

What is the “Evidence” in Evidence-based Public Health?

Pathways to evidence informed public
health policy and practice

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OPHS Foundational Standard Workshop

Toronto, November 14, 2008

Overview

- ▶ Introduction
- ▶ Evolution of Evidence-based Public Health
- ▶ “Evidence in Context”
- ▶ Knowledge Base for OPHS
- ▶ Tool for Accessing the Evidence

Ontario Public Health Standards 2008

The Ontario
published a
of mandate
by the Ministry
pursuant to
and Promotion

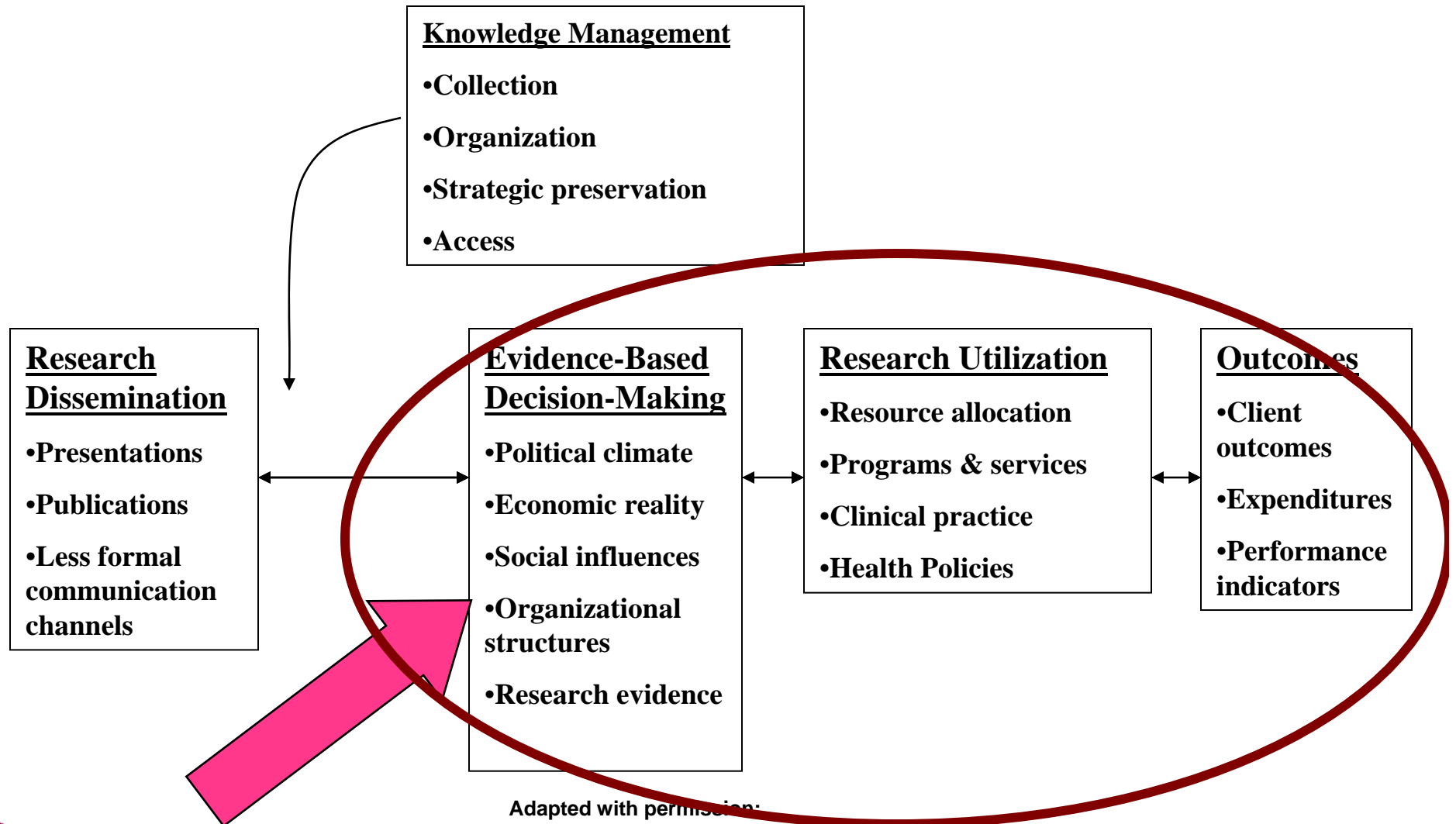
Research and Knowledge Exchange

Exploring an issue or investigating a question is accomplished through research – the organized and purposeful collection, analysis, and interpretation of data. Research may involve the primary collection of new data or the analysis or synthesis of existing data and research findings. Knowledge exchange is collaborative problem-solving among public health practitioners, researchers, and decision-makers, which takes place through linkage and exchange. It results in mutual learning through the process of planning, producing, disseminating, and applying existing or new research in decision-making.

Requirements

8. The board of health shall engage in knowledge exchange activities with public health practitioners, policy-makers, community partners, health care providers, and the public regarding factors that determine the health of the population and support effective public health practice gained through population health assessment, surveillance, research, and program evaluation.
9. The board of health shall foster relationships with community researchers, academic partners, and other appropriate organizations to support public health research and knowledge exchange.
10. The board of health shall engage in public health research activities,⁴ which may include those conducted by the board of health alone or in partnership or collaboration with other organizations.

Knowledge Exchange



Adapted with permission:

Dobbins, M., Ciliska, D., Cockerill, R., Barnsley, J., DCenso, A. (2002). A framework for the dissemination and utilization of research for health-care policy and practice. *The Online Journal of Knowledge Synthesis for Nursing*, 9(7).

