A Canadian resource for facilitating evidence-informed public health decision making

Maureen Dobbins, RN, PhD
Kara DeCorby, MSc
Paula Robeson, RN, MScN
Heather Husson, BA
Lori Greco, MHSc
Our Funders
What is health-evidence.ca?

A SEARCHABLE ONLINE REGISTRY of quality-rated review literature created to support public health and health promotion decision making

>2,000 reviews in 21 topic areas  4,753 registered users

ASSESSMENTS

Tailored organizational, divisional, or team assessments of capacity for evidence-informed decision making

PROFESSIONAL DEVELOPMENT & EDUCATION

Workshops & presentations addressing the 'how to's' of evidence-informed practice and program development

CUSTOMIZED SUPPORT & CONSULTATION

Customized intensive knowledge brokering services to mentor individuals or teams

CPHA June 16, 2010
### About Quality

**Help links to quality assessment dictionary**

<table>
<thead>
<tr>
<th>Criterion</th>
<th>Yes</th>
<th>No</th>
<th>Help</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Did the authors have a clearly focused question [population, intervention (strategy), and outcome(s)]?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Were appropriate inclusion criteria used to select primary studies?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Did the authors describe a search strategy that was comprehensive?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Check all strategies used)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health Databases</td>
<td>✔</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psychological Databases</td>
<td>✔</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social Science Databases</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Educational Databases</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Did search strategy cover an adequate number of years?</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*For question 5, 6 and 8, please choose the column relating to the appropriate methodology. Only fill out the column that applies.*

**Quantitative reviews:**

- Did the authors describe the level of evidence in the primary studies included in the review?
  - ✔ Level I (RCTs only)
  - ✔ Level II (non-randomized, cohort, case-control studies)

**Qualitative reviews:**

- Do the authors provide a clear description of the range of methods in each of the primary studies included in the review?
Summary Statement Title:
The effects of communicating individual risks in screening programs: Evidence and implications for public health

Review Quality Rating: 10 (strong)

Review on which this summary statement is based:

Review author contact information:
Adrian Edwards, Department of Primary Care, University of Wales, Swansea Clinical School, Singleton Park, Swansea SA2 8PP a.g.k.edwards@swan.ac.uk.

This is a summary statement written to condense the work of the authors of this systematic review, referenced above. The intent of this summary is to provide an overview of the findings and implications of the full review. For more information on individual studies included in the review, please see the review itself.

Review content summary
This systematic review of 13 randomized trials aimed to determine the effectiveness of providing individual risk estimates for patients who are deciding whether to participate in screening. Participants studied were: individuals faced with the decision to undergo screening, either for themselves or for others (such as their child). To be included, studies had to: be randomized controlled trials; involve screening activities provided by health professionals; and evaluate the effectiveness of interventions providing information on individualised risk compared with those providing information on generalised risk. Interventions described in this review included: the provision of an individualized risk score; categorization of risk status (high, medium, low); and discussion of personal risk factors relevant to the screening decision. Outcomes measured include: cognitive, affective,
Summary Statement

Evidence and implications

Evidence points are in order of the strength of evidence.

<table>
<thead>
<tr>
<th>What's the evidence?</th>
<th>Implications for practice and policy:</th>
</tr>
</thead>
</table>
| **1. All risk communication strategies combined (13 studies)**                    | **1. All risk communication strategies combined**  
1.1. The overall effect of individualized risk communication strategies on screening rates was positive and statistically significant  
1.2. Those receiving risk information were 1.5 times more likely to undergo screening than those who received general risk information.  
1.3. The true impact ranged from 1.1 times more likely to 2 times more likely to be screened  
1.4. The absolute benefit increase in screening for those exposed to risk information vs general information was 4%.  
|                                                                                  | 1. Public health programs should promote the use of individualized risk information to facilitate the uptake of national screening programs with proven benefit  
1.2. Individualized information can be written, spoken, or visually presented.  
1.3. Exploratory studies are needed to determine the feasibility of using interactive, web-based technology to communicate individual risk information.  
1.4. Further research is required to determine whether the communication of individualized risk is accompanied by more informed decision making  
1.5. Epidemiological studies are required to provide data for estimating individual risk factor profiles for some clinical topics.  
|                                                                                  | **2. Personal risk factor list (6 studies)**  
2.1. A personal risk factor list was the most effective intervention for increasing screening rates  
|                                                                                  | **2. Personal risk factor list**  
2.1. Family physicians, health clinics, and other health and social service providers should be encouraged to provide |
Tailored Email Campaigns

“Thank you for this update. Receiving notification and a list of new entries is a great service and a time saver. Helps me stay current. Thanks.”

