

## 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 that are designed for health information seeking, retrieval, storage, archiving, and health monitoring, can enhance the quality of health care by empowering consumers to play a more effective and collaborative role in their own care. Despite the potential of consumer health IT, health care consumers have been less eager to adopt and use technology than have 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, user 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, the Center for Health Information and Decision Systems at the University of Maryland, and the University of Wisconsin-Madison set out to develop recommendations based on key strategies that have been used to produce outstanding consumer IT products. This project built upon the [Personal Health Information Management and the Design of Consumer Health Information Technology](#) project, a previous Agency for Healthcare Research and Quality-funded project. This new research identified successful consumer IT products based on market penetration, sales, and customer adoption and enjoyment. Next, the research examined the design methods that were used to develop these successful products through: 1) an environmental scan and grey literature review; 2) in-depth interviews with expert developers; and 3) guidance from a technical expert panel (TEP) that included consumer health experts, product design experts, human factors experts, and vendor representatives.

Project findings were used to generate a set of recommendations that provide design strategies that have been used in the development of consumer IT products in other industries. The recommendations are intended for anyone who is involved in building and marketing consumer health IT products. The recommendations focus on the design methods and issues to consider throughout the development process and into commercialization.

### 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. **(Achieved)**

**2012 Activities:** The focus of activity was on completing the key informant interviews and analysis of the corresponding transcripts, convening the third TEP meeting in March 2012, and developing the recommendations. The project concluded in September 2012.

**Impact and Findings:** In 2012 a [summary of nine in-depth interviews](#) was developed to highlight the lessons about design methods used in other industries that were learned from the key informant interviews. The core findings were that successful consumer product design include: 1) market-based, consumer-centered, and intuition-based approaches during the design phase; 2) a solid understanding of customer needs and frustration with existing products; 3) prototyping and testing product concepts so that consumer experience can inform the design phase; and 4) the ability to demonstrate usefulness and usability of the product.

The final deliverable, available at: <http://healthit.ahrq.gov/developmentmethodguide>, offers a set of design recommendations for designers and developers of consumer health IT applications. The recommendations can be used to support the consumer product development process. Some recommendations apply to most or all phases of the product development process; others are directed to the beginning, middle, or end of the product development cycle. The guide can help design teams prepare for a new consumer health IT development effort or a specific phase by reviewing specific issues and considerations that may apply.

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**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

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