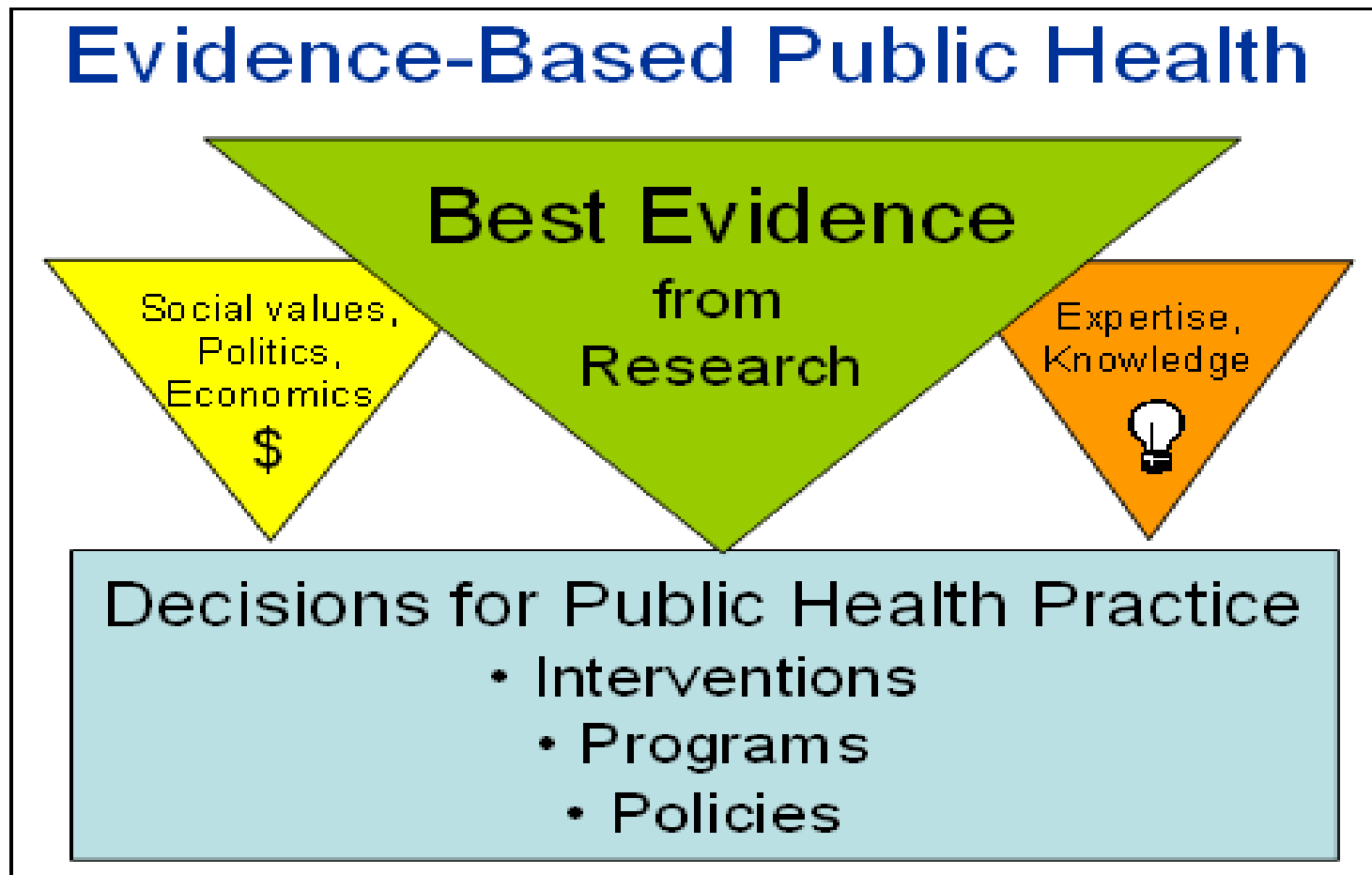
Evidence-Based Public Health

“The development, implementation, and evaluation of effective programs and policies in public health through application of principles of scientific reasoning, including systematic uses of data and information systems, and appropriate use of behavioral science theory and program planning models” (Brownson et al, 2003).

Evidence-based Medicine (EBM) vs. Evidence-based Public Health (EBPH)

	Public Health	Medicine
Primary Focus	Populations	Individuals
Emphasis	Prevention	Diagnosis
	Health Promotion	Treatment
	Whole Community	Whole Patient
Paradigm	Interventions aimed at Environment, Human Behavior and Lifestyle, and Medical Care	Medical Care
Organizational Lines of Specialization	Analytical (Epidemiology);	Organ (Cardiology);
	Setting and Population (Occupational Health);	Patient Group (Pediatrics);
	Substantive Health Problem (Nutrition);	Etiology, Pathophysiology (Oncology, Infectious Disease)
	Skills in Assessment, Policy Development, and Assurance	Technical Skill (Radiology)

