

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

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<b>Organization:</b>	University of Massachusetts Medical School
<b>Mechanism:</b>	RFA: HS08-002: Ambulatory Safety and Quality Program: Improving Management of Individuals with Complex Healthcare Needs Through Health Information Technology (MCP)
<b>Grant Number:</b>	R18 HS 017817
<b>Project Period:</b>	September 2008 – September 2011
<b>AHRQ Funding Amount:</b>	\$1,188,157
<b>Summary Status as of:</b>	December 2010

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### **Target Population:** Elderly\*

**Summary:** The incidence of drug-induced injury is high in the ambulatory geriatric population, especially when people with complex health care needs make high-risk transitions to ambulatory settings. This project developed and will evaluate 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. The intervention will be evaluated by a three-arm randomized control trial 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, a Commission for Health Information Technology-certified ambulatory EMR used at the Fallon Clinic. Dr. Field and her team will measure a range of outcomes to determine if 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 will analyze 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 subacute 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 subacute 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 subacute 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 subacute care. **(Ongoing)**

**2010 Activities:** A significant amount of time in 2010 was dedicated to developing, programming, and

refining the clinical alerts and messages in the EMR. While this took longer than anticipated, the added time allowed the investigators to add a clinical pilot review of the alerts and messages. All of the content sent each day to primary care physicians on discharged patients was e-mailed to one of the project investigators. The team held multiple meetings with clinicians to review and revise the content of the messages and alerts. This process helped ensure that the frequency and content of the alerts and messages are appropriate to lessen alert fatigue and convey clinically useful information. In addition, Dr. Field and the project team completed a review of each discharge to ensure that the programming has correctly captured all relevant information. This helped the team find multiple critical problems that required additional editing to the program. For example, they found specific problems in identifying newly prescribed antibiotics for patients taking warfarin and special medication interactions with diuretics. By fall 2010, programming and revisions were complete; however, the intervention start date was further delayed by the Fallon Clinic's EMR software upgrade. Now that the upgrade is finished, the team is currently testing each component of the intervention and working with the SNFs and the geriatricians to begin the intervention in early 2011.

During the year, the project team prepared for the evaluation by designing and testing procedures to identify the primary outcomes. Ambulatory visits, hospital readmissions, emergency department visits, and followup laboratory testing will be tracked through transfers of electronic data from Fallon Clinic and Fallon Community Health Plan. The team determined all of the codes and date requirements that will be used for this portion of the study. In addition, the programmers developed and tested a notification system for informing the project's pharmacist investigators that an eligible patient has been discharged from a SNF and providing them with a flow sheet containing critical information about each discharged patient to guide record review. The pharmacist investigators will be reviewing each discharged patient's medical records to search for possible ADEs during the period immediately following SNF discharge and presenting them to pairs of physician investigators to determine if the event was an ADE and if it was preventable. The project team has developed and tested all of the procedures and forms for accomplishing this aspect of the project, including signals of possible adverse events based on their previous work and reports in the literature.

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**Grantee's Most Recent Self-Reported Quarterly Status (as of December 2010):** Project progress is on track in some respects but not others, mainly due to the significant time and resources necessary to develop, program, and refine the alerts and messages and program them into the EMR system. However, by the end of the year, the programming is complete and the intervention is expected to be initiated in early 2011. Spending is roughly on target.

**Preliminary Impact and Findings:** There are no findings at this time.

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**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

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\* AHRQ Priority Population