

# HEALTH SERVICES RESEARCH AND...

## Evidence-Based Decision-Making



Canadian Health Services Research **Foundation**  
**Fondation** canadienne de la recherche sur les services de santé

*...making research work  
...pour que la recherche porte ses fruits*

# HEALTH SERVICES RESEARCH AND...

## Evidence-Based Decision-Making

---

This article — which first appeared in the Canadian Health Services Research Foundation's 1998 Annual Report — explores evidence-based decision-making. The concept is central to the foundation's mission:

“... to sponsor and promote applied health systems research, to enhance its quality and relevance, and **to facilitate its use in evidence-based decision-making by policy makers and health system managers.**”

“*Health Services Research and...*” is a regular feature of the foundation's annual report. It links an issue or concept with health services research to generate further debate about the relevance and implications of research.

June 2000

Additional copies of this document are available on the Canadian Health Services Research Foundation Web site ([www.chsrf.ca](http://www.chsrf.ca)) under “Document Library”, or by contacting [publications@chsrf.ca](mailto:publications@chsrf.ca)

Further information on the Canadian Health Services Research Foundation can be obtained from the foundation at:

11 Holland Avenue, Suite 301  
Ottawa, Ontario  
K1Y 4S1  
E-mail: [admin@chsrf.ca](mailto:admin@chsrf.ca)  
Telephone: (613) 728-2238  
Fax: (613) 728-3527

# Health Services Research and...

---

## EVIDENCE-BASED DECISION-MAKING

---

Evidence-based decision-making (EBDM) became part of the health sector's lexicon during the 1990s. It was a logical extension of the interest in and resources committed to evidence-based medicine (EBM) — expecting those managing and making the policies for the health sector to operate under the same rules as those delivering the services.

In Canada, the term was given more prominence with the imprimatur of the Prime Minister's National Forum on Health in 1997. It was one of only four themes upon which the national forum focused. In the forum's final report it was defined as:

**“the systematic application of the best available evidence to the evaluation of options and to decision-making in clinical, management and policy settings.”**

The foundation has chosen to focus its efforts on the research needs of managers and policy makers. As currently defined, EBDM seems to demand an increase in the availability and use of health services research as ‘the evidence’ in EBDM. The foundation, therefore, has a clear motivation to understand the role of health services research in evidence-based decision-making.

## Decision-Making and Uncertainty

As the concept ‘evidence-based decision-making’ expands from evidence-based medicine into the world of managers and policy makers, we would do well to examine the generalizability from service professionals to this different kind of decision maker. The assumptions underpinning evidence-based medicine may not translate directly to the work of managers and policy makers.

Indeed, there is reason to question our ability to directly translate from one to the other. The nature of the uncertainty faced by clinicians is different to that

**FIGURE 1 DECISION-MAKING AND UNCERTAINTY**

Types of Decision	Types of Uncertainty	
	INFORMATION When there isn't enough information	VALUE When information isn't enough
<b>Public Policy</b> e.g. "Do we fund heart transplants?"		
<b>Administrative Policy</b> e.g. "Where do we locate heart transplant services?"		
<b>Clinical Policy</b> e.g. "Who should receive heart transplants?"		

faced by managers and policy makers. Assuming that the role of all decision makers is to combine facts and values to determine action, then the weight of uncertainty for clinicians is balanced more toward clarifying the facts and less about the values. The uncertainty for managers and policy makers is weighted increasingly toward the value end of the balance (**see Figure 1**).

Taking heart transplants as an example, the policy maker must weigh more than clinical effectiveness research in the public policy decision to include or exclude heart transplants in medicare. Religious considerations, affordability, the distribution of benefits, and so on all have to weigh in the balance, creating more 'value uncertainty' than 'informational uncertainty'.