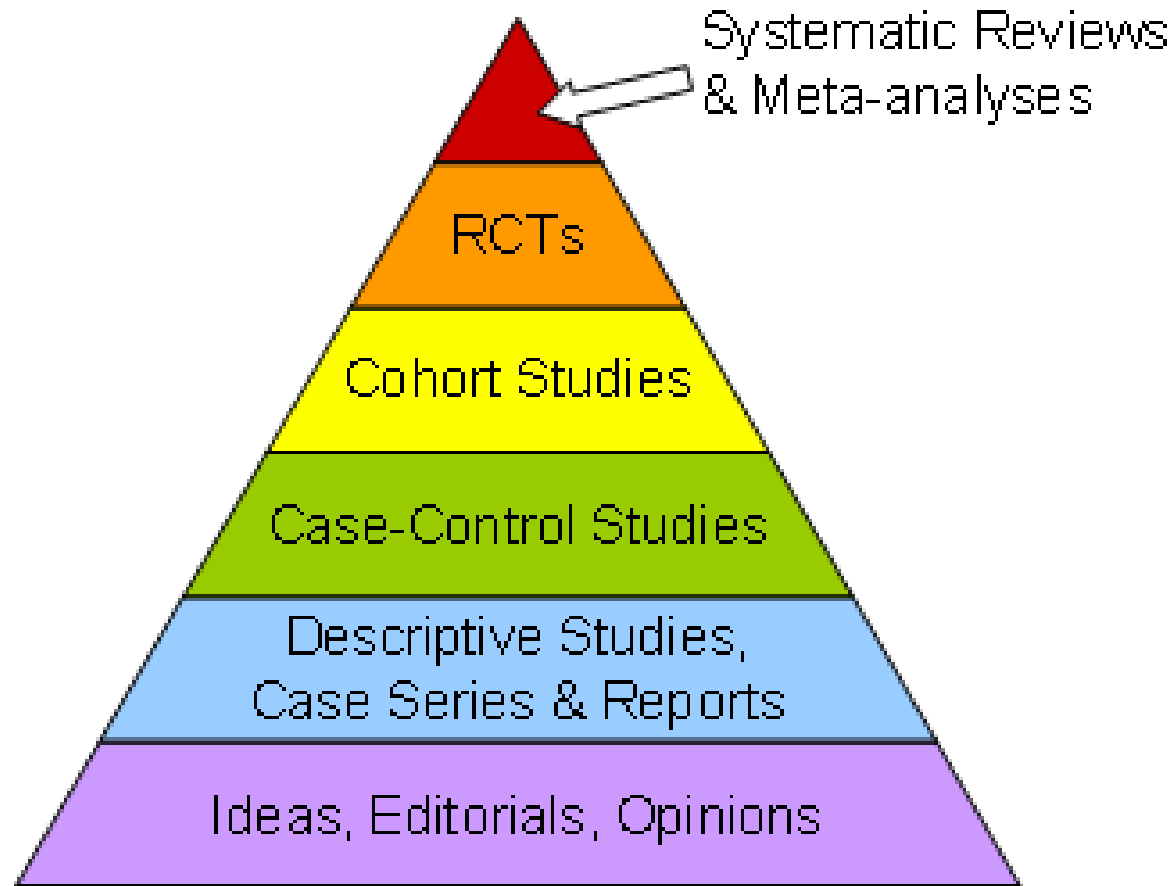
Requirements for EBPH Practice



Source: *Identifying evidence-based resources in public health: Skills building session*, by S. Teleen and H. Simpson, 2006, Shrewsbury, MA: National Network of Libraries of Medicine, New England Region. Reprinted with permission.

