

Bringing Measurement to the Point of Care

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Organization:	New York City Department of Health and Mental Hygiene
Mechanism:	RFA: HS07-002: Ambulatory Safety and Quality Program: Enabling Quality Measurement Through Health Information Technology (EQM)
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Project Period:	September 2007 – September 2010, Including No-Cost Extension
AHRQ Funding Amount:	\$694,961
Summary Status as of:	September 2010, Completion of the Grant

Target Population: Adults, Inner City*, Low SES/Low Income*, Medicaid, Medically Underserved, Racial or Ethnic Minorities*: African American, Hispanic/Latino, Safety Net, Uninsured

Summary: The overall goal of this project is to implement meaningful measurements of the quality of care that focus on public health priority issues, disadvantaged populations, and small office practices. The New York City Department of Health and Mental Hygiene (DOHMH) Take Care New York initiative has articulated 10 priority public health issues that require coordinated action between health care providers, patients, community organizations, and government agencies. The DOHMH Primary Care Information Project (PCIP) uses 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 Health Information Technology-certified EHR products include Epic, NextGen, and eClinicalWorks. Clinical partners include New York City's Federally Qualified Health Centers, 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 DOHMH will be coordinated with the EHR vendors.

Successful EHR-enabled quality measurement requires that physicians document relevant information at the point of care. The research team developed 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, showing the patient's measurement cohorts and whether their care complies with screening and treatment recommendations. Integrated decision support tools enable providers to take appropriate action to bring the measure into compliance or remove the patient from the measurement cohort due to valid exclusions or contraindications.

Limited to small physician owned practices, the project uses a randomized controlled trial to assess the impact of pay-for-quality incentives on quality measurement and improvement across four of the quality measurement areas. A case-control study was conducted to assess the impact of CDSS on quality measurement. The project also uses a pre- versus post- EHR survey to measure the impact of EHR adoption on provider attitudes and engagement with quality measurement and incentivized care.

Specific Aims:

- Validate a set of automated clinical quality measures that addresses priority public health issues. **(Achieved)**
- Characterize provider attitudes and measure provider satisfaction with performance indicators. **(Achieved)**
- 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. **(Achieved)**
- Disseminate findings through the National Quality Forum's Standardizing Ambulatory Care Performance Measures project through the EHR vendors' participation in this project and through reviewed publications. **(Achieved)**

2010 Activities: The PCIP EHR development team, in collaboration with eClinicalWorks, completed validation of the automated calculation of selected quality measures. The research team worked with the EHR vendor to test and verify the automated calculation of measures. A separate team compared the monthly data collected from the quality measures against other data sources (e.g., encounter data, self-reported practice and provider characteristics, and potential rise of symptoms related to infectious disease—syndromic surveillance) available within the health department.

The grant team completed development of the provider survey, assessing provider attitudes and satisfaction with the performance indicators. The survey focused specifically on clinical decision support at the point of care, whether any of the features were used, the functionality of the features, and opinions about the features. Survey findings were supported by qualitative data which provided insights into how the technology was and was not working well.

Recruited practices were enrolled in a privately-funded pilot recognition and pay-for-quality program, Health eHearts, because they had adopted an EHR prior to 2009 and were focusing on quality measurement through the incentive program. Of the 84 practices that participated in Health eHearts, 56 practices, representing 154 providers, agreed to electronic record review and abstraction. Interviews were conducted, and two sets of provider surveys were administered to the providers that adopted an EHR through the PCIP program.

Analysis of the manual chart review data was completed and a regression model was used to assess whether practices experienced more rapid increases post-CDSS implementation. Charts were reviewed for three time periods: 1) pre-EHR implementation (likely to be paper documentation), 2) the period from EHR implementation until the reminder CDSS system was implemented (approximately 6 to 18 months), and 3) post-implementation of CDSS system (a minimum of 6 months later). Each patient record was reviewed for documentation to identify whether the patient was eligible for inclusion in the denominator and, if the patient was eligible, whether he or she met the numerator criteria.

Grantee's Most Recent Self-Reported Quarterly Status (as of December 2010): The grant ended in September 2010 with all major aims achieved. The budget was somewhat underspent.

Impact and Findings: Across 56 practices and reviews of over 6,100 patient records, most practices did not have prior quality measurement experience or engage in quality improvement activities prior

to adoption of an EHR. Following implementation of the CDSS and additional technical support from PCIP, practices increased their rates of clinical preventive services by at least five percentage points across six of ten selected quality measures. Providers found some documentation tasks within the EHR to be relatively straightforward, while other data entry processes posed challenges with downstream effects for quality measurement and reporting. Without manual review of the electronic records, many of the practices would underreport their performance when using automated EHR-derived quality reporting.

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

* *AHRQ Priority Population*