

Enhancing Complex Care Through an Integrated Care Coordination Information System

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Organization:	Oregon Health and Science University
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:	\$1,155,147
Summary Status as of:	December 2010

Target Population: Adults, Chronic Care*

Summary: Patients with chronic illnesses are at risk for complications due to a lack of coordination and quality in a fragmented health care system. This project is investigating whether care for patients with complex needs can be improved by implementing an Oregon Health and Science University-developed integrated care coordination information system (ICCIS) that incorporates population management techniques, patient-centered goals, quality measures, and clinical reminders to support clinical care teams and patient self-management. The three study objectives are: 1) to understand if ICCIS can be implemented among diverse clinics using certified electronic health records (EHRs) and existing standards; 2) to assess if the functions in the ICCIS can be used by the clinics; and 3) to evaluate if these system changes lead to improved patient outcomes.

A randomized controlled trial examines whether six participating clinics can use health information technology (IT) to monitor and deliver care for high-risk patients with a care coordination model (Arm 1) or quality performance model (Arm 2). Three inner-city locations and three rural clinics are participating in the study. Dr. Dorr and his team are evaluating how well care coordination functions are used at the clinics. Measures include indicators of patient engagement, clinic-level quality of care, clinic-level process, and patient health outcomes.

Specific Aims:

- Implement the Care Management Plus and ICCIS models. **(Ongoing)**
- Perform a cluster randomized controlled trial in six clinics on the ability to use the IT functions to monitor and deliver care to high-risk patients through a care coordination (Arm 1), or a quality performance model (Arm 2). **(Ongoing)**
- Assess the implementation. **(Upcoming)**
- Understand and disseminate the outcome, benefits, challenges, and unintended consequences from use of these functions for patients and the system. **(Ongoing)**

2010 Activities: The team completed a joint analysis of transcribed interviews to determine which combination of features would make the ideal product. Preferred system functions and features were divided into three groups: features to be added before the trial start-date, features to be added during the

trial, and features for future versions of the software. The features that were designated for development before the trial start-date were developed and implemented. Quality measures were selected and defined. A protocol was developed for how and where to extract the data from the EHRs into ICCIS for quality-measure tracking. System features include: notifications that alert providers to past emergency room visits and hospitalizations and upcoming patient office visits; a dashboard that allows comparison of adherence to quality measures between physicians, care teams, and clinics; and a reporting functionality that fosters the care team model.

Staff at all six clinics were trained in care management according to the protocol. The clinics were randomized to the care coordination model or the quality performance model. Baseline information on costs, utilization, and patient panels was collected and patient satisfaction survey data is ongoing.

Grantee's Most Recent Self-Reported Quarterly Status (as of December 2010): The project is mostly on track. The system has been implemented, an assessment was conducted, and the trial began. Project spending is on target.

Preliminary Impact and Findings: Baseline data collected from four of the six clinics indicate that 54,406 patients were eligible to be enrolled in care management. Among eligible patients, 37.3 percent had at least one chronic condition and 22.9 percent had two or more chronic conditions. Of those eligible, 3,254 were enrolled and actively followed by care managers. Of these, 87.4 percent had at least one chronic condition and 70.6 percent had two or more chronic conditions. Seventeen percent of enrolled patients had very high risk chronic illness compared with 6 percent in the non-referred population. In terms of the quality improvement measures, of the five quality improvement measures tracked in the four clinics over three quarters, improvements in quality were detected 97 percent of the time (29 improvements out of 30 measurements). Data for the two other clinics will be available in 2011.

Strategic Goal: Develop and disseminate health IT evidence and evidence-based tools to improve health care decisionmaking through the use of integrated data and knowledge management.

Business Goal: Implementation and Use

* *AHRQ Priority Population*