Evidence from Research

Evidence Pyramid

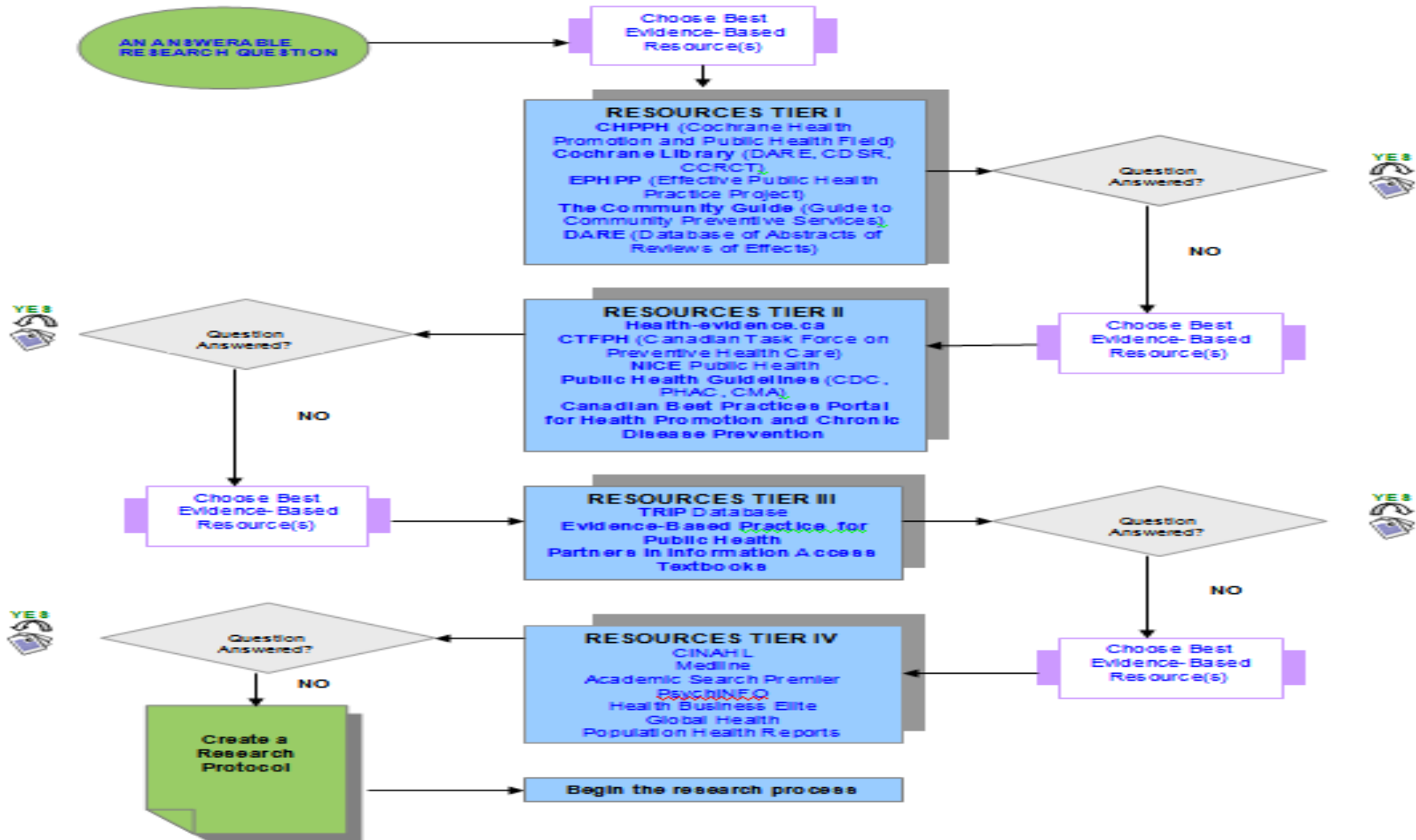


Source: *Guide to research methods: The evidence pyramid*, SUNY Downstate Medical Center, 2005, Brooklyn, NY: Medical Research Library

Brooklyn. Adapted with permission..

