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## Enhancing evidence-based information access to inform public health practice

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# Enhancing Evidence-based Information Access to Inform Public health Practice

## Models of Public Health Information and Accessing Needs

December 14, 2005

conducted by:

University of Massachusetts Medical School Library

funded by:

Center for Disease Control and Prevention

Association of Teachers of Preventive Medicine

Project TS-0734



# Project Staff & Resources

Principal Investigator:

- *Elaine Martin, DA*

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- *E. Hatheway Simpson*

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- *Roger Luckmann, MD*

Evidence-Based Practice for Public Health  
Project Website:

<http://library.umassmed.edu/ebpph>



# Outline

- Project Background & Purpose
- Qualitative Study Findings
- Current Models of Public Health Information and Accessing Needs
- Hypothetical Integrative Model Based on Findings



# Project Background

- Evidence can be applied to solve public health problems if readily accessible
- Many barriers identified by other researchers including limited:
  - Encouragement to seek it
  - Awareness of what is available
  - Access to computers/internet
  - Accessing skills
  - Time to search
  - Ability to appraise credibility & availability of systematic reviews
  - Access to required information beyond biomedical field

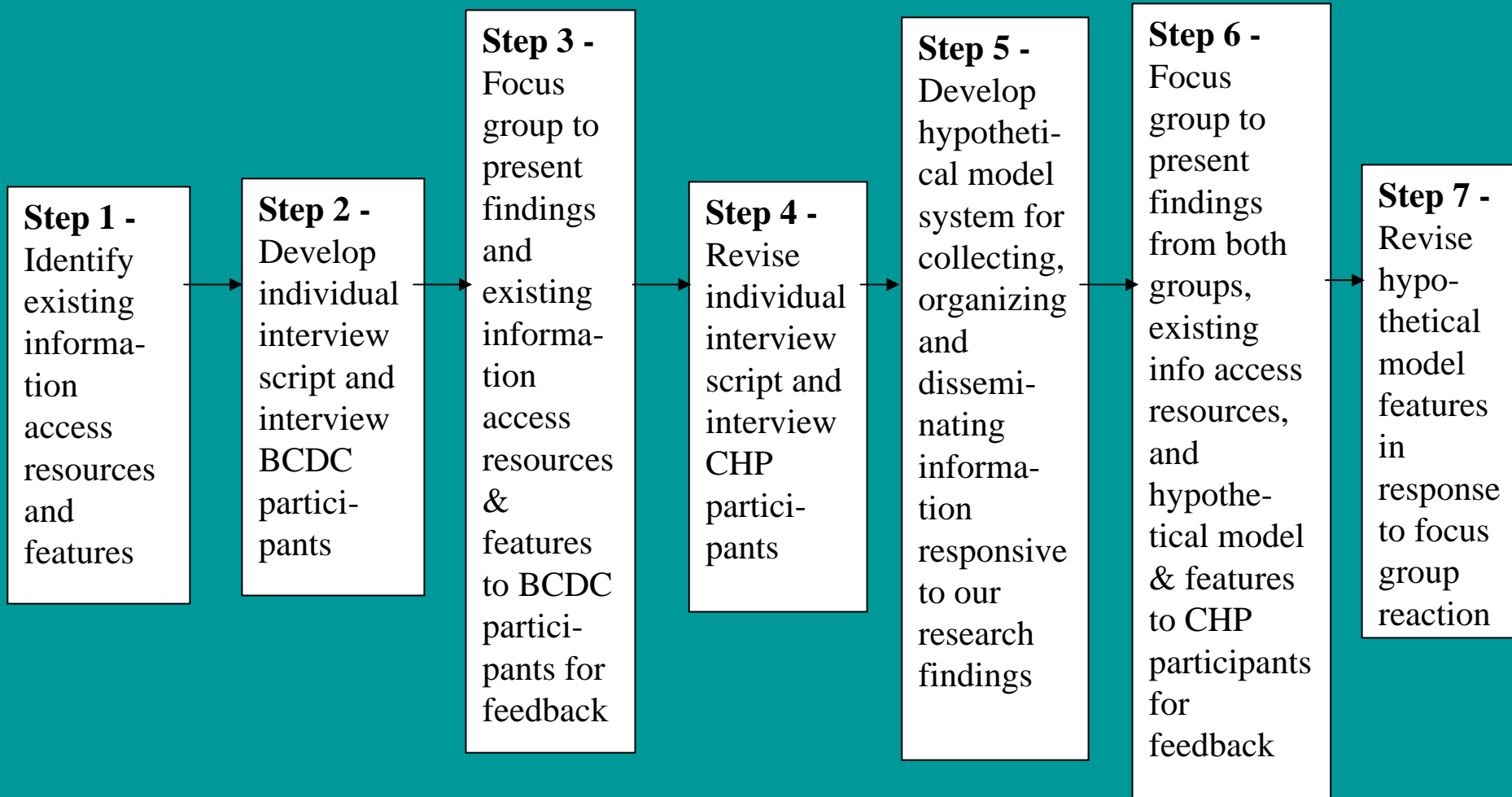


# Project Purpose

- Build on and integrate findings from related studies & existing models
- Use qualitative method to determine information needs to inform PH practices
- Use findings to inform integrative model of PH information and accessing needs



# EBPPH Research Process





# Qualitative Study Detail

## Sample:

- Two groups: Communicable Disease Control & Community Health Promotion
- 19 State level PH professionals with strongest info accessing needs

## Data Collection & Analysis:

- Taped/transcribed key informant interviews
- Taped/transcribed follow-up focus groups
- Thematic analysis of all data; comparison across groups
- Model development





# Focus of Individual Interviews

- **Type of work tasks performed requiring access to critical external information?**
- **Current used and preferred info sources (online and offline)?**
- **Preferred format for research reports (abstracts, full text, reviews/commentaries)?**
- **Current barriers to information access?**
- **Desired enhancements for access?**



# Individual Interview Findings Related to Context

- **All DPH staff have PCs, access to internet**
- **Large sophisticated DPH website**
- **Multiple DPH sites and more than one library site**
- **Urgency of information need differs widely**
- **Electronic information access differs widely**



# Findings: Information Needs Continuum Emerged

## Formal Research Support for Information

Minimum

