

Using Health Information Technology to Improve Health Care Quality in Primary Care Practices and in Transitions between Care Settings

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Organization:	University of Oklahoma Health Science Center
Contract Number:	290-07-10009-5
Project Period:	September 2009 – September 2012, Including No-Cost Extension
AHRQ Funding Amount:	\$332,000
Summary Status as of:	December 2010

Target Population: Not Applicable

Summary: A fundamental feature of a national health care network is the ability to share electronic health records (EHRs) from local health information exchange (HIE) hubs through regional health information organizations (RHIOs). A major barrier to RHIO use, however, is the lack of a convincing value proposition for providers. While there appears to be a net societal benefit from investments in sharing information among health care organizations, the return on investment for individual medical practices—especially smaller practices—is less certain. Medical practices incur most of the costs of adopting new information sharing technology, while health insurers and patients receive most of the benefits. Apart from capital expenses and fees, medical practices must adapt their workflow to benefit from RHIO technology. Many medical practices lack managers with the necessary implementation skills and experience. Little research has been done to determine the specific features of existing RHIOs that are most useful in primary care, what new features are needed, and how these features can be incorporated into primary care work flow and care processes.

This project documents, studies, and reports on the engagement of six primary care practices that use EHRs and are linked through a local HIE hub in a RHIO called Secure Medical Records Transfer Network (SMRTNET). SMRTNET provides access to a broad range of information—including hospital records, laboratory tests, pharmacy records, and a statewide immunization registry—from a variety of sources. As part of this project, SMRTNET will be enhanced with the Web-based Preventive Services Reminder System (PSRS), a comprehensive clinical tool for improving the delivery of patient-centered preventive services through a patient registry, prompt/reminder functionality, clinical decision support, and quality improvement (audit) functions that are accessible through a simple, secure Web interface.

The project tests the usefulness and acceptability of a RHIO's ability to promote HIE across both local and statewide health care systems as a single point of attachment (i.e., a single interface rather than separate interfaces for multiple EHR systems) for a software application – the PSRS. While many aspects of this HIE infrastructure development are specific to the two systems being studied, the research team believes that this type of connection between HIE systems and RHIOs is likely to be implemented around the United States. Analysis of the results of this implementation will yield generalizable and useful knowledge about best practices for HIE facilitation of patient-centered care in primary care provider settings. Furthermore, the research team anticipates that Federal incentives, funding, penalties, and requirements under the American Recovery and Reinvestment Act of 2009's "meaningful use" standards will accelerate the combined use of EHRs and RHIOs.

Based on observations and data analysis, the study team will produce an implementation guide to disseminate this type of health information technology system to other practices, at least one published manuscript reporting their findings, and a final report. The plan for disseminating the technology to primary care practices will be developed in collaboration with the Agency for Healthcare Research and Quality (AHRQ).

Project Objectives:

- Enhance the current features of SMRTNET by including the PSRS software program. **(Achieved)**
- Test the usefulness and acceptability of the technology intervention. **(Ongoing)**
- Develop an implementation guide that provides the principles and steps required to implement connections between such systems and documents potential benefits from and barriers to implementation. **(Upcoming)**

2010 Activities: Study team members visited the participating practices, interviewed practice members, administered the Practice Workflow Interview and Observation Instrument, and conducted workflow observations. Reports on laboratory test use, immunization delivery, and preventive service delivery were developed using the eClinicalWorks reporting module. An Access database was developed to collect time-motion based observation data of clinical workflows of specialists using an EHR; it was used to capture data during direct observation of physicians and nurses at site visits to participating practices. Practice-based pre-implementation data collection was completed, with the exception of time-motion based observation data.

The team worked with their AHRQ project officer to develop a dissemination and implementation plan based on goals of the project and using examples provided by previous projects. A draft of the plan was submitted for comment to the project officer. Significant delays in developing project software have postponed deployment.

Preliminary Impact and Findings: The project has no findings to date.

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: Knowledge Creation