Evidence in Public Health

Evidence-Based Public Health (EBPH) Resources: A Toolkit

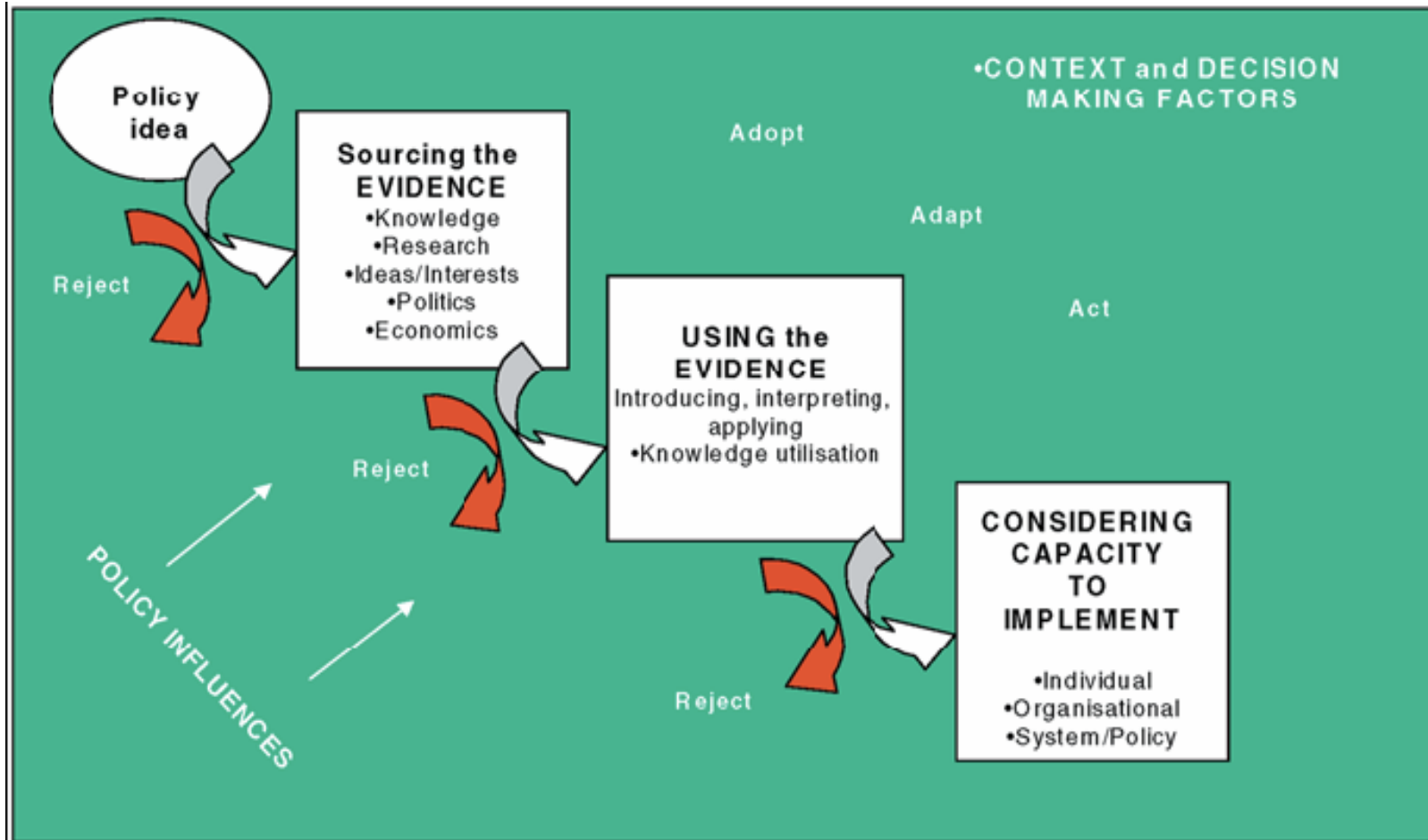


Evidence and Context

Factors influencing decision/policy making:

- ▶ Unit of intervention
- ▶ Geography
- ▶ Political, social and economic climate;
- ▶ Legislation, protocols etc
- ▶ Expert knowledge (expertise, experience, judgment, tac knowledge);
- ▶ Capacity (such as the skill level; access to research; human resources);
- ▶ Organizational culture, beliefs, values
- ▶ Consultation with coalitions/peers;
- ▶ Scientific uncertainty; and
- ▶ Input from stakeholders.

Public Health Policy



Source: Source: Bowen & Zwi, 2005.

Evidence-Based Public Health

"The process of distilling and disseminating the best available evidence, whether from research or from actual practice, and using that evidence to inform and improve public health policy and practice... put simply, it's finding, using and sharing what works in public health".

Source: National Collaborating Centre for Methods and Tools. (2008). Evidence Informed Public Health. Retrieved October 14, 2008, from <http://www.nccmt.ca/eiph/index-eng.html>

Knowledge Base for Ontario Public Health Standards: The Tools

- ▶ **Protocols**
- ▶ **Literature Searches**
- ▶ **Recommended Resources**

Ontario Public Health Standards

[OPHS and Protocols: PDFs](#)

[Interactive version of OPHS](#)

[General Resources](#)

[Roll Out Activities](#)

Welcome to the Ontario Public Health Standards (OPHS) Website. This site has been developed to:

1. Assist public health practitioners to understand the conceptual framework of the Ontario Public Health Standards including the four principles; one foundational standard; five program standards groupings; the logic model approach; and protocols that support specific requirements.
2. Support the achievement of board of health outcomes by providing practical tools for the adoption of the Standards, including tools for program planning and delivery (e.g., logic models and links to evidence-based tools to inform public health practice).

Ontario Public Health Standards

General Resources

The following resources have been compiled to provide public health practitioners with practical tools that support understanding of the Ontario Public Health Standards (OPHS) and facilitate program planning and delivery.

[Legislative Authority for the OPHS and Protocols:](#)

Describes the authority for the Ontario Public Health Standards and the incorporated protocols and their respective relationships with the Health Protection and Promotion Act.

[Glossary for the OPHS:](#)

Includes key terms used throughout the OPHS (the OPHS Glossary is distinct from glossaries included in specific protocols).

[Logic Models:](#)

For each standard, provides the relationships between the requirements, board of health outcomes, societal outcomes, and goals.

[Literature Searches:](#)

A tool for conducting predetermined literature searches (through PubMed) on topic areas relevant to the requirements.

[Critical Appraisal of Evidence and Research:](#)

A guide from the Ontario Public Health Libraries Association on the basics for critically appraising research.