Maximum



Emerging health risks and preventive behaviors

Emerging practices

Evaluated practices

Well-known disease reference info

Published research reports And meta-analyses

Evidence-based guidelines

### Examples:

SARS, new health risks

STD, venues

TB, CVD

Effective interventions

Immunization Clinical Standards

### Access:

Automatic Notification

colleagues, conferences, listserves

web sites

journal search engines

websites



# Public Health Information Models Reviewed in Focus Groups

## 1. Research Reports:

- Simple or predefined searches of research report collections
- Alerts & archiving
- Summaries/commentaries/critiques

## 2. Systematic reviews and other evidence-based resources

## 3. Comprehensive knowledge sources

[PubMed](#)   [Nucleotide](#)   [Protein](#)   [Genome](#)   [Structure](#)   [PopSet](#)   [Taxonomy](#)   [OMIM](#)   [Books](#)

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- Enter [journal titles](#) in full or as MEDLINE abbreviations. Use the [Journals Database](#) to find journal titles.

<http://www.pubmed.gov>

PubMed, a service of the National Library of Medicine, provides access to over 12 million MEDLINE citations back to the mid-1960's and additional life science journals. PubMed includes links to many sites providing full text articles and other related resources.

**Bookshelf Additions**

Developmental Biology, 6th ed.  
by SF Gilbert

Surgical Treatments - Evidence Based and Problem-Oriented  
edited by RA Holzheimer & JA Mannick

**New Journals Database**

NCBI has created a new Entrez database, [Journals](#), which replaces the Journal Browser.

Journals provides additional search and display features, and

*A collaboration of U.S. government agencies, public health organizations and health sciences libraries*

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## HP2010 Information Access Project

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### Search by Focus Area

This site lets you search for published literature related to the Healthy People 2010 focus areas.

- [Access to Quality Health Services](#)
- [Diabetes](#)
- [Disability and Secondary Conditions](#)
- [Environmental Health](#)
- [Food Safety](#)
- [Health Communication](#)
- [Hearing Objectives](#)
- [Nutrition and Overweight](#)
- [Oral Health](#)
- [Physical Fitness](#)
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Update  
Page

## Welcome to SafetyLit, the online source for recent research about injury prevention.

Information about the occurrence and prevention of injuries is available from many sources and disciplines. SafetyLit staff and volunteers regularly examine more than 300 **journals** and scores of reports from government agencies and organizations. The **weekly update** is posted before 6 a.m. GMT every Monday morning. Each week SafetyLit online abstracts are read by 29,000 people from 168 nations.

