

Supporting Clinical Information Seeking across Users with Diverse Educational Backgrounds

David F. Lobach, MD, PhD, MS¹; Andrew Waters¹; Garry M. Silvey¹; Shelly J. Clark, MS²; Sri Kalyanaraman, PhD³; Kensaku Kawamoto, MD, PhD¹; and Isaac Lipkus, PhD²

¹Department of Community and Family Medicine and ²School of Nursing
Duke University Medical Center, Durham, NC

³School of Journalism & Mass Communication, University of North Carolina, Chapel Hill, NC

ABSTRACT

Consumers with limited education often have difficulty using online health information resources. Here, we describe the development and evaluation of a Web-based health information resource that supports consumers with diverse educational backgrounds by presenting all information within a single dynamic Web page with four levels of hierarchical organization. Evaluation by 31 diverse consumers revealed that the tool was highly usable and navigable regardless of the consumers' educational levels.

INTRODUCTION

Online health information resources play a critical role in the medical decisions made by millions of lay consumers.¹ However, navigating through dense online health information resources can be difficult, especially for individuals with limited cognitive skills.² In particular, such individuals may have difficulty with online resources that require them to navigate through multiple screens and links to identify relevant information. Here, we describe the design, implementation, and evaluation of a Web-based information resource that was developed to support consumers with limited cognitive capacity through the presentation of information within a single dynamic screen with multiple levels of hierarchical organization.

METHODS

Application Development. The educational Web site was developed using standard technologies, including Visual Studio 2005, VB.Net, ASP.NET, and SQL Server 2000.

Usability Study. Active smokers from the community were recruited to complete a 51-question survey derived from validated usability instruments. The survey questions used 5- and 9-point Likert scales. Subjects were paid \$40 for participating. This study was approved by the Duke University IRB.

Data Analyses. Subject responses were aggregated to generate the mean, the standard error of the mean, and 95% confidence intervals. Responses were considered significant if the confidence interval did not overlap the mid-point of the Likert interval.

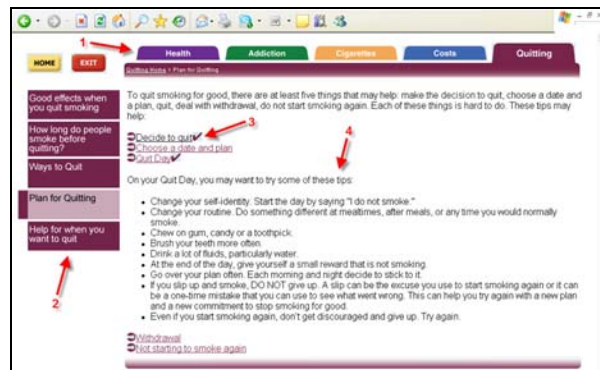


Figure 1. Screenshot of information resource.

RESULTS

System Description. A screenshot of the Web site is shown in Figure 1. Web content is provided within a single dynamic screen, in which information is accessible through four hierarchical and transparent levels of organization (see arrows in Figure 1).

System Evaluation. Thirty-one subjects completed the Web site evaluation. Nine of these subjects had a high school education or less. Consumers had very positive impressions of the resource. Regardless of educational level, consumers found it easy to find information, to know where they had been, and to get around on the Web site. Overall, consumers felt the resource was very user-friendly, and reported they would recommend the Web site to others and would come back themselves in the future.

DISCUSSION

The approach described in this study could be adopted by online health information resources to facilitate the effective retrieval of information by consumers of diverse educational backgrounds.

ACKNOWLEDGEMENTS

This study was funded in part by R01-CA114389-01A2 from the National Cancer Institute of the National Institutes of Health.

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