

Project Title: Optimizing Medication History Value in Clinical Encounters with Elderly Patients
Principal Investigator: Lapane, Kate, Ph.D.
Organization: Virginia Commonwealth University (VCU)
Mechanism: RFA: HS07-006: Ambulatory Safety and Quality Program: Improving Quality through Clinician Use of Health IT (IQHIT)
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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. Stemming from previous research, this project hypothesized two ways to optimize improvements in the quality of medication management during clinician office visits: clinicians need additional professional development to better use medication history information during the clinical encounter, and additional clinical informatics functionality must be used in conjunction with detailed medication history via electronic prescribing (e-prescribing) to help guide and structure the clinician's approach to medication management in ambulatory settings. The intervention will: 1) aid in the evaluation and prioritization of medication management issues (e.g. polypharmacy, non-adherence issues, potentially inappropriate medications) at the point of prescribing; 2) facilitate the incorporation of information regarding medication issues into the clinical encounter; 3) foster clinician-geriatric patient/caregiver communication regarding potential medication management issues; 4) promote the optimal integration of medication-history data at the point of prescribing; 5) assist clinicians in evaluating and monitoring complex medication regimens to assist in identifying, resolving, and preventing medication-related problems; and 6) facilitate informed, shared decisionmaking and monitoring for medication-related problems.

The project is unique in that it aims to test information technology leveraging the flow of community pharmacy-based medication history at the point of prescribing coupled with professional development to enhance patient-provider communication specifically to improve medication management among elderly persons seeking care in ambulatory care settings. To test this intervention, the project conducts a large-scale randomized trial, recruiting 18 physician practices that use e-prescribing and DrFirst e-prescribing application and network to transmit prescriptions to pharmacies. One-third will receive the innovative modality for delivery of the standard of care by leveraging medication history information (triggering), one-third will receive the triggering and a curriculum to teach clinicians how to optimize communication skills with elderly persons and their caregivers in the presence of health information technology in the clinical encounter (training), and one-third will receive the existing modality for delivery of standard of care. The evaluation of the project relies on extensive process tracking, existing data sources of medication history, and primary data collection of provider information.

Specific Aims

- Develop geriatric-specific algorithms to identify potential issues with medication management (e.g. polypharmacy, potentially inappropriate medication use, duplicative therapy, non-adherence) using community pharmacy-generated medication history. **(Ongoing)**
- Develop structured, problem-oriented frameworks for organizing medication history information during visits (triggering) for common issues identified by the algorithms developed in Aim 1. **(Ongoing)**
- Develop and pretest modules to teach clinicians how to improve geriatric patient-provider communication relating to medication management with the use of technology (training). **(Ongoing)**
- Test the impact of these interventions on clinician behavior using a randomized controlled trial with three arms: 1) no intervention, 2) delivery of triggering intervention, and 3) delivery of triggering and training interventions. **(Ongoing)**
- Develop "tool-kit" resources that include developed intervention products for use by non-physician providers in other ambulatory settings (e.g. pharmacists in community pharmacy settings). **(Ongoing)**

2008 Activities: The triggers to be incorporated in the project have been developed along with recommended alternatives for many drugs listed on the Beers list, adherence triggers, underuse triggers, and overuse triggers. With input from DrFirst, staff have ruled out the implementation of the underuse triggers owing to questions regarding the validity of the data. In the upcoming months, staff will evaluate the newly emerging Surescripts data to see if this approach will be more viable in the future. Project staff conducted an analysis of National Health and Nutrition Examination Survey (NHANES) to understand population-based estimates of medication issues in elderly populations. This analysis was followed by confirmation of themes in the literature. The project is working with partners in Canada who have developed a coding system (MEDICODE) to capture the interaction between physicians and patients related to medications.

The development of the physician training content is ongoing, and the content leaders have audiotaped their modules. The modules need to be converted and integrated into the training presentations. Once completed, the next step is for each module with audio recording to be posted to the Web site for use in the intervention aspect of the study. Currently, an application for continuing medical education (CME) credit is underway. The staff is applying for evidence-based CME for some of the modules, as it was indicated in a focus group that this would provide extra incentive for participation. It is anticipated that the CMEs will in place by the first quarter of 2009.

The patient survey used for data collection has undergone cognitive interviews and pre-pilot testing for timing, clarity, etc., and the content of the physician surveys is currently being revamped. Both surveys need to undergo Institutional Review Board (IRB) approval before they will be available for use.

Preliminary Impact and Findings: There are no findings to report to date.

Selected Outputs

AHRQ 2008 Annual Conference presentation: Findings from Focus Groups of Geriatric Patients Regarding Medication Issues ([PowerPoint® File](#), 515 KB; [Web Version](#))

Grantee's Most Recent Self-Reported Quarterly Status: The project is under spent owing to Dr. Lapane's transition to VCU from Brown and the resulting lag time in the transfer of paperwork and budgets.

Milestones: Progress is mostly on track.

Budget: Significantly under spent, more than 20 percent.