

Improving Quality through Decision Support for Evidence-Based Pharmacotherapy

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Organization:	Duke University
Mechanism:	RFA: HS07-006: Ambulatory Safety and Quality Program: Improving Quality Through Clinician Use of Health Information Technology (IQHIT)
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Summary: This project developed two interventions to detect evidence-based indications for nine classes of medications based on the presence of diabetes, hypertension, asthma, congestive heart failure, ischemic vascular disease, or stroke. The goal was to improve adherence to evidence-based pharmacotherapies (EBPs) using clinical decision support in the context of a regional health information exchange (HIE). The clinic-directed intervention generated medication management reports displaying a 1-year list of filled prescriptions along with numerical and graphical summaries of adherence and recommendations for missing EBP. Patient-specific reports were sent to primary care clinics a day before a scheduled appointment. The population-oriented intervention sent weekly notices to care managers assigned to patients who appeared to be non-adherent to EBP and had no record of contact with their primary care clinics.

A three-arm randomized controlled clinical trial (RCT) was conducted to evaluate these interventions on adherence to EBP, resource utilization, and cost of care. More than 2,000 Medicaid beneficiaries with at least one priority condition receiving care at one of the 16 study clinics were randomly assigned to usual care, reports alone, or reports plus care manager notices.

Specific Aims:

- Expand the functionality of an existing decision support system in use within a regional HIE network for Medicaid beneficiaries to incorporate evidence-based EBP and to promote medication adherence. **(Achieved)**
- Implement and evaluate the impact of two complementary interventions for medication management on adherence to EBP among Medicaid beneficiaries in ambulatory care settings through a three-arm RCT. **(Achieved)**
- Compare resource utilization and assess the economic attractiveness of the interventions to promote medication adherence and EBP. **(Achieved)**
- Disseminate information regarding the development and impact of the interventions through Web teleconferences, professional meetings, educational lectures, and peer-reviewed journals. **(Achieved)**

2011 Activities: The three-armed medication management RCT was completed at the participating

practices in December 2010. At the beginning of 2011, the project team completed the 12-month site monitoring visits to verify report-handling procedures, verify receipt of the medication management reports by providers at the point of care, obtain feedback about provider satisfaction and report utilization, and distribute the 12-month provider satisfaction surveys. Remaining activities in 2011 focused on data collection, data cleaning and preparation, and analysis.

Due to previous years' delays, including unforeseen personnel issues and the technical complexity of the work, the project was behind on the original timeline and used a 1-year no-cost extension. As last self-reported in the AHRQ Research Reporting System, project progress was completely on track, and budget spending was on target. The project ended in August 2011.

Impact and Findings: Neither the reports alone nor the reports and the notices improved adherence to EBP compared to usual care. No improved adherence was detected for any individual class of medication or for any individual condition. The group randomized to receive notices had significantly increased contact with care managers demonstrating the potential to address EBP non-adherence at the population level. Site visits, contextual evaluation, and user surveys suggested that the failure to improve adherence to EBP resulted from insufficient capacity to address medication adherence issues by clinicians in the context of the clinical encounter. The economic analysis found no positive or negative impact on outpatient, inpatient, or emergency department service utilization, or on costs of care.

However, while the general sense was that the delivery of reports was not a significant burden, all groups recognized that report delivery and access would be improved if the reports were available in the information technology systems routinely used by the clinicians. All groups also recognized the potential value of allocating more time and personnel resources to address medication adherence issues after they were identified. Feedback from clinicians was generally positive regarding how the reports uncovered non-adherence and fostered discussions with patients about the importance of adhering to medications as prescribed. In some instances, knowledge of non-adherence influenced clinicians to not increase or change a specific medication because of apparent ineffectiveness, when the actual issue was nonadherence to the medication.

The perceived value of the medication management project intervention led the Medicaid care management program to pay to operationalize the system to keep it functioning after the grant term ended.

Target Population: Chronic Care*, Medicaid

Strategic Goal: Develop and disseminate health IT evidence and evidence-based tools to improve the quality and safety of medication management via the integration and utilization of medication management systems and technologies.

Business Goal: Implementation and Use

** This target population is one of AHRQ's priority populations.*