

Project Title:	An Interactive Preventive Health Record (IPHR) to Promote Patient-Centered Care
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Organization:	Virginia Commonwealth University
Mechanism:	RFA: HS07-007: Ambulatory Safety and Quality Program: Enabling Patient-Centered Care through Health IT (PCC)
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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

Summary: This project's objectives are to design, develop, and evaluate whether an interactive preventive health record (IPHR) linked to an electronic medical record (EMR) will increase recommended screening tests, immunizations, and counseling. The IPHR, entitled MyPreventiveCare.com, provides tailored recommendations, links to educational resources and decision aids, and patient and clinician reminders. By linking patients to their clinicians' EMRs and supplementing that information with user responses to questions on demographics, past receipt of preventive services, and other behavioral risk factors, the IPHR will provide shared knowledge and the free flow of information between clinicians and their patients. The IPHR provides the patient with a link to preventive elements of their EMR; a health risk assessment (HRA); an individualized list of recommended preventive services based on risk stratification; patient education resources; and patient reminders: e-mails encouraging healthy behaviors and/or receipt of recommended services, alerting patients when they become eligible for retesting or new services, and encouraging patients to update their profiles. It provides the clinician with a summary of the patient's risk factor information, patient as well as provided information, which can be used to update the EMR.

The study, approximately mid-way through its progress, takes place in eight primary care practices in the Virginia Ambulatory Care Outcomes Research Network (ACORN). All care practices use a common EMR, the Certified Commission for Health Information Technology (CCHIT) – certified Allscripts Touchworks® EMR, version 10.2. A randomly selected sample of 5,500 of the practices' 228,000 patients, stratified by age and gender, has been assigned in a one-to-one ratio to receive a request from their clinicians to use the IPHR or receive "usual" preventive care. Through this randomized, controlled trial, the project team will examine the effects of the IPHR on clinical preventive services, shared decisionmaking, and patient-physician communication through analysis of data in the EMR, utilization data from the IPHR, and patient and provider surveys.

Specific Aims

- Evaluate whether an invitation from a patient's primary care clinician to use the IPHR results in increased delivery of age- and gender-appropriate clinical preventive services. **(Ongoing)**
- Evaluate whether an invitation from a patient's primary care clinician to use the IPHR results in use of the IPHR. **(Ongoing)**

- Evaluate whether an invitation from a patient’s primary care clinician to use the IPHR results in increased shared decisionmaking for preventive services. **(Ongoing)**
- Evaluate whether an invitation from a patient’s primary care clinician to use the IPHR results in improved clinician-patient communication about preventive needs. **(Ongoing)**

2008 Activities: The team has developed a logic algorithm that uses a patient's preventive health care information to generate a customized list of recommended services from the following checklist of 18 services: breast, cervical, colon, and prostate cancer screening; diet, exercise, smoking cessation, and obesity counseling; blood pressure and cholesterol monitoring; aspirin chemoprophylaxis; abdominal aortic aneurysm, diabetes, osteoporosis, and chlamydia screening; and tetanus, pneumococcal, and influenza vaccinations. The team solicited feedback from AHRQ and the U.S. Preventive Services Task Force (USPSTF), and modified the logic based on their recommendations. The team has designed, built, pilot-tested, operationalized, and validated transfer of data from the EMR to the IPHR. The IPHR converts the EMR data into usable elements for clinical decision support logic. Tailored patient messages for all 391 logic endpoints have been developed, modeled after content within the Office of Disease Prevention and Health Promotion’s (ODPHP’s) consumer health information Web site, www.healthfinder.gov. The messages have been created, extensively reviewed through two rounds of usability testing, and finalized for the 18 services contained within the IPHR.

The usability testing consisted of a series of 26 tasks, including logging in, reviewing information on Web pages, entering health information, reviewing and editing medical record data, and reading about preventive care priorities for existing medical conditions. The database structure, Web interface, CDS logic programming, and all final corrections to personal statements, formatting, layout, and functionality of the IPHR have been completed. The team conducted two rounds of site visits to demonstrate the functionality of the IPHR to physicians and nurses, and has developed the protocols for managing the user patient summaries that will be transferred from the IPHR to the EMR. The team has begun recruitment of patients and has collected baseline data for analysis.

Preliminary Impact and Findings: Within 6 weeks of being mailed the invitation, 292 patients (11 percent) had established an account and used the IPHR (updated usage rates will be presented). IPHR-users were more often male (52 percent vs. 49 percent, $p < 0.001$) and older (mean age of 55 vs. 48 years, $p < 0.001$) than non-users. Although 76 percent of users had attended a wellness or chronic care visit within the past year, only 3 percent were up-to-date, with risk factors under control, for all 18 preventive services. Among the IPHR users, 49 percent and 56 percent were due for screening tests and vaccinations, respectively; 91 percent and 55 percent needed counseling for unhealthy behaviors and preventive medications, respectively; and 35 percent had inadequate control of chronic conditions. Alerts to clinicians issued by the IPHR led practices to update 59 percent of patients’ records and to contact patients to schedule a wellness visit (80 patients), chronic care visit (49 patients), or an appointment for a specific preventive service (56 patients).

Selected Outputs

Available at: My Preventive Care. <http://www.mypreventivecare.net>, <http://www.mypreventivecare.com>, or <http://www.mypreventivecare.org>. Accessed May 2009.

Grantee’s Most Recent Self-Reported Quarterly Status: The project is somewhat under spent, approximately 5-20 percent. This is due to the IPHR going live in 2008 on Nov 15th rather than July 1st. As a result, some of the Year 1 programming costs were shifted into Year 2. These funds will easily be reconciled within the overall budget of Year 2 and 3.

Milestones: Progress is mostly on track.

Budget: Somewhat under spent, approximately 5 to 20 percent.