

Improving Uptake and Use of Personal Health Records

Principal Investigator:	Bates, David W. M.D., M.Sc.
Organization:	Brigham and Women's Hospital
Mechanism:	PAR: HS08-270: Utilizing Health Information Technology (IT) to Improve Health Care Quality (R18)
Grant Number:	R18 HS 018656
Project Period:	April 2010 – March 2012
AHRQ Funding Amount:	\$862,047

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 when PHRs are adopted, improvements in patient quality-of-care have not been documented well. Previous studies focused on the satisfaction of current users but did not fully describe how a patient decides to use a PHR. Researchers do not understand strategies that provider organizations can use to encourage and support PHR adoption and use among patients.

This project takes a comprehensive approach to studying adoption of PHRs using the Diffusion of Innovation Framework that Everett Rogers developed. This framework assists in understanding the factors that influence adoption by studying the different stages—including the perceived attributes of the PHR, attitudes toward adoption of PHRs, 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 controls and two active intervention practices) to study the impact of multi-intervention strategies on uptake and continued use of the PHR. Each practice determined its own strategies, which included patient education about the PHR provided by clinic staff, supporting patients in PHR registration and use, and use of a computer kiosk in the waiting room for patient self-enrollment. The investigators are assessing the facilitators and barriers to adoption, implementation, and use of the PHR at the organizational and patient levels, and are evaluating 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. **(Ongoing)**
- Assess the impact of the intervention on awareness, adoption rates, and use of the PHR. **(Upcoming)**
- Assess the impact of the interventions in improving quality of care. **(Upcoming)**

2011 Activities: The adoption intervention was implemented in the primary care and nephrology practices to improve patient uptake of the PHR. An “adoption survey” was sent to patients in the control and intervention practices to assess their experience with signing up to use the PHR. Providers and staff were also surveyed. Following the adoption intervention, the use intervention was initiated in 2011 to identify various interventions to improve patients’ PHR use. Data collection identified three types of patients: those who enrolled in the PHR but never activated their account; those who used the PHR for specific functions, such as viewing laboratory results but not for others such as secure messaging with their provider; and frequent users of the PHR. Intervention strategies targeted each group separately.

Patients who did not activate their accounts were encouraged to do so and to use the PHR. Patients who used the PHR for specific functions were encouraged to explore the PHR for additional functionality. The intervention materials for these groups comprised a letter from the medical director of the practice and a flyer highlighting different PHR functionalities. Patients who were frequent PHR users received an acknowledgement letter from the medical director of the practice and a pen with the practice logo as a thank-you.

As last self-reported in the AHRQ Research Reporting System, project progress and activities are mostly on track and project budget funds are somewhat underspent. The project is underspent due to a change in methodology for patient surveys and the departure of a co-investigator. Project spending is expected to resume to forecasted level in 2012.

Preliminary Impact and Findings: Adopters and non-adopters of the PHR were mailed surveys using Dillman’s tailored design method approach. Unlike the telephone surveys, which were stopped because of low response rates, a good response rate (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 nonadopters 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