

Evaluation of Effectiveness of a Health Information Technology-Based Care Transition Information Transfer System

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Organization:	Billings Clinic Foundation
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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Project Period:	September 2008 – September 2011
AHRQ Funding Amount:	\$1,155,371
Summary Status as of:	December 2010

Target Population: Adults, Chronic Care*, Rural Health*

Summary: This project seeks to improve the coordination of care for patients with two or more chronic conditions who are discharged from a hospital to a rural primary care clinic. The project team will modify the current Billings Clinic electronic health record (EHR) system, the Certification Commission for Health Information Technology-certified Cerner EHR, to develop, implement, and evaluate a Care Transition Information Transfer (CTIT) system for all Billings Clinic Hospital discharged patients and followup providers, with a particular focus on those living in rural communities.

Primary care clinics with EHR-integrated systems will be notified of their discharged patients directly through the Billings Clinic EHR. Primary care clinics outside of the system will access the EHR through a Web-based portal and through the receipt of e-fax, e-mail, or phone messages. The system will provide patients and their primary care providers (PCPs) with discharge information, including medication management, followup visits, laboratory testing and results, and operative reports. Project staff will conduct a prospective study to evaluate whether the intervention improved patient clinical outcomes, system efficiency and process outcomes, and patient and rural provider satisfaction with the hospital discharge process.

Specific Aims:

- Develop a health information technology-based CTIT system. **(Achieved)**
- Evaluate the effects of the CTIT system on:
 - Clinical and systems-level outcomes. **(Ongoing)**
 - System efficiency. **(Ongoing)**
 - Satisfaction with care transitions among rural PCPs. **(Ongoing)**
 - Patient satisfaction with care transitions. **(Ongoing)**
 - Timely communication of patient information. **(Ongoing)**

2010 Activities: Project staff completed the standardization of the discharge process through the development of an EHR-based discharge tool called Housewide Discharge (HWD), which is essentially a nurse-driven checklist and includes both patient and provider discharge information forms. All testing

and refinements were completed on HWD, which went live in April. Patients were also asked to complete satisfaction surveys, with 38 returned so far. Admission, discharge, and transition nurses met with the team and provided substantial feedback, which was addressed. A notification for primary care providers was initiated by the Hospitalist Department. The team continues to work toward an automated notification process, which will increase the reach of notification-receiving providers.

In collaboration with their information systems department, project staff developed these notifications for PCPs, called Discharge Power Notes, which are automatically sent to PCPs via fax or EHR message center. Between October 2009 and September 2010, 1,109 PCP notifications were sent by 15 hospitalists to 203 PCPs in the region. All of these providers were also sent PCP notification satisfaction surveys including a solicitation for process and content improvement suggestions.

The team completed 300 of 400 of the intervention period chart reviews via telephone by registered nurses who have specific experience in medication assessment. Analysis and expert medication reviews continue, with 126 of 300 completed to date, and remain a focus of the project.

Reliability and validity testing for transfer of information to both patients and providers was completed. This illuminated some data quality issues that were then reported back to clinical discharging staff. System modifications were made and additional training of discharging staff took place.

Grantee's Most Recent Self-Reported Quarterly Status (as of December 2010): The HWD went live in April. PCP notifications continue, as do intervention period chart reviews, expert medications reviews, and data analysis. Progress is mostly on track, and budget spending is roughly on target.

Preliminary Impact and Findings: Seventy-six PCPs completed a survey on their satisfaction with the health information technology discharge notification tool. All but one respondent reported that they wanted to know when their patients were discharged from the hospital, and of those who received a notification, nearly all reported that they then consulted the patients' EHR. Preliminary data on 300 patients included an increase in PCP followup visits within 30 days of hospital discharge, and a decrease in post-intervention readmission rates.

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*