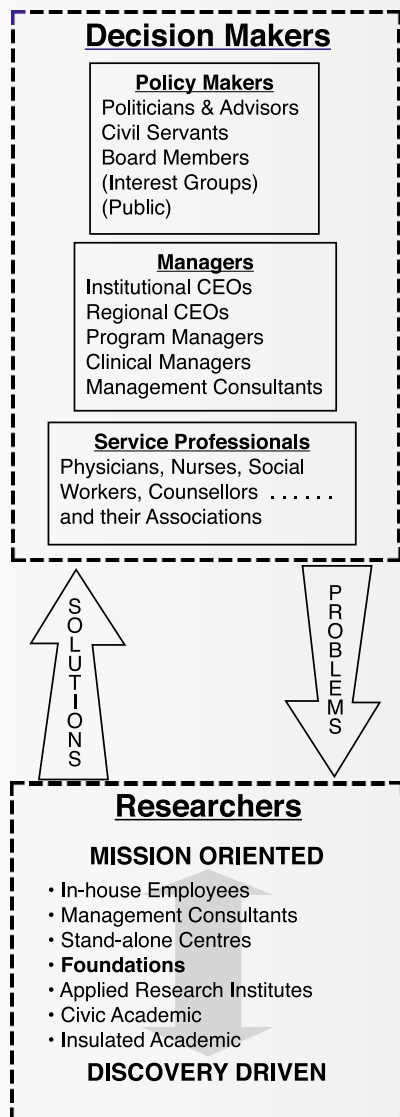
Although the task of a manager making an administrative policy decision is somewhat less burdened with value uncertainty, she or he will still have to make local trade-offs in locating the service, or satisfy the views of the community through a regional or hospital board.

Only the clinician has the luxury of using 'science' in a less dilute form when deciding whether or not to provide a heart transplant to a particular patient or not. His or her informational uncertainty dominates, and research can resolve this more readily than it can assist with the policy makers' or the managers' value uncertainty.

It might, therefore, be more accurate (although clearly more cumbersome) to refer to "accountability to evidence in decision-making" for the manager or policy maker. The goal of EBDM may not be for managers and policy makers to slavishly comply with every scrap of health services research, even assuming (somewhat unrealistically) that the research clearly resolves the informational uncertainty. This imperialistic view of the role of research in administrative and policy decisions seems destined for irrelevance. It is more likely to generate animosity than collaboration between researchers and decision makers.

Rather, 'successful' EBDM may be no more than recognition of the research and an explanation of the way in which it was taken into account in the decision. If it was not used, why was it not used? Perhaps all that is being sought through evidence-based decision-making is a status for science in decisions that is at least equivalent to the current status of public or interest group opinion.

**FIGURE 2 EVIDENCE-BASED  
DECISION-MAKING: IS THIS  
ENOUGH?**



## Decision-making and Uncertainty

### The Researcher-Decision Maker Relationship

Current ideas about evidence-based decision-making tend to focus exclusively on the direct interaction between researchers and decision makers. This appears to flow from the customer or client view of the relationship, minimizing the decision makers' struggle with value uncertainty, and focusing on research as a product for delivery to the decision maker. This leads to the adoption of a private sector R & D model. But is this enough (see Figure 2)?

In the private sector, research and development departments interact directly with corporate decision makers. Simplistically put, problems are passed down and solutions are passed out. The corporate structure is designed to facilitate the exchange of ideas; direct or mediated linkage occurs between these two groups.

In the health system, it is not so simple: researchers and decision makers are rarely contained within the same organization. In addition, researchers span a continuum, historically clustered away from the mission-oriented or applied end. Decision makers are also heterogeneous, consisting of at least the three categories of policy makers, managers, and service professionals, and they rarely think in terms of "researchable questions". There are few occasions when researchers convene with decision makers to interact directly, and few mediating mechanisms to indirectly bring their problems and solutions together.

