

Project Title:	Enhancing Quality in Patient Care Project
Principal Investigator:	Rachman, Fred, M.D.
Organization:	Erie Family Health Center, Inc
Mechanism:	RFA: HS04-011: Transforming Health Care Quality through Information Technology (THQIT) – Implementation Grants
Grant Number:	UC1 HS 015354
Project Period:	09/04 – 08/07
AHRQ Funding Amount:	\$1,499,132
Summary Status as of:	August 2007, Conclusion of Grant

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: Knowledge Creation

Summary: The typical approach to utilizing electronic health record (EHR) systems for decision support and quality reporting defers work in these areas until after the system has been implemented and is in use. Standard EHR software is designed mainly for use at the individual patient level and consequently lacks sufficient analysis and reporting capabilities for population care management and reporting.

The project implemented advanced EHR system functionality including decision support, care management, and quality reporting of National performance measures in a replicable, scalable model across four Health Resources and Services Administration (HRSA)-funded community health centers (CHCs) to leverage health information technology in supporting their adoption of the Institute for Healthcare Improvement Care Model.

The study built relevant decision support/evidence-based guidelines into EHR end user screens so that data can be captured by and presented to caregivers at the point of care. The study also focused on promoting the consistent and structured data definitions and capture methods that are required for decision support and population quality reporting. A clinical data warehouse provided analytic capability to the project.

The project worked with vendors, measure developers, and end users to define essential data elements for end user screens, develop report specifications in a data warehouse for National performance measure reporting, and progressively refine a replicable implementation methodology to drive standardized adoption and use through sequential pilots. A formal evaluation combined implementation monitoring with process and outcome measures.

All major goals and objectives were achieved at the conclusion of the grant. The system is live in all four health centers, and at the end of the grant period, the system was being implemented at other health centers. The data warehouse supports regular reporting on National performance measures and aspects of system use at the network, site, and individual provider levels.

Specific Aims

- Implement EHRs in a network of CHCs in a manner that ensures consistency and accuracy of health information across all practitioners, sites, and populations. **(Achieved)**
- Develop a data warehouse that will monitor, aggregate, and provide data to be used for clinical and system quality improvement. **(Achieved)**
- Utilize the EHR/data warehouse to facilitate and encourage the use of evidence-based practice measures at the point of care. **(Achieved)**

- Utilize the EHR/data warehouse to facilitate continuous improvement of health care quality and safety and develop its function as a patient registry. **(Achieved)**
- Promote and support the realization of the full potential of EHR use in ambulatory care settings, particularly among safety net providers, to improve health care quality and safety. **(Achieved)**

Impact and Findings: The EHR implementation was completed at all health centers with feeds from three practice management systems and six reference laboratories. At the end of the grant period, the system was being rolled out at an additional three health centers and was about to launch in a fourth center funded by a HRSA High Impact grant. All system sites were using standardized data capture forms. An end user survey indicated high acceptance and satisfaction with the system.

The data warehouse currently generates reports on performance measures from the American Medical Association and HRSA in dashboard format for diabetes, cardiovascular disease, HIV, and preventive care. Additional dashboards on patient satisfaction, system use, and access to care are being developed. The data warehouse also produces population-based status reports.

Principles adopted for the effort provided a clear direction for many subsequent decisions and simplified the process considerably by committing to common goals and standardization. These include: a) utilization of the chronic care model to manage disease and populations of patients; b) adoption and implementation of network-wide clinical data standards; c) utilization of standardized templates/forms and structured data collection; d) utilization of evidence-based protocols as the basis for standards of care; e) delivery of all health care services, including behavioral health, by the centers; and f) reliance on cross-center subject matter experts and teams to review standards and support development of the EHR.

Experience gained during the initial pilot and at subsequent sites shows that to be successful, certain prerequisites have to be met at the site level: a) EHR implementation must be the priority project for the year, given resource constraints; b) a local implementation team leader must devote substantial time and effort, be a highly effective project manager, and be well respected in the organization; and c) an engaged clinician champion, typically a physician or possibly a nurse practitioner, is a vital member of the implementation team.

Several preparatory steps built site readiness, which aided in the smooth and rapid transition for point-of-care staff who continued to see patients and conduct the routine work of the clinic as the EHR was implemented. Significant time was set aside to pre-load patient data; staff were trained on how the system works once they had mastered EHR basic navigation; and just before go-live, a full rehearsal of the EHR-supported workflow provided a final check on all of the details and gave staff a working model to observe.

Development of performance measurement specifications and reporting capabilities also presented many challenges. Inconsistent clinical data concepts, measures, and lack of standards relative to clinical performance measures are very common. While National data standards were used whenever possible, locally-defined solutions were required in some cases. External reporting of comparable information from ambulatory care sites is labor intensive and, therefore, not practical for widespread adoption until there is a uniform, specific set of measures for ambulatory care sites, vendor commitment to provide appropriate data elements and capture methods in their products, and more sophisticated analysis and reporting functionality is incorporated into EHR software.

Selected Outputs

Rachman F. The Role of Health IT in Measuring and Reducing Disparities. Presentation at the Annual Conference of the Agency for Healthcare Research and Quality, 2009 September 13-16; Washington DC.

Grantee's Most Recent Self-Reported Quarterly Status (as of August 2007): Grantee did not provide self assessment.

Milestones: Did not report.

Budget: Did not report.