Public Health Nurse, New Brunswick Department of Health, Ontario
Implementation Science

Research article

A randomized controlled trial evaluating the impact of knowledge translation and exchange strategies

Maureen Dobbin*, Steven E Hanna1, Donna Ciliska1, Steve Mankse2, Roy Cameron2, Shawna L Merc2, Linda O’Mara1, Kara DeCorby1 and Paula Robson1

Address: School of Nursing, Memorial University, 100-60 Main Street West, Hamilton, ON L8S 4K7, Canada. 1Software for Knowledge Management and Program Evaluation. 2Centre for Research in Health Ethics, University of Toronto, 160 College Street, Toronto, ON M5S 3G9, Canada. 3The Guidelines to Community Preventive Services, Robert Wood Johnson Foundation’s Guide to Community Preventive Services, Atlanta, GA, USA.

* Corresponding author

Published: 23 September 2009 Revised: 19 March 2009 Accepted: 23 September 2009

This article is distributed under the terms of the Creative Commons Attribution License (http://creativecommons.org/licenses/by/2.0), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Abstract

Context Significant resources and time are invested in the production of research knowledge. This study evaluated the effect of an intervention to exchange strategies in the uptake of research evidence into public health policies and programs.

Methods This study was conducted with a network of public health departments in Canada over four years (2004–2006). The intervention, implemented once per year, included access to an online registry of research evidence, tailored messaging and a knowledge broker. The primary outcome assessed the extent to which research evidence was used in a recent program decision, and the secondary outcome measured the change in the use of evidence-based healthy body weight programs by health department programs.

Findings One hundred and eight of 141 (77%) health departments participated in the study. A significant effect of the intervention was observed for primary outcome (p < 0.05). However, for public health policies and programs (HPP), a significant effect of the intervention was observed only for national, targeted messaging (p < 0.05). The impact effect was moderated by organizational research culture, i.e. what role is placed in research evidence in decision making.

Conclusion The results of this study suggest that under certain conditions tailored, targeted messaging is more efficacious than knowledge brokering and access to the online registry of research evidence. Greater emphasis on the development of organizational factors is needed in order to implement strategies that best meet the needs of all health departments.

Trial Registration The trial registration number and site are as follows: NCT00722469 - A knowledge broker more efficacious than other strategies in promoting evidence-based physical activity and healthy body weight programming.

CORRESPONDENCE

Facilitating access to pre-processed research evidence in public health

Paul Robson*, Maureen Dobbin, Kara DeCorby1, Dane Tirfil1

Abstract

Background: Evidence-informed decision making is accepted in Canada and worldwide as necessary for the provision of effective health services. This provides rationale for: 1) clearly articulating a decision-based issue; 2) searching for and accessing relevant evidence; 3) analyzing methodological rigour and classifying the most synthesized evidence of the highest quality and relevance to the practice issue and setting that is available; and 4) extracting, interpreting, and translating knowledge, in light of the local context and resources, into practice, program and policy decisions. While the public health sector in Canada is working toward evidence-informed decision making, considerable barriers, including efficient access to synthesized resources exist.

Methods: This paper uses a previously developed 6 level pyramid of pre-processed research evidence, enriched resources that include public health-related evidence. The resources were identified through extensive searches of both the published and unpublished domains.

Results: Many resources with public health-related evidence were identified. While there were very few resources dedicated solely to public health evidence, many clinically focused resources include public health-related evidence, making such tools as the pyramid, that identify these resources, particularly helpful for public health decision makers. A practical example illustrates the application of this model and highlights its potential to reduce the time and effort that should be required by public health decision makers to address their practical issues.

Conclusions: This paper describes an existing hierarchy of pre-processed evidence and its adaptation to the public health setting, a number of resources with public health-related content that are either freely accessible or requiring a subscription are identified. This will facilitate easier and faster access to pre-processed, public health-relevant evidence, with the intent of promoting evidence informed decision making. Access to such resources allows for several benefits, including the ability to reduce the time and effort that should be required by public health decision makers to address their practical issues.

Background

There is evidence demonstrating that the public health sector in Canada is working toward evidence-informed decision making (EIDM) [1-3], although there is still much work to be done to develop individual knowledge and skills, and organizational capacity to support, advance, and sustain it [4-6]. EIDM involves the translation of the best available evidence from a systematically collected, appraised, and analyzed body of knowledge [5]. It is defined as a process characterized by: 1) clearly articulating a practice-based issue; 2) searching for and accessing relevant evidence; 3) analyzing methodological rigour and classifying the most synthesized evidence of the highest quality and relevance to the practice issue and setting that is available; and 4) extracting, interpreting, and translating knowledge, in light of the local context and resources, into practice, program and policy decisions [7]. Research evidence that is synthesized in a rigorous and transparent process provides more consistent and conservative estimates of effect [8-10] and therefore can be particularly powerful in informing and influencing public health policy and program decisions [11,12].

However, public health decision makers face considerable barriers in using relevant research evidence in policy and program decisions. Time is often cited as the
Workshops

Evidence Informed Decision-Making Workshop

**Workshop Content**
This hands-on workshop will demonstrate the overall process of evidence-informed decision making in public health, including how to find and apply the best available evidence in program planning and practice.