OPHS and Protocols: PDFs

Interactive version of OPHS

General Resources

- Legislative Authority for the OPHS and Protocols
- Glossary for the OPHS
- Logic Models
- Literature Searches
- Critical Appraisal of Evidence and Research
- French Language Services
- Mental Health Promotion
- Resilience
- A Look at the OPHS and Protocols Across Various Dimensions
- Comparison of the 2008 OPHS and 1997 MHPSPG
- Public Health Links

Roll Out Activities

Protocols: PDFs

version of OPHS

SOURCES

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Literature Search Statements

Introduction

Each literature search provided in this section of the OPHS website corresponds to a requirement set out in the Ontario Public Health Standards. These searches are intended to support practitioners in planning, delivering, managing and evaluating public health programs by providing current scientific evidence to inform their policy decisions.

The literature searches provided here are "live". This means that the search results are updated every time a user clicks on the search link. Typically, when one requests a literature search from a library, the librarian has weeded the irrelevant articles before delivering the results to the user. In the case of these "live" searches, this is not possible and a small number of irrelevant records may appear. Please refer to the **instructional guide** ([How to Use Literature Search Statements](#)) to the literature searches prior to accessing them, to learn how to use the searches efficiently, modify the search statements according to your needs, and retrieve full text documents.

The search strategies were developed by experienced public health librarians with expertise in retrieving systematic reviews and other evidence-based literature. The searches provide information services to practitioners at the board of health level, those who are familiar with local public health practice in Ontario.

Using the PubMed Searches on the OPHS Website



Users may supplement these literature searches by conducting searches on the World Wide Web via Google Scholar or Scirus. It is important to remember that these search engines (they are NOT bibliographic databases), while sophisticated, are subject to serious limitations and retrieved results are in no way comprehensive. Results are based on a basic keyword search - What You Type is What You Get - and limited based on the capabilities of the search engine (number of pages searched, quality of relevance ranking, etc). Seeking "evidence" solely on the World Wide Web is not a sound research practice and the resulting output is in no way evidence-based.

1. [Foundational Standard](#)
 2. [Chronic Disease Prevention](#)
 3. [Prevention of Injuries and Substance Abuse](#)
 4. [Reproductive Health](#)
 5. [Community Health](#)
 6. [Infectious Diseases](#)
 7. [Rabies Prevention](#)
 8. [Tuberculosis](#)
 9. [Sexual Health \(including HIV\)](#)
 10. [Vaccine Prevention](#)
 11. [Food Safety](#)
 12. [Safe Water](#)
- | |
|--|
| Foundational Standard |
| Building partnerships to promote collaborative research (Requirement 9) |
| Evidence based public health (Requirement 10) |
| Public health knowledge exchange (Requirement 8) |
| Public health program evaluation (Requirement 12) |
| Surveillance and assessment of health status, health needs, inequities, and health care utilization in local populations (Requirement 1) |
| Surveillance of emerging public health issues (Requirement 6) |

All Databases PubMed Nucleotide Protein Genome Structure OM

Search PubMed for ("Evidence-based"[ti] OR "Evidence-informed"[ti]) Go

[Limits](#)[Preview/Index](#)[History](#)[Clipboard](#)[Details](#)

Display

Summary

Show

50

Sort By

Send to

All: 411

Review: 104

Items 1 - 50 of 411

Page

1

of 9 [Next](#) 1: [Chalkidou K, Lord J, Fischer A, Littlejohns P.](#)[Related Articles, Links](#)

Evidence-based decision making: when should we wait for more information?

Health Aff (Millwood). 2008 Nov-Dec;27(6):1642-53.

PMID: 18997223 [PubMed - in process]

 2: [Gonzalez A, Macmillan HL.](#)[Related Articles, Links](#)

Preventing child maltreatment: An evidence-based update.

J Postgrad Med. 2008 Oct-Dec;54(4):280-6.

