

Project Title: Participation by Primary Care Practices in Health Information Exchange in Minnesota

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Organization: University of Minnesota

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AHRQ Funding Amount: \$254,423

Summary Status as of: July 2009, Conclusion of Contract

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

Business Goal: Synthesis and Dissemination

Target Population: Not Applicable

Summary: The American Recovery and Reinvestment Act of 2009 provides billions of dollars for the promotion of electronic health records (EHRs) and the formation of regional centers to foster community-wide electronic health information exchange (HIE) with the ultimate goal of a nationwide health information network. Minnesota's e-Health Law, passed in 2007, mandates EHR and HIE participation by all clinics and hospitals, including small primary care practices. This contract assesses factors that influence the participation of small- and medium-sized primary care practices in Minnesota in community-wide electronic HIE, defined as the electronic exchange of information among multiple stakeholders such as hospitals, laboratories, ambulatory practices, and quality assurance organizations. Assessments focus on both the perceived benefits and barriers to HIE participation.

Specific Aims

- Conduct a systematic literature review of HIE, with emphasis on application to primary care practices. **(Achieved)**
- Determine the motivation and barriers to primary care practice participation in HIE. **(Achieved)**
- Create a report that integrates the factors that affect participation in a community-based electronic HIE. **(Achieved)**

2009 Activities: Data were collected through questionnaires and interviews at nine primary care practices in Minnesota that had fewer than 20 physicians and varying degrees of EHR and HIE involvement. Information was collected on characteristics of the practice, EHR capacity, and the degree of HIE. Responses were compiled, cross-checked, and updated from interview transcripts. Results were then analyzed using simple descriptive statistics. Site visits were also conducted by the project team and included a tour of the facilities, a demonstration of the EHR, and interviews with key informants using a semistructured script with questions about EHR and HIE planning and implementation. The practice contact person from each site identified at least three informants from among those knowledgeable and responsible for the practice's information technology (IT) system, including administrators, medical directors, IT staff, physicians, and nurse managers.

Impact and Findings

Extent of EHR and HIE Implementation

Of the nine practices, eight were using EHRs. In HIE, all nine practices shared data with the Minnesota Department of Health through the successful and widely disseminated Minnesota Immunization

Information Connection, a secure and comprehensive Web-based immunization registry supported by State and Federal funding that is accessible to health care clinics, schools, and child care workers. Laboratory information was the next most commonly shared type of information, reported by eight practices. Several practices were receiving information from nonhospital-based commercial laboratories through direct electronic imports to the EHR. One practice had programmed an interface between their EHR system and the hospital laboratory information system. Other HIE functions were present in seven or fewer practices, and none reported electronic data sharing with nonaffiliated practices (e.g., competing primary care groups or independent consultants).

Benefits

Key informants described the motivation for and anticipated benefits of their practices' decision to adopt an EHR. Most practices cited Minnesota's e-Health Law, which requires interoperable EHRs by 2015, as a motivating factor. For some, e-prescribing was the first step toward broader electronic data sharing. More than half the sites were involved in quality reporting initiatives, which were a frequently mentioned motivation for establishing HIE. Replacing labor-intensive medical record reviews with an electronic process in meeting quality reporting requirements had significant cost implications. Immediate access to outside records improved the quality and safety of patient care and saved time that would have been spent requesting records, waiting for them to arrive, and scanning them into the EHR system.

Barriers

Lack of interoperability was a barrier for all practices. Informants with IT backgrounds observed that while interoperability was not technically difficult, there was limited political willpower to bring appropriate resources to that goal. Cost was a formidable and overlapping barrier to HIE adoption. Funding EHRs was usually the first cost hurdle, but ongoing license fees and IT support also limited implementation, especially in settings where resources were scarce. Eight of the nine practices did not meet their goal of exchanging clinical data with their associated hospitals. Even among practices that were part of larger systems that also owned local hospitals, only one could access patient information throughout the system; another had recently purchased a compatible EHR. Hospitals and practices did not typically envision community-wide HIE when they planned for and purchased their EHR systems. Overall, data security and privacy were acknowledged as challenging issues that warranted Federal guidelines. Faced with barriers to HIE, practices responded with varying degrees of success. As an important incremental step toward HIE, practices in the northeast region of the State worked with a regional health information organization to create a patient record locator service. While strong leadership, a strategic plan, and physician involvement from the beginning of the EHR selection process seemed to promote success, none of the practices were engaged in the community-wide HIE envisioned as the foundation for the National health information network.

Selected Outputs

Fontaine P, Zink T, Boyle R, et al. Health information exchange: participation by Minnesota primary care practices. *Arch Intern Med* 2010;170 (7):622-9.