eHealth Blood Pressure Control Program

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Organization: Memorial Hospital of Rhode Island
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Summary Status as of: December 2010

Target Population: Adults, Hypertension, Low Literacy, Medically Underserved, Safety Net

Summary: Memorial Hospital of Rhode Island has designed a two-phase study of the feasibility and acceptability of an e-health model for the treatment of hypertension. The study, the eHealth Blood Pressure (eBP) Control Program, integrates electronic medical records (EMRs) and personal health records (PHRs) with monitoring devices through a Web portal that connects patients to their medical team. The goal of the project is to obtain the necessary pilot data for a randomized practical clinical trial of the eBP Control Program.

The program strives to increase medication adherence, reduce clinical inertia, and improve patients' BP control. In addition, the program also seeks to improve patient education, collaborative self management support, and care coordination. Phase 1 of the study will develop and field-test a PHR, a home BP monitoring (HBPM) device integrated into the PHR, a BP self-management Web portal, and training materials for a patient navigator. During Phase 2, the team will enroll 30 patients with uncontrolled BP. For the first 3 months of Phase 2, all 30 patients will only use a single component of the intervention program: HBPM. After 3 months the participants will be randomized to either the three-component program (HBPM + PHR + Web portal) or the four-component program (HBPM + PHR + Web portal + patient navigator).

Specific Aims:

- Develop and refine a Web-based patient-centered decision support system for BP control using an iterative, user-centered design process so that it meets standards of feasibility and acceptability for patient navigators and participants. **(Ongoing)**
- Determine the appropriate and acceptable patient motivators (i.e., engaging content, social media, and incentives) leading to use of the eHealth BP control program (BP device, PHR, Web portal, patient navigator). **(Ongoing)**
- Develop and begin to field-test a patient navigator training program, a manual of procedures for the patient navigators, and a measure of patient navigator adherence to the training manual. **(Ongoing)**
- Test the functionality, security, and fidelity of the secure data exchange between the HBPM device, PHR, Web-based portal, and EMR interface engine in both test and live (enterprise) environments. **(Achieved)**
- Determine the degree of adoption by participants of the four intervention components (HBPM, PHR, Web portal, patient navigator). **(Ongoing)**

- Estimate the effect sizes of the four-component program relative to the three-component program with regard to patient activation, self-care activities, medication adherence, reduced clinical inertia, and improved BP control with implementation of the e-Health BP control program. **(Upcoming)**

2010 Activities: In the first quarter of 2010 the patient navigator dashboard was finalized and the lead researchers have completed a training and reference manual for patient navigators on BP care management. Key points in the manual and training include the appropriate interpretation of HBPM results and the need to develop practice-wide decision rules on making timely changes in dosage, frequency of HBPM, and the addition of new BP medications to reduce clinical inertia. A document for adherence measures was prepared to provide guidance on what is an "acceptable" level of adherence for the procedures.

The team continued the development of several applications of the eBP Control Program. Beta testing was conducted by faculty and employees of the hospital and other collaborating partners. The project team noted that testing the system with developers, clinicians, study staff, and patients was very informative. Given the wide range of expertise and perspectives, the study staff was able to evaluate many aspects of the system including technical function, work flow, and end-user perspectives.

The open trial of the eBP Control Program is underway. Patients are recruited through letters sent to the home of potentially eligible patients and a 'pop-up' alert in the EMR. At the end of 2010, nine patients completed the telephone survey, participated in the first study visit, and enrolled in the study. To facilitate achieving the 30 patient enrollment goal, recruitment has been opened to additional care teams. Using information from the patients that are ultimately enrolled, the study team will assess which patient recruitment method was most effective.

Grantee's Most Recent Self-Reported Quarterly Status (as of December 2010): Progress is on track for this project and the budget is slightly underspent. The research team developed, tested and implemented the eBP Control Program. The study trial has been initiated.

Preliminary Impact and Findings: There are no findings to date for the project.

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: Knowledge Creation