

An Interactive Digital Knowledge Management System to Improve Public Health Practitioners' Access to Public Health Resource

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Background. Public health practitioners rely heavily on a diverse body of knowledge in varied formats covering numerous domains and specialties. There is a multitude of critical public health information resources produced at local, state, national, and international levels—for example, vaccination guidelines, industrial effluent data, laws and regulations, legislative issues updates, etc. Public health practitioners need simple, rapid access to this information; however, relatively little of this critical information is published through standard channels. In contrast to clinical medicine, there has been much less organized effort to provide public health practitioners and policymakers with access to the kinds of information they need for their work.^{1,2}

In September, 2005, the University of Washington was awarded one of the first Centers for Disease Control and Prevention (CDC) grants to establish a Center for Excellence in Public Health Informatics (CEPHI). The myPublicHealth research project was funded by CEPHI to conduct research to design and build a customizable, interactive digital knowledge management system that will serve to as content management portal that can be personalized to support the collection, management, and retrieval of public health documents, data, learning objects, and tools.

Purpose. Improved management of public health knowledge resources is the goal of the CDC-funded myPublicHealth research project. In partnership with users representing a diversity of roles in public health practice, the design and development approach utilizes a rapid prototyping methodology.

Methods. A key, but often overlooked or skipped, step for building better information tools is knowing the users of those tools. Utilizing rapid prototyping methodology, we are building myPublicHealth, a knowledge repository system that provides an integrated interface to the diverse set of information resources and tools. Rapid prototyping methodology and iterative designing are methods that incorporate the user in the design of the system.³ The approach to building the myPublicHealth prototype is based on an iterative cycle in which user evaluation and implementation of the system are in a feedback loop, with the results of testing at each

cycle feeding into the design focus of the next cycle. The prototype interface will provide access to a variety of external knowledge resources—e.g., web resources from the CDC, State Department of Health, the New York Academy of Medicine's Gray Literature collection, etc.—that have been identified as highly utilized to meet the information needs of public health practitioners. The system is being built using open-source programs and tools.

Evaluation. Plans are underway to test out key features of the design and make changes as needed, using public health practitioners as evaluators. The goals of evaluation are to determine what content is most needed by users in varying public health roles that will inform design of the customizability features and to further understand how myPublicHealth can most seamlessly be incorporated into the work environment of the users.

Project Challenges. The diversity of backgrounds and roles in the public health workforce presents a challenge to building a knowledge repository system that will improve access or reduce barriers to needed information.

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