PMID: 18953147 [PubMed - in process]

 3: [Kumar D.](#)[Related Articles, Links](#)

▼ for ("Evidence-based"[ti] OR "Evidence-informed"[ti]

Go

Clear

[Advanced Search \(beta\)](#)
[Save Search](#)

Limits

Preview/Index

History

Clipboard

Details

Query Translation:

```
("Evidence-based"[ti] OR "Evidence-informed"[ti] OR "evidence based"[ti] OR "evidence informed"[ti]) AND "public health"[All Fields] AND ("1998/11/16"[PDat] : "2008/11/12"[PDat] AND (English[lang] OR French[lang]))
```

Search

URL

Result:

[411](#)

Database:

PubMed

User query

```
("Evidence-based"[ti] OR "Evidence-informed"[ti] OR "evidence based"[ti] OR "evidence informed"[ti]) AND "public health" AND ("last 10 years"[PDat] AND (English[lang] OR French[lang]))
```

(Program evaluation/mt[majr] OR Program evaluation/st[majr])
AND

("public health" OR health promotion[majr] OR "community health" OR "population health" OR health education[majr])

AND

("last 10 years"[PDat] AND (English[lang] OR French[lang])) 378 results

(Program evaluation/mt[majr] OR Program evaluation/st[majr])
AND

(Breast feeding[majr])

AND

("last 10 years"[PDat] AND (English[lang] OR French[lang]))

(Program evaluation/mt[majr] OR Program evaluation/st[majr]) AND
(Breast feeding[majr]) AND ("last 10 years"[PDat] AND (English[lang] OR
French[lang])) 0 results

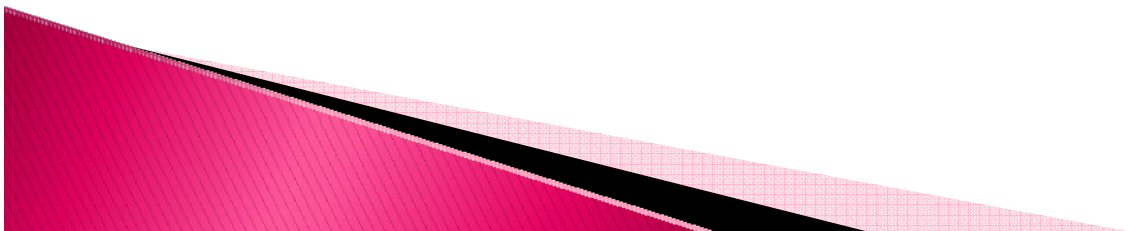
(Program evaluation/mt[mh] OR Program evaluation/st[mh]) AND (Breast
feeding[majr]) AND ("last 10 years"[PDat] AND (English[lang] OR French[lang]))
0 results

(Program evaluation[mh]) AND (Breast feeding[majr]) AND ("last 10 years"[PDat] AND
(English[lang] OR French[lang])) 109 results

(Program evaluation[mh]) AND (Breast feeding[mh]) AND ("last 10 years"[PDat] AND
(English[lang] OR French[lang])) 137 results

Systematic Review Filters

- ▶ AND (systematic review* OR meta analys* OR metanalys* OR metaanalys* OR "review of reviews")
- ▶ AND (Review* OR meta analys* OR metanalys* OR metaanalys* OR pooled OR effective* OR evaluat* OR evidence* OR efficac* OR outcome* OR impact* OR guideline* OR best practic* OR best practis*)



[Guided Protocols: PDFs](#)

[Free version of OPHS](#)

Resources

[The Ontario Public Health Libraries Association](#)

[Guided Protocols for the OPHS](#)

[Models](#)

[Database Searches](#)

[Critical Appraisal of Evidence Search](#)

[Language Services](#)

[Health Promotion](#)

[e](#)

[at the OPHS and Across Various Settings](#)

[Revision of the 2008 OPHS](#)

[Health Links](#)

Activities

[Guided](#)

[The program and](#)

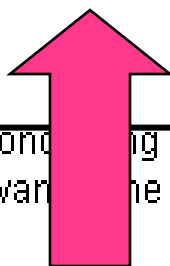
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Critical Appraisal of Research Evidence 101



A tool for conducting predetermined literature searches (through PubMed) on topic areas relevant to the requirements.

[Critical Appraisal of Evidence and Research:](#)

A guide from the Ontario Public Health Libraries Association on the basics for critically appraising research.

[French Language Services:](#)

Critical Appraisal

- ▶ Evaluating quality of evidence
- ▶ Criteria
- ▶ Checklist tool
- ▶ Basic techniques
- ▶ List of quality resources

Questions?