In addition to this Web-based SafetyLit update, we also provide a free email announcement of the titles, authors, and publishers of the abstracts included in each weekly update. An **online form**

[www.safetylit.org](http://www.safetylit.org)

<http://www.jwatch.org/>

*Feature*

## Some Answers to Smallpox Vaccination Questions

The progress of the U.S. smallpox vaccination effort has been difficult to follow in the media. Now, reports from both military and civilian programs answer many of the questions that physicians and patients might have about this controversial endeavor.

Department of Defense health officials reported that, in less than 6 months, 450,293 military personnel were vaccinated (70% for the first time) similar to those reported in past series; complications included vaccinia (36 cases), myopericarditis (37 cases), and 1 case of vaccination-related fatalities occurred. Ten HIV-infected patients were vaccinated inadvertently, with no complications; follow-up continues for those who were vaccinated inadvertently.

In a separate report on the military vaccination program, a vaccine-related myopericarditis cases. All were young men who had not been vaccinated previously. Characteristic symptoms appeared 10 days after vaccination, and patients either had recovered by the time of the report. All diagnoses were made by excluding other likely causes of

### Related Links

- ▶ [Table of Contents](#)
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[See reference\(s\) for additional links](#)

**Comment:** Editorialists call the observation that smallpox vaccine can be administered safely to military personnel "a critically important piece of new information," although they note that complication rates could be higher in older, less carefully screened, civilian populations. We don't know if long-term persistence of neutralizing antibody titers confers complete protection against disease, but the presence of even moderate titers in the previously vaccinated cohort ultimately could be helpful in constructing vaccine policies for older people.

— *Abigail Zuger, MD*



<http://www.harcourt-international.com/journals/ebhc>



### Description

*Evidence-based Healthcare and Public Health* provides health managers and policy makers with the best evidence available about the financing, organization and management of healthcare.

For each issue of the Journal key articles are selected from over 70 of the most authoritative and respected journals in the field and reviewed in the form of a structured abstract and expert commentary. The concise and easy to read format presents the most essential, relevant and practical information, in a form easy to assimilate and understand.

### EVIDENCE-BASED HEALTHCARE MANAGEMENT

Mammography screening in the USA has higher recall rates and lower cancer detection rates than in the UK<sup>☆</sup>

Roger Luckmann, MD,MPH (Commentary Author)

Department of Family Medicine and Community Health, University of Massachusetts Medical School, 55 Lake Ave. N., Worcester, MA 01655, USA

#### KEYWORDS

Mass screening;  
Mammography;  
Breast cancer;  
USA;  
UK

#### Summary

*Question* Do mammography screening programmes in the UK and USA generate different recall and cancer detection rates?

*Study design* Outcomes analysis, international screening programme comparison.

*Main results* The incidence of breast cancers among women in the US and UK programmes was comparable. In all age groups, recall rates were significantly higher in both USA screening programmes for first and subsequent screens compared with the UK programme (see Table 1). Total cancers detected per 1000 were significantly higher in the UK in all age groups (see Table 2). In situ and invasive cancer detection rates were similar between programmes for first screen mammograms. In situ cancer detection rates were similar between programmes for subsequent screening mammograms.

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**OVERVIEW**

The Community Guide's systematic review of the effectiveness of selected population based interventions aimed at improving vaccination coverage in children, adolescents and adults focused on strategies within three strategic areas:

1. Increasing community demand for vaccinations
2. Enhancing access to vaccination services
3. Provider-based interventions

- [One page summary of findings](#)
- [Economic Effectiveness Findings](#)

**INTERVENTIONS**

Strength of Evidence	
Recommended (Strong Evidence)	●●
Recommended (Sufficient Evidence)	●
Insufficient Evidence to Determine Effectiveness	?

**Increasing Community Demand**

- [Client Recall/Reminder](#) ●●
- [Multicomponent Interventions with Education](#) ●●
- [Require for Child Care & School Attendance](#) ●
- Community-wide education only ?
- Clinic-based education only ?
- Client or family incentives ?
- Client-held medical records ?

