

e-Coaching: Interactive Voice Response-Enhanced Care Transition Support for Complex Patients

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| Organization: | University of Alabama at Birmingham (UAB) |
| 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 – June 2012 |
| AHRQ Funding Amount: | \$1,199,999 |

Summary: When complex patients transition from hospital to home-based care they are at high risk for adverse events, including medical error. Studies examining the care transition intervention (CTI), for which nurses conduct home visits, telephone follow-up, and provide assistance at and after discharge, report that although it is a successful program, it is costly and not feasible in settings serving geographically-dispersed populations.

Dr. Ritchie and her research team developed a CTI-based, cost-efficient technological solution that uses an interactive voice response (IVR)-supported care transition coaching intervention, called e-Coach, which supports medical patients with complex conditions as they transition from hospital to home-based care. e-Coach uses the TeleSage software application and maintains a paper-based personal health record (PHR), provides patient medication self-management assistance, timely follow-up with primary or specialty care, and “red flags” when the patient’s condition deteriorates. e-Coach has a Web-delivered monitoring dashboard that displays meaningful data for the care transition coach to use to monitor patient status, listen to patient messages, and record responses. The team is performing a randomized control trial (RCT) involving patients with congestive heart failure (CHF) or chronic obstructive pulmonary disease (COPD) and who are discharged from the hospital. If e-Coach is successful, it is likely to be disseminated easily and might reduce medical errors in the hospital-to-home transition period as well as risks and costs of rehospitalizations.

Specific Aims:

- Randomize patients to compare the e-Coach intervention with usual care. **(Achieved)**
- Evaluate the use of the e-Coach system by patient and health care providers. **(Ongoing)**
- Evaluate the effect of e-Coach on patient outcomes, including 90-day rehospitalizations, successful community tenure at home after discharge from the hospital, and patient self-efficacy based on the Care Transition Measure. **(Ongoing)**
- Quantify the costs associated with the e-Coach intervention. **(Ongoing)**

2011 Activities: Activities related to the ongoing RCT were the main focus of 2011. As of the end of September, 3,428 patients were assessed for eligibility based on hospital census. After two levels of screening, 482 individuals with CHF or COPD were enrolled and randomized. Of these, 248 received usual hospital discharge care, and 234 received the e-Coach intervention. Data collection occurred at 1-week, 1-month, and 3-month intervals following discharge. By the end of the year, 182 participants

completed the intervention (in-hospital coaching, all IVR surveys, and follow-up with nurse-coaches as needed). Recruitment ended at the beginning of December. The last participant will end the 90-day follow-up period on February 29, 2012, and appropriate measures have been taken to ensure the final data collection call is completed that day.

The team made several updates to the data collection tools including: 1) developed a specific coding schema to label events leading to disenrollment or discontinuation of the study because participants no longer met inclusion criteria (e.g., implantation of a ventricular-assist device, pregnancy, etc.); 2) added drop-down calendars to data collection forms to calculate health care utilization by specific access dates; and 3) added new data collection forms to examine changes in inclusion status for participants receiving usual care to ensure balance between randomization arms of the RCT. At the end of the year, the project team began cleaning the data. This included resolving alerts in the data collection system when data were missing or incorrectly entered.

The primary challenge experienced by the team was patient recruitment, mainly due to hospital census limitations and the project's eligibility criteria. The team took several enrollment-increasing measures, including screening-protocol expansion, daily "environmental scanning" of the two study hospitals, and regular communication with staff in areas with high volumes of COPD and CHF patients.

Despite these measures, recruitment was still slower than anticipated, so Dr. Ritchie is using a 6-month no-cost extension to complete the RCT and subsequent data collection. As last self-reported in the AHRQ Research Reporting System, project progress and activities are mostly on track and the project budget spending was on target.

Preliminary Impact and Findings: Preliminary findings include the high receptivity from patients on the intervention, a higher-than-anticipated response rate on the IVR surveys among patients receiving the IVR-supported intervention, and a reduction in the number of rehospitalizations for the intervention versus the control group. In addition, the use of IVR technology rather than in-home nursing care transition support has allowed this project to extend its geographic reach, as evidenced by the enrollment of participants from 53 of the 67 counties in the State of Alabama and seven other States.

Target Population: Chronic Care*, Chronic Obstructive Pulmonary Disease, Congestive Heart Failure, Elderly*, Medicare, Racial/Ethnic Minorities*

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.