**Who should attend?**
The target audience for the workshop is public health practitioners, program managers, evaluators, and staff responsible for the planning and delivery of public health programs and services.

**The Health Evidence Team**
The workshop will be facilitated by:
- Dr. Maureen Dolovich, PhD, Associate Professor at McMaster University, Canada
- Liz Green, MSc, Knowledge Broker, Health Evidence
- Karen DeCoteau, MSc, Research Coordinator, Health Evidence

**Workshop Dates**
Wednesday, April 28th, 2010, 9 am to 4 pm.

**Workshop Location**
HAPEX Donor Health Unit, 201 Rowe Road, Port Hope, ON LA8 1V6

Registration
Please email Elizabeth Dixon before April 5, 2010 at edixon@health-evidence.ca.

---

Summary Statements

**Summary Statement Title:**
Risk of infection after nasal colonization: Evidence and implications for public health

**Quality Assessment Rating:** 8 (strong)

**Review on which this summary statement is based:**

**Review author contact information:**
Mikael Mallen, MSc, University of Toronto, Hospital for Sick Children, Toronto, ON ML2 1S1, mallen.me@utoronto.ca

This is a summary statement written to combine evidence from systematic reviews, evidence based, and other relevant evidence. The intent of this summary is to provide an overview of the evidence and implications for review. For more information on individual studies included in this review, please see the review text.

**Review content summary:**
This systematic review assessed the findings of ten observational studies to provide an overall estimate of the risk of infection following nasal or oropharyngeal colonization with methicillin-resistant Staphylococcus aureus (MSSA). A total of 1475 adult patients were included, and studies were conducted in long-term care settings, inpatient care units, and general medical inpatient units. The primary outcome measure was acquisition of a MRSA infection in those colonized with MSSA. MSSA infection following colonisation with MSSA was associated with a 3.4-fold increase in the risk of developing invasive MRSA infection. Review authors highlighted the importance of research focused on identifying effective methods for sustained elimination of MRSA colonization to reduce the high risk of subsequent infection.

**Comments on this review's methodology:**
This was a methodologically strong review. To be included studies had to be an RCT or observational study and provide, on average, a calculation of data on nasal colonization and infection by MSSA and MSSA. Table 1 outlines the characteristics of included studies. Evidence searches for PubMed, MEDLINE, EMBASE, and the Cochrane Library (January 2007 to December 2007) were supplemented with reference list searches, and identification of unpublished studies. Authors independently examined the included studies, with the same quality assessment tool applied to all studies, including the assessment of bias and risk. The authors further examined potential sources of heterogeneity by testing the significance of study heterogeneity.

**Why this issue is of interest to public health:**
While the systematic review described above examined occasional MRSA infections, MRSA is now an issue across hospitals and long-term care facilities. The emergence of community-acquired MRSA infections is an increasing concern in hospitals and long-term care facilities. Data from the United States demonstrates that MRSA is now the main cause of community-acquired skin and soft tissue infections. At any given time, 20% to 30% of the Canadian population carry Staphylococcus aureus (hospital and non-hospital). The bacteria, however, can still spread to other patients, which may subsequently become MRSA infected. MRSA infections may progress to infections of the bloodstream, bones, and joints, and these infections are often fatal. Invasive MRSA infection is transmitted to the respiratory system in healthcare settings, often in hospitals. The MRSA bacteria can colonize the respiratory system and then spread to the bloodstream, bones, and joints, where it can cause serious infections. The Public Health Agency of Canada supports the Canadian Invasive Methicillin-Resistant Staphylococcus aureus (MRSA) Infection Surveillance Program (CIS-CA), which provides data that can be used to identify trends and develop national guidelines to help reduce the transmission of infections like MRSA. Recent studies have shown that the rate of MRSA colonization in hospital-acquired infections has decreased in recent years. However, there is an increase in the number of community-acquired MRSA (CA-MRSA) of 4%, from 15% to 21% of total cases of MRSA.
Health Evidence in Health Units

- Infant feeding project
- Practice-based tools
User Feedback

“I think you are one of the best and most innovative services brokering evidence in the world. Very well done on the whole.”

Health Promotion Officer, Queensland Health, South Brisbane, Australia

“I love the Health-Evidence.ca link. I jumped to your website (again), read a review of reviews on the prevention of obesity... and shared this with a colleague. Terrific website!”

Senior Researcher, McMaster University, Ontario, Canada

“Thank you very much! As a person relatively new to evidence based practice, it is sometimes hard not knowing where to start. This helps immensely!”

[Re: Knowledge Broker response to search request]

Health Promotion Coordinator, Alberta Health Services, Alberta, Canada

CPHA June 16, 2010
User Feedback
Contact Information

Maureen Dobbins
905 525-9140 ext 22481
dobbinsm@mcmaster.ca

General Inquiries
info@health-evidence.ca