Public health decision makers’ informational needs and preferences for receiving research evidence

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Ontario Public Health Decision Makers’ Informational Needs and Preferences for Receiving Research Evidence

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Abstract

Objectives
The purpose of this study was to identify decision maker’s preferences for the dissemination of research evidence. This article focuses on how the participants define evidence based decision making and their preferences for receiving research evidence to integrate into the decision making process.

Methods:
Semi-structured interviews were conducted with a purposeful sample of 16 Ontario public health decision makers from six Ontario public health units in this grounded theory study. The sample included nine program managers, six directors and one Medical Officer of Health. Participants were asked to describe the types of decisions they regularly make, explain the process by which these decisions are made, identify factors that influenced the process, explore the integration of research evidence into this process and identify preferred research dissemination strategies. The interviews were audio-taped, transcribed verbatim and coded for emerging concepts.

Results
Generally participants defined evidence based decision-making as a process whereby multiple sources of information were consulted prior to making a decision concerning the provision of services. To facilitate the integration of research evidence into the decision making process, public health administrators appreciate receiving systematic reviews, executive summaries of research and clear statements of implications for practice from health service researchers.

Conclusion
Although there is consensus among participants concerning the definition of evidence based public health decision-making, ongoing efforts are required to continue to promote the use of research evidence in program planning and public health policy. It is also important to continue to improve the ease with which public health decision makers access systematic reviews, as well as ensure the relevance and applicability of the results to the practice setting.

Keywords: evidence based decision-making, public health, research transfer and uptake, nursing management
Background

Significant amounts of money and time are invested in the production of research knowledge that, if effectively disseminated, could be used to inform policy and practice decisions. (1) A key recommendation arising from the National Forum on Health (2) is the development of an evidence based health care system in Canada where policies and clinical decisions are based upon high quality research knowledge. The decision to adopt or reject an innovation, such as the incorporation of research knowledge in the development of policies, is an activity that invokes an individual or organization to seek and process information about the advantages or disadvantages of the innovation. (3) The decision processes may differ in terms of the origin of the ideas as well as the rationale applied to manage the process. (4) This suggests that certain stimuli such as opportunities, problems or crises, evoke the need for decisions, and when they do they have a significant impact on the decision-making process.

Using Dobbins’ framework (5) for the dissemination and utilization of research for health care policy and practice, this study sought to describe the decision-making process among Ontario public health decision makers; to explain how research evidence is used during this process; and to identify decision maker’s needs and preferences for receiving research evidence from systematic reviews. This article specifically focuses on describing public health decision maker’s definitions of evidence-based decision-making (EBDM), as well as their informational needs and preferences for receiving research evidence.

Methods

Grounded theory was the qualitative approach used to explore the informational needs and preferences of public health managers, directors and Medical
Officers of Health. Participants were recruited from six Ontario public health units. Three of the health units were designated as PHREDs (Public Health Research, Education and Development) programs, while the remaining three were not. The term PHRED indicates that a health unit has formalized linkages with universities and receives additional funding to conduct research activities and training. The health units represented five geographical regions in Ontario and provided services to both large urban cities and smaller rural areas.

Across the participating health units, purposive sampling was used to identify decision makers who in their current roles were responsible for making decisions on public health practice and policies. To ensure that core patterns of the phenomenon were identified, maximum variation sampling was used to recruit decision makers that varied on multiple dimensions, including professional designation, level of decision-making, years of experience in public health and administration and affiliation with a PHRED or NON-PHRED health unit.

Data collection occurred between October 2000 and February 2001 and consisted of one-hour, in-depth telephone interviews with each study participant. Ethics approval was obtained from the McMaster University Research Ethics Board. A semi-structured interview guide (Table II) was developed using concepts drawn from the fields of research dissemination and utilization (6-9) and organizational decision-making (10-13). The interview guide was pre-tested with two decision makers from one public health unit prior to its use in the study. Changes to improve the guide were made based on the comments received during the pilot test.