**Enhancing Access to Vaccination Services**

- [Reducing Out-of-Pocket Costs](#) ●●
- [Multicomponent Interventions for Expanding Access](#) ●●
- Expanding access only ?
- [Women, Infants, & Children \(WIC\) Programs](#) ●
- [Home Visits](#) ●

Site Search

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99 titles matching: **Osteoporosis**

**Most Relevant Topics** (23 titles)

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- [Overview of the management of osteoporosis in women](#)
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- [Patient information: Prevention and treatment of osteoporosis](#)
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## Screening for osteoporosis

### EPIDEMIOLOGY

#### [RISK FACTORS](#)

#### [SCREENING TESTS](#)

#### [Definition of osteoporosis](#)

#### [Issues in children](#)

#### [Bone density measurement](#)

#### [Single-photon absorptiometry](#)

#### [Dual-photon absorptiometry](#)

#### [Dual x-ray absorptiometry](#)

#### [Quantitative computed tomography](#)

#### [Ultrasonography](#)

#### [Radiographic absorptiometry](#)

#### [Biochemical markers of bone turnover](#)

### EFFECTIVENESS OF EARLY DETECTION

#### [Evidence supporting screening](#)

#### [Arguments against screening](#)

#### [Cost-effectiveness](#)

### RECOMMENDATIONS BY EXPERT GROUPS

#### [DECISION RULES](#)

#### [RECOMMENDED APPROACH](#)

#### [Site of measurement](#)

#### [Biochemical markers of bone turnover](#)

#### [Management of women with low bone density](#)

### REFERENCES

### PHYSICS

#### [Fracture risk in women and men](#)

#### [Low BMD with age in women](#)

#### [Iron deficiency and osteoporosis](#)

#### [Fracture risk by age BMD](#)

#### [Methods to measure bone mass](#)

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### RELATED TOPICS

#### [Epidemiology and causes of osteoporosis](#)

#### [Clinical manifestations and diagnosis of osteoporosis](#)

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#### [Normal skeletal development and regulation](#)

## Screening for osteoporosis

[Hillel N Rosen, MD](#)

[Denise S Basow, MD](#)

*UpToDate performs a continuous review of over 270 journals and other resources. Updates are added as important new information is published. The literature review for version 10.2 is current through April 2002; this topic was last changed on April 24, 2002. The next version of UpToDate (10.3) will be released in October 2002.*

Screening for osteoporosis may be justified based upon the following observations:

- The disease is common
- It is associated with high morbidity, mortality, and cost
- Accurate and safe diagnostic tests are available
- Treatment is effective

Nevertheless, a widespread approach to screening has not been universally adopted, in part due to cost and questions regarding the efficacy of a broad population screening policy [1]. The issues surrounding the screening for osteoporosis are reviewed here.

**EPIDEMIOLOGY** — The burden of suffering associated with osteoporosis is illustrated by the following observations ([see "Epidemiology and causes of osteoporosis"](#)):

- It is estimated that over 1.3 million osteoporotic fractures occur each year in the United States [2]. Pelvic and hip fractures are associated with increased mortality, although conditions other than the fracture itself may account for most of the deaths [3].
- The risk of all fractures increases with age ([show figure 1](#)); among persons who survive until age 90, 33 percent of women and 17 percent of men will have a hip fracture [4]. The estimated lifetime risk of hip fracture for white women at age 50 is about 16 percent (versus five percent for men), with similar risks for vertebral or forearm fractures.
- Using a strict definition of osteoporosis (bone mineral density [BMD] 2.5 SD below the mean of young women), a large survey in the United States found the prevalence was 13 to 18 percent in women above 50 years of age and 3 to 6 percent in men of the same age [5].



# Focus Group Findings Regarding Accessing Needs

1. One portal searching access
2. Automatic notification when selected new relevant information becomes available
3. Access to consistent information for all diseases/populations and from diverse disciplines of interest to PH professionals beyond PubMed scope
4. Better access to relevant and credible “grey literature” as well as systematic reviews and full text



# Focus Group Findings Regarding Accessing Needs

5. Direct access to exactly and only the information needed
  - Filtering mechanisms for listserves
  - useful PH keyword categories and pre-formulated searches for search engines
  - Indexing mechanisms within articles
6. Archiving of information accessed
7. Training on how to access information electronically
8. Mediated searching=article retrieval services



# PH Information Access Model

