

Project Title:	Critical Access Hospital Partnership Health Information Technology Implementation
Principal Investigator:	Wheeler, Donald A., M.H.A., F.A.C.H.E.
Organization:	Upper Peninsula Health Care Network
Mechanism:	RFA: HS05-013: Limited Competition for AHRQ Transforming Healthcare Quality through Information Technology (THQIT)
Grant Number:	UC1 HS 016152
Project Period:	09/05 – 09/09, Including No-Cost Extension
AHRQ Funding Amount:	\$1,484,167
Summary Status as of:	December 2008

Strategic Goal: Develop and disseminate health IT evidence and evidence-based tools to improve health care decisionmaking through the use of integrated data and knowledge management.

Business Goal: Implementation and Use

Summary: The Critical Access Hospital Partnership Health Information Technology (IT) Implementation project will create a Web-based, portal/repository application that allows selected clinical information to be accessed by authorized physicians and other health care providers for patient care delivery and quality reporting. This project is being implemented in Michigan’s Upper Peninsula at nine independent Critical Access Hospitals (CAHs), which recently joined with the region’s only medical center to form the Michigan Upper Peninsula Health Information Technology Network. The goal of this network is to “improve patient safety and quality of care through the regional planning, development, and implementation of Health Information Technologies.”

The health IT infrastructure connecting the participants was already in place, and it is currently being used for video teleconferencing and patient education. This project creates network health IT applications, which include: 1) health IT systems at each partner hospital that capture and send patient demographic and clinical data to the regional data repository, 2) a regional health IT master patient index/unique patient identifier, 3) a regional health IT interface engine to accept and reformat incoming data from the project’s partners’ health IT systems, 4) a regional health IT clinical data repository that contains a consolidated summary of patient information, and 5) a Web-based portal viewer allowing clinical information to be accessed by providers.

Project goals for the CAH Partnership Health IT Implementation Project include: 1) establish data vocabulary and exchange requirements to ensure comparability and interoperability, 2) install local network health IT systems in a phased manner, 3) implement the regional health IT systems and associated support services, 4) implement the local health IT to regional data sharing components, 5) analyze and verify the data and technology-related aspects of the project, 6) evaluate the impact of the health IT network on patient care delivery, and 7) evaluate the success of the implementation. The project results will be shared with other CAHs and other State CAH programs to improve health IT implementation nationwide.

Specific Aims

- Monitor health IT installations at the project’s partner hospitals in Michigan. **(Achieved)**
- Plan, test, and implement local health IT to the regional health information exchange (HIE). **(Ongoing)**
- Implement regional HIE systems, central data repository (CDR), and services. **(Upcoming)**

- Evaluate the impact of technology-supported patient data exchanges and reporting on patient care. **(Ongoing)**
- Evaluate the success of the overall project implementation. **(Upcoming)**

2008 Activities: In 2008, the project began developing a secure network architecture and a Web interface to permit physicians and staff to access patient records under a secure format using a Web browser. In addition, work began on developing a dynamic method to update and assign roles to patient records and on setting standards for consistency of data in the central repository. As of June 2008, all of the nine participating CAHs in Michigan had completed the installation of their respective health IT systems at their facilities, and the CAH partners are now awaiting the ability to connect with the regional HIE system being provided by Marquette General Hospital.

Preliminary Impact and Findings: The previous HIE vendor (KliniTek) was unable to implement installation of the HIE system at the two pilot sites in the past 2 years as scheduled. The management change at the Network Data Systems Vendor, Marquette General Hospital, in fall 2007 resulted in the adoption of a new HIE vendor and the development of a revised project implementation schedule and budget.

Selected Outputs

None available.

Grantee's Most Recent Self-Reported Quarterly Status: Substantial delays were caused by the fact that the project's Network Data Systems Vendor, Marquette General Hospital, underwent significant management changes in fall 2007. As a result of these changes, by mid-2008, Marquette General made a decision to discontinue the use of the Klinitek UPCare HIE system and replace it with a newer HIE solution. A no-cost extension was granted so that the UPCare system could be replaced with the newer HIE system (described below) and meet the goals of the project.

Michigan Tech University (MTU), working with SETECS, has established a medical information exchange (MIX) server that will be placed locally at each hospital site and interface with the EMR to pull information regarding patient medical records. Currently, the development has successfully extracted and parsed Health Level 7 (HL7) messages regarding patient demographic, medical data, insurance, etc. into the MIX server. The server has been designed to make this data interoperable within the secure regional system designed by MTU, and through a Web graphical user interface (GUI) being used as the front-end for end-site users. The HIE design incorporates advanced search features that will enable real-time pulling of patient medical data, as well as options to electronically transfer documents. Testing of this architecture is currently being conducted within the research lab at Michigan Tech University. The design of medical smart cards for patients, physicians and staff (with stringent security mechanisms and use of biometrics) are also being implemented within the current system architecture.

Once testing is completed in the spring of 2009, the technology will be installed at each of the four pilot sites for additional testing to ensure accuracy, to answer questions regarding system capabilities, and to provide training for physicians and staff of each hospital. The four pilot sites represent each of the EMRs that are currently active in the Upper Peninsula (Meditech, McKesson, Healthland, and Computer Programs and Systems, Inc. All 14 hospitals involved in this project and the Upper Peninsula Health Network (UPHCN) will be provided the same level of services as the deployment of this architecture is conducted. The project is currently beginning system testing within the pilot sites.

Milestones: Progress is on track in some respects but not others.

Budget: Significantly under spent, more than 20 percent.