Interviews were tape recorded and transcribed verbatim. SJ took primary responsibility for coding all data, identifying themes, and some interpretation. MD double-coded 25% of transcripts and focused on interpreting patterns in the themes.
identified by SJ. Both authors have extensive clinical experience working in public health and continue to develop programs of research on topics relevant to public health, including service delivery, knowledge translation, and evidence based public health decision-making. Data analysis involved open coding to develop initial categories and axial coding to describe relationships between categories and to identify causal conditions, specific strategies, context, intervening conditions and consequences influencing the central core variable. (14) The constant comparative method was used consistently to identify significant similarities or relationships between different events and categories.(14)

**Results**

A total of 16 public health decision makers participated in the study. All of the participants were female, had a minimum of a Masters degree and made decisions related to the provision of population health services. Similar findings were reported regardless of PHRED status. Characteristics of the study participants are presented in Table I.

**Defining Evidence-Based Decision-Making**

Public health decision makers defined EBDM as a process that includes the use of multiple sources of information to plan, implement and alter (if necessary) programs and services. Sources of information identified as evidence for decision-making included: research studies, systematic reviews, internal program evaluations, and local/provincial best practices. Clinical expertise and past experiences were also identified as additional types of evidence used to support decision making. In comparison to directors and Medical Officers of Health (MOHs), managers were more likely to connect with colleagues in other health units to determine what they were doing and assess their experiences with certain programs. Managers were also
more likely to involve front-line staff in the EBDM process by completing literature reviews or participating in data collection.

The use of research evidence was also influenced by the nature of the decision being made. Decision makers developing new programs to respond to local community needs were more likely to rely upon research evidence to justify and support decisions compared to decisions that involved implementing provincially mandated programs. Data from some program managers infers that occasionally decisions are made first and then research evidence is identified and used to justify the decision. This is in contrast to the views of the directors and MOHs, who indicated that information, including research, is generally sought out first, reviewed, and if applicable used as a basis for making decisions concerning the implementation of interventions, programs and services.

**Decision-Maker’s Preferences for Receiving Research Information**

There was little variation among decision makers concerning their preferences and suggestions for how they would like research evidence to be presented as well as how they would like to receive it. Public health decision-makers value the use of systematic reviews to facilitate the decision making process. They indicated that systematic reviews were particularly useful because they integrate the results of many studies into one, which allows them to bypass the stage of looking at individual studies. This saves them time and gives them more confidence knowing their decisions are based on the culmination of a number of studies instead of just a few.

Despite a preference in receiving research evidence in the form of systematic reviews versus single studies, decision makers strongly concurred that an abbreviated format of research evidence, such as an executive summary, would be a preferable mode of sharing new information. They clearly articulated that due to information
overload and limited time to read full study reports, these summaries would be of most benefit if they were one to two pages in length, contained content that focused on key findings or the ‘bottom line’ from the study, had limited discussion of methods, clearly articulated the implications of the findings to public health practice and potential short and long term outcomes expected as a result of implementing the research findings into practice or policy.

Decision makers identified that electronic communication channels are generally the preferred method of receiving current public health research. They identified that it would be helpful to have newsletters containing summaries of current research developed and directly emailed to them. They also expressed interest in using the Internet to access relevant research and suggested that reports could be distributed through either public health professional organizations or through a Clearinghouse. Some participants also indicated that a one-to-one interaction with the researcher to discuss research findings, their potential implications for practice and the opportunity to brainstorm implementation strategies would greatly influence their use of research evidence.

