

Improving Uptake and Use of Personal Health Records

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Summary: Personal health records (PHRs) offer patients new ways to participate in their health care. Yet while studies have found a high degree of patient interest in PHRs, actual adoption rates are low and improvements in patient quality-of-care when PHRs are adopted have not been studied. Previous studies focused on the satisfaction of current users but did not fully describe how a patient decides to use a PHR. Further, more research on the strategies that provider organizations can use to encourage and support PHR adoption and use among patients is needed.

This project takes a comprehensive approach to studying adoption of PHRs using Everett Rogers's Diffusion of Innovation Framework. This framework assists in understanding the factors that influence PHR adoption by studying the different stages—including the perceived attributes of PHR and attitudes toward its adoption, and the impact of perceptions and attitudes on behavioral intentions as well as actual behaviors—of the innovation-decision process. The project introduced the PHR in four selected primary and specialty care practices (two control and two active intervention practices) to study the impact of multi-intervention strategies on uptake and continued use of PHRs. Each practice determined its own strategies, which included patient education about PHRs provided by clinic staff, assisting patients in PHR registration and use, and presence of a computer kiosk in the waiting room for patient self-enrollment. The investigators assessed the facilitators and barriers to adoption, implementation, and use of PHRs at the organizational and patient levels, and evaluated the impact of the intervention on adoption and usage rates. The final task is to assess the impact of the PHR on the quality of care as measured by a patient survey on patient-centeredness and through a set of quality measures on health outcomes.

This research will contribute to knowledge of how to encourage use of PHRs and, once adopted, how to increase their impact on quality of care.

Specific Aims:

- Introduce an intervention employing multiple strategies to improve the uptake and use of PHR in an ambulatory setting. **(Achieved)**
- Evaluate individual and organizational-level facilitators and barriers associated with PHR adoption and implementation. **(Achieved)**
- Assess the impact of the intervention on awareness, adoption rates, and use of the PHR. **(Ongoing)**
- Assess the impact of the interventions in improving quality of care. **(Ongoing)**

2012 Activities: The phase of the research focused on interventions to increase adoption of the PHR was completed in 2011. In 2012, the focus was on interventions to encourage use of the PHR among those patients who had signed up to use it. In addition to an email to encourage patient PHR use, the intervention was tailored to two sub-groups of PHR users. The first group was patients who were using a limited subset of the functions in the PHR. This group received a PHR flyer to describe the full range of tools available. The second group was frequent users of the PHR across both intervention practices. Members of this group were given a pen with a practice logo as a thank-you for being an effective user. The final component of the intervention phase of the research was an email sent to the frequent users, defined as those who have used several functions of the PHR, to make them aware of new features to access and pay bills online and view summaries from their provider visits.

To measure the effectiveness of the interventions to encourage PHR use, 369 patients were followed to monitor how they used the PHR, asking if they: 1) looked at lab results; and 2) used the PHR to ask questions of their medical provider. The research team sent PHR users a followup survey at 6 months to assess the facilitators of and barriers to PHR use.

As last self-reported, project progress and activities are mostly on track and budget spending is on target. The project is behind schedule on the distribution of the final patient survey and is using a 1-year no-cost extension until March 2013 to complete the final patient survey, analysis of the survey and intervention to increase use of the PHR, and write the final report. Several papers focusing on the patient surveys and effectiveness of the intervention strategies to improve adoption and use of the PHR are also in progress.

Preliminary Impact and Findings: Adopters and non-adopters of the PHR were mailed surveys using Dillman's tailored design method approach. A response rate of 59 percent was obtained by mailed surveys to adopters of the PHR (PHRA). In comparison, there was a 42 percent response rate among the non-adopters of the PHR (PHRNA). This is not surprising, given that non-adopters may be more reluctant to complete a survey on perceptions and attitudes of PHRs. PHRA assigned significantly greater values than PHRNA to the use of a PHR for communicating with their provider's offices for the following tasks:

- Appointment requests (Mean PHRA=7.3 versus mean PHRNA=5.8)
- Medication refills (Mean PHRA=7.8 versus mean PHRNA=6.2)
- Viewing laboratory results (Mean PHRA=8.5 versus mean PHRNA=6.1)
- Viewing radiology results (Mean PHRA =7.8 versus mean PHRNA=5.9)
- Asking a medical question (Mean PHRA =7.2 versus mean PHRNA=5.6)

PHRA also showed significantly greater preferences for receiving health information via a PHR: 62 percent of PHRA would prefer to receive preventive care information via a PHR, compared to 32 percent of PHRNA; 65 percent of PHRA would prefer receiving patient education materials via a PHR, compared to 29 percent of non-adopters. Preliminary results suggest that PHRA value PHRs for patient engagement and effective communication and prefer the PHR for receiving information such as preventive care reminders and patient-educational materials.

Target Population: Adults

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
