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Enhancing evidence-based information access to inform public health practice

Nancy R. LaPelle  
University of Massachusetts Medical School

E. Hatheway Simpson  
University of Massachusetts Medical School, hathy.simpson@umassmed.edu

Roger S. Luckmann  
University of Massachusetts Medical School

See next page for additional authors

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Enhancing evidence-based information access to inform public health practice

Authors
Nancy R. LaPelle, E. Hatheway Simpson, Roger S. Luckmann, and Elaine Russo Martin

Keywords
evidence-based public health; public health information access; public health practice; information needs

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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

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Project Staff & Resources

Principal Investigator:
• Elaine Martin, DA

Project Coordinator:
• E. Hatheway Simpson

Consultants:
• Nancy La Pelle, PhD
• 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

Step 1 - Identify existing information access resources and features

Step 2 - Develop individual interview script and interview BCDC participants

Step 3 - Focus group to present findings and existing information access resources & features to BCDC participants for feedback

Step 4 - Revise individual interview script and interview CHP participants

Step 5 - Develop hypothetical model system for collecting, organizing and disseminating information responsive to our research findings

Step 6 - Focus group to present findings from both groups, existing info access resources, and hypothetical model & features to CHP participants for feedback

Step 7 - Revise hypothetical model features in response to focus group reaction
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 venues
- STD, CVD
- TB, Effective interventions
- Immunization Clinical Standards

Access:
- Automatic colleagues, web sites
- Notification conferences, search engines
- Listserves

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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
- Enter one or more search terms, or click Preview/Index for advanced searching.
- Enter author names as smith jc. Initials are optional.
- Enter journal titles in full or as MEDLINE abbreviations. Use the Journals Database to find journal titles.

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.
HP2010 Information Access Project

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
- Public Health Infrastructure
- Respiratory Diseases
- Vision
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
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 a vaccination-related fatalities occurred. Ten HIV-infected personnel were vaccinated inadvertently, with no complications; follow-up continued on these who were vaccinated inadvertently.

In a separate report on the military vaccination program, 169 vaccine-related myopericarditis cases. All were young men and had not been vaccinated previously. Characteristic symptoms developed 10 days after vaccination, and patients either had recovered at the time of the report. All diagnoses were made by excluding other likely causes of

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
Mammography screening in the USA has higher recall rates and lower cancer detection rates than in the UK

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

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.
Vaccine Preventable Disease

Overview

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

Most Relevant Topics  (23 titles)

- Overview of osteoporosis in men
- Overview of the management of osteoporosis in women
- Screening for osteoporosis
- Calcitonin in the prevention and treatment of osteoporosis
- Calcium supplementation in osteoporosis
- Clinical manifestations and diagnosis of osteoporosis
- Clinical use of the bisphosphonates in osteoporosis
- Epidemiology and causes of osteoporosis
- Estrogen replacement therapy in the prevention and treatment of osteoporosis
- Fluoride therapy in osteoporosis
- Glucocorticoids and osteoporosis: Pathogenesis and clinical features
- Osteoporosis after transplantation
- Overview of metabolic bone disease
- Pathogenesis of osteoporosis
- Prevention and treatment of glucocorticoid-induced osteoporosis
- Use of biochemical markers of bone turnover in osteoporosis
- Vitamin D therapy in osteoporosis
- Drugs that affect bone metabolism
- Medical consultation for patients with hip fracture
- Patient information: Calcium supplementation in osteoporosis
- Patient information: Overview of osteoporosis
- Patient information: Prevention and treatment of osteoporosis
- Use of selective estrogen receptor modulators in postmenopausal women

http://www.uptodate.com/
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

User-selected filters & pre-formulated search criteria

PH Evidence-Based Information Access Website

Credible indexed info

• Journal articles
• Systematic reviews
• Best Practices
• Other “grey literature”

Customized user database of accessed information

Review System

Newly published information in diverse disciplines of interest

Automatic notification of newly available requested filtered information