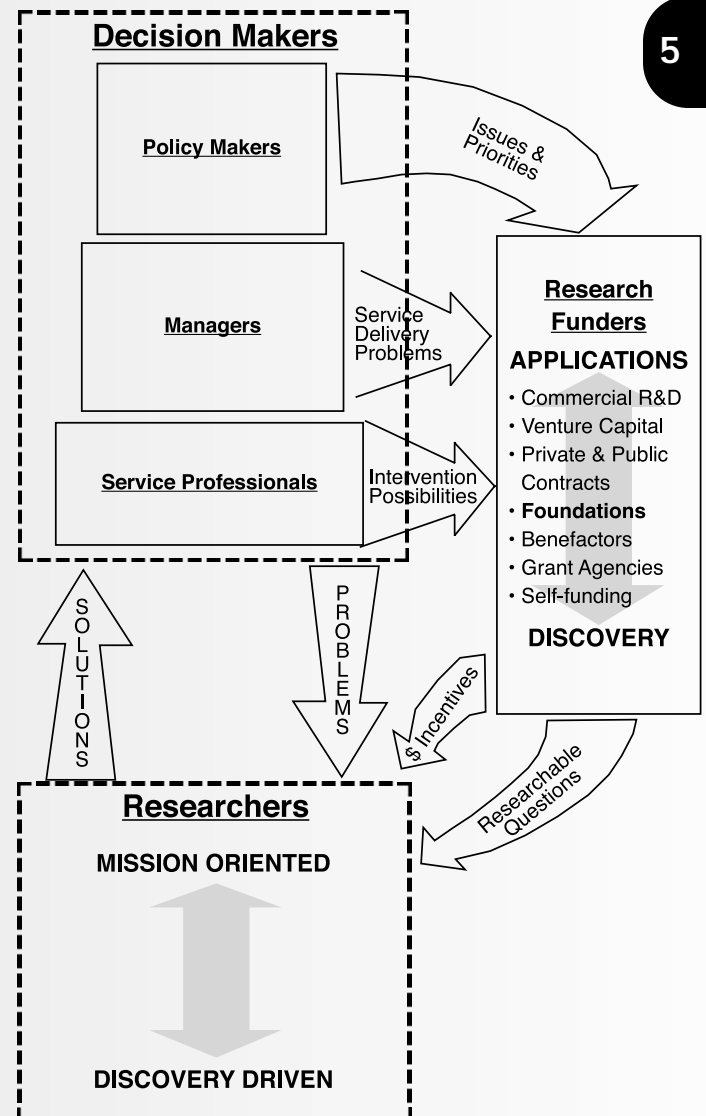
Evidence-based decision-making in the health sector will likely require a broader view than this corporate R & D perspective if the realities of poorly connected research and decision-making are to be overcome.

## The Role of Research Funders

Research funders are an additional element. They, like researchers, span a continuum. Some are focused on evaluation at the application end and others support investigator-initiated curiosity or discovery research (see Figure 3). Historically, the priorities of research funders were determined as much, or more, by researchers as by decision makers. For the kind of applied research that is the focus of the foundation's work (and which is central to evidence-based decision-making) it is desirable to have a greater role for decision makers in determining priorities.

Applied research funders like the foundation need to consult with policy makers and managers to obtain their priorities and problems, translate these into researchable questions and, through the organization of their funding programs, transmit the priorities in a way that encourages researchers to focus in these areas. The “value-added” of the applied research funder is the translation and transmission functions between decision makers (who have difficulty thinking in terms of researchable questions) and researchers (who have limited exposure to managerial and policy issues).

