

Project Title: A Partnership for Clinician Electronic Health Record (EHR) Use and Quality of Care

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Organization: Michigan Public Health Institute

Mechanism: RFA: HS07-006: Ambulatory Safety and Quality Program: Improving Quality through Clinician Use of Health IT (IQHIT)

Grant Number: R18 HS 017191

Project Period: 09/07 – 08/10

AHRQ Funding Amount: \$1,184,765

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: This project was initiated in September 2007 and has completed the first third of the grant period. The Institute for Nursing Centers (INC) and the Alliance of Chicago Community Health Services (Alliance) project studies the effectiveness of a partnership that shares resources and utilizes a data-driven approach to promote full clinician use of an electronic health record (EHR). This project is being conducted in three nurse-managed health centers and three community health centers in order to improve the quality of care in areas of preventive care, chronic disease management, and medication management for vulnerable populations. These partners have a track record of highly productive research, successful EHR implementation, commitment to data-supported high quality health care for vulnerable populations, and a history of building and maintaining strong collaborations.

The goals of this project address one of the key problems in leveraging health information technology (health IT) to support high quality patient care: the fact that, despite the potential, clinical decision support (CDS) is often not used effectively or consistently by clinicians, even when an EHR is available. The research design of this project incorporates quantitative and qualitative methods as well as individual and center-level analyses. The critical link between full use of EHR functionality (including CDS features) and clinical performance and quality outcomes will be examined with rigorous quantitative methodology. The product is the integrated General Electric Centricity (GE Centricity) Practice Management (PM) EHR System (CPS 2006 Version: 8.00.3224), which has been certified by the Certification Commission for Healthcare Information Technology (CCHIT) as meeting requirements related to functionality, security and reliability, and interoperability—with substantial customization of clinical decision support in templates developed by the Alliance. The quality indicators that have been selected are those that the Institute of Medicine has identified as priority areas for improvement, and are areas where significant disparities across race, ethnic, and income groups exist. Qualitative methodology will add to the field’s understanding of health center leadership and change management required for successful use of EHR. This project consists of an experienced team in a unique partnership between INC, whose patients are from nurse-managed health centers (NMHCs), and Alliance, whose patients are from community health centers (CHCs), to achieve its aim.

Specific Aims

- Study the effectiveness of a partnership that shares resources and uses a data-driven approach to promote full use of an EHR by clinicians in settings that serve vulnerable populations, in order to

improve the quality of care in the areas of preventive care, chronic disease management, and medication management. **(Ongoing)**

- Test the links between clinician use of an EHR and quality of preventive care, chronic disease management, and medication safety. **(Ongoing)**
- Examine organizational processes in the implementation and full use of an EHR in relationship to care delivery and outcomes. **(Ongoing)**

2008 Activities: The project continues to support and maintain EHR use by monitoring help desk calls and system use measures. No significant problems have been reported, and routine/ongoing post go-live training and support continue. Development of an end user satisfaction tool and data collection and evaluation tools continues, and the following tools have already been implemented: patient satisfaction survey, query of EHR usage, queries of productivity, clinician satisfaction surveys, implementation interviews, and the baseline implementation of the Physician Practice Patient Safety Assessment (PPPSA). Data collection and analysis are continuing at participating sites, dependent on completion of institutional review board approval. In addition, the EHR is fully implemented at two of the sites.

Preliminary Impact and Findings: The project has collected some preliminary numbers related to productivity depicted by the number of patient encounters per clinician per half-day shift. The project has collected some preliminary numbers from the Glide End User Survey showing that the majority of respondents (>50 percent) answered positively regarding most statements about their EHR use environment, but that they would still like more training. Despite apparent negative perceptions of the GE Centricity's functionality and impact on clinicians, 58 percent of respondents reported overall satisfaction with it, and 91 percent were in favor of its continued use.

Selected Outputs

Zheng K, McGrath D, Hamilton A, et al. Assessing organizational readiness for adopting electronic health record system: A case study in ambulatory practices. *Journal of Decision Systems* (In Press).

Presented the project and study design at the Michigan Association for Local Public Health (MALPH) technology conference.

The project produced the following documents: Communications Tracking Tool, Computer Literacy Survey, and the Pilot – End User Survey

Grantee's Most Recent Self-Reported Quarterly Status: Under spending is a result of delays in the implementation timeline at two sites. These sites are on track now to complete implementation in summer 2009; research full-time equivalent was reduced initially, but is being increased as sites go live and begin contributing data. In addition, a seventh site was requested and approved to participate in the study.

Milestones: Progress is mostly on track.

Budget: Somewhat under spent, approximately 5 to 20 percent.