Evaluation of a Computerized Clinical Decision Support System and Electronic Health Record-Linked Registry to Improve Management of Hypertension in Community-Based Health Centers

Principal Investigator: Kopal, Helene, M.P.A., M.P.H.
Organization: Primary Care Development Corporation
Mechanism: RFA: HS07-006: Ambulatory Safety and Quality Program: Improving Quality Through Clinician Use of Health Information Technology (IQHIT)
Grant Number: R18 HS 017167
Project Period: September 2007 – September 2011, Including No-Cost Extension
AHRQ Funding Amount: $1,132,569
Summary Status as of: December 2010

Target Population: Hypertension, Low SES/Low Income*, Racial or Ethnic Minorities*: Latino

Summary: Hypertension affects millions of adults in the United States, many of whom are among the underserved populations that bear a disproportionate burden of chronic disease and illnesses. Community Health Centers (CHCs) are a major source of care for the underserved. The goal of this project is to analyze the efficacy of office-based electronic decision support and provider feedback in improving hypertension control in CHCs.

Partners Primary Care Development Corporation (PCDC), Open Door Family Health Center (Open Door) (a not-for-profit organization that operates four primary care sites serving low-income, primarily Latino immigrants), New York University College of Dentistry and School of Medicine, and the Columbia University Mailman School of Public Health are analyzing the effects of a multi-component, technology-driven quality improvement intervention on hypertension control. This collaborative effort provides a unique opportunity to target an underserved, hard-to-reach immigrant population. This project addresses the need for empirical outcome data on effective information technology strategies for improving control of hypertension among low-income immigrant populations.

The hypothesis of the study is that clinical decision support (CDS) and electronic registry-linked performance feedback will be more effective at improving hypertension control than a standard-care electronic health record (EHR) in CHCs that serve low-income, primarily Latino patients. On a monthly basis, the project extracts data from the eClinicalWorks EHR, which is certified by the Certification Commission for Health Information Technology, and estimates the effect of the intervention using AutoRegressive Integrated Moving Average modeling. The large number of minority and low-income patients served by Open Door CHCs, as well as the existing practice-based research infrastructure provided by PCDC and Open Door, offers a unique opportunity to investigate the efficacy of these interventions.

Specific Aims:

- Test whether an office-based EHR with decision support and registry-linked provider performance feedback is more effective in improving hypertension control than a standard EHR alone. **(Ongoing)**

- Assess the implementation process, and delineate factors that influence adoption of the EHR-supported quality improvement intervention. **(Ongoing)**

2010 Activities: Following the implementation of the CDS in 2009, the EHR data were successfully transmitted and verified in 2010. Post-intervention surveys were conducted among providers to measure attitudes on the CDS tools and use of guidelines. Analysis of the post-intervention process measurement is underway. In the meantime, a paper summarizing the baseline data and findings on the correlates of hypertension and hypertension control among minority and immigrant populations in CHCs is being finalized for journal submission. In addition, the development of a how-to manual for implementing CDS quality initiatives in CHCs is also in progress.

Grantee's Most Recent Self-Reported Quarterly Status (as of December 2010): The project is mostly on track in meeting all its aims and milestones. Moderate underspending in the budget will help facilitate the no-cost extension period, during which the post-intervention analysis will be completed and findings will be summarized.

Preliminary Impact and Findings: Preliminary findings indicate that blood pressure control among hypertensives improved as a result of the intervention. The baseline EHR data and relevant findings that focus on correlates of blood pressure control are currently being summarized for publication. Although the paper has not yet been finalized, the data tabulations have been completed.

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*