

Project Title: Improving Post-Hospital Medication Management of Older Adults with Health Information Technology

Principal Investigator: Gurwitz, Jerry, M.D.

Organization: University of Massachusetts Medical School at Worcester

Mechanism: RFA: HS07-006: Ambulatory Safety and Quality Program: Improving Quality through Clinician Use of Health IT (IQHIT)

Grant Number: R18 HS 017203

Project Period: 09/07 – 08/10

AHRQ Funding Amount: \$1,199,952

Summary Status as of: December 2008

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

Summary: This project was initiated in September 2007 and has completed the first third of the grant period. The project proposed to develop and evaluate the value of an enhanced health information technology (health IT)-based medication reconciliation system interfaced with the ambulatory electronic medical record (EMR) to improve the quality and safety of medication management, focusing particularly on the transition from the inpatient to the ambulatory setting for older adults with multiple co-morbid conditions who are prescribed high-risk medications. The project interfaces with the EpicCare Ambulatory EMR Spring 2007 IU3, which is certified by the Certification Commission for Healthcare Information Technology (CCHIT). The project employs a randomized controlled trial design to test a health IT-based transitional care intervention with enhanced medication reconciliation and therapeutic monitoring alerts to improve the quality and safety of patient monitoring and medication management. This research allows for the examination of an integrated health IT intervention on the quality of follow-up, outpatient clinician workflow, occurrence of adverse drug events (ADEs), and health care utilization to gain insights into the effective use of clinical alerts and coordinated delivery of actionable information to outpatient clinicians in the management of ambulatory elderly patients subsequent to hospital discharge.

The project's health IT intervention begins with medication reconciliation at the time of hospital discharge.

The intervention addresses the special challenges in complex information management and coordination of data sharing across multiple settings that hamper clinician workflow in the post-hospitalization setting. Specifically, the intervention automates key steps in the transition of care from the hospital to home, including: 1) expediting and facilitating discharge follow-up appointment scheduling (including monitoring for no-shows), 2) sharing of enhanced medication reconciliation lists that highlight key therapeutic changes, and 3) generating patient-specific therapeutic monitoring recommendations for high-risk medications in the post-hospitalization period. This project is a randomized controlled trial of a health IT-based transitional care intervention. Randomization of the health IT discharge communication will occur at the level of the hospital discharge.

Specific Aims

- Evaluate the impact of automated scheduling alerts on the rate of follow-up to an outpatient provider within 14 days of hospital discharge. **(Ongoing)**
- Evaluate the impact of automated monitoring alerts on the prevalence of appropriate monitoring for selected high-risk medications at 30 days from the time of hospital discharge. **(Ongoing)**
- Evaluate the impact of a health IT-based transitional care intervention on the incidence of ADEs within 45 days of hospital discharge. **(Ongoing)**
- Evaluate the impact of a health IT-based transitional care intervention on the rate of hospital readmissions and emergency department visits within 30 days of discharge. **(Ongoing)**
- Assess whether a health IT-based transitional care intervention is more effective in subgroups of patients (by level of co-morbidity, number of medications, and use of specific high-risk medications). **(Upcoming)**
- Determine costs directly related to the development and installation of the health IT-based transitional care intervention. **(Upcoming)**

2008 Activities: The process of reviewing and organizing data from existing therapeutic monitoring standards has continued in 2008. Consultant pharmacists were contracted and continue to review the data and assist with development of expert review and obtaining consensus. The expert drug review has been implemented and completed a modified Delphi process to achieve consensus. The project has held two clinical review sessions with members of the study team, as well as members external to the study team within the clinical organization, to solicit buy-in for the monitoring guidelines.

Preliminary Impact and Findings: The project does not have any findings at this time.

Selected Outputs

Project staff met with national leaders at the health maintenance organizations (HMO) Research Network Annual Meeting in April 2008 to discuss plans for the validation process of the therapeutic monitoring guidelines/standards. The development of the therapeutic monitoring guidelines/standards is in progress. The first round of expert drug review has been implemented.

Grantee's Most Recent Self-Reported Quarterly Status: The project is mostly on track with 80 to 99 percent of its milestones and is generally on time.

Milestones: Progress is mostly on track.

Budget: Spending is roughly on target.