.  
Telephone: (205)-314-8593  
Toll Free: 1-877-849-6735 ext: 8593  
Email address: jhopper@medmined.com

Application Deadlines:

A. **Letter of Intent to Apply**

1. Deadline: Received by PHC4 by 12:00 noon EDT on **March 3, 2006**.

2. What: Contact information and statement of intention to apply

3. How: An email, fax or hard copy to:

   Cherie Elias  
   Director of Administration  
   Pennsylvania Health Care Cost Containment Council  
   225 Market Street, Suite 400  
   Harrisburg, PA  17101  
   717-232-6787 (phone)  
   717-232-3821 (fax)  
   Email address: cellas@phc4.org

B. **Grant Application**

1. Deadline: Received by PHC4 by 12:00 noon EDT on **March 13, 2006**.

2. What: Please submit a cover letter identifying the applicant with contact information including complete address, phone, fax and email for the individual who will be the applicant's single point of contact during the application process. The cover letter must contain an attestation binding the applicant to the provisions of the grant application for the duration of the grant period and be signed by an authorized official of the applicant.

As attachments to the cover letter, please submit:

- Qualifications (maximum 2 pages): A narrative description of the applicant's qualifications including details of the personnel resources, skill sets, experience, technology infrastructure and department capacity possessed by the applicant that will enable it to successfully complete the project. A detailed format of this narrative can be found in the attached grant application.

   PHC4 reserves the right to verify qualifications in writing, in person or by telephone.
Applications should be prepared simply and economically, providing a straightforward, concise description of the applicant's proposal and ability to meet the requirements of the RFA. All material submitted becomes the property of the Pennsylvania Health Care Cost Containment Council and may be returned only at PHC4's option. Proposals submitted to PHC4 may be reviewed and evaluated by any person at the discretion of PHC4.

3. How:

   a) Original signed documents will be mailed and faxed to:

      Cherie Elias
      Director of Administration
      Pennsylvania Health Care Cost Containment Council
      225 Market Street, Suite 400
      Harrisburg, PA  17101
      717-232-6787(phone)
      1-888-576-6445 (fax)

   b) **And**, an electronic version of the complete application should be forwarded simultaneously to:

      Cherie Elias
      Email address:  celias@phc4.org

      Jason Hopper
      Email address:  jhopper@medmined.com

**Award Determination:** All funding decisions are contingent upon the availability of funds for SFY 2005-06 and upon final approval of recommended awards by the RFA Committee, which will be composed of select PHC4 staff, board members and other participating funders such as the Highmark Foundation. Any award will be made at the sole discretion of the RFA Committee. PHC4 reserves the right to make no awards under this RFA, if no suitable applications are received. Please note that submission of a completed application does not guarantee funding. Following review of completed applications, the RFA Committee will select hospital grantees which will include a mix of facilities based on size, geographic disbursement, commitment to the Project, and to insure that grantee hospitals represent the healthcare community of Pennsylvania.

**Notification of Award:** All applicants will be notified in writing of award status on March 31, 2006.