A Public Health Knowledge Management Repository that Includes Grey Literature

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Abstract

Problem: Public health professionals rely heavily on resources that are often only available in grey literature format. However, while grey literature may contain comprehensive, concrete, and up-to-date information, the fugitive nature of this material makes access problematic. The public health community needs a knowledge management repository of grey literature and tools for easy and rapid access, so time spent searching across and through materials can be reduced.

Goal: Design a customizable prototype public health knowledge management repository system and end-user interface with optimal interoperability and the capability to provide timely access to public health information in support of decision making at the point and time of need. Specification of an appropriate metadata schema, which identifies in a standardized way the elements needed to describe a resource, are a critical part of the system. The long-term goal is a system that delivers answers to public health questions, not a list of pointers to resources that may or may not contain information to answer those questions

Evaluation Procedure: We are utilizing user needs analysis, user profiling, and resource assessment to inform understanding the information needs of public health professionals in the context of their everyday workflow and enable identification of key grey literature knowledge resources for incorporation into the knowledge management system. Rapid prototyping is being used to translate these findings into system specifications and interface design of a small-scale prototype system. The prototype defines system components and interactivity both among components and with relevant external knowledge resources—for example, the New York Academy of Medicine's Grey Literature collection, web resources from the Centers for Disease Control and Prevention, Department of Health materials, etc. The collection of materials will be organized utilizing resource metadata (high level formal, standards-based descriptions of documents) to improve location of relevant grey literature and other information sources.

Results: Testing and evaluation will result in enhancements to the user interface, information resources, presentation of those resources, etc. We also anticipate that the metadata schema employed in a public health knowledge management system will improve the efficacy and efficiency of locating answers to public health questions from the grey literature.

Conclusions: As the amount and breadth of public health information resources continue to expand it is critical that we find ways to provide direct access to the contents of these rich and complex resources. We believe that a public health grey literature knowledge management system with a collection of resources driven by the information needs of public health practitioners and organized using an appropriate metadata scheme will reduce time spent searching across and through materials, enhance public health decision making and ultimately improve the overall quality of public health services.

Introduction

Public health is a broad interdisciplinary field that relies on a variety of information sources that are largely uncontrolled. Accurate and timely information access and distribution is central to effective and proactive public health practice. Data, reports, studies, guidelines, etc. produced by private organizations and public agencies at local, state, national, and international levels are commonly not managed in any systematic or comprehensive way at the present time. Locating and retrieving these materials at the point and time of need is problematic for public health practitioners.

In October 2005, the University of Washington was awarded one of the first Centers for Disease Control and Prevention (CDC) grants to establish a Center of Excellence in Public Health Informatics (CEPHI) with the mission to improve the public's health through discovery, innovation, and research related to health information and information technology. The myPublicHealth Project is one of two research projects funded by CEPHI. The goal of myPublicHealth (myPH) is the design and development of an interactive digital knowledge management system to support the collection, management, and retrieval of public health documents, data, learning objects, and tools. Public health grey literature is a major information source of myPH's knowledge management repository.

myPublicHealth Goals

The long-term goal of myPH is the implementation of a successful knowledge management system that is tailored to the public health practitioner's information needs, work processes, and environment. The knowledge management repository system aims to improve access to and use of digital information resources in support of evidence-based public health practice.