

Using Health Information Technology to Improve Transitions of Complex Elderly Patients from Skilled Nursing Facilities to Home

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Organization:	University of Massachusetts Medical School
Mechanism:	RFA: HS08-002: Ambulatory Safety and Quality Program: Improving Management of Individuals with Complex Healthcare Needs Through Health Information Technology (MCP)
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Summary: This project developed and is evaluating a transitional care intervention: an electronic medical record (EMR)-based medication reconciliation system for medication monitoring and followup of elderly patients discharged from a skilled nursing facility (SNF) to ambulatory settings with the goal to reduce the incidence of drug-induced injury. The research team will evaluate the intervention through a time-series assessment to measure the efficacy of communicating key health information and alerts to outpatient primary care physicians and visiting nurses. Therapeutic monitoring guidelines have been developed and integrated into EpicCare, an ambulatory EMR used at the Fallon Clinic. Dr. Field and her team are measuring a range of outcomes to determine whether the intervention facilitates high-quality transitions, including the rate of followup office visits, the rate of appropriate monitoring for high-risk medications, and the incidence of adverse drug events (ADEs). Finally, they are analyzing the costs of developing and implementing the intervention. The results from this study will provide important insights into the effective use of clinical alerts and coordinated delivery of actionable information to improve the quality of care delivered to elderly patients transitioning from sub-acute care to the ambulatory setting.

Specific Aims:

- Evaluate the impact of automated scheduling alerts on the rate of followup office visits with an outpatient physician within 21 days of discharge from sub-acute care. **(Ongoing)**
- Evaluate the impact of automated monitoring alerts on the rate of appropriate monitoring for selected high-risk medications within 30 days of discharge from sub-acute care. **(Ongoing)**
- Evaluate the impact of a health information technology-based transitional care intervention on the incidence of ADEs within 45 days after discharge from sub-acute care. **(Ongoing)**
- Evaluate the impact of a health information technology-based transitional care intervention on the incidence of hospital readmission and emergency department visits within 30 days of discharge from sub-acute care. **(Ongoing)**

2011 Activities: During the first part of 2011, the team completed final programming, refinement, and testing of the clinical alerts and messages in the EMR. The intervention went live in July 2011. Because of delays, the team will only have 15 months of data collection. In addition, because they are identifying an average of only 10 discharges per month, they were concerned that they will not have time to accumulate a large enough sample size to run statistical analyses. As a result, the study team modified their implementation to remove randomization and provide the information and alerts for all discharges.

Analysis will now be based on a time-series assessment using 2 years of data from the period prior to the intervention as the comparison period.

Dr. Field and the team continued to develop manuscripts and disseminate the early work of this project on the development of the guidelines and the baseline results, including a manuscript, [Baseline and follow-up laboratory monitoring of cardiovascular medications](#), published in the September volume of *Annals of Pharmacotherapy*. A manuscript describing the process, required resources, and personnel costs of developing and implementing the transition intervention has been accepted for publication in *Informatics in Primary Care*. In addition, Dr. Field presented at the AHRQ Annual Conference in September.

Due to the significant time and resources necessary to develop, program, and refine the alerts and messages and program them into the EMR system, Dr. Field is using a 1-year no-cost extension to conduct the study and complete the analyses.

As last self-reported in the AHRQ Research Reporting System, project progress and activities are completely on track according to the revised timeline, and project budget spending is on target.

Preliminary Impact and Findings: This project has no findings to date. Results will be available at the conclusion of the time-series assessment.

Target Population: Elderly*

Strategic Goal: Develop and disseminate health IT evidence and evidence-based tools to support patient-centered care, the coordination of care across transitions in care settings, and the use of electronic exchange of health information to improve quality of care.

Business Goal: Implementation and Use

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