

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

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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. There is scant research on which specific features of existing RHIOs are most useful in primary care, what new features are needed, and how these features can be incorporated into primary care workflow and care processes.

This project documents, studies, and reports 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 was 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 the PSRS software application. 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 throughout 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.

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. **(Ongoing)**

2011 Activities: There were delays in developing PSRS interfaces with eClinicalWorks and SMRTNET. After meeting with software vendors, substantial progress in the SMRTNet-eClinicalWorks hub connection and some progress on SMRTNET-PSRS connection was made. The SMRTNet-eClinicalWorks hub connection is operational. Significant progress was made in establishing the SMRTNET-PSRS connection. By the end of 2011, most of the software issues had been corrected and providers were re-oriented to the PSRS and SMRTNET access from the eClinicalWorks interface. Because of these delays, the contract was extended by 12-months to complete the project and will end in September 2012.

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

Target Population: Not Applicable

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