Discussion
Findings from this qualitative study contribute to our understanding of knowledge translation into public health policy and decision-making by 1) providing guidance for the development of future dissemination strategies by highlighting the need to focus on using multiple strategies to disseminate the findings of research evidence to public health decision makers; and 2) providing direction for the content that should be included in both executive summaries and systematic reviews. The results of this study clearly demonstrate that public health decision makers in Ontario include research evidence in the program planning decision-
making process. In addition, there is consensus across multiple decision-making levels that the term ‘evidence based decision-making’ implies a process whereby various sources of information, including research, are sought to assist in developing a range of solutions to be decided upon. This supports current thinking on the role of research evidence in EBDM. According to Gray, 1997, (15) research evidence should receive as much ‘weight’ in decision-making as other sources of evidence such as beliefs, values, skills, resources, legislation, protocols, and patient preferences, especially in situations where traditionally research evidence receives little or no attention compared to other sources of information. Decision makers’ use and acceptance of multiple types of evidence is an important reality for researchers who are striving to improve the uptake of study findings to consider. Lomas and colleagues conclude that the producers of research perceive evidence to be knowledge that is explicit, systematic and replicable, compared to decision makers who are more likely to broadly define the type of information that is considered evidence to support decision-making to include local contextual data and the social and political values and beliefs of their stakeholder groups. (16) This is the first time the defining of evidence based practice has been sought from an actual target audience. It was surprising to observe such similarity in responses across the province, between different decision-making levels, and among health units with varying degrees of in-house research capacity. However, this was a positive finding to ascertain that generally, public health decision makers in Ontario have set as an unwritten standard, the inclusion of research evidence for program planning decision-making. Similar results have been reported by others with respect to the incorporation of research evidence into the policy development process. (17-20) Recent work from the United Kingdom (21) also complements
the findings of this study with respect to defining EBDM. In their model of evidence based practice, the authors suggest that EBDM is concerned with the way individuals use research evidence to make decisions and solve problems on a day-to-day-, and case-by-case basis. This concept is synonymous with the ideas expressed by decision makers in Ontario and highlights the importance of fostering an environment whereby research evidence is valued by decision makers, and where researchers strive to provide decision-makers with evidence that is relevant, timely, and easily incorporated into decision-making.

Program managers and senior decision makers differed in their perceptions of when research evidence was used in the decision-making process. Directors and MOHs were more likely to initially consult research to identify possible options, otherwise known as instrumental and conceptual use, whereas some program managers identified that research evidence was predominantly utilized after the decision making process was completed to justify their choice of program or practice, also referred to as symbolic use. Instrumental use directly and specifically influences decisions,(22) while conceptual use refers to the cognitive impact of research on one’s understanding and attitude toward an issue or program (22). Symbolic use refers to the use of research to justify pre-established positions and vested interests. (23) To support the process of EBDM, efforts to move program managers toward the use of research evidence in the development of possible solutions as opposed to justification will be necessary.

All levels of decision makers provided support for the production and dissemination of systematic reviews evaluating the effectiveness of public health interventions to assist in program planning. This conclusion is comparable to other studies conducted with Ontario public health decision makers. (24;25) However, it is
clear from this study that ongoing efforts are required to effectively transmit the key messages from systematic reviews using various communication channels and products. In addition to these content issues, additional efforts are needed to address issues such as relevance, implications for practice and implementation strategies. Similar conclusions have been made by others in this field, calling for researchers to better understand the informational needs of their target audience. (17;25-27)

Although the inclusion of some form of summary is not new, the idea of a researcher clearly articulating who, and for what programs the review is most relevant, and how it addresses important and timely issues within a summary, does represent a change from the traditional ‘abstract-type’ summary that usually accompanies such reviews. Decision makers are looking to researchers to not only describe the “facts” (findings from research studies), but also to provide guidance and suggestions concerning the implementation of their findings into program planning and practice. They are specifically interested in reading about what works, what doesn’t work, in which instances and for which populations. The consensus among participants of the importance and value of an executive summary highlights the need for researchers to dedicate more time and effort in writing these summaries. Careful thought needs to be given to the content of the summary, the key messages that can and should be highlighted, and the identification of potential practice and policy implications. To facilitate this process, researchers may require additional training to gain experience in writing summaries that will meet the needs of potential users of their research.

The findings of this study suggest that researchers need to continue to identify and take seriously the informational needs and preferences of their target audiences. This will ensure the conduct of relevant and timely research that decision makers can
directly apply to the decisions they are regularly faced with. Researchers also need to be aware of the most appropriate mechanisms for transmitting and translating research evidence to their various target audiences, realizing that different mechanisms may be necessary for different target audiences. From the decision maker perspective, the ongoing transfer of relevant and timely research evidence to the decision-maker will continue to facilitate the incorporation of evidence into the decision-making process, thereby solidifying a culture that values the consistent use of evidence in policy and program decision-making.

