Enhancing Access to Patient Education Information: A Pilot Usability Study

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Abstract

Health care organizations are developing Web-based portals to provide patient access to personal health information and enhance patient-provider communication. This pilot study investigates two navigation models ("serial" and "menu-driven") for improving access to education materials available through a portal. There was a trend toward greater user satisfaction with the menu-driven model. Model preference was influenced by frequency of Web use. Results should aid in the improvement of existing portals and in the development of new ones.

Introduction

Intermountain Health Care (IHC), a health care delivery system in the Intermountain West, has developed a patient-provider portal that offers enrolled patients access to patient education materials via a link to the IHC home page. However, the existing link may not be apparent to all users and navigation through several menu levels to retrieve materials results in potentially missed opportunities for education. We developed two versions of a prototype for offering "just in time" access from the portal to diabetes patient education information. We compared the prototypes in terms of usability and user satisfaction, and examined the influence of user characteristics on navigation model preference.

Methods

After determining information needs of persons with diabetes, we created a list of 10 Frequently Asked Questions (FAQs) and located the "answers" in the IHC materials. We developed two prototype versions of a user interface, each employing a different navigation model. Prototype A was modeled after the NIHSeniorHealth Web site [1] and utilized serial navigation to display content while Prototype B used a menu-driven navigation model. Both prototypes used a popup window to display the FAQs and related content. We conducted a discount usability study [2] using a within-subject design and a "think aloud" protocol. A convenience sample of 16 subjects recruited from the NIH campus completed user tasks and rated both prototypes on several characteristics. To account for a practice effect, subjects were alternately assigned to use either Prototype A or B first. Subjects reported their prototype preference in a debriefing questionnaire.

Results

More women than men participated in this study (11 vs. 5). Nine subjects (56.3%) were at least 50 years of age and seven (43.8%) had graduate degrees. The current link to retrieve education materials was not intuitive: only three of the 16 subjects (18.8%) indicated they would click on it. Subjects liked using the prototypes and reported learning something new about diabetes in the process. Mean scores for Prototype B (menu-driven model) were consistently higher than those for Prototype A (serial model) in all categories except one ("learning to use the popup") in which the scores were equal. Six of the 16 subjects (37.5%) preferred Prototype A, eight of the 16 (50.0%) preferred Prototype B, and two of the 16 (12.5%) liked both equally well. Only one-third of those who preferred Prototype A reported daily Web use vs. 88% of those who preferred Prototype B.

Conclusions

The generalizability of these findings is limited, given the unique qualities that characterize portals across organizations. However, the observations made in this pilot study should aid in the improvement of existing portals and in the development of new ones. This pilot study suggests that enhancement of the IHC portal may improve patient satisfaction. Studies are currently in progress to confirm this finding.

Acknowledgments

References

[1] Available at: http://nihseniorhealth.gov/.
[2] Nielsen, J. Guerrilla HCI: using discount usability engineering to penetrate the intimidation barrier. Available at: http://www.useit.com/papers/guerrilla_hci.html.