

Project Title: Bringing Measurement to the Point of Care
Principal Investigator: Mostashari, Farzad, M.D.
Organization: New York City Department of Health and Mental Hygiene
Mechanism: RFA: HS07-002: Ambulatory Safety and Quality Program: Enabling Quality Measurement through Health IT (EQM)
Grant Number: R18 HS 017059
Project Period: 09/07 – 09/09
AHRQ Funding Amount: \$694,961
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 half of the grant period. The overall goal of this project is to enable meaningful measurement of the quality of care, with a focus on public health priority issues, disadvantaged populations, and small office practices. The New York City Department of Health and Mental Hygiene's (NYCDOHMH) Take Care New York (TCNY) initiative has articulated 10 priority public health issues that require coordinated action between health care providers, patients, community organizations, and government agencies. The NYCDOHMH Primary Care Information Project is using health information technology for population-wide measurement and improvement of clinical care in these 10 domains, particularly among disadvantaged populations. Over 1,000 medical providers have implemented electronic health records (EHRs) with enhanced preventive care functionality. Ambulatory Certification Commission for Healthcare Information Technology (CCHIT) certified EHR products will include Epic™ and NextGen™, which are sent through either a consolidated hub from the vendor or sent individually by the practice, and eClinicalWorks™ (version 8.0). Clinical partners include all of New York City's federally qualified health centers (FQHC), several hospital outpatient departments, and hundreds of primary care providers in small office settings.

A set of 38 clinical quality measures designed to address priority public health issues has been developed, and automated reporting of these measures internally and to the NYCDOHMH is being coordinated with the EHR vendors. The project has also designed and is testing a simple and intuitive Clinical Decision Support System (CDSS) with eClinicalWorks™ suitable for small office practices that integrates quality measurement and clinical decision support at the point of care. The CDSS displays a dashboard of quality indicators as part of the patient's record. Another feature within the EHR, the Quality Reporting Tool (QRT), allows providers to view a list of patients who have or have not met the recommended quality goals. A randomized controlled trial will be conducted to assess the impact of both the CDSS and pay-for-quality incentives on quality measurement and improvement across four of the quality measurement areas.

In addition, the project is developing a brief quantitative survey instrument to assess provider attitudes towards measuring performance and incentivizing quality care. Using a pre-post EHR go-live design, this survey is intended to measure the impact of EHR adoption on provider attitudes and engagement with quality measurement. Six key informant interviews were conducted to characterize these attitudes and opinions and guide the development of the survey.

Specific Aims

- Validate a set of automated clinical quality measures that address priority public health issues. **(Ongoing)**
- Characterize provider attitudes, and measure provider satisfaction with performance indicators. **(Ongoing)**
- Design a simple and intuitive point-of-care quality measurement and decision support user interface (quality dashboard). **(Achieved)**
- Conduct a randomized clinical trial to determine the impact of this quality dashboard on the accuracy of and provider satisfaction with EHR-derived quality measures. **(Ongoing)**
- Disseminate our findings through the National Quality Forum's (NQF) Standardizing Ambulatory Care Performance Measures project, through the EHR vendors' participation in this project, and through reviewed publications. **(Ongoing)**

2008 Activities: The project continued to work with the EHR vendors to incorporate the quality measures into their systems so that automated reporting and validation of the EHR-derived quality measures in comparison to medical chart review could begin. The TCNY measures were successfully incorporated as functions within eClinicalWorks™ EHR as CDSS and QRT. However, it became evident that EHR upgrades were necessary to support installation of the CDSS. The project's development team continued to work with the practices on the upgrades and train them on using the system. This step must be completed prior to the randomized controlled trial portion of the project. Progress has been made to assess provider attitudes towards quality measurement and satisfaction with a point-of-care quality alert. The project conducted individual, in-person interviews with several small practice providers; interview transcripts are being reviewed and informant interviews are being coded to generate items for the provider survey, which will be fielded in early 2009.

Preliminary Impact and Findings: Publicly available findings will be made available closer to the end of the project.

Selected Outputs

A list of EHR-generated quality measures for the 10 clinical areas was finalized, and Dr. Mostashari developed the CDSS and QRT for the eClinicalWorks™ EHR TCNY 1.0 version.

A pre-interview survey and interview guide were implemented, and the results will inform the survey to be used with providers implementing eClinicalWorks™.

Dr. Mostashari published an opinion article in the *Journal of American Medical Association (JAMA)* about the need to redesign the health care system to support EHR adoption that focuses on quality improvement. The article is entitled "Health Care as if Health Mattered."

Grantee's Most Recent Self-Reported Quarterly Status: The project is on track with 65 to 80 percent of its milestones. There are slight delays with the randomized controlled trial. The medical chart abstractions and practice selection components are on hold in order to align the study with EHR operational timelines and other factors. Contributing to the delays are the necessary EHR software upgrades required to ensure that the functionality allowing transmission of automated quality reports is operating as intended. As a result of the milestone delays, adjustments have been made to the budget to distribute the appropriate level of support over the lifetime of the grant. As such, temporarily the project is somewhat under spent by 5 to 20 percent. A modest no-cost extension is anticipated in September 2009; over time, full use of the budget is planned and completion of the project is expected.

Milestones: Progress is on track in some respects but not others.

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