**Conclusions**

Evidence based decision-making is a commonly agreed upon term among public health decision makers in Ontario. This is a promising finding particularly because it highlights the extent to which the use of research evidence is being integrated into public health decision-making. Although a positive finding, much work is still needed to promote the ongoing use of research evidence in program planning, and to improve the ease with which public health decision makers access systematic reviews, as well as ensure the relevance and applicability of the results to the practice setting.
Competing interests
The author(s) declare that they have no competing interests.
Authors' contributions

MD made substantial contribution to the conception and design, development of the interview guide, data analysis, and writing the first and final drafts of the manuscript. SJ carried out the primary responsibility for analyzing the data, identifying key themes, and making substantial revisions to the second and final drafts of the paper. TH made substantial contributions to the conception and design of the study, development of the interview guide and made significant contributions to revising all drafts of the paper. AK carried out the data collection, and contributed significantly to drafting and revising all drafts of the manuscript. SJ, TH, and AK have given final approval of the version to be published.
Acknowledgements

This research study was funded by the Neimier Fund, McMaster University. Maureen Dobbins is a career scientist with the Ministry of Health and Long-Term Care.
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### Tables

**Table 1: Characteristics of Study Participants**

<table>
<thead>
<tr>
<th>Participant Characteristics (n=16)</th>
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<tbody>
<tr>
<td><strong>Level of Decision Making</strong></td>
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<td></td>
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<tr>
<td>Medical Officer of Health</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Director</td>
<td>6</td>
<td></td>
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<tr>
<td>Program Manager</td>
<td>9</td>
<td></td>
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<tr>
<td><strong>Employed by Health Unit Type</strong></td>
<td></td>
<td></td>
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<tr>
<td>PHRED</td>
<td>9</td>
<td></td>
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<tr>
<td>NON-PHRED</td>
<td>7</td>
<td></td>
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<tr>
<td><strong>Professional Designation</strong></td>
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<td>Physician (M.D.)</td>
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<td></td>
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<tr>
<td>Registered Nurse (R.N.)</td>
<td>15</td>
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<tr>
<td>Other</td>
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Table 2 - Interview Guide Summary

<table>
<thead>
<tr>
<th>Topic</th>
<th>Questions</th>
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</thead>
<tbody>
<tr>
<td>Decision-making process</td>
<td>From start to finish, describe a recent decision, regarding the provision of public health programs that you were involved in.</td>
</tr>
<tr>
<td>Evidence</td>
<td>Define your perception of evidence-based decision-making in public health.</td>
</tr>
<tr>
<td></td>
<td>Describe the types of information used to make the decision. What role did research evidence play in the decision making process?</td>
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<tr>
<td></td>
<td>How important was the research evidence compared to other forms of evidence in the decision making process?</td>
</tr>
<tr>
<td>Stakeholders</td>
<td>How do you know when a decision requires the use of research evidence?</td>
</tr>
<tr>
<td>Research Dissemination</td>
<td>Identify all the stakeholders involved in the decision making process. What were their roles? Level of influence?</td>
</tr>
<tr>
<td></td>
<td>Describe your preferences for the format and presentation of research evidence that would facilitate its use in decision-making.</td>
</tr>
</tbody>
</table>
Table 3 - Participant Perceptions of EBDM and Preferences for Research Dissemination

<table>
<thead>
<tr>
<th>Theme</th>
<th>Participant Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Defining Evidence-Based Decision-Making</td>
<td>It’s looking at all of the information you have available. Whether it’s through a literature search or through reports or what is available to you within your community…and what else is happening in the province in order to help you make an important decision.(Manager)</td>
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<tr>
<td></td>
<td>It usually ends up being our collective opinion based on experience, based on logistics, based on evidence-based research that this is the way we should go (MOH).</td>
</tr>
<tr>
<td></td>
<td>You need to turn over every rock you can to gather whatever information might be out there to justify your decision as to the direction a program or service or component might take. (Manager)</td>
</tr>
<tr>
<td>Preferences for receiving research information: Content and format</td>
<td>The systematic reviews are wonderful. They have really informed a lot of what we do at our health unit. Because I know the authors of the reviews have gone through all that research, they have taken a look at the methodology, they have looked at whether it’s valid or not and can say, based on all of this, this is what we are finding.</td>
</tr>
<tr>
<td></td>
<td>In a summary I would like to see an overview of what the research was about and probably less detail about the methodology. I want to know, ‘What’s the bottom line here?’ Meaning this works [or] this doesn’t work. I also want to see tips for implementation or cautionary notes.</td>
</tr>
<tr>
<td></td>
<td>If I get an article and it doesn’t sell me that there is something of value, I file it. Sell me on the value of what the research article is and secondly, the research has to be practically oriented</td>
</tr>
</tbody>
</table>