

Creating a Foundation for the Design of Culturally-Informed Health Information Technology

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Target Population: General

Summary: One approach to confronting racial and ethnic health care disparities has been to develop initiatives to enhance the cultural appropriateness of health care. To date, these efforts have predominantly focused on the cultural tailoring of provider-delivered care, health care systems, and health promotion campaigns. Given the expanding importance of health information technology (IT) used by patients and members of their social network, and the fact that most technology is embedded with strong but unrecognized cultural orientations, expanding health IT design to purposefully include salient cultural dimensions may help reduce these disparities.

The long-term objective of this work is to reduce racial and ethnic health care disparities by creating new, culturally-responsive approaches to the design of health IT for use by patients and members of their social network (e.g., family, friends, neighbors). The goal is to create a foundation for a design strategy that leads to culturally-informed consumer health IT. Consumer health IT has the potential to involve patients and their supporters in the improvement of their health. A concurrent, mixed-methods approach drawing on both anthropological and systems engineering methods will be used to systematically assess culturally diverse patients' daily routines of health information communication.

The outcome of this study will be a systematically-derived understanding of the daily health information communication routines of individuals of diverse cultural backgrounds. Such an understanding will identify points of similarity and variability and, therefore, where functional standardization may be appropriate and where and what type of tailoring may be necessary. These empirically grounded design considerations may be used to culturally inform the needs assessment, evaluation, and selection phases of the design process.

Two lines of future work will build upon the results of this project. The first will empirically assess the ease of applying these considerations at different stages of the design process. The second will empirically assess the impact of culturally-informed consumer health IT on outcome measures such as usability, use, and satisfaction.

Specific Aims:

- Determine the daily routines of health information communication exhibited by patients holding diverse cultural identities. **(Ongoing)**

- Determine what design considerations for consumer health IT result from knowledge of these daily routines. **(Ongoing)**

2010 Activities: The project team is conducting surveys, interviews, and validation exercises to determine the health information communication routines of culturally-diverse patients. As of December 2010, 20 of the proposed 60 screening surveys; two interviews apiece with 12 of the proposed 30 participants; and four of the proposed six validation exercises were completed. The project team reflected upon and documented the results of these interactions to gain insight into design considerations for consumer health IT. Analysis of these data will begin in 2011.

In addition, the project team has disseminated preliminary findings at conferences, including a paper titled *Designing Culturally-informed Consumer Health IT: An Exploration and Proposed Integration of Contrasting Methodological Perspectives*, presented at the 2010 Human Factors and Ergonomics Society Conference, and an oral presentation titled [*To Talk or Not to Talk: Exploring Culturally Diverse Patients' Health Information Communication Choices*](#) at the 2010 American Medical Informatics Association Annual Symposium.

Preliminary Impact and Findings: Preliminary analysis of the data reveals that although some participants shared identification with a single term (e.g., “white”), the ways in which they identified with these terms were often quite different. For example, one individual indicated that she identified as “white,” but only because “*they* expect me to.” She indicated that she *isn't* white by pointing at her skin, but felt that was the box she was expected to check. Diverse identifications highlight the complexity of creating user profiles or segmenting user groups by cultural indicators. In addition, the project team found a clear difference between what participants believe about health information communication and the actual phenomenon. When participants were asked if they believe that their health information communication practices are similar or different to others’, they overwhelmingly stated that they thought that others communicated health information as they did. However, from the data gathered, it is clear that participants often had very different approaches to health information communication. This finding suggests that a “user-centered” design approach may suffer from the same limitations as a “designer-centered” approach if the users integrated into the design process are not representative of the entire population.

Strategic Goal: Develop and disseminate health IT evidence and evidence-based tools to improve health care decisionmaking through the use of integrated data and knowledge management.

Business Goal: Knowledge Creation