**FIGURE 3 EVIDENCE-BASED  
DECISION-MAKING: THE ROLE OF  
RESEARCH FUNDERS**





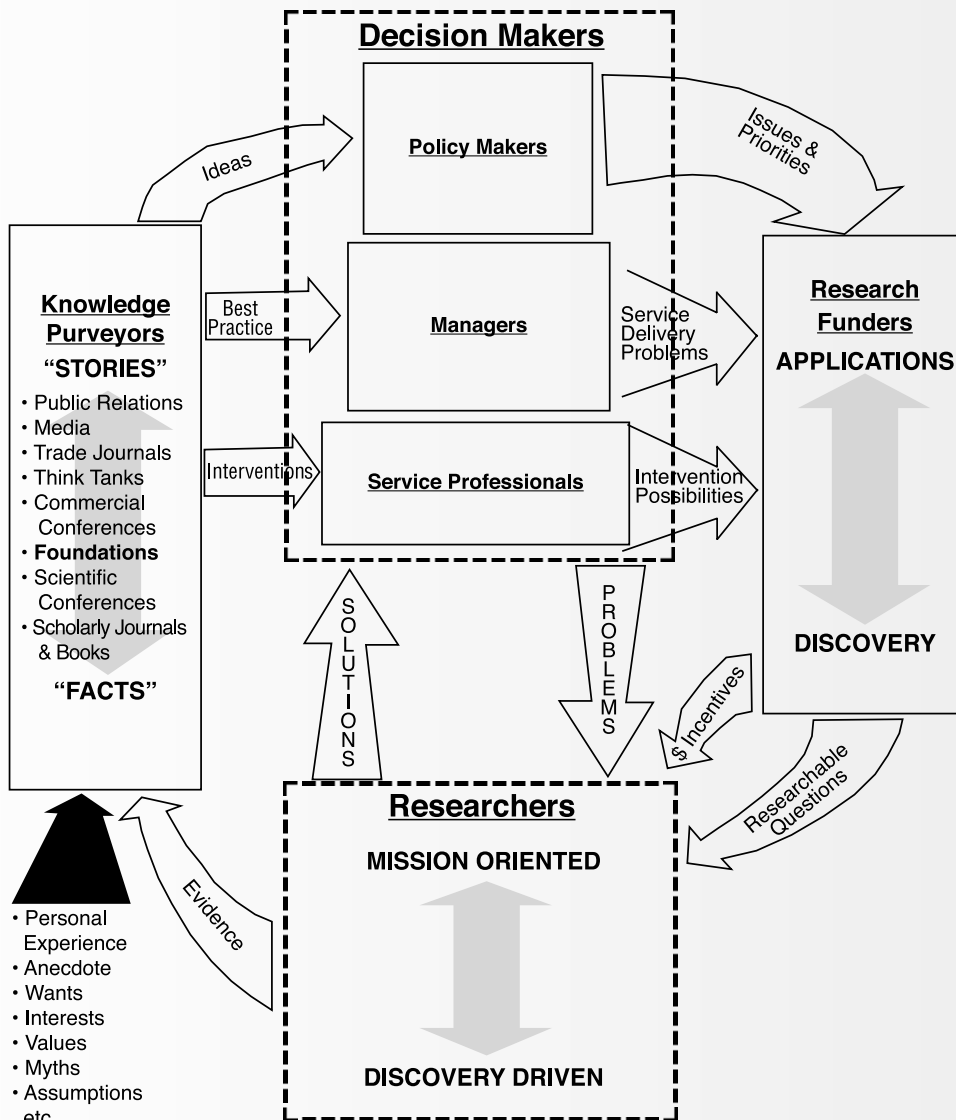
## The Influence of Knowledge Purveyors

Even if all three of these groups are enlisted to the cause of evidence-based decision-making, it may not be enough. An often ignored role is that of the knowledge purveyor (see Figure 4).

Although researchers have difficulty acknowledging it, the sources for the evidence used by decision makers is rarely at the 'scientific fact' end of the continuum. 'Stories' based on personal experience, anecdote and myth form the basis of most communications with decision makers.

Moving more to evidence-based decision-making will involve tempering these anecdotes and stories from various interests with facts and evidence from research. The challenge for evidence-based decision-making is how to make sure that the ideas, best practices and interventions upon which decision makers act, and which they receive from knowledge purveyors, contain a more substantial component of evidence.

