

Health Information Exchange: A Frontier Model

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Organization:	Chadron Community Hospital
Mechanism:	RFA: HS05-013: Limited Competition for AHRQ Transforming Healthcare Quality Through Information Technology (THQIT)
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Project Period:	September 2005 – September 2009, Including No-Cost Extension
AHRQ Funding Amount:	\$1,498,623
Summary Status as of:	September 2009, Conclusion of Grant

Target Population: Rural Health*

Summary: Rural health care is often provided through an array of geographically dispersed providers, each having only pieces of the total health care record. When full medical information is unavailable to providers, decisions must either be made with incomplete information or be delayed until the information can be obtained later and at considerable expense. The Health Information Exchange: A Frontier Model project laid the groundwork for the formation of a health information exchange (HIE) within an established network of critical access hospitals (CAHs), clinics, public health providers, and behavioral health providers across the rural, remote Nebraska Panhandle. The three goals of the project were: 1) to develop an operational entity and incorporate a regional health information organization (RHIO) to support the development of a HIE, 2) to provide standardized training and user capacity development programs throughout the Panhandle, and 3) to implement electronic medical records (EMRs) in CAHs and rural health clinics (RHCs) through a shared process.

Partnering organizations envisioned a regional electronic HIE that would enable providers, patients, and others to share information, communicate orders and results, support evidence-based decisionmaking, streamline public health disease surveillance and reporting, and enable data management for non-clinical purposes (e.g., billing and quality management). Project partners include all of the area's hospitals, a membership organization of local health providers, and the University of Nebraska.

A multidimensional program evaluation was used to assess the program and included both process and outcome evaluations. The process evaluation was conducted to assess whether the program was being delivered as intended. An outcome evaluation was conducted to determine the program results. The evaluation components were identified early in the project, reviewed, and revised as needed by the leadership team and managers during the course of the grant.

Beginning in 2006, the Regional West Medical Center (RWMC) portal allowed health care providers to access their patients' medical records from RWMC in real time, laying the initial groundwork for Panhandle-wide exchange. The Western Nebraska Health Information Exchange, LLC (WNHIE) was established as the operational entity, with WNHIE managers having responsibility for all implementation and operational activities. Standardized training and user capacity development programs were delivered to hundreds of Panhandle participants, and progress was made toward implementing EMRs in participating

CAHs and RHCs. An HIE vendor was selected, and at the grant's conclusion, the managers were negotiating contract terms and identifying funding for the implementation of the network.

Specific Aims:

- Form an operational entity, and incorporate a RHIO to provide the infrastructure necessary to support regional HIE and common developments in the EMRs. **(Achieved)**
- Provide standardized training and user capacity development programs throughout the Panhandle. **(Achieved)**
- Develop and implement EMRs in CAHs and RHCs through a common process and shared resources to enhance local and regional capacity development toward HIE. **(Partially Achieved)**

2009 Activities: Issues associated with the partnering strategies of participating vendors and financial concerns prompted WNHIE managers to engage WNHIE partners and reevaluate the implementation plans. The partnering organizations decided not to select a vendor until these issues could be rectified. The WNHIE managers continue to meet regularly to explore alternative solutions to the vendor selection process (such as a pilot project with one of the partnering organizations) while considering the financial constraints of the participating organizations. The third aim is thus partially achieved at the end of the grant period as the team is making progress toward implementing EMRs in participating CAHs and RHCs. Data collection continued for the outcomes evaluation via provider interviews, provider surveys, patient surveys, and patient billing data (days in accounts receivable); evaluation of portal use and data analysis is ongoing. At the conclusion of the project, the WNHIE had not installed enough new health information technology (IT) products over the last year to determine whether health IT influenced financial outcomes.

Grantee's Most Recent Self-Reported Quarterly Status (as of September 2009): The project term is complete. The project was granted a no-cost extension to allow additional time to execute all needed aspects of the health IT implementation.

Impact and Findings: The project successfully formed a RHIO to support the WNHIE. Key activities included hiring a project manager, retaining legal counsel, formalizing governance structure, developing by-laws, developing regional security policies and standards, developing regional financing plans for HIE development, developing user agreements and developing business, and formally incorporating the RHIO.

The project improved the capacity of participating organizations to adopt health IT (e.g., EMRs) through the provision of education, training, and user capacity development. Key activities included provision of change management workshops for all members of regional and local teams, development of ongoing health information and technology educational sessions for current and future participants, development of user competency training in preparation for EMR adoption, and development and of regional training modules for each implementation stage of EMR. The project improved the capacity of participating health care organizations to implement EMRs by facilitating a local process for formalizing priorities for core functionality for EMRs, ratifying or revising regional priorities for HIE implementation as defined by local clinics and hospitals, providing technical assistance for each CAH and RHC to complete a migration path from existing to planned technologies, and structuring work for EMR and HIE priority areas.

The outcome evaluation impact statements provided the WNHIE organizations with a better understanding of how providers in small CAHs and RHCs view technology. Portal users were surveyed using an acceptance and use of technology survey; response was positive across all criteria including portal usefulness, ability

to positively impact productivity, ease of use, adequacy of training, and organizational support. Overall, responses were positive in terms of obtaining immediate and complete information from the RWMC portal, but respondents speculated that some barriers were so overwhelming that they kept providers from using the portal at all. The significant barriers include limited or inadequate technology or access at the CAHs, and end-user issues where, for a variety of reasons, the providers were hesitant or uncomfortable using this technology.

More detail on the project findings is included in Ms. Shank's final report: [Shank 2009 Final Report](#).

Strategic Goal: Develop and disseminate health IT evidence and evidence-based tools to support patient-centered care, the coordination of care across transitions in care settings, and the use of electronic exchange of health information to improve quality of care.

Business Goal: Implementation and Use

* *AHRQ Priority Population*