

Understanding Development Methods from Other Industries to Improve the Design of Consumer Health Information Technology

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Summary: Consumer health information technology (IT) products, such as those designed for information seeking, retrieval, storage, archiving, and health monitoring, can enhance the quality of health care by empowering consumers to play a more effective, collaborative role in their own care. However, despite the potential power of consumer health IT, health care consumers have been less eager to adopt and use technology than consumers in other industries. According to the literature, a possible reason for the low use rates of consumer health IT products is the lack of robust commercially available tools that recognize the complexity and diversity of personal health information management (PHIM) practices. PHIM practices are influenced by a variety of user and contextual factors, including demographics, attitudes, the user's goals and objectives, and the range of tasks that the user wants to perform.

A project team of staff and consultants from the Center for Health IT at Westat and the Center for Health Information and Decision Systems at the University of Maryland is building upon the [Personal Health Information Management and the Design of Consumer Health Information Technology](#) project, a previous Agency for Healthcare Research and Quality (AHRQ)-funded project. The current project strives to identify methods to develop better-conceived and more widely used consumer health IT. To that end, the project team is conducting an environmental scan and literature review to locate research, tools, methods, opinions, and other material to reveal how methods of other industries might be applied to the design of consumer health IT. A technical expert panel (TEP) will be convened, comprised of leaders in proven product development approaches and methods, to generate insights and innovative ideas related to the design of consumer health IT. Lastly, the team is conducting interviews with people who have expertise in consumer product design in other industries to provide additional perspectives that are generalizable to the design of consumer health IT.

Project Objectives:

- Convene a TEP to bring together leaders in proven product development approaches and methods to generate insights and innovative ideas that are most likely to generalize to the design of consumer health IT. **(Achieved)**
- Conduct an environmental scan and review of relevant grey literature to locate research, tools, methods, opinions, and other material that reveal how the methods of other industries could be applied to the design of consumer health IT. **(Achieved)**
- Conduct key informant interviews to solicit innovative product development approaches that are likely to generalize to the design of consumer health IT. **(Achieved)**
- Develop a set of recommendations to guide consumer health IT vendors and developers in the design of health IT tools. **(Upcoming)**

2011 Activities: The focus of activity in the first half of the year was on planning and preparing for the second TEP meeting, drafting the background report, which included the environmental scan and the literature review, and revising the report based on feedback from AHRQ. The second TEP meeting was held on July 13th. In mid-August, AHRQ received approval from the Office of Management and Budget for the project's data collection activity and the project team designated a set of 15 key informants to interview regarding successful products. TEP members help the project team contact key informants with whom they had a personal relationship. However, there were challenges in confirming interviews with all 15 candidates so the project team worked with AHRQ to identify one potential replacement interview candidates. Because of the delay in completing the interviews, AHRQ approved a contract modification to extend the date for completing the interviews to January 6, 2012. Nine interviews were completed by the end of December 2011, and work began on analysis of the transcripts of these interviews. The third TEP meeting was scheduled for March 7, 2012.

Preliminary Impact and Findings: As a result of the grey literature review and environmental scan, the project team identified and reviewed 18 product development methods and differentiated them on the basis of seven characteristics: structure, iteration, span of approach, user involvement, design team composition, novelty of product, and virtualizability. The team also identified 24 digital consumer products that have achieved marketplace success, which were classified into seven product classes including communication; eCommerce; information storage, archival, and retrieval; personalized entertainment; gaming; learning applications; and smart phones. The core finding was that although there is considerable variety in the design methods used for successful consumer digital products, there are common underlying characteristics that represent best practices in design. The report offers a set of design recommendations for designers of consumer health IT applications.

Target Population: General

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
