

Improving Medication Management Practices and Care Transitions Through Technology

| | |
|--------------------------------|---|
| Principal Investigator: | Feldman, Penny, Ph.D. |
| Organization: | Visiting Nurse Service of New York |
| Mechanism: | RFA: HS08-002: Ambulatory Safety and Quality Program: Improving Management of Individuals with Complex Healthcare Needs Through Health Information Technology (MCP) |
| Grant Number: | R18 HS 017837 |
| Project Period: | September 2008 – September 2011 |
| AHRQ Funding Amount: | \$1,199,998 |
| Summary Status as of: | December 2010 |

Target Population: Adults, Chronic Care*

Summary: The overall aims of this project are to examine the relative effectiveness and cost-effectiveness of a health information technology (IT) intervention designed to identify patients with complex and/or high-risk medication regimens, provide electronic decision support for clinicians, and provide supplementary information to patients, thereby improving nursing practices and patient outcomes. This project has designed a medication management system to facilitate high-quality care transitions through improved clinician practice and enhanced patient engagement. The intervention to be tested uses an automated algorithm to identify high risk patients and to send an email alert to the home health nurse shortly after the patient's admission to home care. This intervention also provides the nurse with decision support, including high-risk medication management recommendations that are integrated into the clinician's visit documentation system and the patient's electronic health record. The patient also receives educational materials as part of the intervention. The health IT system will be evaluated by comparing the intervention arm to the usual care group in a randomized controlled trial. This project is an extension of the existing Visiting Nurse Service of New York health IT system and uses many of the features that the home health nurses regularly use.

Specific Aims:

- Examine the relative effect of the intervention on workflow and medication management practices of home health care nurses. **(Ongoing)**
- Examine the relative effect of the intervention on the outcomes and service use of patients in the respective intervention groups. **(Ongoing)**
- Estimate the costs associated with the intervention and subsequent care and compare these costs relative to usual care. **(Ongoing)**

2010 Activities: Implementation of the intervention began in February 2010. An automated process was set up to calculate a Medication Regimen Complexity Index score using electronic medication information that is collected as part of usual care. The nurses of eligible patients were randomized to the usual care group and intervention group on a rolling basis at a two-to-one ratio. Once randomized, the study arm assignment did not change, and all eligible patients of a particular nurse were included in the same study arm as the nurse's randomization assignment. The randomization process ended in October

2010 with the enrollment of 500 nurses who were each following at least one patient included in the study. Of these nurses, 165 (33 percent) were randomized to the intervention study arm. A total of 7,960 patients were included in the study, with 2,562 (32 percent) in the intervention arm. Patient outcome interviews were conducted among a randomly selected subset of patients on a one-to-one basis, approximately 60 days after home care admission. The final survey group included 826 patients, 423 (51 percent) of which were selected from the intervention arm.

The analysis team is currently focused on defining variables and obtaining study data from additional sources. An initial data abstraction from the electronic medical record was completed. This abstraction provides information from the decision support tool, including documentation of patient education regarding how to manage complex medication regimens. The full clinical record abstraction and additional datasets are being obtained to describe utilization of home care service and changes in medication regimens. Final data downloads will begin in January 2011 to enable the analysis of study data.

Grantee's Most Recent Self-Reported Quarterly Status (as of December 2010): The project is on time on all tasks. Spending is roughly on target.

Preliminary Impact and Findings: The project has no findings to date.

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

* *AHRQ Priority Population*