**6** **FIGURE 4 EVIDENCE-BASED DECISION-MAKING: THE INFLUENCE OF KNOWLEDGE PURVEYORS**



## Where to Focus for Improvement

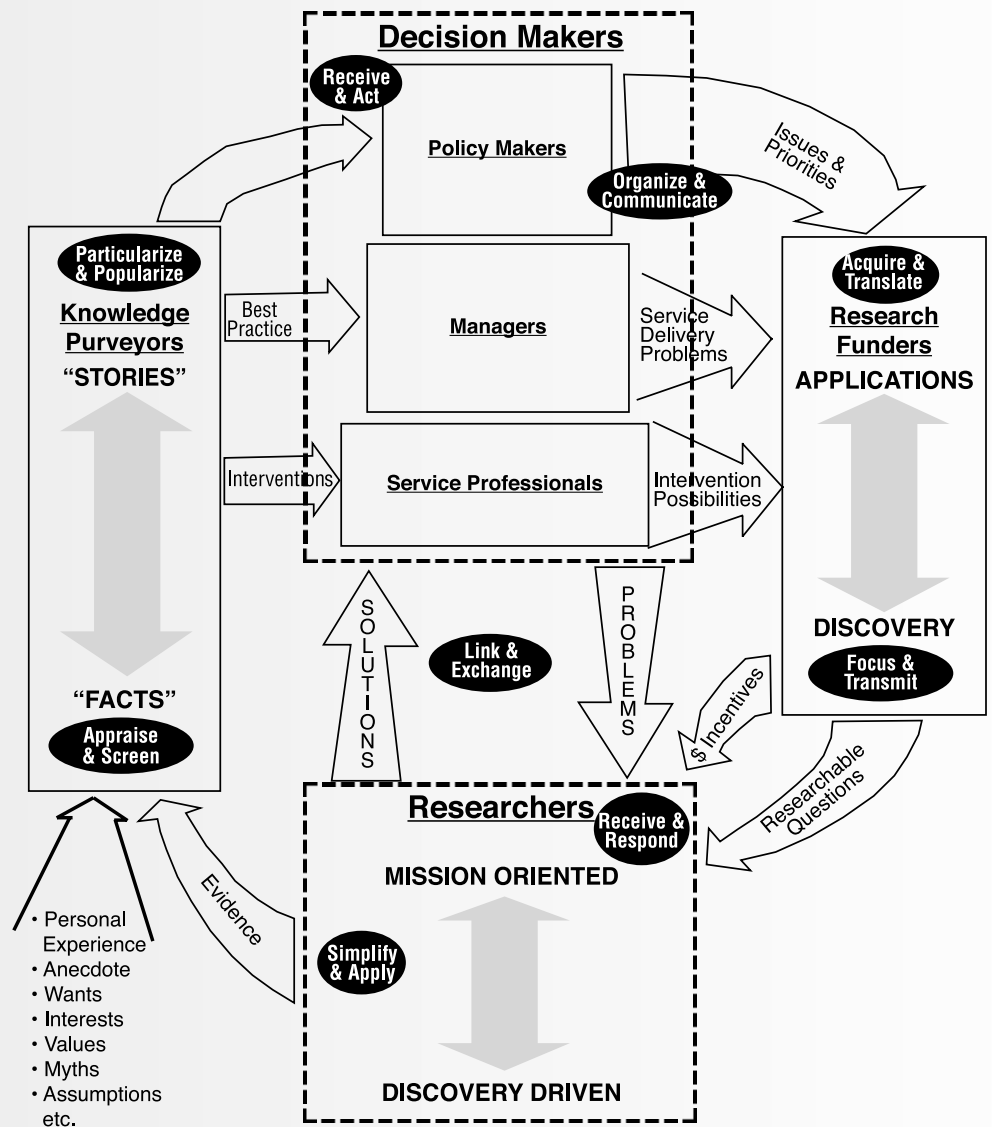
The links between each of these groups are, in fact, relationships between people and/or organizations. Improvement in evidence based decision-making will involve strengthening these relationships (see Figure 5).

For instance, decision makers need to find more effective ways to organize and communicate their priorities and problems, while researchers and research funders must develop mechanisms to access information on these priorities and problems and turn them into research activity.

Researchers need to learn how to simplify their findings and demonstrate their application to the health system in order to communicate better with decision makers and knowledge purveyors.

The knowledge purveyors have to improve their ability to screen and appraise information — to sort the facts from the stories. Decision makers and their organizations need to improve their capacity to receive such appraised and screened information and to act upon it — developing ‘receptor capacity’.

**FIGURE 5 EVIDENCE-BASED DECISION-MAKING: WHERE TO FOCUS FOR IMPROVEMENT**





Central to all of this is better linkage and exchange in the core relationship between researchers and decision makers: increasing the number of opportunities for interaction, both during and outside the confines of a specific research project.

This description of the different groups involved in evidence-based decision-making — decision makers, research funders, researchers, and knowledge purveyors — emphasizes three things:

- a. that getting ‘the evidence’, as represented by health services research, into decision-making involves multiple steps and is not only a matter of direct linkage between decision makers and researchers,
- b. that each of the steps involves improving relationships and communication across the four groups in the health sector, and
- c. that evidence-based decision-making is a ‘virtuous cycle’ and any weak link in the chain has the capacity to interrupt the optimal flow of research into decision-making.

In the coming years, the foundation hopes to facilitate evidence-based decision-making by managers and policy makers by offering an array of initiatives that improve relationships across all the links in this ‘virtuous cycle’.